



Rowland Water District Water Rate Study

Final Report

August 2021

Main Office

32605 Temecula Pkwy,
Suite 100
Temecula, CA 92592
Phone: 800.676.7516
Fax: 951.296.1998

Regional Office

870 Market St, Suite
1223
San Francisco, CA 94102
Phone: 800.434.8349
Fax: 415.391.8439

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SECTION 1. PURPOSE AND OVERVIEW OF THE STUDY

A. INTRODUCTION

The Rowland Water District's (District) service area encompasses approximately 17.2 square miles and includes certain unincorporated areas of southeastern Los Angeles County, including portions of Rowland Heights, La Puente, Hacienda Heights, the City of Industry and the City of West Covina. The District contains residential, commercial, and industrial development. The District's service area has a population of approximately 60,000 people, and as of December 2020 provided water service to approximately 13,750 potable and recycled water service connections.

The District owns, operates, and maintains approximately 150 miles of potable water distribution mains and the District's water supply is primarily imported water from the Metropolitan Water District of Southern California (MWD) delivered through its member agency, the Three Valleys Municipal Water District (TVMWD). The potable water imported to the District is delivered through three different transmission connections. The District has 17 potable water storage reservoirs with a total capacity of 48 million gallons (MG) to serve a customer water demand of about 9 million gallons per day (MGD), on average. The groundwater basin underlying the District's service area is the Puente Basin, which is adjudicated between the District, Walnut Valley Water District, the City of Industry, the City of Industry Urban Development Agency, and Los Angeles Royal Vista Golf Course. The Puente Basin is contaminated with volatile organic compounds, high levels of total dissolved solids, and high nitrate concentrations, causing groundwater from the basin to not be usable as a potable water source. However, the District can pump groundwater from portions of the Puente Basin for use in its recycled water system.

The District purchased groundwater rights from neighboring groundwater basins and built pipelines to connect to the basins' well fields. In 2013, the District purchased pumping rights in the Central Basin, which lies to the southwest of the District's service area. The groundwater supplies are delivered to the District through a 0.8-mile, 12-inch pipeline and booster pump station connecting the La Habra Heights County Water System to the District. In 2015, the District also built a new 2.8-mile pipeline connecting to the California Domestic Water Company (Cal Domestic) system to deliver stored surface water in the Main San Gabriel Basin (MSGB) through the Cal Domestic connection.

In addition to the potable distribution system, the District owns, operates, and maintains a recycled water system that distributes recycled water to 128 customer service connections. The non-potable system consists of approximately 20 miles of recycled water distribution mains and one recycled water reservoir with a total storage capacity of 5 MG. The District's primary source of recycled water is treated effluent from the Los Angeles County Sanitation District's San Jose Creek Water Reclamation Plant (WRP). Recycled water is conveyed from the San Jose Creek WRP to the City of Industry's facilities. These facilities include a pumping station used jointly by the City of Industry and the District. Recycled water is pumped from this station to the District's recycled water system for distribution. Additional recycled water supplementary sources are available to provide recycled water to the District's customers. These include:

- Non-potable groundwater pumped from the Puente Basin;
- A combination of groundwater from the Puente Basin and Main San Gabriel Basin produced at an EPA superfund cleanup; and
- An emergency recycled water connection with Walnut Valley Water District.

B. PURPOSE

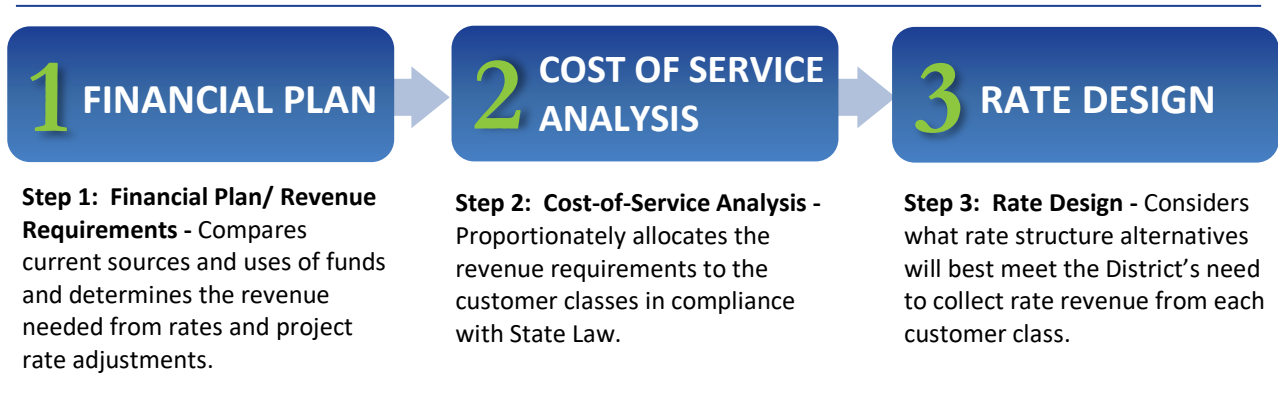
The District retained NBS to conduct an updated water rate study to develop water rates that would meet revenue requirements, provide greater revenue stability in water rates, provide adequate funding for capital improvements, while complying with legal requirements (such as California Constitution article XIII D, section 6, which is commonly referred to as Proposition 218 [Prop 218]). The rates resulting from this study were developed in a manner that is consistent with industry standard cost-of-service principles. In addition to documenting the rate study methodology, this report is provided with the intent of assisting the District to maintain transparent communications with its residents and businesses.

In developing new water rates, NBS worked cooperatively with District staff and based on input from District staff, NBS proposes the water rates summarized in this report.

C. OVERVIEW OF THE STUDY

Comprehensive rate studies such as this one typically includes three 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 steps are shown in **Figure 1** and are intended to follow industry standards and reflect the fundamental principles of cost-of-service rate making embodied in the American Water Works Association (AWWA) Principles of Water Rates, Fees, and Charges¹, also referred to as the Manual M1. They also address requirements under Proposition 218 that rates not exceed the cost of providing the service and be proportionate to the cost of providing service for all customers. In terms of the chronology of the study, these three steps represent the order they were performed in this Study.

Figure 1. Primary Components of a Rate Study



As a part of this rate study, NBS projected revenues and expenditures, developed net revenue requirements, performed cost-of-service rate analyses, and prepared new water rates. Rate increases, or more accurately, increases in the total revenue collected from water rates, are recommended for the utility. The following sections in this report present an overview of the methodologies, assumptions, and data

¹ *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, sixth edition, 2012.*

used along with the financial plans and rates developed during this study. Appendix A provides the schedule of proposed rate increases that must be included in the Prop 218 notice sent to property owners and tenants directly responsible for the water bill. More detailed tables and figures documenting the development of the proposed rate increases are provided in Appendix C.

Rate Design Criteria – Under Prop 218, the amount of the water charges cannot exceed the proportional cost of the service attributable to the parcel. It is also important for the water utility to send proper price signals to its customers about the actual cost of their water usage. This objective is typically addressed through both the magnitude of the rates and the rate structure design. In other words, both the amount of revenue collected and the way in which the revenue is collected from customers are important. However, these objectives are secondary to ensuring water rates, including rates that vary based on consumption, are based on the actual cost of providing water service.

Several criteria are typically considered in setting rates and developing sound rate structures. The fundamentals of this process have been documented in several rate-setting manuals, such as the AWWA Manual M1. The foundation for evaluating rate structures is generally credited to James C. Bonbright in the *Principles of Public Utility Rates*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 structure:

- Rates should be easy to understand from the customer’s perspective.
- Rates should be easy to administer from the utility’s perspective.
- Rates should promote the efficient allocation of the resource.
- Rates should be equitable and non-discriminating (that is, cost-based).
- There should be continuity in the rate making philosophy over time.
- Rates should address other utility policies (for example, encouraging water conservation & economic development).
- Rates should provide month-to-month and year-to-year revenue stability.

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

Rate Structure Issues – One of the key issues 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 payments and personnel costs are examples of fixed costs. In contrast, variable costs such as the cost of purchased water, chemicals, and electricity tend to change with the quantity of water sold. Most rate structures contain a fixed or minimum charge in combination with a volumetric charge.

Fixed Charges – Fixed charges, also known as base charges, minimum monthly charges, customer charges, fixed meter charges, etc., are typically determined based on the size of the meter serving the parcel and recover fixed costs of the agency. Fixed charges for water utilities typically increase by meter size. For example, a customer with a 2-inch meter has a fixed meter charge that is more than five times greater than a customer with a 5/8-inch meter (which in the District’s case represents 80% of all meters in the potable system) based on the meter’s safe operating capacity.³ Because a large portion of water utility’s

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.

³ *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017.*

costs are typically related to meeting capacity requirements, reflecting individual demands for capacity are an important factor in establishing rates for customers.

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

Uniform (Single-Tier) Water Rates – There are significant variations in the basic philosophy of variable charge rate structure alternatives. Under a uniform (single tier) rate structure, the cost per unit does not change with consumption, and provides a simple and straightforward approach from the perspective of the customer regarding their understanding of the rates and for the utility’s ease in administration/billing of the rates.

Multi-Tiered Water Rates – In contrast to a uniform rate, an inclining block rate structure allocates the increased costs of water service to those causing the District to incur those costs, while also sending a price and conservation signal to customers. This is generally considered to be a more conservation-oriented rate structure and is consistent with Prop 218 so long as each tier reflects the actual cost of service within such tier. Tiered water rates are encouraged by State law and regulatory mandates but are also intended to represent higher costs for customers that place greater demands on the system. The District currently uses a multi-tiered rate for single family customers, with 3 inclining rate tiers. The types of higher costs reflect:

- Conservation program costs: intended to encourage customers to eliminate inefficient and wasteful water use, and otherwise reduce consumption during peak periods.
- Replacement water costs: when consumption exceeds the amount of the District’s allocated water rights, the agency incurs additional costs for replacement water to meet that increased demand. Replacement water generally is purchased at a higher cost.
- Energy costs: during summer months, the District pays in electric charges to pump, treat and deliver water, and have a higher percentage of its energy bill in higher electricity “tiers”.
- Higher capacity costs: peak periods create the need for more available system capacity to keep the water system running at peak demand. Higher capacity costs can also be upgrades to expand the system’s ability to maintain expected customer service.

Drought and Water Conservation – On January 17, 2014, Governor Jerry Brown declared a State of Emergency throughout California due to severe drought conditions. On April 1, 2015, the Governor issued Executive Order B-29-15 mandating statewide water conservation of 25 percent. The specific conservation mandate for each community in California varied from 4 to 36 percent. While the mandate was lifted, on July 8, 2021, Governor Gavin Newsom asked Californians to voluntarily cut their water usage by 15 percent. The District continues to ask customers to voluntarily conserve water. While the consumption from customers achieved by the District is good from a supply standpoint, it places financial pressure on the utility because District revenues are reduced when water consumption drops. Rates proposed in this Study account for various stages of water conservation to allow the District to continue meeting its financial obligations going forward.

Key Financial Assumptions – To ensure that future costs are reasonably projected, we made informed assumptions about inflationary factors, growth, and water use. The following are the key financial assumptions used in the water rate analyses:

- **Funding of Water Utility Capital Projects** – The District will fund all planned capital costs using incoming rate revenues and existing reserves. The capital projects listed in the financial plan are from the District’s projection of costs through FY 2026/27.
- **Reserve Targets** – The District maintains unrestricted reserves for operations, rate stabilization and capital needs. These reserves consist of the following targets:
 - Operating Reserve – equal to approximately 120 days of operating expenses, averaging \$7.8 million annually over the next 5 years.
 - Rate Stabilization Reserve – equal to \$6 million annually per District policy.
 - Capital Improvement Reserve – equal to 6% of Net Capital Assets, averaging \$5 million for the next 5 years.
- **Inflation and Growth Projections** – Assumptions regarding cost inflation were made to project future revenues and expenses for the study period. The following inflation factors were used in the analysis:
 - ✓ Potable Customer growth is based on the number of new connections anticipated by District staff, with a projected growth of 1 percent annually, based on the Urban Water Management Plan.
 - ✓ Recycled Customer growth is assumed to have no growth, per District staff planning estimates and the Urban Water Management Plan.
 - ✓ General cost inflation is 2 percent annually.
 - ✓ Labor cost inflation is 2.5 percent annually.
 - ✓ Health Benefits cost inflation is 2.5 percent annually.
 - ✓ Retirement Benefits cost inflation is 2.5 percent annually.
 - ✓ Chemical cost inflation is 2.5 percent annually.
 - ✓ Energy cost inflation is 4.4 percent annually.
 - ✓ TVMWD purchase cost is 4 percent annually.

The assumptions shown above were incorporated into the five-year financial plan. For more detailed information on the basis of the inflation factors, see the footnotes for Table 9 in Appendix C. To develop the financial plan, NBS projected annual expenses and revenues, modeled reserve balances and transfers between funds, capital expenditures, and calculated debt service coverage ratios to estimate the amount of additional rate revenue needed per year.⁴ The financial plan modelling is based off the fiscal year and assumes the revenue adjustment occurs on January 1 of each year. This means that only half of the planned revenue to be collected from the rate adjustment listed for one fiscal year will be collected in that year.

⁴ The complete financial plan is set forth in Appendix C.

SECTION 2. WATER RATE STUDY

A. KEY WATER RATE STUDY ISSUES

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

- Generating additional revenue needed to meet projected funding requirements.
- Maintain revenue stability.
- Updating tiered volumetric rates for single family residential customers based on updated costs.
- Continuing to encourage water conservation by maintaining a three-tiered rate structure.
- Updating drought rates to coincide with the District's Water Conservation & Water Shortage Contingency Plan.
- Directly linking the cost of the District's water supplies to the tiered volumetric rates and drought rates.

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

- **Developing Classifications of Costs:** Costs were classified using the commodity-demand method which is found in the AWWA M1 Manual⁵. The M1 Manual serves as a guidebook and describes different methodologies that water providers may use to establish rates. AWWA is not a regulatory body, and the M1 Manual does not prescribe any mandatory procedures; rather, it is an industry-accepted book of guidance that agencies can choose to rely on when establishing rates. The District looked to the M1 Manual for guidance in setting rates, while also ensuring such rates complied with applicable law. In accordance with M1 Manual guidance, budgeted potable system costs were reviewed regarding their functional purposes (such as purchased water, treatment, pumping, etc.) and then "classified" into six categories: (1) commodity (or volume-based) costs; (2) additional supply (recycled water system contribution) costs; (3) zonal costs; (4) demand (or capacity) costs; (5) customer service costs; and (6) fire protection costs.
- **Determining Revenue Requirements by Customer Class:** Costs for each of these categories were then allocated to customer classes based on allocation factors, such as water consumption, peaking factors, and number of accounts by meter size. The total revenue collected from each customer class was determined using these classifications and allocation factors. For example:
 - ✓ Volume-related costs are allocated based on the water consumption for each customer class.
 - ✓ Additional supply-related costs are allocated based on water consumption for each customer class.
 - ✓ Zonal costs are allocated based upon water consumption for customers within each of the District's 5 elevation zones.
 - ✓ Fixed capacity costs are allocated based on the hydraulic capacity of each size meter connected to the system.
 - ✓ Customer costs are allocated based on the number of meters.

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

- ✓ Private fire protection costs are allocated based on the hydraulic capacity of each size meter connected to the system.

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 Charges:** The revenue requirements for each customer class are collected from both fixed monthly meter charges and variable commodity charges. Based on direction from District staff, the rates proposed in this report are designed to collect about 45 percent of rate revenue from the fixed meter charge and about 55 percent from the variable commodity charge⁶.

B. POTABLE WATER UTILITY REVENUE REQUIREMENTS

It is important for municipal utilities to maintain reasonable reserves to handle emergencies, fund working capital, maintain a good credit rating, and generally follow sound financial management practices. Rate increases are governed by the need to meet operating and capital costs, maintain adequate debt coverage, and build reasonable reserve funds. The current state of the District, regarding these objectives, is as follows:

- **Meeting Net Revenue Requirements:** For FY 2021/22 through FY 2025/26, the projected net revenue requirement (that is, total annual expenses plus debt service and rate-funded capital costs, less non-rate revenues, less recycled water expenses) for the potable system range from approximately \$23.2 million to \$25.5 million. If no rate adjustments are implemented, the water utility is projected to run a deficit starting in FY 2023/24 of about \$977,000 and increase each year thereafter to \$2.8 million in FY 2025/26. Rate increases of 4 percent annually in FY 2021/22 through 2022/23 and 3 percent annually in FY 2023/24 through 2025/26 will be needed to fully fund all operating expenses, planned capital projects, debt service obligations and keep the reserves above the established reserve fund targets. For the recycled water system, the planned rate increases (discussed in Section 2-C of this report) will reduce the required contribution from the potable system for capital projects from a projected \$600,000 in FY 2021/22 to approximately \$387,000 in FY 2025/26.
- **Building and Maintaining Reserve Funds:** Reserve policies provide a basis for a utility to cope with fiscal emergencies such as revenue shortfalls, asset failure, and natural disasters, among other events. They also provide guidelines for sound financial management, with an overall long-range perspective to maintain financial solvency and mitigate financial risks associated with revenue instability, volatile capital costs, and emergencies. The District plans to achieve the target reserve fund balances in all five years during the Prop 218 period. The reserve funds for the utility are considered unrestricted reserves and consist of the following:

⁶ The California Urban Water Conservation Council recommends recovering at least 70 percent of rate revenue through volume-based rates. However, water utilities are allowed to develop their own allocations that accurately reflect their actual cost allocations.

- **The Operating Reserve** should equal approximately 120 days of operating expenses (approximately \$7.4 million for FY 2021/22). 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 (such as volumetric charges), and – particularly in periods of economic distress – changes or trends in age of receivables.
- **The Rate Stabilization Reserve** has a target balance of \$6 million per year, per Board policy. This reserve can be used to further promote financial stability in the event of short-term reductions in rate revenue.
- **The Capital Improvement Reserve** should equal 6 percent of net capital assets (approximately \$4.3 million for FY 2021/22), which is set aside to address long-term capital system replacement and rehabilitation needs. This target reserve is dependent on age of the water system and the ongoing expected improvement projects.
- **Funding Capital Improvement Projects:** The District must also be able to fund necessary capital improvements for the utility to maintain current service levels. District staff has identified roughly \$3.7 million to \$4.6 million annually in expected capital expenditures for FY 2021/22 through 2025/26, and every year thereafter \$4.1 million is assumed annually in capital expenditures. With the recommended rate increases, these expenditures can be accomplished without draining existing reserves.
- **Maintaining Adequate Bond Coverage:** The District is required by its bond covenants to maintain a debt service coverage ratio of at least 1.1 for the outstanding Revenue Bonds. For the District to meet reserve fund targets, proposed rate increases are projected to exceed the minimum debt coverage ratio. The benefit of exceeding the minimum debt coverage ratio is that it strengthens the District's credit rating, which can help lower the interest rates for debt-funded capital projects in the future, and in turn reduce annual debt service payments.

Figure 2 summarizes the sources and uses of funds, net revenue requirements, and the recommended annual percent increases in total rate revenue recommended for the next 5 years for the potable system.

Figure 2. Summary of Potable Water Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements ¹	Budget	Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Sources of Potable Water Funds						
Rate Revenue Under Prevailing Rates	\$ 24,959,634	\$ 25,549,595	\$ 25,805,091	\$ 26,063,142	\$ 26,323,774	\$ 26,587,011
Other Operating Revenue	974,850	1,058,465	1,069,366	1,080,385	1,091,521	1,102,778
Interest Earnings	235,400	247,200	192,654	187,904	191,261	193,838
Total Sources of Funds	\$ 26,169,884	\$ 26,855,260	\$ 27,067,112	\$ 27,331,431	\$ 27,606,556	\$ 27,883,627
Uses of Potable Water Funds						
Source of Supply Costs	\$ 10,480,600	\$ 10,766,700	\$ 11,193,410	\$ 11,637,109	\$ 12,098,476	\$ 12,578,214
Pre-Purchase of TVMWD Water	-	-	600,000	600,000	600,000	600,000
Other Potable Operating Expenses	10,635,716	10,893,808	10,906,448	11,169,390	11,439,099	11,702,367
Potable System Debt Service	1,161,500	1,161,700	1,166,100	1,164,500	1,162,100	1,163,900
Rate-Funded Capital Expenses	-	1,631,655	2,893,148	3,737,478	4,544,193	4,641,800
Total Use of Funds	\$ 22,277,816	\$ 24,453,863	\$ 26,759,106	\$ 28,308,478	\$ 29,843,868	\$ 30,686,282
Surplus/(Deficiency) before Rate Increase	\$ 3,892,068	\$ 2,401,397	\$ 308,006	\$ (977,046)	\$ (2,237,312)	\$ (2,802,655)
Additional Revenue from Rate Increases	-	-	1,032,204	2,126,752	3,002,174	3,920,772
Surplus/(Deficiency) after Rate Increase ²	\$ 3,892,068	\$ 2,401,397	\$ 1,340,209	\$ 1,149,706	\$ 764,862	\$ 1,118,117
Projected Annual Potable Rate Revenue Increase	0.00%	4.00%	4.00%	3.00%	3.00%	3.00%
Net Revenue Requirement - Potable System	\$ 21,067,566	\$ 23,148,198	\$ 24,464,882	\$ 24,913,436	\$ 25,558,912	\$ 25,468,894
Estimated Rate Revenue After Rate Increases	\$ 24,959,634	\$ 26,060,587	\$ 27,374,041	\$ 28,612,743	\$ 29,765,837	\$ 30,965,400
Overall Debt Coverage Ratio	2.57	2.61	3.39	4.12	4.68	5.26

1. FY 2020/21 Revenues and Expenses are from the approved budget. Source files: 1. Operations and Maintenance Budget 2020.2021 (Detailed).xlsx

2. Surplus/(Deficiency) in Potable Water Funds is the contribution to, or (use of) reserves.

Figure 3 summarizes the projected reserve fund balances and reserve targets. A summary of the utility's proposed 5-year financial plan is included in Appendix C. As can be seen in Figure 3, if the proposed rate increases are adopted, reserves will meet the minimum target all but the last two years of the 5-year proposed rate increases.

Figure 3. Summary of Water Reserve Funds

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget	Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Operating Reserve						
Ending Balance	\$ 7,229,244	\$ 7,415,562	\$ 7,567,125	\$ 7,806,722	\$ 8,054,544	\$ 8,306,223
Recommended Minimum Target	7,229,244	7,415,562	7,567,125	7,806,722	8,054,544	8,306,223
Rate Stabilization Reserve						
Ending Balance	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000
Recommended Minimum Target	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000
Capital Improvement Reserve						
Ending Balance	\$ 6,302,545	\$ 5,849,852	\$ 5,223,322	\$ 5,319,407	\$ 5,329,275	\$ 5,771,832
Recommended Minimum Target	3,946,400	4,271,100	4,613,300	4,938,900	5,287,100	5,628,500
Total Ending Balance	\$ 19,531,789	\$ 19,265,414	\$ 18,790,447	\$ 19,126,129	\$ 19,383,820	\$ 20,078,055
Total Recommended Minimum Target	\$ 17,175,644	\$ 17,686,662	\$ 18,180,425	\$ 18,745,622	\$ 19,341,644	\$ 19,934,723

C. RECYCLED WATER UTILITY REVENUE REQUIREMENTS

A financial plan was developed for the recycled water system in the same manner and using the same inflation assumptions as the potable system. Revenue requirements range from approximately \$2.1 million annually over the next five fiscal years, to cover the cost of operating and maintaining the recycled water system, debt service payments and capital expenditures. Compared to revenues of approximately \$1.4 million annually, the recycled water system is projected to run an annual deficit of approximately \$700,000 annually (without any contribution from the potable system for capital improvement costs). It is a goal of the District to see recycled system customers bear a greater portion of their costs. For this reason, rate revenue from the recycled system is proposed to increase by 5% annually for FY 2021/22 through FY 2025/26 to get the recycled water system to eventually cover all recycled water system expenses.

“Water” is defined in Government Code section 53750(n) for purposes of Proposition 218 as “any system of public improvements intended to provide for the production, storage, supply, treatment, or distribution of water *from any source*.” The recycled water system benefits the District’s potable water customers by reducing the demand for potable water, thereby increasing potable water supply and reliability. The use of recycled water enables the District to avoid the higher cost of potable water which would be incurred if the District exceeds its Tier I allocation. It is expected that potable water customers will continue to contribute to the capital improvements for the recycled water system throughout the five-year rate period; however, it will be reduced significantly over time. For more detailed information on the expenses incurred by the recycled water system, refer to Tables 10-13 in Appendix C.

Figure 4 summarizes the sources and uses of funds, net revenue requirements, target rate revenue and the recommended annual percent increases in total rate revenue recommended for the next 5 years. For a more detailed description of sources and uses of funds and debt service obligations, see Tables 10-13 and Tables 21-23 in Appendix C.

Figure 4. Summary of Recycled Water Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements ¹	Budget	Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Sources of Recycled Water Funds						
Rate Revenue Under Prevailing Rates	\$ 1,375,066	\$ 1,460,858	\$ 1,460,858	\$ 1,460,858	\$ 1,460,858	\$ 1,460,858
Other Operating Revenue (Contract Income)	19,050	19,050	19,241	19,433	19,627	19,824
Total Uses of Recycled Water Funds	\$ 1,394,116	\$ 1,479,908	\$ 1,480,099	\$ 1,480,291	\$ 1,480,486	\$ 1,480,682
Uses of Recycled Water Funds						
Recycled Operating Expenses	\$ 790,484	\$ 810,892	\$ 830,823	\$ 850,235	\$ 870,135	\$ 889,792
Recycled System Debt Service	1,303,744	1,305,344	1,300,944	1,305,744	1,304,344	1,306,944
Total Uses of Recycled Water Funds	\$ 2,094,228	\$ 2,116,235	\$ 2,131,767	\$ 2,155,979	\$ 2,174,479	\$ 2,196,735
Surplus/(Deficiency) before Rate Increase	\$ (700,112)	\$ (636,327)	\$ (651,668)	\$ (675,688)	\$ (693,993)	\$ (716,053)
Additional Revenue from Rate Increases	-	-	73,043	146,086	219,129	292,172
Surplus/(Deficiency) after Rate Increase	\$ (700,112)	\$ (636,327)	\$ (578,625)	\$ (529,602)	\$ (474,865)	\$ (423,882)
Projected Annual Recycled Rate Revenue Increase	0.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Net Revenue Requirement - Recycled System	\$ 2,075,178	\$ 2,097,185	\$ 2,112,526	\$ 2,136,546	\$ 2,154,852	\$ 2,176,912
Estimated Rate Revenue After Rate Increases	\$ 1,375,066	\$ 1,497,380	\$ 1,570,423	\$ 1,643,466	\$ 1,716,509	\$ 1,789,552

1. FY 2020/21 Revenues and Expenses are from the approved budget. Source files: 1. Operations and Maintenance Budget 2020.2021 (Detailed).xlsx

D. POTABLE WATER CUSTOMER CLASSES

Customer classes are determined by grouping customers with similar demand characteristics into categories that reflect the cost differentials to serve each type of customer. In the potable system

three customer classes will remain: single-family residential, commercial fire meters and all other customers.

All non-SFR customers were grouped together in one customer class because these customers include a wide range of usage characteristics:

- Many commercial customers have higher peaking factors than single-family residential users, meaning these customers already are paying more for the demands put on the water system during periods of highest demand,
- There is a wide range of usage patterns based on recent customer consumption patterns,
- Their water usage varies greatly among these customers based on the specific type of customer and meter size.

Because of these characteristics, a uniform volumetric rate better represents their cost-of-service.

The amount of consumption, the peaking factors, and the number of meters by size are used in the cost-of-service analysis to allocate costs to customer classes and determine the appropriate rate structures. The District's most recent consumption data is summarized in **Figure 5**, peaking factors are shown in **Figure 6** and **Figure 7**, and number of customers by customer class is shown in **Figure 8**.

The revenue calculated for each of the fiscal years in the financial plan is a function of the number of accounts, customer growth, water use, and existing rates. Aside from slight adjustments to consumption which have been made to account for customer growth⁷, this figure represents the expected annual consumption over the 5-year rate period.

Commodity-related costs are costs associated with the total annual consumption of water by customer class, as shown in Figure 5.

Figure 5. Water Consumption by Customer Class

Rate Group	2020 Volume (hcf)	Percent of Total Volume
Single Family Residential	1,764,677	45.01%
All Other Potable Meters	2,150,213	54.85%
Private Fire Meters	5,620	0.14%
Total	3,920,510	100%
Recycled	492,342	N/A
Grand Total	4,412,852	

Peaking factors for each customer class are shown in Figure 6. A “peaking factor” is the relationship of each customer class’s average use to peak (generally summer) use. This is calculated by dividing the peak monthly use by the average monthly use. Peaking factors are essential to cost of service rate making because they estimate the maximum demand that a customer class can put on the water system at a time. Certain infrastructure such as booster stations, storage basins and reservoirs, pumping stations, etc. contribute to supplying water demand to peak water users. The use of peaking factors ties to these costs

⁷ The District has realized very low account growth for the past few years and historical account growth was used to project future account growth. See Table 9 in Appendix C for specific growth assumptions.

and is allocated to the customers accordingly. Private fire meters are excluded from this calculation since these meters are typically standby in nature, and consumption patterns are not consistent.

Figure 6. Peaking Factors by Customer Class

Rate Group	Average Monthly Use (hcf)	Peak Monthly Use (hcf)	Peak Month Factor	Max Month Capacity Factor
Single Family Residential	147,056	186,343	1.27	44.8%
All Other Standard Meters	179,184	229,327	1.28	55.2%
Total	326,241	415,670	1.27	100.0%

Additional capacity factors within the single-family residential class are shown in Figure 7. The “additional capacity factor” represents the cumulative peak consumption in each tier. No additional capacity factor is assigned to Tier 1 water use, as this represents a base level of consumption by customers in the lowest tier, therefore no additional supply costs would be incurred if all customers stayed within the Tier 1 threshold. Tier 1 is defined as water consumed by one account up to 8 hundred cubic feet (hcf). The water used in this tier assumes domestic consumption for a typical SFR customer using 50 gallons per capita per day (gpcd) with 4 people per home. The monthly consumption shown in Figure 7 constitute the actual consumption patterns by single family residential customers billed in each tier. Additional information on tier breakpoints and how they were determined are explained later in this report under the volumetric commodity charge rates section.

Figure 7. Single Family Residential Peak Capacity Allocation Factors

Tier	Description	Monthly Consumption (hcf) ¹	Additional Capacity Required (hcf) ⁴	Additional Capacity Factor
Tier 1	Max Tier 1 Capacity ²	92,520	0	0.0%
Tier 2	Peak up to Tier 2 ³	163,169	70,649	52.7%
Tier 3	Peak up to Tier 3 ³	226,460	63,291	47.3%
Total			133,940	100.0%

1. Consumption is per source file: *Rowland_Water Usage and Billing_2018-2020_Manipulated.xlsx*

2. Consumption assigned to Tier 1 is the max Tier 1 water use (Tier 1 breakpoint multiplied by the number 5/8" - 1" SFR customers). Tier breakpoints represent the consumption level in which the higher tier rate takes effect.

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

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

The number of customers for each customer class (also known as customer allocation factors) is shown in Figure 8. It is notable to mention that the fire service meters refer to private properties with fire meters.

Figure 8. Number of Meters by Customer Class

Rate Group	Number of Meters	Percent of Total
Single Family Residential	11,565	84.9%
All Other Standard Meters	1,597	11.7%
Private Fire Service	465	3.4%
Total	13,627	100%

E. COST OF SERVICE ANALYSIS

Once the revenue requirements are determined, as described in Section 2-B of this report, the cost-of-service analysis proportionately distributes those revenue requirements to each of the customer classes. The cost-of-service analysis consists of two major components: (1) the classification of expenses, and (2) the allocation of costs to customer classes. Costs are classified corresponding to the function they serve. All costs in the District's budget are allocated to each component of the rates in proportion to the level of service required by customers. The levels of service are related to volumes of peak and non-peak demand, infrastructure capacity, and customer service. Ultimately, a cost-of-service analysis is intended to result in rates that are proportional to the cost of providing service to each customer.

This process is described as follows:

Classification of Costs

Most costs are not typically allocated 100 percent to fixed or variable categories and therefore are allocated to multiple functions of water service. Costs were classified using the commodity-demand method which is described in the AWWA M1 Manual⁸. In accordance with this method, budgeted potable system costs were reviewed with regard to their functional purposes (such as purchased water, treatment, pumping, etc.) and then "classified" into six categories that are specific to the District's specific costs and system characteristics: (1) commodity (or volume-based) costs; (2) additional supply (recycled water system contribution) costs; (3) zonal costs; (4) demand (or capacity) costs; (5) customer service costs; and (6) fire protection costs. The classification of costs provides the basis for allocating costs to various customer classes based on the cost causation components described below:

- **Commodity**-related costs are those costs associated with the total consumption of water over a specified period (such as annual). The Commodity Allocation Factor is used to allocate commodity related costs to each customer class, as shown in Figure 5.
- **Additional Supply** related costs represent the potable water system's contribution to the recycled water system. These costs are allocated to each customer class based on the Commodity Allocation Factor shown in Figure 5, and then allocated to the Tier 3 volumetric rate for single-family residential customers, and to the uniform volumetric rate for all other customers. These expenses are only allocated to the highest tier for single family customers because without the additional consumption needed to serve the highest users, the additional water would not need to be purchased.

⁸ *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, sixth edition, 2012, p. 66.*

- **Zonal** related costs represent the electricity, operations, and maintenance costs for facilities located in the higher elevation zones. These costs are allocated based on water consumption within each zone and are discussed later in this report, in Section 2-K.
- **Capacity**-related costs are those costs associated with sizing facilities to meet the maximum, or peak demand. System capacity costs (for treatment, storage, and distribution) are incurred to always provide reliable service to all customers. These costs are allocated to each customer based on the peak demand placed on the system. The potential demand is reflected in the hydraulic capacity factors. Since the District's rate structure is based on meter sizes (single-family, commercial, etc.), both operating costs and capital infrastructure costs incurred to accommodate peak system capacity events are allocated to each meter size according to its potential peak demand placed on the system. This potential demand is reflected in the hydraulic capacity factors for each meter size, which are shown later in this report, in Figure 12.
- **Customer** related costs are costs associated with having a customer on the water system, such as meter reading, postage, and billing. Customer costs are allocated to each customer class based on the customer allocation factors shown in Figure 8.
- **Fire Protection** costs are those costs associated with providing sufficient capacity in the system for public fire hydrants for delivery of water to properties served by the system in the event of a fire, as well as fire meters and other operations and maintenance costs of providing water to properties for private fire service protection.

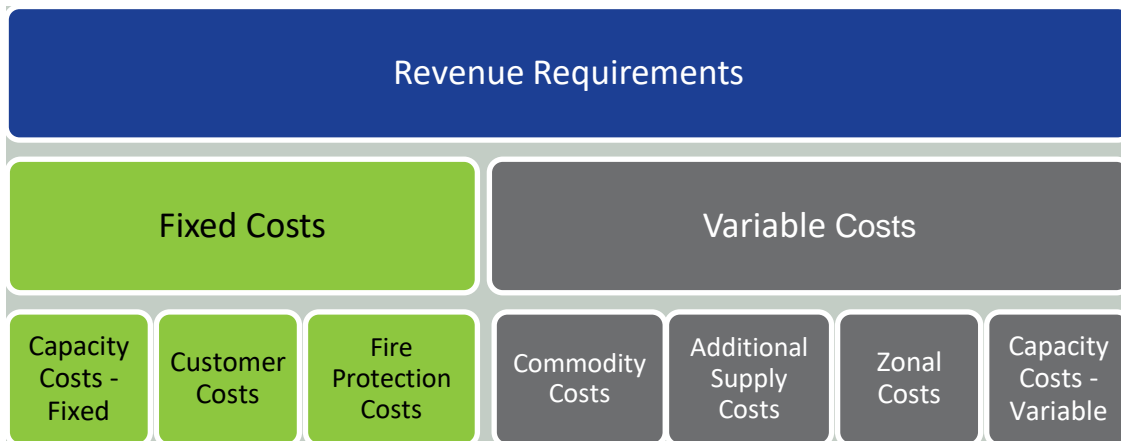
Once costs in the District's budget were reviewed, they were allocated to these cost classification components which are used as the basis for establishing new water rates and translate to fixed and variable charges. For more detail on the costs associated with the capacity of the water system, refer to Tables 24-27 in Appendix C.

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 the water supply system, treatment and delivery system, operations and maintenance costs; 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.

Figure 9 below summarizes how cost components are grouped with respect to fixed and variable components.

Figure 9. Cost Classification Summary



Ideally, utilities should recover all their fixed costs from fixed charges and all 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. When rates are set in this manner, they provide greater revenue stability for the utility. However, other factors are often considered when designing water rates such as affordability, water conservation goals, ease of understanding, and ease of administration. Further, revenue losses resulting from decreased consumption can be mitigated by drought or water shortage rates, which were updated in this Study.

NBS classified the District's costs into categories that can be more generally grouped into the fixed and variable costs. Based on projected costs and demand patterns, this analysis resulted in a cost distribution that is approximately 45 percent fixed and 55 percent variable. The District's current rate structure is comprised of a fixed meter charge and a variable commodity charge. For single family residential customers, the rates for the commodity charge have three tiers that impose higher rates as the level of consumption increases. For all other customers, the rate for the commodity charge is a uniform rate per unit of metered water consumption.

Figure 10 summarizes the resulting revenue requirements allocated to each cost component. For more details on the calculations resulting with these classification components, refer to Tables 24-27 in Appendix C.

Figure 10. Allocated Net Revenue Requirements

Classification Components	Potable Net Revenue Requirements	
<u>Volumetric-Related Costs</u>		
Commodity	\$ 12,484,773	47.9%
Additional Supply Costs	877,260	3.4%
Zonal ¹	229,700	0.9%
Capacity-Related Costs (volumetric)	741,590	2.85%
<i>Subtotal: Volumetric Costs</i>	<i>\$ 14,333,323</i>	<i>55.0%</i>
<u>Fixed-Related Costs</u>		
Capacity-Related Costs (fixed)	\$ 10,476,322	40.2%
Customer-Related Costs	728,388	2.8%
Fire Protection-Related Costs	522,554	2.0%
<i>Subtotal: Capacity Costs</i>	<i>11,727,264</i>	<i>45.0%</i>
Net Revenue Requirement²	\$ 26,060,587	100%

1. Zonal Cost of Service is recovered through a separate zonal surcharge.

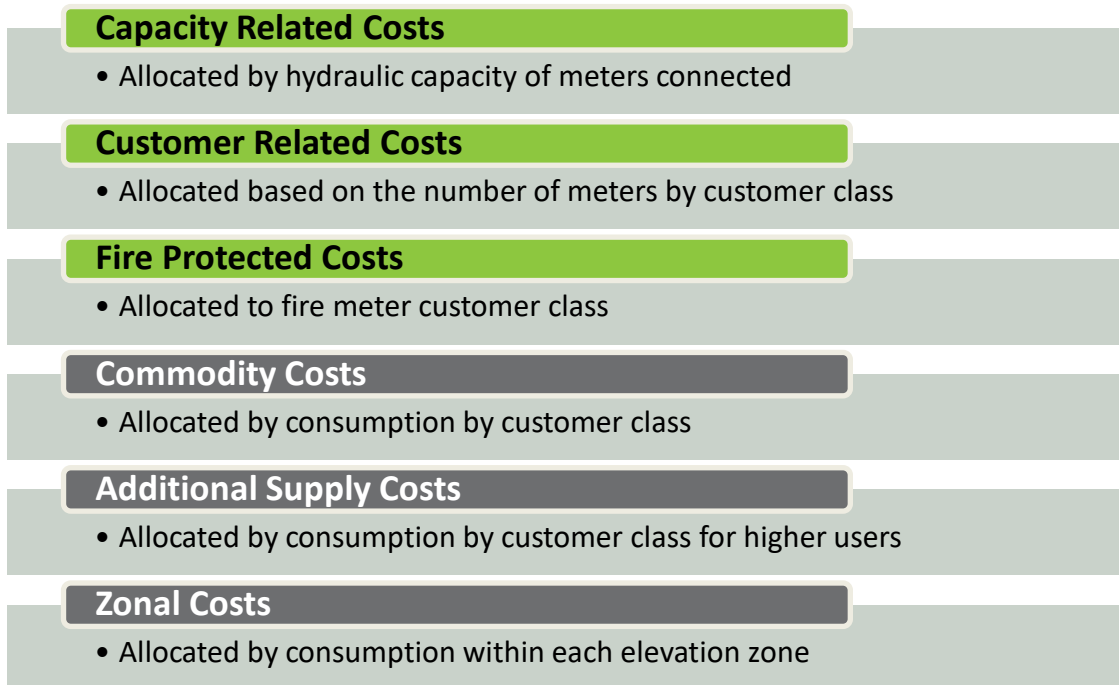
2. Net revenue requirement based on current rates with added rate increases.

Costs Allocated to Customer Classes

As noted above in Section 2-D, costs are allocated to each customer class based on the customer characteristics of each class in order to reflect the cost differentials to serve each type of customer. The District's potable water system includes three customer classes: single-family residential, private fire meters and all other customers (includes: all meters 1.5-inch and larger, multi-family, commercial, irrigation, etc.).

Commodity-related costs are distributed to each customer class based on the percentage of water consumed (previously shown in Figure 5). Capacity-related costs are distributed to customers based on the hydraulic capacity factors for each meter (shown in Figure 12). Customer-related costs are distributed to each customer class based on the number of customers in each customer class (previously shown in Figure 8). A direct allocation is made in the cost classification process to commercial fire which reflects their share of system-wide costs. **Figure 11** summarizes how each cost classification category is distributed to each customer class.

Figure 11. Cost Allocation Methodology



F. PROPOSED POTABLE WATER RATE STRUCTURE

The process of evaluating the water rate structure provides the opportunity to incorporate several rate-design objectives and policies, including revenue stability, equity among customers, and water conservation. Based on direction from District staff, the proposed rates were developed. The following sections describe this process.

Fixed Charges

The fixed meter charge recognizes that the water utility incurs fixed costs regardless of whether customers use water. There are two components which comprise the fixed meter charge: the customer component and the capacity component. The customer component is comprised of those costs relating to reading and maintaining meters, customer billing and collection, and other customer service related costs. The customer service costs do not differ among the various meter sizes, therefore, the rate for this component of the fixed meter charge is the same for each meter size.

The capacity component recovers costs associated with constructing and operating the water system to ensure there is sufficient capacity in the system to meet the demand of each meter connected. Meter sizes have different fixed charges based on their capacity requirements: larger meters have the potential to use more of the system's capacity⁹ compared to smaller meters, therefore they absorb a greater portion of the costs. The potential capacity demanded is proportional to the maximum hydraulic flow

⁹ System capacity is the system's ability to supply water to all delivery points at the time when demanded. Both operating costs and capital related costs incurred to meet the demand of each meter connected to the water system. Costs associated with system capacity are allocated to customers based upon the hydraulic capacity of each size meter connected to the system.

through each meter size as established by the AWWA hydraulic capacity ratios¹⁰. The hydraulic capacity factors for each meter size best represent the potential capacity demands placed on the system. The factors represent the additional amount of water that could flow through a larger meter compared to a residential single family meter. The water system is sized to meet all customer demands at all times, so additional infrastructure is required to serve larger demands. Using the factors described in the M1 manual is a widely used industry standard in calculating hydraulic capacity factors by the utility's base meter sold. The AWWA capacity ratios used for this report are shown in the third and fifth columns of **Figure 12**.

As an example, a 2-inch meter has a greater capacity, or potential peak demand than a 5/8-inch meter; therefore, the fixed charge for a 2-inch meter is larger than a 5/8-inch meter based on their proportionate capacity requirements¹¹. 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 5/8-inch meter).

The ratios shown in Figure 12 are the ratio of potential flow through each meter size compared to the flow through a 5/8-inch meter. For example, column 2 in Figure 12 shows the hydraulic capacity of a two-inch meter is 8 times that of a 5/8-inch meter and therefore the capacity component of the fixed meter charge is 8 times that of the 5/8-inch meter.

The actual number of meters by size is multiplied by the corresponding capacity ratios to calculate the total number of equivalent meters to the base size of 5/8-inch as shown in Figure 12. The equivalent meter calculation looks at the system infrastructure from the viewpoint of a residential single family meter. A two-inch meter can draw 8 times as much water as a single family (base 5/8-inch), so the two-inch meter is equivalent to 8 single family meters. 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. While most of the fixed costs are recovered through the meter charge, a portion of the peak capacity costs are also recovered through volumetric rates for all customers. To the extent such costs are recovered from higher tiers, such costs are recovered for infrastructure that is necessary to deliver water service at higher levels of water consumption, and such costs would not have been incurred but for the demands placed on the water system by such users.

This calculation is summarized for standard and fire use meters in Figure 12.

¹⁰ See: American Water Works Association, *Principles of Water Rates, Fees and Charges: Manual of Water Supply Practices M1*, p. 383, (7th ed. 2017) and American Water Works Association, *Water Meters – Selection, Installation, Testing and Maintenance M6*, p. 65 (5th ed. 2012).

¹¹ 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 12. Equivalent Meter Factors - Standard & Fire Meters

Meter Size	Standard Meters		Fire Meters	
	Meter Capacity (gpm) ¹	Meter Equivalency ²	Meter Capacity (gpm) ³	Meter Equivalency ²
	<u>Displacement Meters</u>		<u>Displacement Meters</u>	
5/8 inch	20	1.00	-	-
3/4 inch	30	1.00	-	-
1 inch	50	1.00	50	1.00
1.5 inch	100	5.00	100	2.00
2 inch	160	8.00	160	3.20
	<u>Compound Class I Meters</u>		<u>Fire Service Type I & II Meters</u>	
3 inch	320	16.00	350	7.00
4 inch	500	25.00	700	14.00
6 inch	1,000	50.00	1,600	32.00
8 inch	1,600	80.00	2,800	56.00
	<u>Turbine Class II Meters</u>			
10 inch	4,200	210.00	4,400	88.00
12 inch	5,300	265.00	5,300	106.00

1. Per AWWA M-1, Table B-1.

2. Meter equivalency factor for standard meters is based on 5/8-inch meters as the base meter size.

Meter equivalency factor for fire meters is based on 1-inch meters as the base meter size.

3. Per AWWA M-6, Table 5-3.

The two types of meters (standard & fire protection) are kept distinct in this analysis as the District's existing rates have different fixed meter charges for fire meters than for standard water service customers, and updated rates will maintain this same structure. Fire service customers differ from other water service customers because their service is standby in nature, 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. However, the District still needs to provide sufficient capacity for fire meters and recover other related operations and maintenance costs. Based on the cost-of-service analysis and the standby nature of fire meters, the overall cost to serve these users is proportionately less than that of a standard service; therefore, the fixed meter charges are less.

For FY 2021/22, **Figure 13** shows how the fixed monthly meter charges were calculated for standard water meters, for the base meter size (5/8-inch meter), and **Figure 14** shows the same for private fire meters, with a base fire meter of 1-inch. The fixed capacity component in Figure 13 is the full capacity allocation to customers as shown in Figure 10. The customer related costs are less the fire protection customer component which is then shown in Figure 14. For further detail on the allocation to customers based on customer class, refer to Table 35 in Appendix C. The customer component of the rate does not vary by meter size because it represents costs to the utility for having connections to the water system. Capacity and fire protection costs vary by meter size and are based on the hydraulic capacity of each meter size.

Figure 13. Calculation of FY 2021/22 Standard Fixed Meter Charge for Base Meter Size

Classification	Revenue Requirement	Allocation Methodology	Allocation	Charge
	a		b	c=(a/b)/12
Capacity-Related Costs (fixed assignment)	\$ 10,476,322	Equivalent Meters	22,463	\$ 38.87
Customer-Related Costs	\$ 703,533	Meters	13,162	\$ 4.45

Figure 14. Calculation of FY 2021/22 Private Fire Protection Fixed Meter Charge for Base Meter Size

Classification	Revenue Requirement	Allocation Methodology	Allocation	Charge
	a		b	c=(a/b)/12
Fire Protection-Related Costs	\$ 522,554	Equivalent Meters	21,739	\$ 2.00
Customer-Related Costs	\$ 24,855	Meters	465	\$ 4.45

The Capacity and Fire Protection charges developed in Figure 13 and Figure 14 are the monthly charge for the base meter size (5/8 inch), which is multiplied by the hydraulic capacity factor for larger meters shown in Figure 12. These calculations are shown in **Figure 15** for Standard Meters and **Figure 16** for Fire Protection meters. The District has decided the fixed charge for all 5/8-inch through 1-inch meters shall be the same, which is not an uncommon industry practice for smaller meters and reflects the fact that some properties are required to have larger meters than they actually need or use. This is shown in Figure 15 and Figure 16 by adjusting the hydraulic capacity ratio for these meters to 1.0, for the following reasons:

- The desire for a single fixed meter charge across all customer classes.
- The overwhelming number of meters between 5/8-inch and 1-inch are single family residential.
- The consumption pattern for single family residential customers with meter sizes 5/8-inch to 1-inch are similar.

Figure 15. FY 2021/22 Standard Fixed Meter Charges

Meter Size	Hydraulic Capacity Factor	Fixed Meter Charge		Total Fixed Meter Charge
		Customer Component	Capacity Component	
5/8-1 inch	1.00	\$4.45	\$38.87	\$43.32
1.5 inch	5.00	\$4.45	\$194.33	\$198.78
2 inch	8.00	\$4.45	\$310.92	\$315.38
3 inch	16.00	\$4.45	\$621.84	\$626.30
4 inch	25.00	\$4.45	\$971.63	\$976.08
6 inch	50.00	\$4.45	\$1,943.26	\$1,947.71
8 inch	80.00	\$4.45	\$3,109.21	\$3,113.66
10 inch	210.00	\$4.45	\$8,161.67	\$8,166.13
12 inch	265.00	\$4.45	\$10,299.25	\$10,303.71

Figure 16. FY 2021/22 Private Fire Protection Fixed Meter Charges

Meter Size	Hydraulic Capacity Factor	Fixed Meter Charge		Total Fixed Meter Charge
		Customer Component	Fire Protection Component	
1 inch	1.00	\$4.45	\$2.00	\$6.46
1.5 inch	2.00	\$4.45	\$4.01	\$8.46
2 inch	3.20	\$4.45	\$6.41	\$10.87
3 inch	7.00	\$4.45	\$14.03	\$18.48
4 inch	14.00	\$4.45	\$28.06	\$32.51
6 inch	32.00	\$4.45	\$64.13	\$68.58
8 inch	56.00	\$4.45	\$112.23	\$116.68
10 inch	88.00	\$4.45	\$176.35	\$180.81
12 inch	106.00	\$4.45	\$212.43	\$216.88

Volumetric Commodity Charge Rates

Currently, the District uses a tiered volumetric rate for single-family residential customers and a uniform volumetric rate for all other customers. The proposed volumetric rates maintain this structure. **Figure 17** shows the calculation which assigns volumetric costs to the two customer classes (single-family residential and all other customers) for FY 2021/22. The revenue requirements for the variable costs shown in column *a* is the total shown in Figure 10 for each classification. The dollar amount allocated to single family residential customers is based on consumption usage for both commodity and additional supply costs and peak usage for the volumetric capacity revenue requirements. Details on the breakdown of these cost allocations by customer class are shown in Table 35 of Appendix C.

Figure 17. FY 2021/22 Allocation of Variable Costs

Classification	Revenue Requirement	Allocation Methodology	% Allocation SFR	\$ Allocation SFR	% Allocation Non-Res.	\$ Allocation Non-Res.
	<i>a</i>		<i>b</i>	<i>c=a*b</i>	<i>d</i>	<i>e=a*d</i>
Commodity	\$12,484,773	Commodity	45%	\$ 5,619,573	55%	\$ 6,865,200
Additional Supply Costs	\$ 877,260	Commodity	45%	\$ 394,867	55%	\$ 482,393
Volumetric Capacity Costs	\$ 741,590	Peak Capacity	45%	\$ 332,452	55%	\$ 409,138
Total	\$14,103,623			\$ 6,346,892		\$ 7,756,731

Single-family residential customers are proposed to continue using the current tiered volumetric rate structure. Tier breakpoints will remain the same as current breakpoints and expected consumption in each tier was determined.

1. The breakpoint for the first tier is set to the typical indoor California water use with 4 people using 50 gallons per capita per day in a home, or 8 hcf.¹²
2. The breakpoint for the second tier is set equal to peak summer consumption by customers in this group. Peak summer consumption is when water consumption is highest for a billing period, or at 15 hcf.

¹² Data source: DWR California Water Plan Update 2013
(http://www.water.ca.gov/calendar/materials/vol3_urbanwue_apr_release_16033.pdf).

Figure 18 shows the tier breakpoints, including projected monthly consumption by tier.

Figure 18. Single-Family Residential Tier Breakpoints & Expected Consumption by Tier

Tier	Monthly Breakpoint ¹	Expected Consumption ²	Percentage of Total SFR Consumption
Tier 1	8 hcf	954,433	54%
Tier 2	15 hcf	435,688	25%
Tier 3	--	374,556	21%
Total		1,764,677	100%

1. Tier 1 break point set to assumed domestic consumption for a typical SFR customer using 50 gpcd with 4 people per home.

Data source: *DWR California Water Plan Update 2013*

(http://www.water.ca.gov/calendar/materials/vol3_urbanwue_apr_release_16033.pdf).

Tier 2 break point set to average summer consumption for SFR customers with 5/8" - 1" meters.

2. Consumption is per source file: *Rowland_Water Usage and Billing_2018-2020_Manipulated.xlsx*

Volumetric assigned capacity costs represent the extra capacity costs needed to meet peak demand in each tier. These capacity costs are allocated to single-family residential customers in the higher tiers. Tier 1 was based on indoor water use, so the breakpoint was set at 8 hcf. Tier 1 was allocated no volumetric assigned capacity costs as all single-family residential customers are assumed to be allocated the capacity required to provide Tier 1 water.

To determine the Tier 2 allocation, the amount of capacity required to service single-family customers up to the Tier 2 breakpoint was estimated based upon peak consumption. Tier 2 was based on average summer consumption, so the breakpoint was set at 15 hcf. That is, the size of the water system is limited by the capacity it can serve at safe levels. When peak usage is recorded, the water system can potentially be stressed to the maximum capacity that it has to offer. It's important to know the peak usage in order to maintain a safe and reliable system that will serve its customers. The capacity above and beyond Tier 1 was calculated, and the additional capacity over Tier 1, of 52.7% was used to allocate volumetric capacity costs to Tier 2.

Similarly, to determine the Tier 3 allocation, the amount of capacity required to service single-family residential customers was estimated based upon peak consumption. The capacity above and beyond what was required through Tier 2 was calculated, and the additional capacity over Tier 2 of 47.3% was used to allocate volumetric capacity costs to Tier 3. Tiers 2 and 3 share additional capacity costs that provide infrastructure to meet higher demands. Tier 3 also pays for additional water supply expenses.

Figure 19 shows how the percentage of total additional capacity is calculated for each Tier and represents how volumetric capacity costs are allocated to develop the three-tiered water rates.

Figure 19. Capacity Allocation to Single-Family Residential Tiers

Tier	Description	Monthly Consumption (hcf) ¹	Additional Capacity Required (hcf) ⁴	Additional Capacity Factor
Tier 1	Max Tier 1 Capacity ²	92,520	0	0.0%
Tier 2	Peak up to Tier 2 ³	163,169	70,649	52.7%
Tier 3	Peak up to Tier 3 ³	226,460	63,291	47.3%
Total			133,940	100.0%

1. Consumption is per source file: *Rowland_Water Usage and Billing_2018-2020_Manipulated.xlsx*

2. Consumption assigned to Tier 1 is the max Tier 1 water use (Tier 1 breakpoint multiplied by the number 5/8" - 1" SFR customers). Tier breakpoints represent the consumption level in which the higher tier rate takes effect.

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

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

Additional supply costs that were allocated to single-family residential customers were assigned only to the third tier because if no consumption occurred in the third tier the additional potable water use would not be required.

Using expected consumption by customer class and tier along with the costs allocated to the volumetric rates, the charge per unit of water sold were calculated as show in **Figure 20**. Single-family residential customers will remain on a tiered volumetric rate to encourage water conservation, and all other customers will remain on a uniform volumetric rate. The uniform rate is more than the Tier 1 rate for single-family residential customers, that reflects the cost of providing water service to these customers.

Tiers 2 and 3 are supported by marginal costs required to deliver greater amounts of water. The commodity costs are allocated to each tier by the percent of expected consumption. The additional supply costs are allocated to the highest tier and the volumetric capacity costs are split between the 2nd and 3rd tiers. Without the additional water usage needed to serve the higher users, these costs would not occur – therefore, they are allocated only to the higher tiers for single family residential customers. The capacity costs are allocated to the higher 2 tiers by the percentage of additional capacity required to meet the peak demands of consumption. Such costs are appropriately recovered from higher tiers because the District would not have incurred those costs but for the demands placed on the water system by users within those tiers. These reflect capacity costs incurred to deliver water to high water users that more regularly place peak demands on the system. Because peak periods tend to have higher numbers of service calls, capacity costs, and system maintenance issues when the water system is running at peak demand, single family customers are allocated these expenses to the higher two tiers. Customers that tend to stay in the Tier 1 range of water usage don't typically put additional strain on the system. For additional tables on the volumetric commodity rates for single family customers, refer to Table 32, Table 38 and Table 39 in Appendix C.

Figure 20. Volumetric Commodity Rates for FY 2021/22

Volumetric Rate Type	Consumption	Volumetric Rate Component			Total Allocated Cost	Total Volumetric Charge
		Commodity	Additional Supply	Capacity		
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e=b+c</i>	<i>f=e/a</i>
Single-Family Residential						
Tier 1	954,433	\$ 3,039,370	\$ -	\$ -	\$ 3,039,370	\$3.18
Tier 2	435,688	\$ 1,387,438	\$ -	\$ 175,358	\$ 1,562,796	\$3.59
Tier 3	374,556	\$ 1,192,765	\$ 394,867	\$ 157,094	\$ 1,744,727	\$4.66
All Other Customers						
Uniform	2,155,833	\$ 6,865,200	\$ 482,393	\$ 409,138	\$ 7,756,731	\$3.60
Total		\$ 12,484,773	\$ 877,260	\$ 741,590	\$14,103,623	

G. PROPOSED RECYCLED WATER RATE STRUCTURE

The District currently charges recycled water customers the same fixed meter charges as potable customers, and that has been maintained in the updated rate structure, per direction from District staff. The amount of revenue expected to be collected from recycled water fixed charges in FY 2021/22 is shown below in Figure 21.

Figure 21. Expected FY 2021/22 Recycled Water System Fixed Charge Revenue

Meter Size	Total Fixed Meter Charge	Number of Meters	Estimated Revenue
5/8 inch	\$43.32	0	\$0
3/4 inch	\$43.32	1	\$520
1 inch	\$43.32	37	\$19,234
1.5 inch	\$198.78	43	\$102,570
2 inch	\$315.38	34	\$128,673
3 inch	\$626.30	3	\$22,547
4 inch	\$976.08	7	\$81,991
6 inch	\$1,947.71	1	\$23,373
8 inch	\$3,113.66	1	\$37,364
10 inch	\$8,166.13	0	\$0
12 inch	\$10,303.71	1	\$123,644
Total		128	\$539,916

The variable rate was calculated as shown in **Figure 22**. In total, the rates collect the target revenue from recycled water customers with proposed rate increases as determined in the financial plan. Because the recycled water rates currently do not recover the full net revenue requirements needed, the recycled expected revenue is less than the net revenue requirement shown in the financial plan in order to keep rates lower than potable water charges. It is appropriate to pay for recycled water capital costs with other District revenues because the recycled water system creates a new source of water supply, therefore increasing supply and reliability for all customers and benefiting the District as a whole.

Figure 22. Variable Recycled Water Rate Calculation

Recycled Water Variable Rate Calculation	FY 2021/22
Expected Recycled Revenue Requirement ¹	\$1,716,509
Less: Expected Revenue Fixed Charges ^{1,2}	\$ (539,916)
Required Variable Revenue	\$1,176,593
Expected Recycled Water Consumption (hcf) ¹	492,342
Recycled Water Variable Rate	\$2.39

1. Meter counts, consumption rates and customer class from Source files:

Rowland_Water Usage and Billing_2018-2020_Manipulated.xlsx

Total net revenue requirement shown in financial plan cannot be reached with 5% increases. Therefore, the expected recycled revenue is used in the calculation after rate increases are assumed.

2. Fixed Meter charges for Recycled Water set equal to potable fixed charges.

H. CURRENT AND PROPOSED WATER RATES

Figure 23 provides a comparison of the current and proposed rate structure for FY 2021/22 through 2025/26 for each meter size. More detailed tables on the development of the proposed water rates are documented in Appendix C.

Figure 23. Current and Proposed Water Rates

Water Rate Schedule	Current Rates	Proposed Rates					
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	
Fixed Service Charge							
Monthly Fixed Service Charge							
Standard Meters:							
5/8 inch	\$42.58	\$43.32	\$45.05	\$46.40	\$47.80	\$49.23	
3/4 inch	\$42.58	\$43.32	\$45.05	\$46.40	\$47.80	\$49.23	
1 inch	\$42.58	\$43.32	\$45.05	\$46.40	\$47.80	\$49.23	
1.5 inch	\$201.67	\$198.78	\$206.73	\$212.93	\$219.32	\$225.90	
2 inch	\$320.99	\$315.38	\$327.99	\$337.83	\$347.96	\$358.40	
3 inch	\$639.16	\$626.30	\$651.35	\$670.89	\$691.01	\$711.75	
4 inch	\$997.12	\$976.08	\$1,015.13	\$1,045.58	\$1,076.95	\$1,109.25	
6 inch	\$1,991.43	\$1,947.71	\$2,025.62	\$2,086.39	\$2,148.98	\$2,213.45	
8 inch	\$3,184.60	\$3,113.66	\$3,238.21	\$3,335.36	\$3,435.42	\$3,538.48	
10 inch	\$8,355.02	\$8,166.13	\$8,492.77	\$8,747.55	\$9,009.98	\$9,280.28	
12 inch	\$10,542.50	\$10,303.71	\$10,715.86	\$11,037.33	\$11,368.45	\$11,709.50	
Monthly Fixed Service Charge							
Fire Service Meters:							
1 inch	\$3.58	\$6.46	\$6.72	\$6.92	\$7.13	\$7.34	
2 inch	\$9.04	\$10.87	\$11.30	\$11.64	\$11.99	\$12.35	
3 inch	\$16.44	\$18.48	\$19.22	\$19.80	\$20.39	\$21.00	
4 inch	\$30.07	\$32.51	\$33.81	\$34.83	\$35.87	\$36.95	
6 inch	\$65.12	\$68.58	\$71.33	\$73.47	\$75.67	\$77.94	
8 inch	\$111.85	\$116.68	\$121.35	\$124.99	\$128.74	\$132.60	
10 inch	\$174.17	\$180.81	\$188.04	\$193.68	\$199.49	\$205.48	
12 inch	\$209.22	\$216.88	\$225.56	\$232.32	\$239.29	\$246.47	
Cost Per hcf of Water Consumed:							
Single-Family Residential							
Tier 1	1-8 hcf	\$3.11	\$3.18	\$3.31	\$3.41	\$3.51	\$3.62
Tier 2	9-15 hcf	\$3.38	\$3.59	\$3.73	\$3.84	\$3.96	\$4.08
Tier 3	16+ hcf	\$4.62	\$4.66	\$4.84	\$4.99	\$5.14	\$5.29
All Other Customers							
Uniform Rate		\$3.47	\$3.60	\$3.74	\$3.85	\$3.97	\$4.09
Recycled Water Commodity Charges							
Uniform Rate		\$2.33	\$2.39	\$2.51	\$2.63	\$2.77	\$2.90

I. COMPARISON OF CURRENT AND PROPOSED WATER BILLS

Figure 24 and **Figure 25** compare a range of monthly water bills for the current and proposed water rates as a result of the initial rate adjustment for single-family residential (SFR) customers (up to a 1-inch meter) and non-single family residential customers (with a 2-inch meter). These monthly bills are based on typical meter sizes, and the average consumption levels for each customer class are highlighted.

Figure 24. Monthly Water Bill Comparison for Single-Family Customers

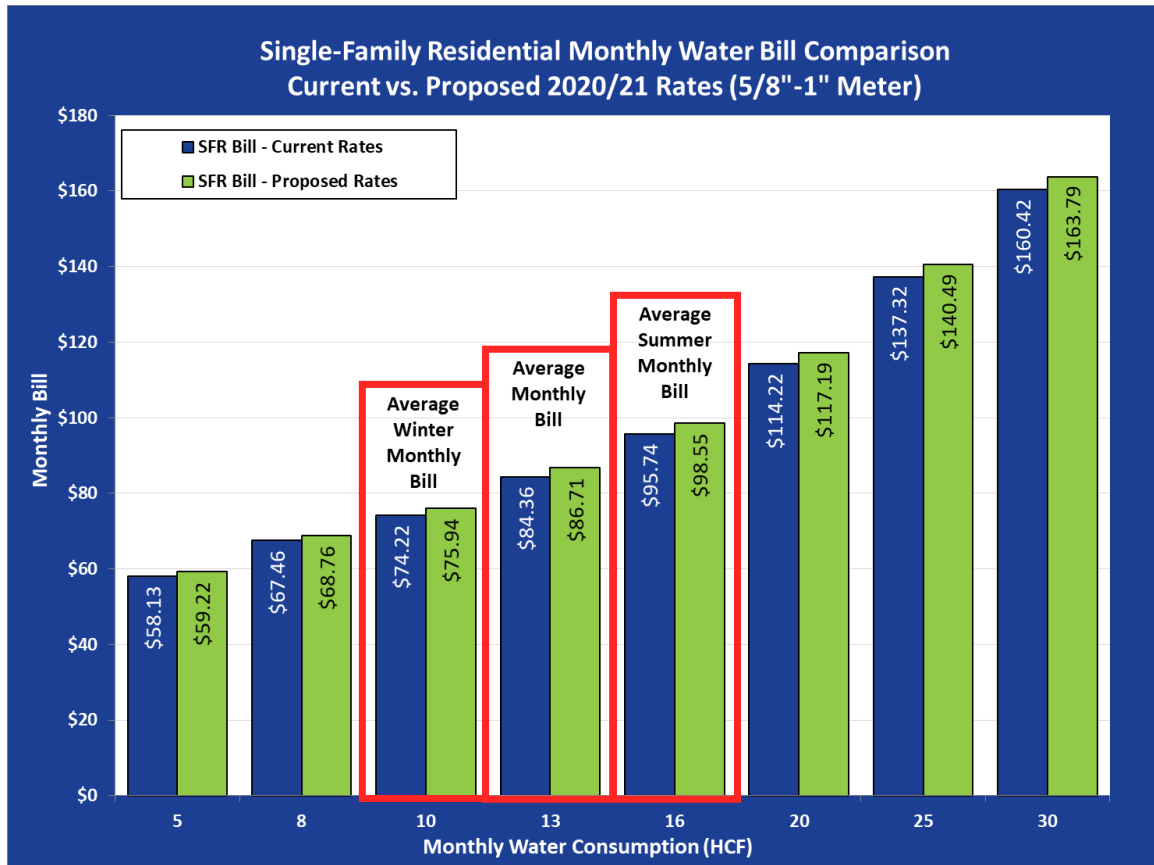
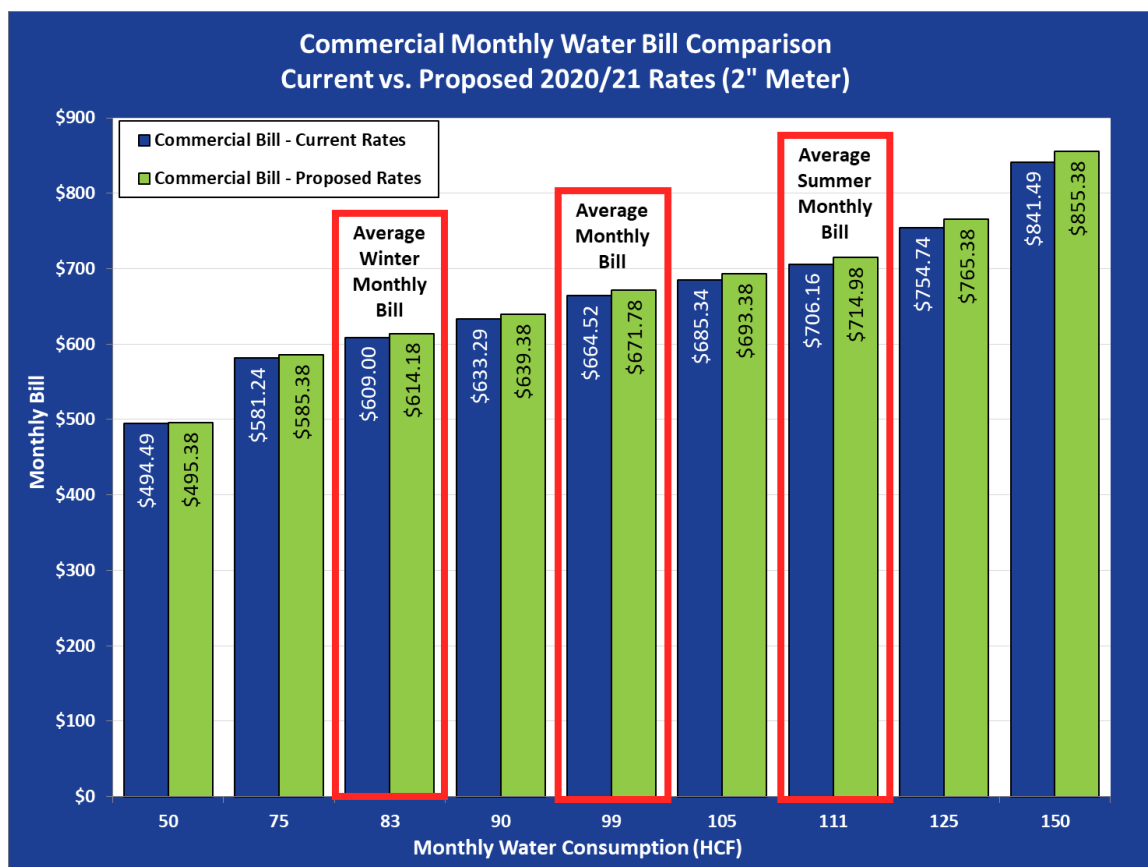


Figure 25. Monthly Water Bill Comparison for a Commercial Customer with a 2-inch Meter



J. DROUGHT RATES

Should water conservation increase beyond currently expected levels, the District is still obligated to meet its annual net revenue requirements. To this end, drought rates have been updated so that if total consumption should decrease further due to an increase in conservation required by the State, another regulatory agency, or if the Board of Directors declares that it is in more severe drought stages, the District would still be kept whole. If consumption decreases beyond projected baseline consumption levels, some costs will also decrease, and the proposed drought rates have taken this reduced revenue need into consideration. Costs that have a potential to decrease if water conservation increases include water purchases, chemicals and pumping power. For FY 2021/22, **Figure 26** calculates expected savings due to conservation.¹³ The conservation impact on consumption in the three tiers for SFR customers is the most difficult to predict. To develop drought rates, the monthly consumption for each SFR customer was reduced by the expected conservation and the consumption by tier was recalculated. **Figure 27** shows how drought rates were developed for FY 2021/22 at 10% conservation. The rates for each increased stage of drought (20% through 60%) were developed in the same manner and are shown in Tables 51-56 in Appendix C.

¹³ Only the Expenses for Water Purchases – TVMWD, Pumping Power and Chemicals are expected to be impacted by conservation.

Figure 26. FY 2021/22 Impact of Conservation on Expected Commodity Expenditures

Percentage Of Conservation	Total Expected Consumption FY 2020/21 ¹	Base Commodity Cost	Impacted Commodity Costs	Savings	Updated Commodity Cost
<i>a</i>		<i>b</i>	<i>c</i>	<i>d = (-a) * c</i>	<i>e = b + d</i>
0%	3,920,510 ccf	\$12,484,773	\$10,765,078	\$ -	\$12,484,773
10%	3,528,459 ccf	\$12,484,773	\$10,765,078	\$ (1,076,508)	\$11,408,265
20%	3,136,408 ccf	\$12,484,773	\$10,765,078	\$ (2,153,016)	\$10,331,757
30%	2,744,357 ccf	\$12,484,773	\$10,765,078	\$ (3,229,524)	\$ 9,255,249
40%	2,352,306 ccf	\$12,484,773	\$10,765,078	\$ (4,306,031)	\$ 8,178,741
50%	1,960,255 ccf	\$12,484,773	\$10,765,078	\$ (5,382,539)	\$ 7,102,234
60%	1,568,204 ccf	\$12,484,773	\$10,765,078	\$ (6,459,047)	\$ 6,025,726

1. Water conservation values calculated in source file: *Rowland_Water Usage and Billing_2018-2020.xlsx*, *SFRTierPivot Tab*.

Figure 27. FY 2021/22 Adjustment to Volumetric Rate at 10% Conservation

Rate Structure Type	Water Consumption (hcf/yr.) ¹	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Tier 1	926,800	26.3%	\$ 2,996,543	\$ -	0.0%	\$ -	\$3.23
Commodity Rate (SFR) Tier 2	379,051	10.7%	\$ 1,225,553	\$ -	23.6%	\$ 175,358	\$3.70
Tier 3	282,358	8.0%	\$ 912,924	\$ 394,867	21.2%	\$ 157,094	\$5.19
Uniform Potable Commodity Rate (All Other Meters)	1,940,250	55.0%	\$ 6,273,245	\$ 482,393	55.2%	\$ 409,138	\$3.69
	3,528,459	100.0%	\$11,408,265	\$ 877,260	100.0%	\$ 741,590	

1. Water conservation values calculated in source file: *Rowland_Water Usage and Billing_2018-2020.xlsx*, *SFRTierPivot Tab*.

Figure 28 shows the proposed drought rates at each increased stage of drought through FY 2025/26.

Figure 28. Proposed Drought Rates

Water Rate Schedule Drought Rates ¹		Current Rates	Proposed Rates					
			FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	
Drought Rates - Level 1 - 10% Conservation Goal								
Single-Family Residential: Proposed								
Tier 1	1-8 hcf		\$3.16	\$3.23	\$4.27	\$5.30	\$6.33	\$7.36
Tier 2	9-15 hcf		\$3.47	\$3.70	\$4.74	\$5.77	\$6.80	\$7.83
Tier 3	16+ hcf		\$5.20	\$5.19	\$6.23	\$7.26	\$8.29	\$9.32
All Other Customers: Uniform Rate		\$3.56	\$3.69	\$4.73	\$5.76	\$6.79	\$7.82	
Drought Rates - Level 2 - 20% Conservation Goal								
Single-Family Residential: Proposed								
Tier 1	1-8 hcf		\$3.22	\$3.29	\$4.33	\$5.36	\$6.39	\$7.42
Tier 2	9-15 hcf		\$3.60	\$3.85	\$4.89	\$5.92	\$6.95	\$7.98
Tier 3	16+ hcf		\$6.13	\$6.02	\$7.06	\$8.09	\$9.12	\$10.15
All Other Customers: Uniform Rate		\$3.67	\$3.81	\$4.85	\$5.88	\$6.91	\$7.94	
Drought Rates - Level 3 - 30% Conservation Goal								
Single-Family Residential: Proposed								
Tier 1	1-8 hcf		\$3.30	\$3.37	\$4.41	\$5.44	\$6.47	\$7.50
Tier 2	9-15 hcf		\$3.79	\$4.07	\$5.11	\$6.14	\$7.17	\$8.20
Tier 3	16+ hcf		\$7.75	\$7.42	\$8.46	\$9.49	\$10.52	\$11.55
All Other Customers: Uniform Rate		\$3.82	\$3.96	\$5.00	\$6.03	\$7.06	\$8.09	
Drought Rates - Level 4 - 40% Conservation Goal								
Single-Family Residential: Proposed								
Tier 1	1-8 hcf		\$3.40	\$3.48	\$4.52	\$5.55	\$6.58	\$7.61
Tier 2	9+ hcf		\$5.95	\$6.17	\$7.21	\$8.24	\$9.27	\$10.30
All Other Customers: Uniform Rate			\$4.01	\$4.17	\$5.21	\$6.24	\$7.27	\$8.30
Drought Rates - Level 5 - 50% Conservation Goal								
Single-Family Residential: Proposed								
Tier 1	1-8 hcf		\$3.55	\$3.62	\$4.66	\$5.69	\$6.72	\$7.75
Tier 2	9+ hcf		\$7.77	\$7.95	\$8.99	\$10.02	\$11.05	\$12.08
All Other Customers: Uniform Rate			\$4.28	\$4.45	\$5.49	\$6.52	\$7.55	\$8.58
Drought Rates - Level 6 - 60% Conservation Goal								
Single-Family Residential: Proposed								
Tier 1	1-8 hcf		\$3.78	\$3.84	\$4.88	\$5.91	\$6.94	\$7.97
Tier 2	9+ hcf		\$12.09	\$11.98	\$13.02	\$14.05	\$15.08	\$16.11
All Other Customers: Uniform Rate			\$4.68	\$4.88	\$5.92	\$6.95	\$7.98	\$9.01

1. Drought rates replace the standard tiered or uniform volumetric rates, in each successive conservation target.

K. ZONAL SURCHARGE

The District has customers located in elevation zones for the potable water system and it costs more to pump water to these customers at higher elevation zones. As part of this study, NBS evaluated the cost to serve customers in each zone, including annual power and maintenance costs, and updated zonal surcharges for these customers.

The rates for the zonal surcharges for each zone were calculated based on the costs allocated to each zone and by the amount of water that flows through each zone. **Figure 29** shows the summary calculation for FY 2021/22. A detailed map of District boundaries and each zone can be found in Appendix B.

Figure 29. Calculation of FY 2021/22 Zonal Surcharge

Zone	2020 Consumption by Zone ¹	Non-Cumulative Electricity Surcharge (\$/hcf)	Non-Cumulative O&M Surcharge (\$/hcf)	Cumulative Total Surcharge (\$/hcf)	Revenue From Surcharges
Zone 2	618,677	\$0.130	\$0.021	\$0.15	\$ 93,440
Zone 3	163,818	\$0.113	\$0.025	\$0.29	47,383
Zone 4	41,145	\$0.306	\$0.037	\$0.63	26,036
Zone 5	31,520	\$0.154	\$0.048	\$0.83	26,307
Zone 6	42,106	\$0.231	\$0.039	\$1.11	46,537
Total	897,266				\$ 239,703

1. Zonal Consumption from Source files: *Rowland_Water Usage and Billing_2018-2020_Manipulated.xlsx*, *ZoneConsumptionPivot* tab

A five-year projection of costs was prepared as part of the zonal surcharge rate analysis, to provide a five-year schedule of rates that is consistent with the rate schedules prepared in this Study. **Figure 30** shows the five-year rate schedule of zonal surcharges. Due to an update in the cost-of-service analysis, the zonal elevation charges are lower than current rates. Tables 42-47 in Appendix C details how the surcharges were calculated.

Figure 30. Five-Year Schedule of Water Zonal Elevation Surcharges

Water Rate Schedule - Zonal Surcharges	Current Rates	Proposed Surcharge				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Additional Cost Per hcf of Water Consumed ¹						
Zone 2	\$0.18	\$0.15	\$0.16	\$0.16	\$0.17	\$0.18
Zone 3	\$0.37	\$0.29	\$0.30	\$0.31	\$0.33	\$0.34
Zone 4	\$0.90	\$0.63	\$0.66	\$0.69	\$0.71	\$0.74
Zone 5	\$1.25	\$0.83	\$0.87	\$0.90	\$0.94	\$0.98
Zone 6	\$1.78	\$1.11	\$1.15	\$1.20	\$1.24	\$1.29

1. Zonal surcharges are in addition to standard tiered or uniform volumetric rates.

See detailed zonal map on District website.

SECTION 3. CONSTRUCTION RATE ANALYSIS

As part of this study, NBS also evaluated the District's construction water rates and fees. Construction customers are different from other customers in the District's service area because they are not permanent connections to the water system; they are temporary customers of the water system, and their consumption patterns vary from year to year. Therefore, rates and fees developed for these customers account for these circumstances. This section of the Study describes the methodology used to develop the construction rates and fees.

A. ONE TIME FEES

New construction customers are subject to two one-time fees - a meter deposit and an administrative fee, upon the time of connection. If the customer chooses to move the meter to another location, the customer will be subject to a meter move fee. This section of the report describes how these fees were developed.

- **Meter Deposit** – this is a deposit that is paid to the District for the meter, at the time water service begins. The deposit amount is calculated as the replacement cost of a temporary 3-inch¹⁴ meter should the meter not be returned to the District. The current deposit for a temporary 3-inch meter is \$3,165. The deposit is returned to the customer when the meter is returned.
- **Administrative Fee** – the administrative fee covers the cost of District staff time involved with processing the application for water service, opening the account and installing the water meter. The fee assumes 2.75 hours of staff time are required (for application processing, opening the account and installing the meter) at an hourly rate of \$64.14. An additional 1.5 hours for use of a service truck (\$25 hourly cost) are also included.
- **Meter Move Fee:** this is a fee for moving the meter (if requested by the customer). The fee is based on District staff time and equipment fees for moving the meter from one location to the other. This hourly fee will vary based on the number of hours required to move the meter. Each hour of use includes the \$71.80 hourly staff rate and \$25 hourly service truck cost.

Figure shows these fees for the five-year period (fees for years beyond FY 2025/27 assume an annual inflation factor of 3 percent):

Figure 31. One-Time Fees for Construction Meters

Updated Construction Customer Fee Schedule	Effective Date				
	1/1/22	1/1/23	1/1/24	1/1/25	1/1/26
Construction Meter Deposit	\$3,165.00	\$3,259.95	\$3,357.75	\$3,458.48	\$3,562.24
Administrative Fee	\$213.89	\$220.30	\$226.91	\$233.72	\$240.73
Meter Move Fee (<i>cost per hour</i>)	\$96.80	\$99.70	\$102.70	\$105.78	\$108.95

B. MONTHLY CONSTRUCTION WATER RATES

Monthly construction water rates recover the cost of renting the meter, cost of water, and customer related costs such as meter reading, billing and customer service. As with all other customers in the

¹⁴ All construction meters are 3-inch meters.

District, these costs are recovered through a fixed monthly meter charge and a volumetric charge based on the amount of water consumed. This section describes how these rates were developed.

Monthly Meter Fee - This is a fixed monthly fee that consists of two components – a *meter rental component* that is based on the cost of the construction meter and assumes a useful life of five years¹⁵. There is also a *customer component* that is based on the District’s costs of reading meters, billing customers and customer service costs, as shown in **Figure 32**. The customer component is the same charge that all other customers pay on a monthly basis, as developed in the 2021 Water Rate Study. The “Monthly Meter Rental Fee Component” is calculated by taking the Cost of a Construction Meter (\$3,165 in FY 2021/22) and dividing by the useful life (in months, in this case 5 years * 12 months per year = 60).

Figure 32. Development of the Monthly Meter Fee

Monthly Meter Fee	Effective Date				
	1/1/2022	1/1/2023	1/1/2024	1/1/2025	1/1/2026
<u>Meter Rental Fee Component</u>					
Cost of Construction Meter ¹	\$3,165.00	\$3,259.95	\$3,357.75	\$3,458.48	\$3,562.24
Useful life (years)	5	5	5	5	5
Assumed Annual Cost Inflation	3%	3%	3%	3%	3%
Estimated Replacement Cost (in 5 years ²)	<u>\$3,669.10</u>	<u>\$3,779.18</u>	<u>\$3,892.55</u>	<u>\$4,009.33</u>	<u>\$4,129.61</u>
Monthly Meter Rental Fee Component	\$61.15	\$62.99	\$64.88	\$66.82	\$68.83
<u>Customer Component</u>					
Standard Meter Customer Costs ³	\$4.20	\$4.33	\$4.46	\$4.59	\$4.73
Total Monthly Meter Fee	\$65.35	\$67.31	\$69.33	\$71.41	\$73.55

1. Meter cost per District staff for 2021.

2. 5 year useful life of construction meters provided by District staff.

3. Per July 2021 Water Rate Study.

Potable Water Rate: If the customer uses potable water, construction water customers will pay the potable volumetric rate for construction customers, which is based on the average cost of potable water (per unit of water consumed), plus the zonal surcharge if the customer is located in one of the District’s higher elevation zones. The average cost of water considers all the District’s costs related to the potable water system, both fixed and variable (total Revenue Requirement, Zonal Costs and Estimated Consumption from the earlier Water Rate Study). The Zonal Surcharges recover the cost of pumping water to the higher elevation zones. **Figure 33** shows how the average cost of potable water is developed, where the total Revenue Requirement from the 2021 Water Rate Study is reduced by the zonal costs (because they are recovered in the surcharge), and the net revenue requirement from potable rates is then divided by estimated water consumption, to get the average cost of water, per hcf. **Figure 34** shows the Zonal Surcharge that applies to those customers in higher elevation zones. As a result of the cost-of-service analysis, the zonal rates for fiscal year 2021/22 are less than current rates. For a detailed map of the District boundaries and zones, refer to Appendix B.

¹⁵ Construction meter useful life provided by staff.

Figure 33. Average Cost of Potable Water

Potable Water Cost ¹	Effective Date				
	1/1/2022	1/1/2023	1/1/2024	1/1/2025	1/1/2026
Total Revenue Requirement	\$ 23,148,198	\$ 24,464,882	\$ 24,913,436	\$ 25,558,912	\$ 25,468,894
Less: Zonal Costs	\$ (229,700)	\$ (236,591)	\$ (243,688)	\$ (250,999)	\$ (258,529)
Net Revenue Requirement from Potable Rates	\$ 22,918,499	\$ 24,228,291	\$ 24,669,748	\$ 25,307,913	\$ 25,210,366
Estimated Potable Consumption	3,920,510	3,959,715	3,999,312	4,039,305	4,079,698
Average Cost of Potable Water (\$/hcf)	\$5.85	\$6.12	\$6.17	\$6.27	\$6.18

1. Per July 2021 Water Rate Study. For consumption, 1% inflation increase annually.

Figure 34. Zonal Surcharges

Zonal Surcharges (\$/hcf) ¹	Effective Date				
	1/1/2022	1/1/2023	1/1/2024	1/1/2025	1/1/2026
Zone 2	\$0.15	\$0.16	\$0.16	\$0.17	\$0.18
Zone 3	\$0.29	\$0.30	\$0.31	\$0.33	\$0.34
Zone 4	\$0.63	\$0.66	\$0.69	\$0.71	\$0.74
Zone 5	\$0.83	\$0.87	\$0.90	\$0.94	\$0.98
Zone 6	\$1.11	\$1.15	\$1.20	\$1.24	\$1.29

1. Per July 2021 Water Rate Study.

Recycled Water Rate: If a construction customer uses recycled water, the customer will pay the recycled water volumetric rate for construction customers, which is based on the average cost of recycled water (per unit of water consumed). The average cost of water considers all the District's costs related to the recycled water system, both fixed and variable. **Figure 35** shows the average cost of recycled water which is developed by dividing the total revenue requirement by the total expected recycled water consumption.

Figure 35. Average Cost of Recycled Water

Recycled Water Cost ¹	Effective Date				
	1/1/2022	1/1/2023	1/1/2024	1/1/2025	1/1/2026
Total Revenue Requirement	\$ 2,097,185	\$ 2,112,526	\$ 2,136,546	\$ 2,154,852	\$ 2,176,912
Estimated Consumption (hcf)	492,342	497,265	502,238	507,260	512,333
Average Cost of Recycled Water (\$/hcf)²	\$4.26	\$4.25	\$4.25	\$4.25	\$4.25

1. Per July 2021 Water Rate Study. For consumption, 1% inflation increase annually.

See Table 1 in Appendix C.

2. Cost of recycled water assumes consumption is all in Zone 1.

Figure 36 shows the complete list of charges that apply to construction customers:

Figure 36. Construction Meter Charges

Updated Construction Customer Fee Schedule	Effective Date				
	1/1/22	1/1/23	1/1/24	1/1/25	1/1/26
Construction Meter Deposit	\$3,165.00	\$3,259.95	\$3,357.75	\$3,458.48	\$3,562.24
Administrative Fee	\$213.89	\$220.30	\$226.91	\$233.72	\$240.73
Meter Move Fee (<i>cost per hour</i>)	\$96.80	\$99.70	\$102.70	\$105.78	\$108.95
Monthly Fees					
Fixed Charges (\$/meter)					
Monthly Meter Fee	\$65.35	\$67.31	\$69.33	\$71.41	\$73.55
Volumetric Charges (\$/hcf)					
Potable Water - Zone 1	\$5.85	\$6.12	\$6.17	\$6.27	\$6.18
Potable Water - Zone 2	\$6.00	\$6.28	\$6.33	\$6.44	\$6.36
Potable Water - Zone 3	\$6.14	\$6.42	\$6.48	\$6.59	\$6.52
Potable Water - Zone 4	\$6.48	\$6.78	\$6.85	\$6.98	\$6.92
Potable Water - Zone 5	\$6.68	\$6.99	\$7.07	\$7.21	\$7.16
Potable Water - Zone 6	\$6.95	\$7.27	\$7.36	\$7.51	\$7.47
Recycled Water	\$4.26	\$4.25	\$4.25	\$4.25	\$4.25

SECTION 4. RECOMMENDATIONS AND NEXT STEPS

A. CONSULTANT RECOMMENDATIONS

NBS recommends the District take the following actions:

- **Approve and Accept this Study:** NBS recommends the District Board formally approve and adopt this study report and its recommendations and proceed with the next steps outlined below to implement the proposed rates. This will provide documentation of the rate study analyses and the basis for analyzing potential changes to future rates.

Implement Recommended Levels of Rate Increases and Proposed Rates: If the District satisfies the Proposition 218 procedural requirements of Propositions 218 to increase rates, the District Board should proceed with implementing the 5 year schedule of proposed rates (including drought rates, zonal surcharges and construction rates) and rate increases¹⁶ previously shown in Figure 23, Figure 28, Figure 30 and Figure 36. This will help ensure the continued financial health of District's water utility.

B. NEXT STEPS

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

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

C. NBS' PRINCIPAL ASSUMPTIONS AND CONSIDERATIONS

In preparing this report and the opinions and recommendations included herein, NBS has relied on several principal assumptions and considerations regarding financial matters, conditions, and events that may occur in the future. This information and these assumptions, including District's budgets, capital improvement costs, and information from District staff were provided by sources we believe to be reliable, although NBS has not independently verified this data.

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

¹⁶ A full rate schedule for Prop 218 purposes is shown in Appendix A at the end of this report.

TECHNICAL APPENDICES

APPENDIX A – PROP 218 RATE TABLES

Standard Water Rates:

Water Rate Schedule		Current Rates	Proposed Rates				
			FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Fixed Service Charge							
Monthly Fixed Service Charge							
Standard Meters:							
5/8 inch	\$42.58		\$43.32	\$45.05	\$46.40	\$47.80	\$49.23
3/4 inch	\$42.58		\$43.32	\$45.05	\$46.40	\$47.80	\$49.23
1 inch	\$42.58		\$43.32	\$45.05	\$46.40	\$47.80	\$49.23
1.5 inch	\$201.67		\$198.78	\$206.73	\$212.93	\$219.32	\$225.90
2 inch	\$320.99		\$315.38	\$327.99	\$337.83	\$347.96	\$358.40
3 inch	\$639.16		\$626.30	\$651.35	\$670.89	\$691.01	\$711.75
4 inch	\$997.12		\$976.08	\$1,015.13	\$1,045.58	\$1,076.95	\$1,109.25
6 inch	\$1,991.43		\$1,947.71	\$2,025.62	\$2,086.39	\$2,148.98	\$2,213.45
8 inch	\$3,184.60		\$3,113.66	\$3,238.21	\$3,335.36	\$3,435.42	\$3,538.48
10 inch	\$8,355.02		\$8,166.13	\$8,492.77	\$8,747.55	\$9,009.98	\$9,280.28
12 inch	\$10,542.50		\$10,303.71	\$10,715.86	\$11,037.33	\$11,368.45	\$11,709.50
Monthly Fixed Service Charge							
Fire Service Meters:							
1 inch	\$3.58		\$6.46	\$6.72	\$6.92	\$7.13	\$7.34
2 inch	\$9.04		\$10.87	\$11.30	\$11.64	\$11.99	\$12.35
3 inch	\$16.44		\$18.48	\$19.22	\$19.80	\$20.39	\$21.00
4 inch	\$30.07		\$32.51	\$33.81	\$34.83	\$35.87	\$36.95
6 inch	\$65.12		\$68.58	\$71.33	\$73.47	\$75.67	\$77.94
8 inch	\$111.85		\$116.68	\$121.35	\$124.99	\$128.74	\$132.60
10 inch	\$174.17		\$180.81	\$188.04	\$193.68	\$199.49	\$205.48
12 inch	\$209.22	\$216.88	\$225.56	\$232.32	\$239.29	\$246.47	
Cost Per hcf of Water Consumed:							
Single-Family Residential							
Tier 1	1-8 hcf	\$3.11	\$3.18	\$3.31	\$3.41	\$3.51	\$3.62
Tier 2	9-15 hcf	\$3.38	\$3.59	\$3.73	\$3.84	\$3.96	\$4.08
Tier 3	16+ hcf	\$4.62	\$4.66	\$4.84	\$4.99	\$5.14	\$5.29
All Other Customers							
Uniform Rate	\$3.47	\$3.60	\$3.74	\$3.85	\$3.97	\$4.09	
Recycled Water Commodity Charges							
Uniform Rate		\$2.33	\$2.39	\$2.51	\$2.63	\$2.77	\$2.90

Zonal Surcharge Rates:

Water Rate Schedule - Zonal Surcharges	Current Rates	Proposed Surcharge				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Additional Cost Per hcf of Water Consumed ¹						
No Zone	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Zone 1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Zone 2	\$0.18	\$0.15	\$0.16	\$0.16	\$0.17	\$0.18
Zone 3	\$0.37	\$0.29	\$0.30	\$0.31	\$0.33	\$0.34
Zone 4	\$0.90	\$0.63	\$0.66	\$0.69	\$0.71	\$0.74
Zone 5	\$1.25	\$0.83	\$0.87	\$0.90	\$0.94	\$0.98
Zone 6	\$1.78	\$1.11	\$1.15	\$1.20	\$1.24	\$1.29

1. Zonal surcharges are in addition to standard tiered or uniform volumetric rates.

See detailed zonal map on District website.

Zonal Surcharge + Standard Rates:

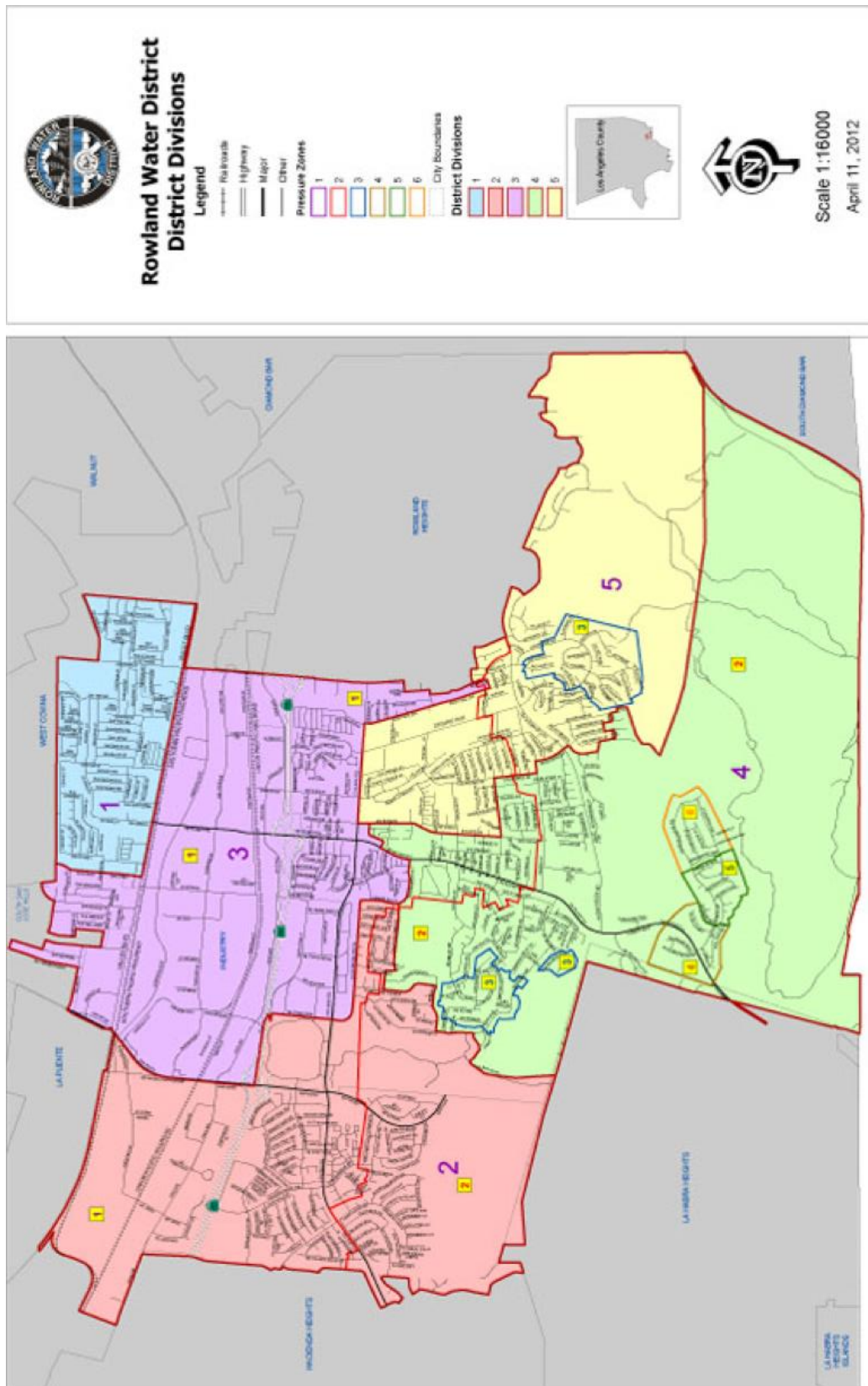
Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Cost Per hcf of Water Consumed:						
Zone 1 -- Tier 1	\$3.11	\$3.18	\$3.31	\$3.41	\$3.51	\$3.62
Zone 1 -- Tier 2	\$3.38	\$3.59	\$3.73	\$3.84	\$3.96	\$4.08
Zone 1 -- Tier 3	\$4.62	\$4.66	\$4.84	\$4.99	\$5.14	\$5.29
Zone 1 -- Uniform Rate	\$3.47	\$3.60	\$3.74	\$3.85	\$3.97	\$4.09
Zone 2 -- Tier 1	\$3.29	\$3.34	\$3.47	\$3.57	\$3.68	\$3.80
Zone 2 -- Tier 2	\$3.56	\$3.74	\$3.89	\$4.01	\$4.13	\$4.25
Zone 2 -- Tier 3	\$4.80	\$4.81	\$5.00	\$5.15	\$5.31	\$5.47
Zone 2 -- Uniform Rate	\$3.65	\$3.75	\$3.90	\$4.02	\$4.14	\$4.27
Zone 3 -- Tier 1	\$3.48	\$3.47	\$3.61	\$3.72	\$3.84	\$3.96
Zone 3 -- Tier 2	\$3.75	\$3.88	\$4.03	\$4.16	\$4.28	\$4.42
Zone 3 -- Tier 3	\$4.99	\$4.95	\$5.15	\$5.30	\$5.47	\$5.63
Zone 3 -- Uniform Rate	\$3.84	\$3.89	\$4.04	\$4.17	\$4.30	\$4.43
Zone 4 -- Tier 1	\$4.01	\$3.82	\$3.97	\$4.10	\$4.23	\$4.36
Zone 4 -- Tier 2	\$4.28	\$4.22	\$4.39	\$4.53	\$4.67	\$4.82
Zone 4 -- Tier 3	\$5.51	\$5.29	\$5.50	\$5.68	\$5.85	\$6.04
Zone 4 -- Uniform Rate	\$4.37	\$4.23	\$4.40	\$4.54	\$4.68	\$4.83
Zone 5 -- Tier 1	\$4.36	\$4.02	\$4.18	\$4.31	\$4.45	\$4.60
Zone 5 -- Tier 2	\$4.63	\$4.42	\$4.60	\$4.75	\$4.90	\$5.05
Zone 5 -- Tier 3	\$5.87	\$5.49	\$5.71	\$5.89	\$6.08	\$6.27
Zone 5 -- Uniform Rate	\$4.72	\$4.43	\$4.61	\$4.76	\$4.91	\$5.07
Zone 6 -- Tier 1	\$4.89	\$4.29	\$4.46	\$4.61	\$4.76	\$4.91
Zone 6 -- Tier 2	\$5.16	\$4.69	\$4.88	\$5.04	\$5.20	\$5.37
Zone 6 -- Tier 3	\$6.40	\$5.76	\$5.99	\$6.19	\$6.38	\$6.59
Zone 6 -- Uniform Rate	\$5.25	\$4.70	\$4.89	\$5.05	\$5.21	\$5.38

Drought Rates:

Water Rate Schedule Drought Rates ¹		Current Rates	Proposed Rates					
			FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	
Drought Rates - Level 1 - 10% Conservation Goal								
Single-Family Residential: Proposed								
Tier 1	1-8 hcf		\$3.16	\$3.23	\$4.27	\$5.30	\$6.33	\$7.36
Tier 2	9-15 hcf		\$3.47	\$3.70	\$4.74	\$5.77	\$6.80	\$7.83
Tier 3	16+ hcf		\$5.20	\$5.19	\$6.23	\$7.26	\$8.29	\$9.32
All Other Customers:								
Uniform Rate		\$3.56	\$3.69	\$4.73	\$5.76	\$6.79	\$7.82	
Drought Rates - Level 2 - 20% Conservation Goal								
Single-Family Residential: Proposed								
Tier 1	1-8 hcf		\$3.22	\$3.29	\$4.33	\$5.36	\$6.39	\$7.42
Tier 2	9-15 hcf		\$3.60	\$3.85	\$4.89	\$5.92	\$6.95	\$7.98
Tier 3	16+ hcf		\$6.13	\$6.02	\$7.06	\$8.09	\$9.12	\$10.15
All Other Customers:								
Uniform Rate		\$3.67	\$3.81	\$4.85	\$5.88	\$6.91	\$7.94	
Drought Rates - Level 3 - 30% Conservation Goal								
Single-Family Residential: Proposed								
Tier 1	1-8 hcf		\$3.30	\$3.37	\$4.41	\$5.44	\$6.47	\$7.50
Tier 2	9-15 hcf		\$3.79	\$4.07	\$5.11	\$6.14	\$7.17	\$8.20
Tier 3	16+ hcf		\$7.75	\$7.42	\$8.46	\$9.49	\$10.52	\$11.55
All Other Customers:								
Uniform Rate		\$3.82	\$3.96	\$5.00	\$6.03	\$7.06	\$8.09	
Drought Rates - Level 4 - 40% Conservation Goal								
Single-Family Residential: Proposed								
Tier 1	1-8 hcf		\$3.40	\$3.48	\$4.52	\$5.55	\$6.58	\$7.61
Tier 2	9+ hcf		\$5.95	\$6.17	\$7.21	\$8.24	\$9.27	\$10.30
All Other Customers:								
Uniform Rate		\$4.01	\$4.17	\$5.21	\$6.24	\$7.27	\$8.30	
Drought Rates - Level 5 - 50% Conservation Goal								
Single-Family Residential: Proposed								
Tier 1	1-8 hcf		\$3.55	\$3.62	\$4.66	\$5.69	\$6.72	\$7.75
Tier 2	9+ hcf		\$7.77	\$7.95	\$8.99	\$10.02	\$11.05	\$12.08
All Other Customers:								
Uniform Rate		\$4.28	\$4.45	\$5.49	\$6.52	\$7.55	\$8.58	
Drought Rates - Level 6 - 60% Conservation Goal								
Single-Family Residential: Proposed								
Tier 1	1-8 hcf		\$3.78	\$3.84	\$4.88	\$5.91	\$6.94	\$7.97
Tier 2	9+ hcf		\$12.09	\$11.98	\$13.02	\$14.05	\$15.08	\$16.11
All Other Customers:								
Uniform Rate		\$4.68	\$4.88	\$5.92	\$6.95	\$7.98	\$9.01	

1. Drought rates replace the standard tiered or uniform volumetric rates, in each successive conservation target.

APPENDIX B - DETAILED DISTRICT MAP



APPENDIX C - DETAILED WATER RATE STUDY TABLES & FIGURES

ROWLAND WATER DISTRICT
WATER RATE STUDY
Financial Plan and Reserve Projections

Financial Plan & Reserve Summary

TABLE 1: RECYCLED WATER - FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Budget	Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Sources of Recycled Water Funds						
Rate Revenue Under Existing Rates ¹	\$ 1,375,066	\$ 1,460,858	\$ 1,460,858	\$ 1,460,858	\$ 1,460,858	\$ 1,460,858
plus: Revenue from Rate Increases ²	-	-	73,043	146,086	219,129	292,172
Other Operating Revenue (Contract Income)	19,050	19,050	19,241	19,433	19,627	19,824
Potable System Contribution	700,112	599,805	542,103	493,080	438,343	387,360
Total Sources of Funds	\$ 2,094,228	\$ 2,079,714	\$ 2,095,245	\$ 2,119,457	\$ 2,137,958	\$ 2,160,214
Uses of Recycled Water Funds						
Water Operating Expenses ¹	\$ 790,484	\$ 810,892	\$ 830,823	\$ 850,235	\$ 870,135	\$ 889,792
Existing Debt Service	1,303,744	1,305,344	1,300,944	1,305,744	1,304,344	1,306,944
Total Uses of Water Funds	\$ 2,094,228	\$ 2,116,235	\$ 2,131,767	\$ 2,155,979	\$ 2,174,479	\$ 2,196,735
Increase/Decrease to Reserves	\$ -	\$ (36,521)	\$ (36,521)	\$ (36,521)	\$ (36,521)	\$ (36,521)
Net Revenue Req't. (Total Uses less Non-Rate Revenue)	\$ 2,075,178	\$ 2,097,185	\$ 2,112,526	\$ 2,136,546	\$ 2,154,852	\$ 2,176,912
Expected Rate Revenue After Rate Increases	\$ 1,375,066	\$ 1,497,380	\$ 1,570,423	\$ 1,643,466	\$ 1,716,509	\$ 1,789,552
Projected Annual Recycled Rate Revenue Increase	0.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Cumulative Increase from Annual Revenue Increases	0.00%	5.00%	10.25%	15.76%	21.55%	27.63%

1. FY 2019/20 Revenues and Expenses are per the District's Annual Operating Budget. Source file: *Revenues and Expenses (Actual vs Budget) 2019.2020.xlsx*
FY 2020/21 Revenues and Expenses are from the approved budget. Source files: *1. Operations and Maintenance Budget 2020.2021 (Detailed).xlsx*

2. Rate increases are anticipated to be effective January 1st each year.

ROWLAND WATER DISTRICT
WATER RATE STUDY
Financial Plan and Reserve Projections

Financial Plan & Reserve Summary

TABLE 2: POTABLE WATER - FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Budget	Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Sources of Potable Water Funds						
Rate Revenue Under Existing Rates ¹	\$ 24,959,634	\$ 25,549,595	\$ 25,805,091	\$ 26,063,142	\$ 26,323,774	\$ 26,587,011
plus: Revenue from Rate Increases ^{2,4}	-	-	1,032,204	2,126,752	3,002,174	3,920,772
Other Operating Revenue	974,850	1,058,465	1,069,366	1,080,385	1,091,521	1,102,778
Interest Earnings ³	235,400	247,200	192,654	187,904	191,261	193,838
Total Sources of Funds	\$ 26,169,884	\$ 26,855,260	\$ 28,099,316	\$ 29,458,184	\$ 30,608,730	\$ 31,804,399
Uses of Potable Water Funds						
Operating Expenses ¹						
Budgeted	\$ 21,116,316	\$ 21,660,508	\$ 22,099,858	\$ 22,806,500	\$ 23,537,575	\$ 24,280,582
Pre-Purchase of Water	-	-	600,000	600,000	600,000	600,000
Recycled Water System	700,112	599,805	542,103	493,080	438,343	387,360
Subtotal: Operating Expenses	\$ 21,816,428	\$ 22,260,314	\$ 23,241,962	\$ 23,899,580	\$ 24,575,918	\$ 25,267,942
Other Expenditures:						
Existing Debt Service	\$ 1,161,500	\$ 1,161,700	\$ 1,166,100	\$ 1,164,500	\$ 1,162,100	\$ 1,163,900
Rate-Funded Capital Expenses	-	1,631,655	2,893,148	3,737,478	4,544,193	4,641,800
Subtotal: Other Expenditures	\$ 1,161,500	\$ 2,793,355	\$ 4,059,248	\$ 4,901,978	\$ 5,706,293	\$ 5,805,700
Total Uses of Water Funds	\$ 22,977,928	\$ 25,053,669	\$ 27,301,209	\$ 28,801,558	\$ 30,282,211	\$ 31,073,642
Increase/Decrease to Reserves	\$ 3,191,956	\$ 1,801,592	\$ 798,106	\$ 656,626	\$ 326,519	\$ 730,757
Net Revenue Req't. (Total Uses less Non-Rate Revenue) ⁵	\$ 21,067,566	\$ 23,148,198	\$ 24,464,882	\$ 24,913,436	\$ 25,558,912	\$ 25,468,894
Estimated Rate Revenue After Rate Increases	\$ 24,959,634	\$ 26,060,587	\$ 27,374,041	\$ 28,612,743	\$ 29,765,837	\$ 30,965,400
Projected Annual Potable Rate Revenue Increase	0.00%	4.00%	4.00%	3.00%	3.00%	3.00%
Cumulative Increase from Annual Revenue Increases	0.00%	4.00%	8.16%	11.40%	14.75%	18.19%
Debt Coverage Without Rate Increase	2.57	2.61	2.94	3.20	3.38	3.55
Debt Coverage After Rate Increase ⁶	2.57	2.61	3.39	4.12	4.68	5.26

1. FY 2020/21 Revenues and Expenses are from the approved budget. Source files: 1. Operations and Maintenance Budget 2020.2021 (Detailed).xlsx

2. Rate increases are anticipated to be effective January 1st each year.

3. Interest income is budgeted for FY20-21 and calculated in this table for all future years.

4. This is the projected increase to potable water consumption and water service charges.

5. Net revenue requirement equals total expenses less recycled water system costs less non rate revenue.

6. The District must have net revenues that are at least equal to 1.1 times the annual debt service payment.

Source files: Rowland Water District 2014A OS Statement.pdf, page 8 & Rowland Water District 2012A OS Statement.pdf, page 15

ROWLAND WATER DISTRICT
WATER RATE STUDY
Financial Plan and Reserve Projections

Financial Plan & Reserve Summary

TABLE 3: RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY	Budget	Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Total Beginning Cash ¹	\$ 20,242,275					
Operating Reserve						
Beginning Reserve Balance ²	\$ 6,376,277	\$ 7,229,244	\$ 7,415,562	\$ 7,567,125	\$ 7,806,722	\$ 8,054,544
Plus: Net Cash Flow (After Rate Increases)	3,191,956	1,765,070	761,585	620,104	289,997	694,235
Plus: Transfer of Debt Reserve Surplus	-	-	-	-	-	-
Net: Transfer (Out) / From Rate Stabilization Reserve	-	-	-	-	-	-
Less: Transfer Out to Capital Replacement Reserve	(2,338,989)	(1,578,752)	(610,022)	(380,507)	(42,175)	(442,556)
Ending Operating Reserve Balance	\$ 7,229,244	\$ 7,415,562	\$ 7,567,125	\$ 7,806,722	\$ 8,054,544	\$ 8,306,223
Target Ending Balance (120-days of O&M Costs) ³	\$ 7,229,244	\$ 7,415,562	\$ 7,567,125	\$ 7,806,722	\$ 8,054,544	\$ 8,306,223
Rate Stabilization Reserve						
Beginning Reserve Balance ²	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000
Net: Transfer (Out) / From Operating Reserve Surplus	-	-	-	-	-	-
Ending Rate Stabilization Reserve Balance	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000
Target Ending Balance ⁴	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000
Capital Improvement Reserve						
Beginning Reserve Balance ²	\$ 7,865,998	\$ 6,302,545	\$ 5,849,852	\$ 5,223,322	\$ 5,319,407	\$ 5,329,275
Plus: Grant Proceeds	-	-	-	-	-	-
Plus: Transfer of Operating Reserve Surplus	2,338,989	1,578,752	610,022	380,507	42,175	442,556
Less: Use of Reserves for Capital Projects	(3,902,442)	(2,031,445)	(1,236,552)	(284,422)	(32,307)	-
Ending Capital Rehabilitation & Replacement Reserve Balance	\$ 6,302,545	\$ 5,849,852	\$ 5,223,322	\$ 5,319,407	\$ 5,329,275	\$ 5,771,832
Target Ending Balance (6% of Net Capital Assets) ⁵	\$ 3,946,400	\$ 4,271,100	\$ 4,613,300	\$ 4,938,900	\$ 5,287,100	\$ 5,628,500
Ending Balance - Excludes Restricted Reserves	\$ 19,531,789	\$ 19,265,414	\$ 18,790,447	\$ 19,126,129	\$ 19,383,820	\$ 20,078,055
Suggested Minimum Target Ending Balance	\$ 17,175,644	\$ 17,686,662	\$ 18,180,425	\$ 18,745,622	\$ 19,341,644	\$ 19,934,723
Ending Surplus/(Deficit) Compared to Minimum Reserve Targets	\$ 2,356,145	\$ 1,578,752	\$ 610,022	\$ 380,507	\$ 42,175	\$ 143,332
Days Cash on Hand	311	301	281	279	275	278
Restricted Reserves ⁶						
Expansion Reserve						
Beginning Reserve Balance ⁷	\$ 234,067	\$ 347,608	\$ 526,084	\$ 576,345	\$ 627,558	\$ 679,738
Plus: Capacity Fee Revenue	111,200	175,000	45,000	45,450	45,905	46,364
Plus: Interest Earnings	2,341	3,476	5,261	5,763	6,276	6,797
Less: Use of Reserves for Capital Projects	-	-	-	-	-	-
Ending Expansion Fund Balance	\$ 347,608	\$ 526,084	\$ 576,345	\$ 627,558	\$ 679,738	\$ 732,899
Annual Interest Earnings Rate ⁸	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%

1. Beginning cash balance for Fiscal Year 2020/2021 is per FY 2019/20 CAFR, page 19. This does not include \$4,960,433 in restricted cash (used to fund projects excluded in this study).

2. Operating reserve balance from FY 2018/19 CAFR, page 61. Source file: Rowland-Water-District-FINAL-APPROVED-AUDIT-FY2018-2019.pdf

3. Reserve target set to 4-months or 120-days of O&M costs.

4. Rate Stabilization Reserve target set to a maximum of \$6 million per the District's adopted Reserve Policy.

Source file: Establishing Reserve Funds.pdf

5. NBS recommends setting the Capital Rehabilitation & Replacement Reserve target to 6% of net assets.

6. No reserve requirements on current debt.

7. Source file for beginning expansion reserve fund from staff email on July 9, 2021.

8. Per Rowland Water District Staff, interest earnings are approximately 1% annually.

CHART 1

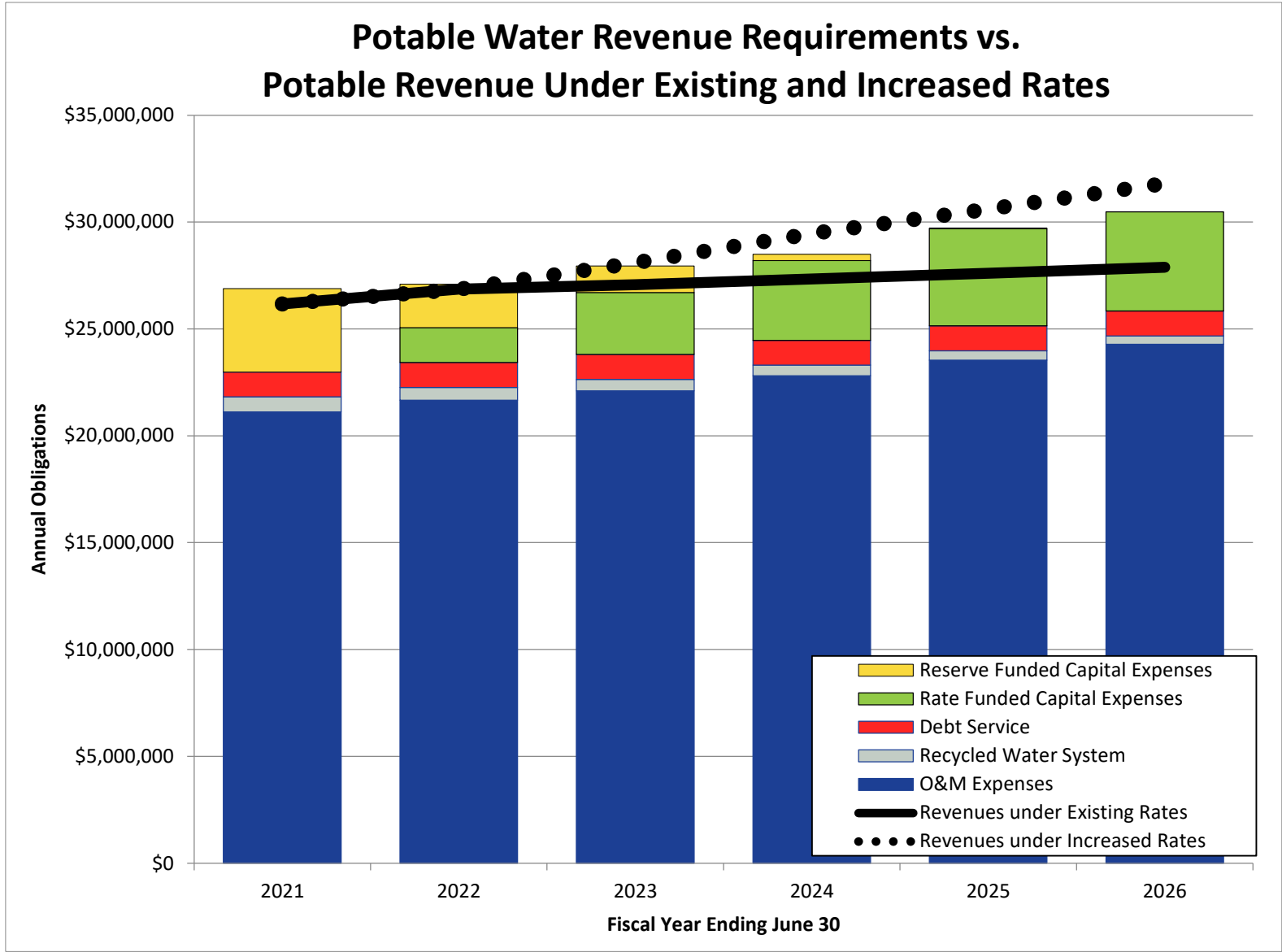


CHART 2

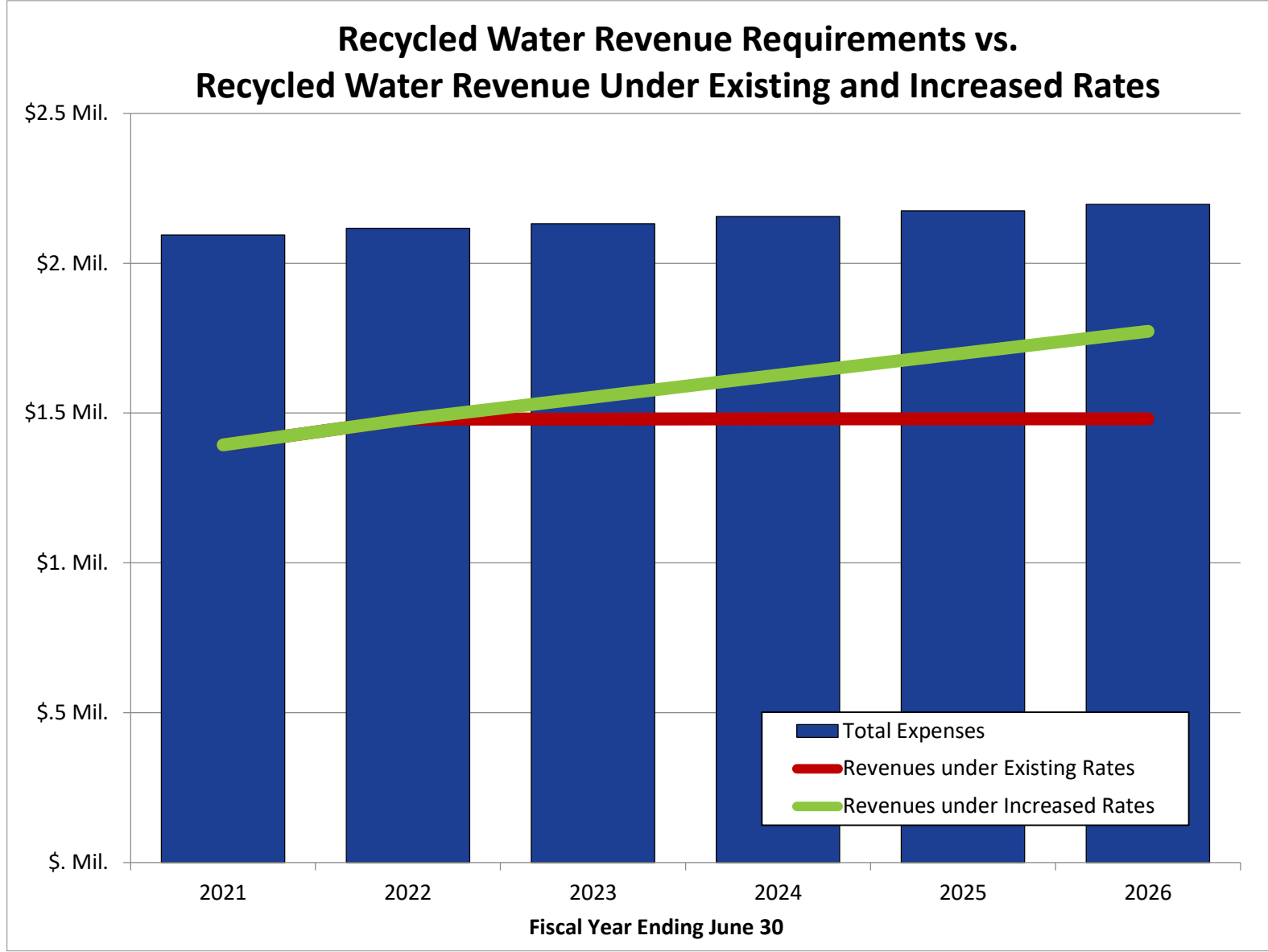


CHART 3

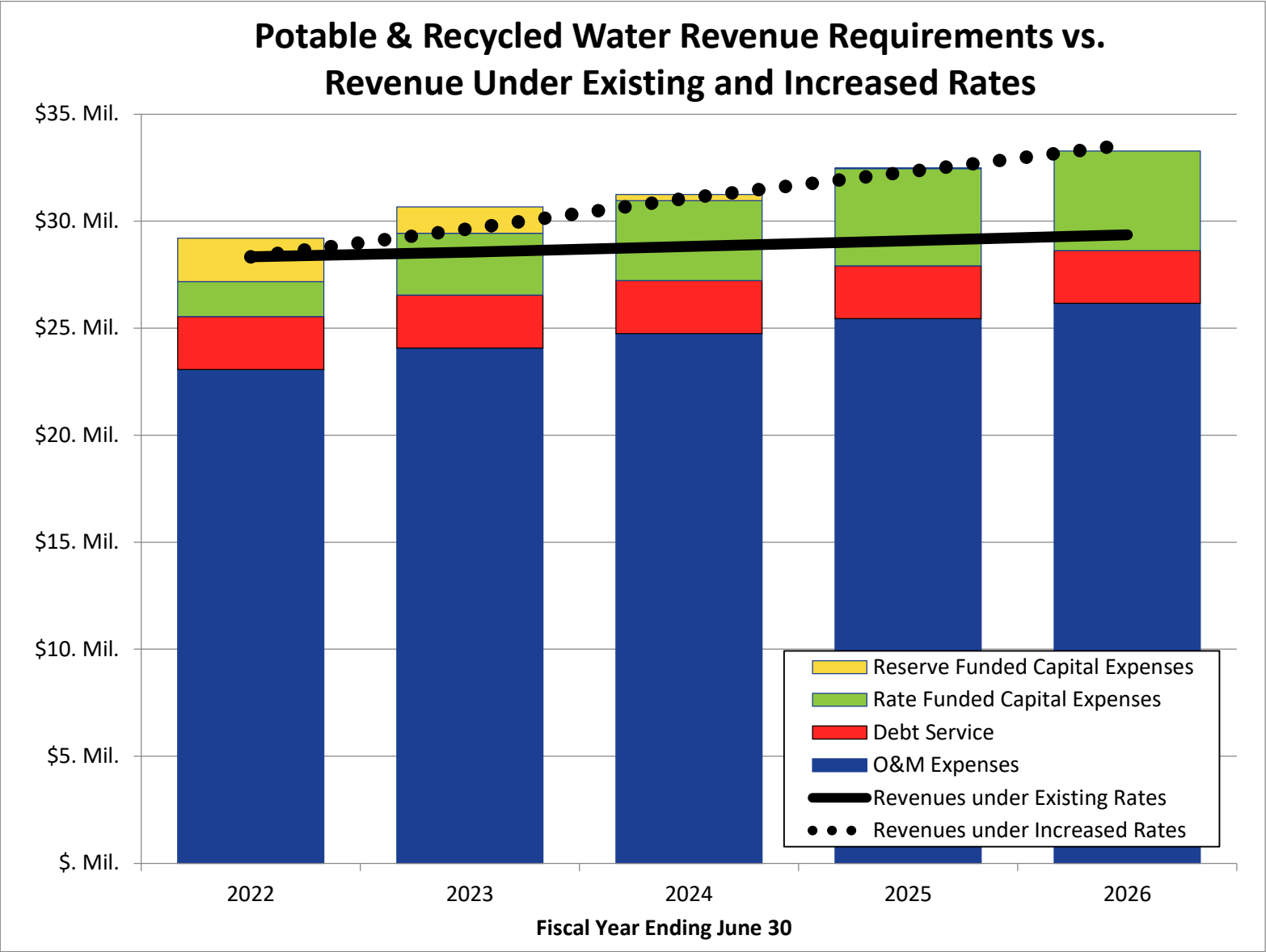


CHART 4

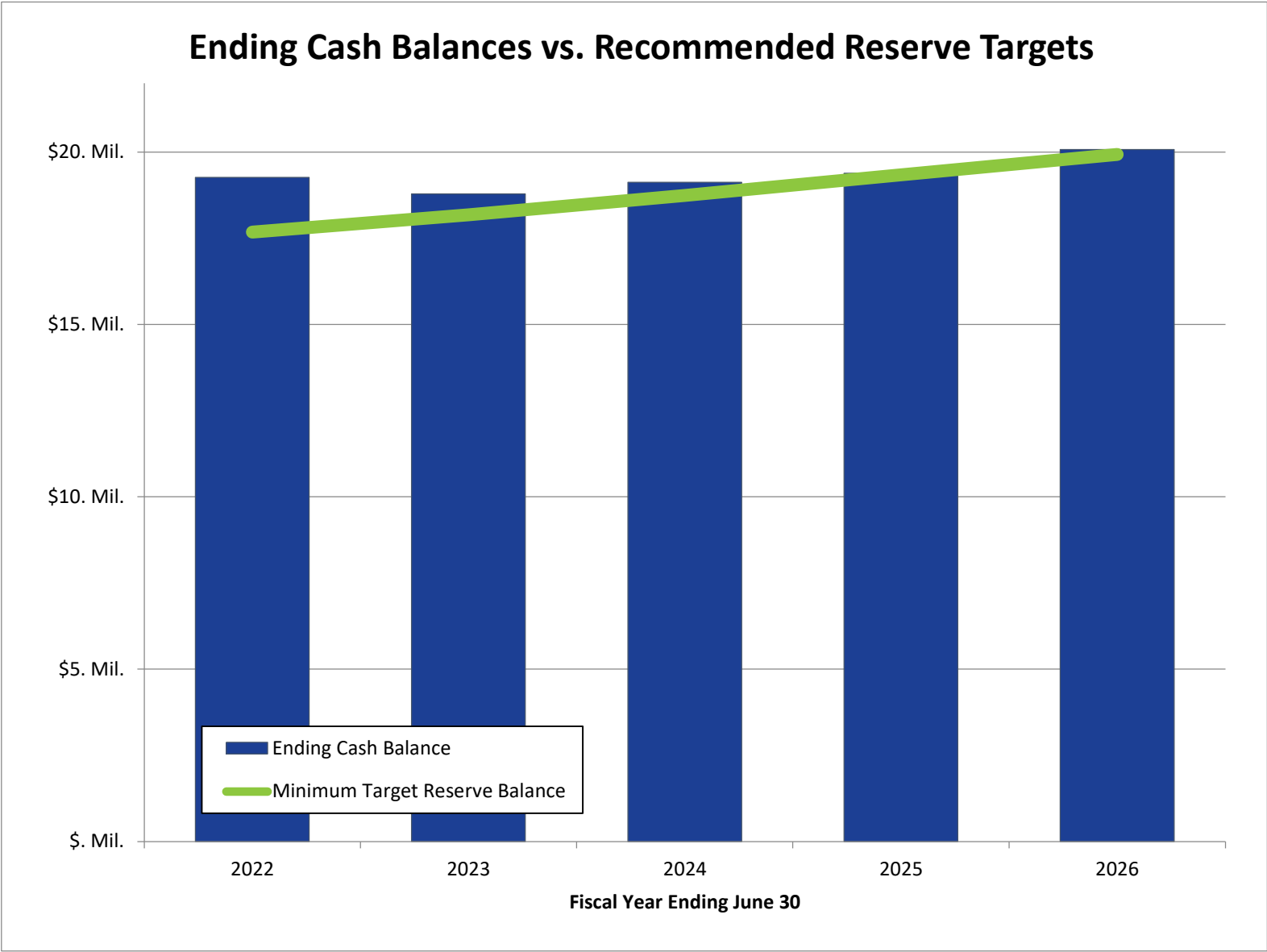


CHART 5

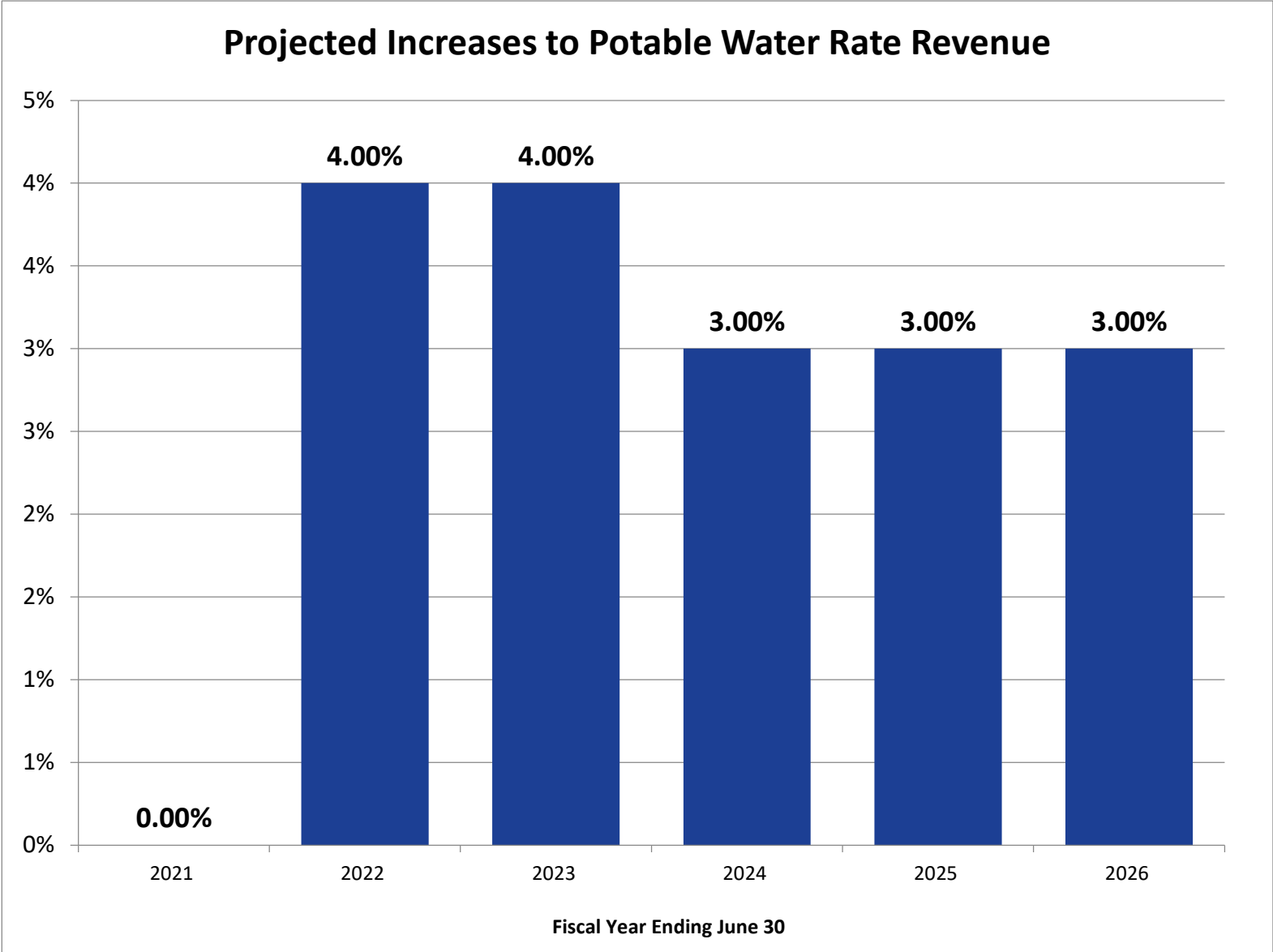


CHART 6

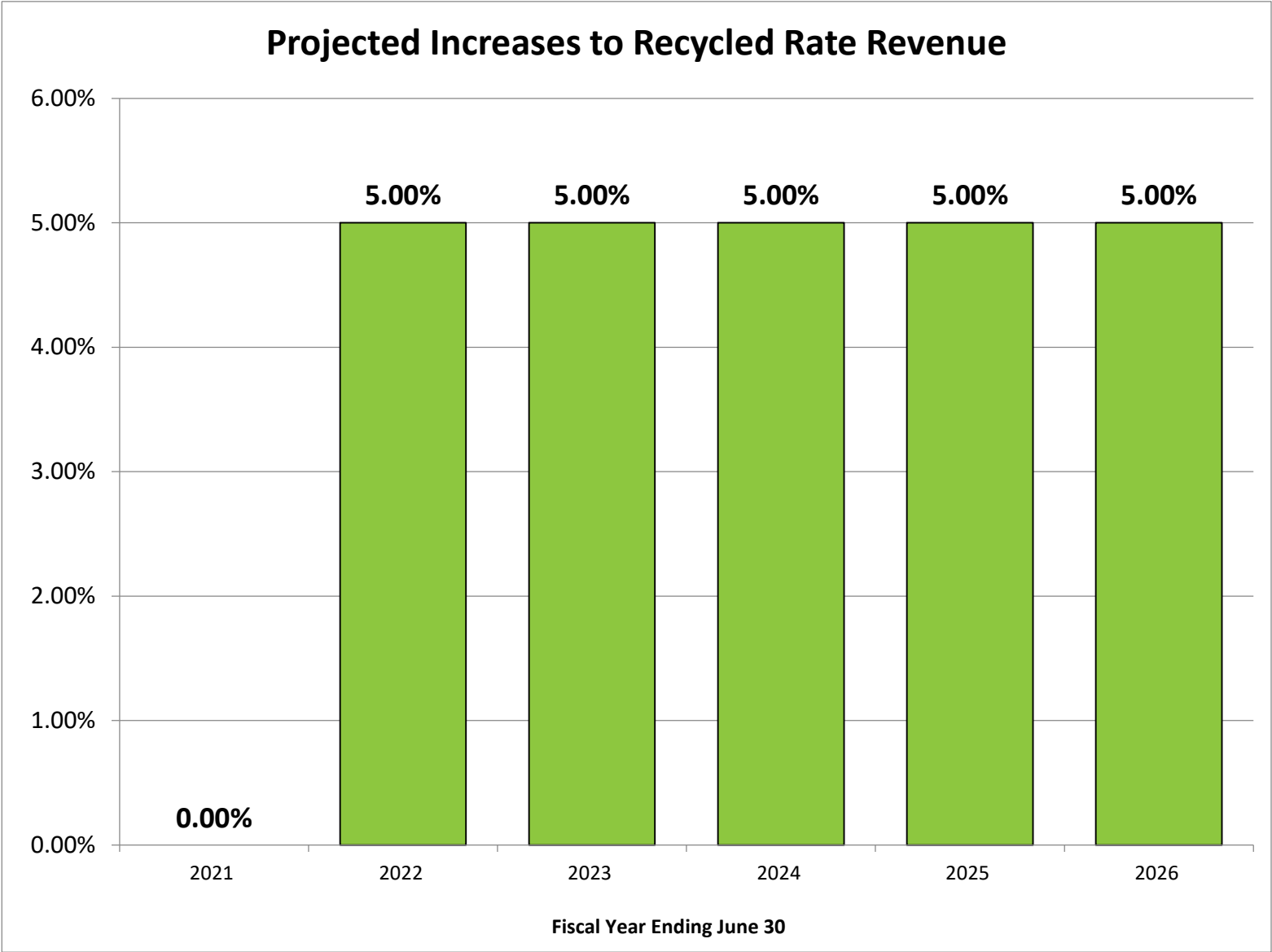


CHART 7

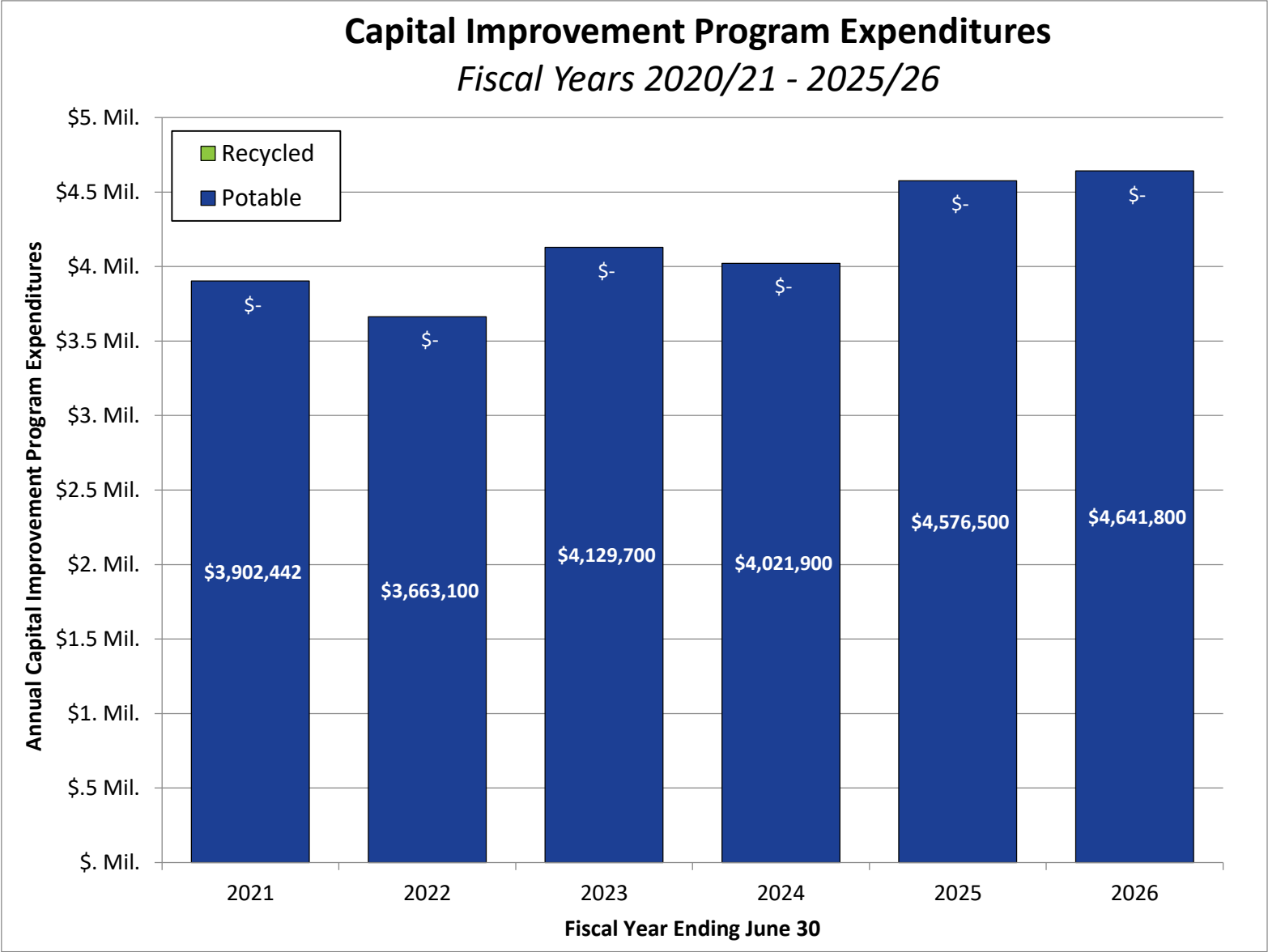
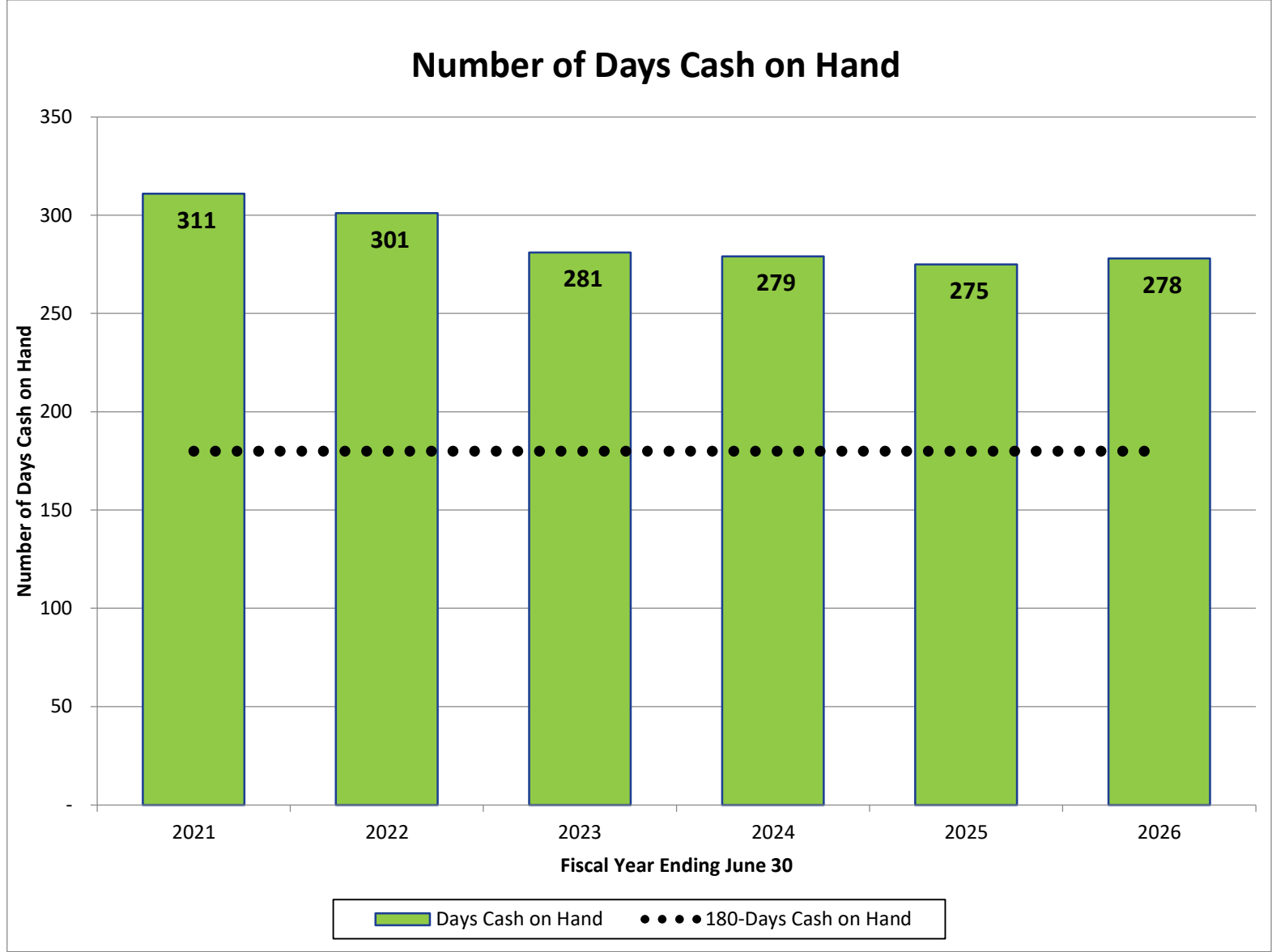


CHART 8



**ROWLAND WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses**

EXHIBIT 1 Total Budget (Potable & Recycled)

TABLE 4 : REVENUE FORECAST ¹

SOURCES OF REVENUE	% PW	% RW	Basis	Projected		Budget				
				2021	2022	2023	2024	2025	2026	
41110-0 SALES-RESIDENTIAL	100%	0%	1	\$ 8,462,000	\$ 8,502,912	\$ 8,587,941	\$ 8,673,821	\$ 8,760,559	\$ 8,848,164	
41210-0 SALES-BUSINESS	100%	0%	1	\$ 5,088,000	\$ 5,504,796	\$ 5,559,844	\$ 5,615,442	\$ 5,671,597	\$ 5,728,313	
41310-0 SALES/PUBLIC/GOVT ENTITIES	100%	0%	1	\$ 245,500	\$ 266,112	\$ 268,773	\$ 271,461	\$ 274,175	\$ 276,917	
41311-0 INDUSTRIAL-SURCHARGE WATER	100%	0%	1	\$ 40,200	\$ 43,800	\$ 44,238	\$ 44,680	\$ 45,127	\$ 45,578	
41710-0 SALES-CONSTRUCTION	100%	0%	1	\$ 34,800	\$ 36,200	\$ 36,562	\$ 36,928	\$ 37,297	\$ 37,670	
41810-0 SALES-CONSTRUCTION INVOICES	100%	0%	1	\$ 79,100	\$ 25,000	\$ 25,250	\$ 25,503	\$ 25,758	\$ 26,015	
41910-0 RWD LABOR SALES/REIMBURSEMENT	75%	25%	1	\$ 76,200	\$ 76,200	\$ 76,962	\$ 77,732	\$ 78,509	\$ 79,294	
42310-0 CUSTOMER PENALTIES	100%	0%	1	\$ 200	\$ 139,900	\$ 141,299	\$ 142,712	\$ 144,139	\$ 145,581	
42313-0 NEW SERVICE CONNECTIONS	100%	0%	1	\$ 27,500	\$ 27,500	\$ 27,775	\$ 28,053	\$ 28,333	\$ 28,617	
42314-0 NEW SERVICE CONNECTIONS-METERS	100%	0%	1	\$ 7,200	\$ 7,200	\$ 7,272	\$ 7,345	\$ 7,418	\$ 7,492	
42316-0 OTHER WATER COMPANIES	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
42317-0 SALES-RECLAIMED WATER	0%	100%	8	\$ 1,006,500	\$ 1,092,293	\$ 1,092,293	\$ 1,092,293	\$ 1,092,293	\$ 1,092,293	
42318-0 FLOW TESTS	100%	0%	1	\$ 20,000	\$ 20,000	\$ 20,200	\$ 20,402	\$ 20,606	\$ 20,812	
42319-0 WATER SERVICE CHARGE	96.7%	3.3%	1	\$ 11,532,700	\$ 11,583,990	\$ 11,757,099	\$ 11,870,984	\$ 11,986,009	\$ 12,102,183	
42325-0 RECYCLED WATER CK./INSP. FEE	100%	0%	1	\$ -	\$ -	\$ 17,170	\$ 17,342	\$ 17,515	\$ 17,690	
42330-0 CROSS CONNECTION FEES	100%	0%	1	\$ 8,500	\$ 8,500	\$ 41,713	\$ 42,130	\$ 42,551	\$ 42,977	
42335-0 BACKFLOW ADMINISTRATION FEE	100%	0%	1	\$ 12,100	\$ 12,100	\$ 3,636	\$ 3,672	\$ 3,709	\$ 3,746	
42340-0 RECONNECTION FEES	100%	0%	1	\$ 400	\$ 17,000	\$ 17,170	\$ 17,342	\$ 17,515	\$ 17,690	
42360-0 NON-REF SERVICE CONNECTIONS	100%	0%	1	\$ 41,300	\$ 41,300	\$ 41,713	\$ 42,130	\$ 42,551	\$ 42,977	
42370-0 RETURN CHECK FEES	100%	0%	1	\$ 2,700	\$ 3,600	\$ 3,636	\$ 3,672	\$ 3,709	\$ 3,746	
42380-0 CONTRACT INCOME	100%	0%	1	\$ 136,900	\$ 167,100	\$ 168,771	\$ 170,459	\$ 172,163	\$ 173,885	
42390-0 SHARED SERVICES	100%	0%	1	\$ 33,100	\$ 39,000	\$ 39,390	\$ 39,784	\$ 40,182	\$ 40,584	
49210-0 INTEREST INCOME ²	100%	0%	Calc'd	\$ 235,400	\$ 247,200	\$ -	\$ -	\$ -	\$ -	
49310-0 COUNTY TAX CONTRIBUTIONS	100%	0%	1	\$ 387,600	\$ 387,600	\$ 391,476	\$ 395,391	\$ 399,345	\$ 403,338	
49325-0 ACREAGE SUPPLY FEES	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
49326-0 CAPACITY FEE	100%	0%	1	\$ 111,200	\$ 175,000	\$ 45,000	\$ 45,450	\$ 45,905	\$ 46,364	
49510-0 MISCELLANEOUS INCOME	100%	0%	1	\$ 86,100	\$ 25,000	\$ 25,250	\$ 25,503	\$ 25,758	\$ 26,015	
49511-0 GAIN ON SALE OF ASSETS	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
TOTAL: REVENUE				\$27,675,200	\$28,449,303	\$28,440,433	\$28,710,229	\$28,982,722	\$29,257,941	

ROWLAND WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1 Total Budget (Potable & Recycled)

TABLE 5 :

REVENUE SUMMARY		2021	2022	2023	2024	2025	2026
Variable Water Rate Revenue	56%	\$ 14,802,000	\$ 15,366,113	\$ 15,508,851	\$ 15,653,016	\$ 15,798,624	\$ 15,945,687
Fixed Water Rate Revenue	44%	\$ 11,532,700	\$ 11,583,990	\$ 11,757,099	\$ 11,870,984	\$ 11,986,009	\$ 12,102,183
Expansion Revenue		\$ 111,200	\$ 175,000	\$ 45,000	\$ 45,450	\$ 45,905	\$ 46,364
Other Operating Revenue		\$ 993,900	\$ 1,077,000	\$ 1,129,483	\$ 1,140,778	\$ 1,152,186	\$ 1,163,707
Interest Income		\$ 235,400	\$ 247,200	\$ -	\$ -	\$ -	\$ -
TOTAL: REVENUE		\$27,675,200	\$28,449,303	\$28,440,433	\$28,710,229	\$28,982,722	\$29,257,941

ROWLAND WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1 Total Budget (Potable & Recycled)

TABLE 6 : OPERATING EXPENSE FORECAST ¹

EXPENSES	% PW	% RW	Basis	2021	2022	2023	2024	2025	2026
51110-0 WATER PURCHASES - CDWC	100%	0%	2	\$ 192,100	\$ 197,900	\$ 201,858	\$ 205,895	\$ 210,013	\$ 214,213
51210-0 WATER PURCHASES - LHH	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51310-0 WATER PURCHASES - TVMWD	100%	0%	9	\$ 10,288,500	\$ 10,568,800	\$ 10,991,552	\$ 11,431,214	\$ 11,888,463	\$ 12,364,001
51410-0 WATER PURCHASES - WRD	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pre-Purchase of TVMWD Water	100%	0%	10	\$ -	\$ -	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000
51410-1 IMPORT WATER USE CHARGE	100%	0%	2	\$ 42,700	\$ 41,500	\$ 42,330	\$ 43,177	\$ 44,040	\$ 44,921
51410-2 CONNECTED CAPACITY CHARGE	100%	0%	2	\$ 31,800	\$ 34,600	\$ 35,292	\$ 35,998	\$ 36,718	\$ 37,452
51410-3 EQUIVALENT SMALL METER CHARGE	100%	0%	2	\$ 22,600	\$ 23,800	\$ 24,276	\$ 24,762	\$ 25,257	\$ 25,762
51410-5 CAPACITY RESERVATION CHG (CRC)	100%	0%	2	\$ 180,400	\$ 223,300	\$ 227,766	\$ 232,321	\$ 236,968	\$ 241,707
51510-0 WATER PURCHASES-RECLAIMED	0%	100%	2	\$ 338,000	\$ 376,000	\$ 383,520	\$ 391,190	\$ 399,014	\$ 406,994
51610-0 FIXED CHARGES - PBWA	100%	0%	2	\$ 3,700	\$ 3,800	\$ 3,876	\$ 3,954	\$ 4,033	\$ 4,113
51810-0 OPERATING ASSESSMENTS	100%	0%	2	\$ 46,500	\$ 50,000	\$ 51,000	\$ 52,020	\$ 53,060	\$ 54,122
51910-0 OPERATING ASSESSMENTS - PBWA	100%	0%	2	\$ 230,000	\$ 230,000	\$ 234,600	\$ 239,292	\$ 244,078	\$ 248,959
52210-0 PUMPING MAINTENANCE	100%	0%	2	\$ 23,700	\$ 34,000	\$ 34,680	\$ 35,374	\$ 36,081	\$ 36,803
52310-0 PUMPING POWER	90%	10%	7	\$ 354,400	\$ 334,300	\$ 349,009	\$ 364,366	\$ 380,398	\$ 397,135
53110-0 WAGES-WATER TREATMENT	100%	0%	3	\$ 707,800	\$ 1,011,800	\$ 1,037,095	\$ 1,063,022	\$ 1,089,598	\$ 1,116,838
53110-1 WATER TREATMENT/STANDBY HRS	100%	0%	3	\$ 50,100	\$ 51,500	\$ 52,788	\$ 54,107	\$ 55,460	\$ 56,846
53110-2 WATER TREATMENT/OVERTIME HRS	100%	0%	3	\$ 34,300	\$ 30,800	\$ 31,570	\$ 32,359	\$ 33,168	\$ 33,997
54110-0 WAGES-MAINS & SERVICES ³	89%	11%	3	\$ 848,200	\$ 885,400	\$ 907,535	\$ 930,223	\$ 953,479	\$ 977,316
54110-1 MAINS & SERVICES/STANDBY HRS ³	89%	11%	3	\$ 22,100	\$ 30,000	\$ 30,750	\$ 31,519	\$ 32,307	\$ 33,114
54110-2 MAINS & SERVICES/OVERTIME HRS ³	89%	11%	3	\$ 28,900	\$ 42,600	\$ 43,665	\$ 44,757	\$ 45,876	\$ 47,022
54209-0 TRANS & DIST-RECYCLED WATER	0%	100%	2	\$ 43,000	\$ 45,000	\$ 45,900	\$ 46,818	\$ 47,754	\$ 48,709
54210-0 TRANS & DIST-MAINS	100%	0%	2	\$ 53,700	\$ 55,000	\$ 56,100	\$ 57,222	\$ 58,366	\$ 59,534
54211-0 TRANS & DIST-SERVICES	100%	0%	2	\$ 262,800	\$ 155,000	\$ 158,100	\$ 161,262	\$ 164,487	\$ 167,777
54212-0 TRANS & DIST-METERS	100%	0%	2	\$ 38,000	\$ 39,000	\$ 39,780	\$ 40,576	\$ 41,387	\$ 42,215
54213-0 TRANS & DIST-RESERVOIRS	100%	0%	2	\$ 87,100	\$ 105,000	\$ 107,100	\$ 109,242	\$ 111,427	\$ 113,655
54214-0 TRANS & DIST-VALVES	100%	0%	2	\$ 84,200	\$ 80,000	\$ 81,600	\$ 83,232	\$ 84,897	\$ 86,595
54215-0 TRANS & DIST-HYDRANTS	100%	0%	2	\$ 98,600	\$ 75,000	\$ 76,500	\$ 78,030	\$ 79,591	\$ 81,182
54216-0 TRANS & DIST-TELEMETRY SYSTEM	100%	0%	2	\$ 29,300	\$ 30,000	\$ 30,600	\$ 31,212	\$ 31,836	\$ 32,473
54217-0 CHEMICALS	100%	0%	6	\$ 78,600	\$ 100,000	\$ 102,500	\$ 105,063	\$ 107,689	\$ 110,381
54218-0 COI - RECYCLED SYSTEM	0%	100%	2	\$ 3,600	\$ 3,700	\$ 3,774	\$ 3,849	\$ 3,926	\$ 4,005
54219-0 PROJECT EXPENSE (PBWA)	100%	0%	2	\$ 100,000	\$ 100,000	\$ 102,000	\$ 104,040	\$ 106,121	\$ 108,243
54220-0 PROJECT EXPENSE (OTHER)	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
55110-0 WAGES-CUSTOMER ACCOUNTS ⁴	99%	1%	3	\$ 74,400	\$ 157,200	\$ 161,130	\$ 165,158	\$ 169,287	\$ 173,519
55110-1 CUSTOMER SERVICE/STANDBY HRS ⁴	99%	1%	3	\$ 4,500	\$ 10,000	\$ 10,250	\$ 10,506	\$ 10,769	\$ 11,038
55110-2 CUSTOMER ACCTS/OVERTIME HRS ⁴	99%	1%	3	\$ 4,100	\$ 7,900	\$ 8,098	\$ 8,300	\$ 8,507	\$ 8,720
55210-0 UNCOLLECTABLE ACCOUNTS	100%	0%	2	\$ 213,200	\$ 68,300	\$ 69,666	\$ 71,059	\$ 72,481	\$ 73,930
56110-0 WAGES-ADMINISTRATIVE ⁵	95%	5%	3	\$ 1,508,400	\$ 1,587,400	\$ 1,627,085	\$ 1,667,762	\$ 1,709,456	\$ 1,752,193
56210-0 VEHICLE EXPENSE ³	89%	11%	2	\$ 85,900	\$ 87,600	\$ 89,352	\$ 91,139	\$ 92,962	\$ 94,821
56211-0 BANK / MANAGEMENT FEES ⁵	95%	5%	2	\$ 151,600	\$ 161,800	\$ 165,036	\$ 168,337	\$ 171,703	\$ 175,138
56212-0 BOOKS & SUBSCRIPTIONS	100%	0%	2	\$ -	\$ 1,000	\$ 1,020	\$ 1,040	\$ 1,061	\$ 1,082
56214-0 OFFICE SUPPLIES & EXPENSE	100%	0%	2	\$ 18,000	\$ 18,400	\$ 18,768	\$ 19,143	\$ 19,526	\$ 19,917
56215-0 MEMBERSHIP, ASSOCIATION & DUES	100%	0%	2	\$ 40,800	\$ 41,600	\$ 42,432	\$ 43,281	\$ 44,146	\$ 45,029
Sub-Total				\$16,425,600	\$17,099,000	\$18,279,952	\$18,881,821	\$19,505,390	\$20,151,475

ROWLAND WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1 Total Budget (Potable & Recycled)

TABLE 7 : OPERATING EXPENSE FORECAST, CONTINUED ¹

EXPENSES	% PW	% RW	Basis	2021	2022	2023	2024	2025	2026
56216-0 POSTAGE, PRINTING & STATIONARY	100%	0%	2	\$ 15,400	\$ 15,700	\$ 16,014	\$ 16,334	\$ 16,661	\$ 16,994
56217-0 TRAVEL EXPENSE	100%	0%	2	\$ -	\$ 5,000	\$ 5,100	\$ 5,202	\$ 5,306	\$ 5,412
56218-0 LEGAL EXPENSE	100%	0%	2	\$ 81,400	\$ 83,000	\$ 84,660	\$ 86,353	\$ 88,080	\$ 89,842
56218-1 LEGAL FEES - PBWA	100%	0%	2	\$ 11,000	\$ 11,200	\$ 11,424	\$ 11,652	\$ 11,886	\$ 12,123
56218-2 LEGAL FEES-PWAG	100%	0%	2	\$ 22,100	\$ 22,500	\$ 22,950	\$ 23,409	\$ 23,877	\$ 24,355
56219-0 UTILITY SERVICES	100%	0%	2	\$ 120,700	\$ 123,100	\$ 125,562	\$ 128,073	\$ 130,635	\$ 133,247
56220-0 IT SUPPORT SERVICES	100%	0%	2	\$ 142,300	\$ 135,300	\$ 138,006	\$ 140,766	\$ 143,581	\$ 146,453
56221-0 COMMUNITY OUTREACH	100%	0%	2	\$ 211,200	\$ 235,400	\$ 240,108	\$ 244,910	\$ 249,808	\$ 254,805
56223-0 CONFERENCE & MEETINGS	100%	0%	2	\$ 700	\$ 35,000	\$ 35,700	\$ 36,414	\$ 37,142	\$ 37,885
56226-0 IT LICENSING	100%	0%	2	\$ 150,700	\$ 235,400	\$ 240,108	\$ 244,910	\$ 249,808	\$ 254,805
56310-0 INSURANCE-LIABILITY	100%	0%	2	\$ 122,300	\$ 134,500	\$ 137,190	\$ 139,934	\$ 142,732	\$ 145,587
56311-0 INSURANCE-WORKERS' COMP	100%	0%	2	\$ 69,700	\$ 90,300	\$ 92,106	\$ 93,948	\$ 95,827	\$ 97,744
56312-0 SERVICE CONTRACTS	100%	0%	2	\$ 325,300	\$ 400,800	\$ 340,000	\$ 346,800	\$ 353,736	\$ 360,811
56320-0 SEMINAR & TRAINING EXPENSES	100%	0%	2	\$ 18,800	\$ 35,000	\$ 35,700	\$ 36,414	\$ 37,142	\$ 37,885
56402-0 CalPERS Unfunded	95%	5%	5	\$ 338,600	\$ 401,800	\$ 445,800	\$ 471,900	\$ 499,000	\$ 513,000
CalPERS Unfunded Additional Contribution	95%	5%	10		\$ 420,000	\$ 420,000	\$ 420,000	\$ 420,000	\$ 420,000
56410-0 PAYROLL TAXES ⁶	95%	5%	3	\$ 213,600	\$ 258,900	\$ 265,373	\$ 272,007	\$ 278,807	\$ 285,777
56411-0 HEALTH INSURANCE ⁶	95%	5%	4	\$ 487,700	\$ 664,800	\$ 681,420	\$ 698,456	\$ 715,917	\$ 733,815
56412-0 PENSION CONTRIBUTIONS ⁶	95%	5%	5	\$ 500,800	\$ 574,900	\$ 589,273	\$ 604,004	\$ 619,104	\$ 634,582
56413-0 DENTAL INSURANCE ⁶	95%	5%	4	\$ 32,400	\$ 42,500	\$ 43,563	\$ 44,652	\$ 45,768	\$ 46,912
56414-0 STATE UNEMPLOYMENT INSURANCE ⁶	95%	5%	3	\$ 2,500	\$ 7,000	\$ 7,175	\$ 7,354	\$ 7,538	\$ 7,727
56415-0 VISION INSURANCE PLAN ⁶	95%	5%	4	\$ 7,100	\$ 9,100	\$ 9,328	\$ 9,561	\$ 9,800	\$ 10,045
56416-0 LIFE INSURANCE PLAN ⁶	95%	5%	4	\$ 2,400	\$ 2,400	\$ 2,460	\$ 2,522	\$ 2,585	\$ 2,649
56417-0 RETIREES HEALTH BENEFITS ⁶	95%	5%	4	\$ 226,600	\$ 249,400	\$ 255,635	\$ 262,026	\$ 268,577	\$ 275,291
56418-0 DISABILITY INSURANCE ⁶	95%	5%	4	\$ 15,400	\$ 15,700	\$ 16,093	\$ 16,495	\$ 16,907	\$ 17,330
56419-0 EMP ASSISTANCE PROGRAM (EAP) ⁶	95%	5%	4	\$ 700	\$ 700	\$ 718	\$ 735	\$ 754	\$ 773
56420-0 PARS PAYMENT (OPEB) ⁶	95%	5%	4	\$ 1,420,000	\$ -	\$ -	\$ -	\$ -	\$ -
56421-0 DIRECTORS BENEFITS ⁶	95%	5%	4	\$ 129,300	\$ 134,600	\$ 137,965	\$ 141,414	\$ 144,949	\$ 148,573
56510-0 TAXES, PERMITS, FEES	100%	0%	2	\$ 14,300	\$ 14,600	\$ 14,892	\$ 15,190	\$ 15,494	\$ 15,804
56710-0 EQUIPMENT EXPENSE	100%	0%	2	\$ 34,000	\$ 34,700	\$ 35,394	\$ 36,102	\$ 36,824	\$ 37,560
56810-0 DIRECTORS' COMPENSATION ⁵	95%	5%	3	\$ 30,800	\$ 66,600	\$ 68,265	\$ 69,972	\$ 71,721	\$ 73,514
56811-0 AUDITING & ACCOUNTING FEES	100%	0%	2	\$ 48,600	\$ 35,000	\$ 35,700	\$ 36,414	\$ 37,142	\$ 37,885
56812-0 MISCELLANEOUS GENERAL EXPENSE	100%	0%	2	\$ 95,600	\$ 150,000	\$ 153,000	\$ 156,060	\$ 159,181	\$ 162,365
57310-0 MISCELLANEOUS ENGINEERING	100%	0%	2	\$ 301,900	\$ 400,000	\$ 210,000	\$ 214,200	\$ 218,484	\$ 222,854
57312-0 TOOLS & SUPPLIES	100%	0%	2	\$ 54,800	\$ 55,900	\$ 57,018	\$ 58,158	\$ 59,322	\$ 60,508
57314-0 MAINTENANCE & OPERATION	100%	0%	2	\$ 96,300	\$ 98,200	\$ 100,164	\$ 102,167	\$ 104,211	\$ 106,295
57315-0 WATER TESTS	100%	0%	2	\$ 23,700	\$ 24,000	\$ 24,480	\$ 24,970	\$ 25,469	\$ 25,978
57319-0 WATER CONSERVATION PROGRAMS	100%	0%	2	\$ 15,000	\$ 50,000	\$ 51,000	\$ 52,020	\$ 53,060	\$ 54,122
57320-0 COMPLIANCE-CERTIFICATIONS	100%	0%	2	\$ 700	\$ 700	\$ 714	\$ 728	\$ 743	\$ 758
57321-0 COMPLIANCE-FEES	100%	0%	2	\$ 93,900	\$ 95,800	\$ 97,716	\$ 99,670	\$ 101,664	\$ 103,697
57322-0 COMPLIANCE-PERMITS	100%	0%	2	\$ 600	\$ 600	\$ 612	\$ 624	\$ 637	\$ 649
57323-0 COMPLIANCE-EQUIPMENT MAINT	100%	0%	2	\$ 2,300	\$ 2,300	\$ 2,346	\$ 2,393	\$ 2,441	\$ 2,490
Sub-Total				\$ 5,481,200	\$ 5,372,400	\$ 5,250,729	\$ 5,374,914	\$ 5,502,320	\$ 5,618,899
Total: Budget				\$21,906,800	\$22,471,400	\$23,530,681	\$24,256,735	\$25,007,710	\$25,770,373

ROWLAND WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1 Total Budget (Potable & Recycled)

TABLE 8 : Budgeted Items but not Included, Show for Reference Purposes

Annual Debt Service Expense ¹			Basis	2021	2022	2023	2024	2025	2026
56225-0	DEBT SERVICE EXPENSE	--	--	See Ex 3	\$ -	\$ -	\$ -	\$ -	\$ -
Total: Annual Debt Service Expense				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TABLE 9 : FORECASTING ASSUMPTIONS

ECONOMIC VARIABLES	Basis	2021	2022	2023	2024	2025	2026
Potable Customer Growth ⁷	1	--	1.00%	1.00%	1.00%	1.00%	1.00%
General Cost Inflation ⁸	2	--	2.00%	2.00%	2.00%	2.00%	2.00%
Labor Cost Inflation	3	--	2.50%	2.50%	2.50%	2.50%	2.50%
Health Benefits Cost Inflation	4	--	2.50%	2.50%	2.50%	2.50%	2.50%
Retirement Benefits Cost Inflation ⁹	5	--	2.50%	2.50%	2.50%	2.50%	2.50%
Chemicals	6	--	2.50%	2.50%	2.50%	2.50%	2.50%
Energy ¹⁰	7	--	4.40%	4.40%	4.40%	4.40%	4.40%
Recycled Water Customer Growth ¹¹	8	--	0.00%	0.00%	0.00%	0.00%	0.00%
Three Valley Municipal Water District Water Inflation ¹²	9	--	4.00%	4.00%	4.00%	4.00%	4.00%
No Escalation	10	--	0.00%	0.00%	0.00%	0.00%	0.00%

1. FY 2019/20 Revenues and Expenses are per the District's Annual Operating Budget. Source file: *Revenues and Expenses (Actual vs Budget) 2019.2020.xlsx*

FY 2020/21 Revenues and Expenses are from the approved budget. Source files: 1. *Operations and Maintenance Budget 2020.2021 (Detailed).xlsx*

FY 2021/22 Revenues and Expenses are per the District's Annual Operating Budget. Source file: *Operations and Maintenance Budget 2021.2022.xlsx*

2. Interest income is budgeted for FY21-22 and calculated in the Financial Plan, Table 1 for all future years.

3. Allocated to Recycled System based on percentage of Transmission & Distribution costs allocated to the recycled system (accounts 542109-54216).

4. Allocated to Recycled System based on percentage total accounts which are recycled water accounts.

5. Allocated to Recycled System based on percentage of budgeted rate revenue assigned to recycled water accounts.

6. Allocated to Recycled System based on percentage of Wages allocated to the recycled system (accounts 53110-0 through 54110-2; 55110-0 through 55110-2 & 56110-0).

7. Customer annual growth rate set by District. Email source: *Data Request.msg*

8. General Cost Inflation assumed to be 2%, as the five-year average CPI increase has been 2.12% in the Los Angeles-Riverside-Orange County area.

9. Retirement Cost Inflation Estimated based upon CalPERS Valuation Report 2015.

10. Estimated energy cost inflation provided by a University of California Davis report:

The Future of Electricity Prices in California: Understanding Market Drivers and Forecasting Prices to 2040," by Johnathan Cook, Ph.D., page 31, Table 7.

11. Customer Growth based upon staff estimate of an additional 100AF of service.

12. Staff estimates a 4% growth in TVMWD costs.

ROWLAND WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1 Recycled

TABLE 10 : REVENUE FORECAST ¹

SOURCES OF REVENUE	% PW	% RW	Basis	2021	2022	2023	2024	2025	2026
41110-0 SALES-RESIDENTIAL	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
41210-0 SALES-BUSINESS	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
41310-0 SALES/PUBLIC/GOVT ENTITIES	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
41311-0 INDUSTRIAL-SURCHARGE WATER	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
41710-0 SALES-CONSTRUCTION	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
41810-0 SALES-CONSTRUCTION INVOICES	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
41910-0 RWD LABOR SALES/REIMBURSEMENT	75%	25%	1	\$ 19,050	\$ 19,050	\$ 19,241	\$ 19,433	\$ 19,627	\$ 19,824
42310-0 CUSTOMER PENALTIES	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42313-0 NEW SERVICE CONNECTIONS	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42313-1 NEW SERVICE CONNECTIONS-METERS	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42316-0 OTHER WATER COMPANIES	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42317-0 SALES-RECLAIMED WATER	0%	100%	8	\$1,006,500	\$1,092,293	\$1,092,293	\$1,092,293	\$1,092,293	\$1,092,293
42318-0 FLOW TESTS	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42319-0 WATER SERVICE CHARGE	97%	3%	8	\$ 368,566	\$ 368,566	\$ 368,566	\$ 368,566	\$ 368,566	\$ 368,566
42319-1 RECYCLED WATER CK./INSP. FEE	100%	0%	9	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42319-2 CROSS CONNECTION FEES	100%	0%	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42319-3 BACKFLOW ADMINISTRATION FEE	100%	0%	11	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42340-0 RECONNECTION FEES	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42360-0 NON-REF SERVICE CONNECTIONS	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42370-0 RETURN CHECK FEES	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42380-0 CONTRACT INCOME	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42390-0 SHARED SERVICES	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
49210-0 INTEREST INCOME ²	100%	0%	Calc'd	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
49310-0 COUNTY TAX CONTRIBUTIONS	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
49325-0 ACREAGE SUPPLY FEES	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
49325-1 CAPACITY FEE	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
49510-0 MISCELLANEOUS INCOME	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
49511-0 GAIN ON SALE OF ASSETS	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL: REVENUE				\$1,394,116	\$1,479,908	\$1,480,099	\$1,480,291	\$1,480,486	\$1,480,682

ROWLAND WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1 Recycled

TABLE 11

REVENUE SUMMARY				2021	2022	2023	2024	2025	2026
Variable Water Rate Revenue				\$1,006,500	\$1,092,293	\$1,092,293	\$1,092,293	\$1,092,293	\$1,092,293
Fixed Water Rate Revenue				\$ 368,566	\$ 368,566	\$ 368,566	\$ 368,566	\$ 368,566	\$ 368,566
Expansion Revenue				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Operating Revenue				\$ 19,050	\$ 19,050	\$ 19,241	\$ 19,433	\$ 19,627	\$ 19,824
Interest Income				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL: REVENUE				\$1,394,116	\$1,479,908	\$1,480,099	\$1,480,291	\$1,480,486	\$1,480,682

ROWLAND WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1 Recycled

TABLE 12 : OPERATING EXPENSE FORECAST ¹

EXPENSES	% PW	% RW	Basis	2021	2022	2023	2024	2025	2026
51110-0 WATER PURCHASES - CDWC	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51210-0 WATER PURCHASES - LHH	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51310-0 WATER PURCHASES - TVMWD	100%	0%	9	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51410-0 WATER PURCHASES - WRD	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51410-0 Pre-Purchase of TVMWD Water	100%	0%	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51410-1 IMPORT WATER USE CHARGE	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51410-2 CONNECTED CAPACITY CHARGE	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51410-3 EQUIVALENT SMALL METER CHARGE	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51410-5 CAPACITY RESERVATION CHG (CRC)	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51510-0 WATER PURCHASES-RECLAIMED	0%	100%	2	\$ 338,000	\$ 376,000	\$ 383,520	\$ 391,190	\$ 399,014	\$ 406,994
51610-0 FIXED CHARGES - PBWA	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51810-0 OPERATING ASSESSMENTS	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51910-0 OPERATING ASSESSMENTS - PBWA	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
52210-0 PUMPING MAINTENANCE	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
52310-0 PUMPING POWER	90%	10%	7	\$ 35,440	\$ 33,430	\$ 34,901	\$ 36,437	\$ 38,040	\$ 39,714
53110-0 WAGES-WATER TREATMENT	100%	0%	3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
53110-1 WATER TREATMENT/STANDBY HRS	100%	0%	3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
53110-2 WATER TREATMENT/OVERTIME HRS	100%	0%	3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
54110-0 WAGES-MAINS & SERVICES ³	89%	11%	3	\$ 90,928	\$ 94,916	\$ 97,289	\$ 99,721	\$ 102,214	\$ 104,770
54110-1 MAINS & SERVICES/STANDBY HRS ³	89%	11%	3	\$ 2,369	\$ 3,216	\$ 3,296	\$ 3,379	\$ 3,463	\$ 3,550
54110-2 MAINS & SERVICES/OVERTIME HRS ³	89%	11%	3	\$ 3,098	\$ 4,567	\$ 4,681	\$ 4,798	\$ 4,918	\$ 5,041
54209-0 TRANS & DIST-RECYCLED WATER	0%	100%	2	\$ 43,000	\$ 45,000	\$ 45,900	\$ 46,818	\$ 47,754	\$ 48,709
54210-0 TRANS & DIST-MAINS	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
54211-0 TRANS & DIST-SERVICES	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
54212-0 TRANS & DIST-METERS	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
54213-0 TRANS & DIST-RESERVOIRS	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
54214-0 TRANS & DIST-VALVES	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
54215-0 TRANS & DIST-HYDRANTS	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
54216-0 TRANS & DIST-TELEMETRY SYSTEM	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
54217-0 CHEMICALS	100%	0%	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
54218-0 COI - RECYCLED SYSTEM	0%	100%	2	\$ 3,600	\$ 3,700	\$ 3,774	\$ 3,849	\$ 3,926	\$ 4,005
54219-0 PROJECT EXPENSE (PBWA)	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
54219-1 PROJECT EXPENSE (OTHER)	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
55110-0 WAGES-CUSTOMER ACCOUNTS ⁴	99%	1%	3	\$ 658	\$ 1,391	\$ 1,426	\$ 1,461	\$ 1,498	\$ 1,535
55110-1 CUSTOMER SERVICE/STANDBY HRS ⁴	99%	1%	3	\$ 40	\$ 88	\$ 91	\$ 93	\$ 95	\$ 98
55110-2 CUSTOMER ACCTS/OVERTIME HRS ⁴	99%	1%	3	\$ 36	\$ 70	\$ 72	\$ 73	\$ 75	\$ 77
55210-0 UNCOLLECTABLE ACCOUNTS	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56110-0 WAGES-ADMINISTRATIVE ⁵	95%	5%	3	\$ 76,916	\$ 80,944	\$ 82,968	\$ 85,042	\$ 87,168	\$ 89,347
56210-0 VEHICLE EXPENSE ³	89%	11%	2	\$ 9,209	\$ 9,391	\$ 9,579	\$ 9,770	\$ 9,966	\$ 10,165
56211-0 BANK / MANAGEMENT FEES ⁵	95%	5%	2	\$ 7,730	\$ 8,250	\$ 8,415	\$ 8,584	\$ 8,755	\$ 8,931
56212-0 BOOKS & SUBSCRIPTIONS	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56214-0 OFFICE SUPPLIES & EXPENSE	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56215-0 MEMBERSHIP, ASSOCIATION & DUES	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sub-Total				\$ 611,025	\$ 660,964	\$ 675,912	\$ 691,217	\$ 706,888	\$ 722,936

ROWLAND WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1 Recycled

TABLE 13 : OPERATING EXPENSE FORECAST, CONTINUED ¹

EXPENSES	% PW	% RW	Basis	2021	2022	2023	2024	2025	2026
56216-0 POSTAGE, PRINTING & STATIONARY	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56217-0 TRAVEL EXPENSE	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56218-0 LEGAL EXPENSE	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56218-1 LEGAL FEES - PBWA	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56218-2 LEGAL FEES-PWAG	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56219-0 UTILITY SERVICES	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56220-0 IT SUPPORT SERVICES	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56221-0 COMMUNITY OUTREACH	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56223-0 CONFERENCE & MEETINGS	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56226-0 IT LICENSING	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56310-0 INSURANCE-LIABILITY	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56311-0 INSURANCE-WORKERS' COMP	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56312-0 SERVICE CONTRACTS	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56320-0 SEMINAR & TRAINING EXPENSES	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56402-0 CalPERS Unfunded	95%	5%	5	\$ 17,836	\$ 21,165	\$ 23,483	\$ 24,857	\$ 26,285	\$ 27,022
0 CalPERS Unfunded Additional Contribution	95%	5%	10	\$ -	\$ 22,124	\$ 22,124	\$ 22,124	\$ 22,124	\$ 22,124
56410-0 PAYROLL TAXES ⁶	95%	5%	3	\$ 11,251	\$ 13,638	\$ 13,979	\$ 14,328	\$ 14,686	\$ 15,053
56411-0 HEALTH INSURANCE ⁶	95%	5%	4	\$ 25,690	\$ 35,018	\$ 35,894	\$ 36,791	\$ 37,711	\$ 38,654
56412-0 PENSION CONTRIBUTIONS ⁶	95%	5%	5	\$ 26,380	\$ 30,283	\$ 31,040	\$ 31,816	\$ 32,611	\$ 33,427
56413-0 DENTAL INSURANCE ⁶	95%	5%	4	\$ 1,707	\$ 2,239	\$ 2,295	\$ 2,352	\$ 2,411	\$ 2,471
56414-0 STATE UNEMPLOYMENT INSURANCE ⁶	95%	5%	3	\$ 132	\$ 369	\$ 378	\$ 387	\$ 397	\$ 407
56415-0 VISION INSURANCE PLAN ⁶	95%	5%	4	\$ 374	\$ 479	\$ 491	\$ 504	\$ 516	\$ 529
56416-0 LIFE INSURANCE PLAN ⁶	95%	5%	4	\$ 126	\$ 126	\$ 130	\$ 133	\$ 136	\$ 140
56417-0 RETIREES HEALTH BENEFITS ⁶	95%	5%	4	\$ 11,936	\$ 13,137	\$ 13,466	\$ 13,802	\$ 14,147	\$ 14,501
56418-0 DISABILITY INSURANCE ⁶	95%	5%	4	\$ 811	\$ 827	\$ 848	\$ 869	\$ 891	\$ 913
56419-0 EMP ASSISTANCE PROGRAM (EAP) ⁶	95%	5%	4	\$ 37	\$ 37	\$ 38	\$ 39	\$ 40	\$ 41
56420-0 PARS PAYMENT (OPEB) ⁶	95%	5%	4	\$ 74,799	\$ -	\$ -	\$ -	\$ -	\$ -
56421-0 DIRECTORS BENEFITS ⁶	95%	5%	4	\$ 6,811	\$ 7,090	\$ 7,267	\$ 7,449	\$ 7,635	\$ 7,826
56510-0 TAXES, PERMITS, FEES	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56710-0 EQUIPMENT EXPENSE	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56810-0 DIRECTORS' COMPENSATION ⁵	95%	5%	3	\$ 1,571	\$ 3,396	\$ 3,481	\$ 3,568	\$ 3,657	\$ 3,749
56811-0 AUDITING & ACCOUNTING FEES	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56812-0 MISCELLANEOUS GENERAL EXPENSE	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
57310-0 MISCELLANEOUS ENGINEERING	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
57312-0 TOOLS & SUPPLIES	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
57314-0 MAINTENANCE & OPERATION	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
57315-0 WATER TESTS	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
57316-0 WATER SUPPLY PLAN. & DEVELP.	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
57319-0 WATER CONSERVATION PROGRAMS	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
57320-0 COMPLIANCE-CERTIFICATIONS	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
57321-0 COMPLIANCE-FEES	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
57322-0 COMPLIANCE-PERMITS	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
57323-0 COMPLIANCE-EQUIPMENT MAINT	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sub-Total				\$ 179,459	\$ 149,927	\$ 154,911	\$ 159,019	\$ 163,247	\$ 166,855
Total: Budget				\$ 790,484	\$ 810,892	\$ 830,823	\$ 850,235	\$ 870,135	\$ 889,792

**ROWLAND WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses**

EXHIBIT 1 Potable

TABLE 14 : REVENUE FORECAST ¹

SOURCES OF REVENUE	% PW	% RW	Basis	2021	2022	2023	2024	2025	2026
41110-0 SALES-RESIDENTIAL	100%	0%	1	\$ 8,462,000	\$ 8,502,912	\$ 8,587,941	\$ 8,673,821	\$ 8,760,559	\$ 8,848,164
41210-0 SALES-BUSINESS	100%	0%	1	\$ 5,088,000	\$ 5,504,796	\$ 5,559,844	\$ 5,615,442	\$ 5,671,597	\$ 5,728,313
41310-0 SALES/PUBLIC/GOVT ENTITIES	100%	0%	1	\$ 245,500	\$ 266,112	\$ 268,773	\$ 271,461	\$ 274,175	\$ 276,917
41311-0 INDUSTRIAL-SURCHARGE WATER	100%	0%	1	\$ 40,200	\$ 43,800	\$ 44,238	\$ 44,680	\$ 45,127	\$ 45,578
41710-0 SALES-CONSTRUCTION	100%	0%	1	\$ 34,800	\$ 36,200	\$ 36,562	\$ 36,928	\$ 37,297	\$ 37,670
41810-0 SALES-CONSTRUCTION INVOICES	100%	0%	1	\$ 79,100	\$ 25,000	\$ 25,250	\$ 25,503	\$ 25,758	\$ 26,015
41910-0 RWD LABOR SALES/REIMBURSEMENT	75%	25%	1	\$ 57,150	\$ 57,150	\$ 57,722	\$ 58,299	\$ 58,882	\$ 59,471
42310-0 CUSTOMER PENALTIES	100%	0%	1	\$ 200	\$ 139,900	\$ 141,299	\$ 142,712	\$ 144,139	\$ 145,581
42313-0 NEW SERVICE CONNECTIONS	100%	0%	1	\$ 27,500	\$ 27,500	\$ 27,775	\$ 28,053	\$ 28,333	\$ 28,617
42314-0 NEW SERVICE CONNECTIONS-METERS	100%	0%	1	\$ 7,200	\$ 7,200	\$ 7,272	\$ 7,345	\$ 7,418	\$ 7,492
42316-0 OTHER WATER COMPANIES	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42317-0 SALES-RECLAIMED WATER	0%	100%	8	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42318-0 FLOW TESTS	100%	0%	1	\$ 20,000	\$ 20,000	\$ 20,200	\$ 20,402	\$ 20,606	\$ 20,812
42319-0 WATER SERVICE CHARGE	97%	3%	1	\$ 11,164,134	\$ 11,275,775	\$ 11,388,533	\$ 11,502,419	\$ 11,617,443	\$ 11,733,617
42325-0 RECYCLED WATER CK./INSP. FEE	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42330-0 CROSS CONNECTION FEES	100%	0%	1	\$ 8,500	\$ 8,713	\$ 8,930	\$ 9,154	\$ 9,382	\$ 9,617
42335-0 BACKFLOW ADMINISTRATION FEE	100%	0%	1	\$ 12,100	\$ 12,403	\$ 12,713	\$ 13,030	\$ 13,356	\$ 13,690
42340-0 RECONNECTION FEES	100%	0%	1	\$ 400	\$ 17,000	\$ 17,170	\$ 17,342	\$ 17,515	\$ 17,690
42360-0 NON-REF SERVICE CONNECTIONS	100%	0%	1	\$ 41,300	\$ 41,300	\$ 41,713	\$ 42,130	\$ 42,551	\$ 42,977
42370-0 RETURN CHECK FEES	100%	0%	1	\$ 2,700	\$ 3,600	\$ 3,636	\$ 3,672	\$ 3,709	\$ 3,746
42380-0 CONTRACT INCOME	100%	0%	1	\$ 136,900	\$ 167,100	\$ 168,771	\$ 170,459	\$ 172,163	\$ 173,885
42390-0 SHARED SERVICES	100%	0%	1	\$ 33,100	\$ 39,000	\$ 39,390	\$ 39,784	\$ 40,182	\$ 40,584
49210-0 INTEREST INCOME ²	100%	0%	Calc'd	\$ 235,400	\$ 247,200	\$ -	\$ -	\$ -	\$ -
49310-0 COUNTY TAX CONTRIBUTIONS	100%	0%	1	\$ 387,600	\$ 387,600	\$ 391,476	\$ 395,391	\$ 399,345	\$ 403,338
49325-0 ACREAGE SUPPLY FEES	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
49326-0 CAPACITY FEE	100%	0%	1	\$ 111,200	\$ 175,000	\$ 45,000	\$ 45,450	\$ 45,905	\$ 46,364
49510-0 MISCELLANEOUS INCOME	100%	0%	1	\$ 86,100	\$ 25,000	\$ 25,250	\$ 25,503	\$ 25,758	\$ 26,015
49511-0 GAIN ON SALE OF ASSETS	100%	0%	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL: REVENUE				\$ 26,281,084	\$ 27,030,260	\$ 26,919,458	\$ 27,188,977	\$ 27,461,200	\$ 27,736,153

ROWLAND WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1 Potable

TABLE 15

REVENUE SUMMARY				2021	2022	2023	2024	2025	2026
Variable Water Rate Revenue				\$ 13,795,500	\$ 14,273,820	\$ 14,416,558	\$ 14,560,724	\$ 14,706,331	\$ 14,853,394
Fixed Water Rate Revenue				\$ 11,164,134	\$ 11,275,775	\$ 11,388,533	\$ 11,502,419	\$ 11,617,443	\$ 11,733,617
Expansion Revenue				\$ 111,200	\$ 175,000	\$ 45,000	\$ 45,450	\$ 45,905	\$ 46,364
Other Operating Revenue				\$ 974,850	\$ 1,058,465	\$ 1,069,366	\$ 1,080,385	\$ 1,091,521	\$ 1,102,778
Interest Income				\$ 235,400	\$ 247,200	\$ -	\$ -	\$ -	\$ -
TOTAL: REVENUE				\$ 26,281,084	\$ 27,030,260	\$ 26,919,458	\$ 27,188,977	\$ 27,461,200	\$ 27,736,153

ROWLAND WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1 Potable

TABLE 16 : OPERATING EXPENSE FORECAST ¹

EXPENSES	% PW	% RW	Basis	2021	2022	2023	2024	2025	2026
51110-0 WATER PURCHASES - CDWC	100%	0%	2	\$ 192,100	\$ 197,900	\$ 201,858	\$ 205,895	\$ 210,013	\$ 214,213
51210-0 WATER PURCHASES - LHH	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51310-0 WATER PURCHASES - TVMWD	100%	0%	9	\$ 10,288,500	\$ 10,568,800	\$ 10,991,552	\$ 11,431,214	\$ 11,888,463	\$ 12,364,001
51410-0 WATER PURCHASES - WRD	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
0 Pre-Purchase of TVMWD Water	100%	0%	10	\$ -	\$ -	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000
51410-1 IMPORT WATER USE CHARGE	100%	0%	2	\$ 42,700	\$ 41,500	\$ 42,330	\$ 43,177	\$ 44,040	\$ 44,921
51410-2 CONNECTED CAPACITY CHARGE	100%	0%	2	\$ 31,800	\$ 34,600	\$ 35,292	\$ 35,998	\$ 36,718	\$ 37,452
51410-3 EQUIVALENT SMALL METER CHARGE	100%	0%	2	\$ 22,600	\$ 23,800	\$ 24,276	\$ 24,762	\$ 25,257	\$ 25,762
51410-5 CAPACITY RESERVATION CHG (CRC)	100%	0%	2	\$ 180,400	\$ 223,300	\$ 227,766	\$ 232,321	\$ 236,968	\$ 241,707
51510-0 WATER PURCHASES-RECLAIMED	0%	100%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51610-0 FIXED CHARGES - PBWA	100%	0%	2	\$ 3,700	\$ 3,800	\$ 3,876	\$ 3,954	\$ 4,033	\$ 4,113
51810-0 OPERATING ASSESSMENTS	100%	0%	2	\$ 46,500	\$ 50,000	\$ 51,000	\$ 52,020	\$ 53,060	\$ 54,122
51910-0 OPERATING ASSESSMENTS - PBWA	100%	0%	2	\$ 230,000	\$ 230,000	\$ 234,600	\$ 239,292	\$ 244,078	\$ 248,959
52210-0 PUMPING MAINTENANCE	100%	0%	2	\$ 23,700	\$ 34,000	\$ 34,680	\$ 35,374	\$ 36,081	\$ 36,803
52310-0 PUMPING POWER	90%	10%	7	\$ 318,960	\$ 300,870	\$ 314,108	\$ 327,929	\$ 342,358	\$ 357,422
53110-0 WAGES-WATER TREATMENT	100%	0%	3	\$ 707,800	\$ 1,011,800	\$ 1,037,095	\$ 1,063,022	\$ 1,089,598	\$ 1,116,838
53110-1 WATER TREATMENT/STANDBY HRS	100%	0%	3	\$ 50,100	\$ 51,500	\$ 52,788	\$ 54,107	\$ 55,460	\$ 56,846
53110-2 WATER TREATMENT/OVERTIME HRS	100%	0%	3	\$ 34,300	\$ 30,800	\$ 31,570	\$ 32,359	\$ 33,168	\$ 33,997
54110-0 WAGES-MAINS & SERVICES ³	89%	11%	3	\$ 757,272	\$ 790,484	\$ 810,246	\$ 830,502	\$ 851,264	\$ 872,546
54110-1 MAINS & SERVICES/STANDBY HRS ³	89%	11%	3	\$ 19,731	\$ 26,784	\$ 27,454	\$ 28,140	\$ 28,843	\$ 29,564
54110-2 MAINS & SERVICES/OVERTIME HRS ³	89%	11%	3	\$ 25,802	\$ 38,033	\$ 38,984	\$ 39,959	\$ 40,958	\$ 41,982
54209-0 TRANS & DIST-RECYCLED WATER	0%	100%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
54210-0 TRANS & DIST-MAINS	100%	0%	2	\$ 53,700	\$ 55,000	\$ 56,100	\$ 57,222	\$ 58,366	\$ 59,534
54211-0 TRANS & DIST-SERVICES	100%	0%	2	\$ 262,800	\$ 155,000	\$ 158,100	\$ 161,262	\$ 164,487	\$ 167,777
54212-0 TRANS & DIST-METERS	100%	0%	2	\$ 38,000	\$ 39,000	\$ 39,780	\$ 40,576	\$ 41,387	\$ 42,215
54213-0 TRANS & DIST-RESERVOIRS	100%	0%	2	\$ 87,100	\$ 105,000	\$ 107,100	\$ 109,242	\$ 111,427	\$ 113,655
54214-0 TRANS & DIST-VALVES	100%	0%	2	\$ 84,200	\$ 80,000	\$ 81,600	\$ 83,232	\$ 84,897	\$ 86,595
54215-0 TRANS & DIST-HYDRANTS	100%	0%	2	\$ 98,600	\$ 75,000	\$ 76,500	\$ 78,030	\$ 79,591	\$ 81,182
54216-0 TRANS & DIST-TELEMETRY SYSTEM	100%	0%	2	\$ 29,300	\$ 30,000	\$ 30,600	\$ 31,212	\$ 31,836	\$ 32,473
54217-0 CHEMICALS	100%	0%	6	\$ 78,600	\$ 100,000	\$ 102,500	\$ 105,063	\$ 107,689	\$ 110,381
54218-0 COI - RECYCLED SYSTEM	0%	100%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
54219-0 PROJECT EXPENSE (PBWA)	100%	0%	2	\$ 100,000	\$ 100,000	\$ 102,000	\$ 104,040	\$ 106,121	\$ 108,243
54220-0 PROJECT EXPENSE (OTHER)	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
55110-0 WAGES-CUSTOMER ACCOUNTS ⁴	99%	1%	3	\$ 73,742	\$ 155,809	\$ 159,704	\$ 163,697	\$ 167,789	\$ 171,984
55110-1 CUSTOMER SERVICE/STANDBY HRS ⁴	99%	1%	3	\$ 4,460	\$ 9,912	\$ 10,159	\$ 10,413	\$ 10,674	\$ 10,940
55110-2 CUSTOMER ACCTS/OVERTIME HRS ⁴	99%	1%	3	\$ 4,064	\$ 7,830	\$ 8,026	\$ 8,226	\$ 8,432	\$ 8,643
55210-0 UNCOLLECTABLE ACCOUNTS	100%	0%	2	\$ 213,200	\$ 68,300	\$ 69,666	\$ 71,059	\$ 72,481	\$ 73,930
56110-0 WAGES-ADMINISTRATIVE ⁵	95%	5%	3	\$ 1,431,484	\$ 1,506,456	\$ 1,544,117	\$ 1,582,720	\$ 1,622,288	\$ 1,662,845
56210-0 VEHICLE EXPENSE ³	89%	11%	2	\$ 76,691	\$ 78,209	\$ 79,773	\$ 81,369	\$ 82,996	\$ 84,656
56211-0 BANK / MANAGEMENT FEES ⁵	95%	5%	2	\$ 143,870	\$ 153,550	\$ 156,621	\$ 159,753	\$ 162,948	\$ 166,207
56212-0 BOOKS & SUBSCRIPTIONS	100%	0%	2	\$ -	\$ 1,000	\$ 1,020	\$ 1,040	\$ 1,061	\$ 1,082
56214-0 OFFICE SUPPLIES & EXPENSE	100%	0%	2	\$ 18,000	\$ 18,400	\$ 18,768	\$ 19,143	\$ 19,526	\$ 19,917
56215-0 MEMBERSHIP, ASSOCIATION & DUES	100%	0%	2	\$ 40,800	\$ 41,600	\$ 42,432	\$ 43,281	\$ 44,146	\$ 45,029
Sub-Total				\$ 15,814,575	\$ 16,438,036	\$ 17,604,041	\$ 18,190,604	\$ 18,798,502	\$ 19,428,539

ROWLAND WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1 Potable

TABLE 17 : OPERATING EXPENSE FORECAST, CONTINUED ¹

EXPENSES	% PW	% RW	Basis	2021	2022	2023	2024	2025	2026
56216-0 POSTAGE, PRINTING & STATIONARY	100%	0%	2	\$ 15,400	\$ 15,700	\$ 16,014	\$ 16,334	\$ 16,661	\$ 16,994
56217-0 TRAVEL EXPENSE	100%	0%	2	\$ -	\$ 5,000	\$ 5,100	\$ 5,202	\$ 5,306	\$ 5,412
56218-0 LEGAL EXPENSE	100%	0%	2	\$ 81,400	\$ 83,000	\$ 84,660	\$ 86,353	\$ 88,080	\$ 89,842
56218-1 LEGAL FEES - PBWA	100%	0%	2	\$ 11,000	\$ 11,200	\$ 11,424	\$ 11,652	\$ 11,886	\$ 12,123
56218-2 LEGAL FEES-PWAG	100%	0%	2	\$ 22,100	\$ 22,500	\$ 22,950	\$ 23,409	\$ 23,877	\$ 24,355
56219-0 UTILITY SERVICES	100%	0%	2	\$ 120,700	\$ 123,100	\$ 125,562	\$ 128,073	\$ 130,635	\$ 133,247
56220-0 IT SUPPORT SERVICES	100%	0%	2	\$ 142,300	\$ 135,300	\$ 138,006	\$ 140,766	\$ 143,581	\$ 146,453
56221-0 COMMUNITY OUTREACH	100%	0%	2	\$ 211,200	\$ 235,400	\$ 240,108	\$ 244,910	\$ 249,808	\$ 254,805
56223-0 CONFERENCE & MEETINGS	100%	0%	2	\$ 700	\$ 35,000	\$ 35,700	\$ 36,414	\$ 37,142	\$ 37,885
56226-0 IT LICENSING	100%	0%	2	\$ 150,700	\$ 235,400	\$ 240,108	\$ 244,910	\$ 249,808	\$ 254,805
56310-0 INSURANCE-LIABILITY	100%	0%	2	\$ 122,300	\$ 134,500	\$ 137,190	\$ 139,934	\$ 142,732	\$ 145,587
56311-0 INSURANCE-WORKERS' COMP	100%	0%	2	\$ 69,700	\$ 90,300	\$ 92,106	\$ 93,948	\$ 95,827	\$ 97,744
56312-0 SERVICE CONTRACTS	100%	0%	2	\$ 325,300	\$ 400,800	\$ 340,000	\$ 346,800	\$ 353,736	\$ 360,811
56320-0 SEMINAR & TRAINING EXPENSES	100%	0%	2	\$ 18,800	\$ 35,000	\$ 35,700	\$ 36,414	\$ 37,142	\$ 37,885
56402-0 CalPERS Unfunded	95%	5%	5	\$ 320,764	\$ 380,635	\$ 422,317	\$ 447,043	\$ 472,715	\$ 485,978
0 CalPERS Unfunded Additional Contribution	95%	5%	10	\$ -	\$ 397,876	\$ 397,876	\$ 397,876	\$ 397,876	\$ 397,876
56410-0 PAYROLL TAXES ⁶	95%	5%	3	\$ 202,349	\$ 245,262	\$ 251,394	\$ 257,679	\$ 264,121	\$ 270,724
56411-0 HEALTH INSURANCE ⁶	95%	5%	4	\$ 462,010	\$ 629,782	\$ 645,526	\$ 661,664	\$ 678,206	\$ 695,161
56412-0 PENSION CONTRIBUTIONS ⁶	95%	5%	5	\$ 474,420	\$ 544,617	\$ 558,233	\$ 572,188	\$ 586,493	\$ 601,155
56413-0 DENTAL INSURANCE ⁶	95%	5%	4	\$ 30,693	\$ 40,261	\$ 41,268	\$ 42,300	\$ 43,357	\$ 44,441
56414-0 STATE UNEMPLOYMENT INSURANCE ⁶	95%	5%	3	\$ 2,368	\$ 6,631	\$ 6,797	\$ 6,967	\$ 7,141	\$ 7,320
56415-0 VISION INSURANCE PLAN ⁶	95%	5%	4	\$ 6,726	\$ 8,621	\$ 8,836	\$ 9,057	\$ 9,284	\$ 9,516
56416-0 LIFE INSURANCE PLAN ⁶	95%	5%	4	\$ 2,274	\$ 2,274	\$ 2,330	\$ 2,389	\$ 2,448	\$ 2,510
56417-0 RETIREES HEALTH BENEFITS ⁶	95%	5%	4	\$ 214,664	\$ 236,263	\$ 242,169	\$ 248,224	\$ 254,429	\$ 260,790
56418-0 DISABILITY INSURANCE ⁶	95%	5%	4	\$ 14,589	\$ 14,873	\$ 15,245	\$ 15,626	\$ 16,017	\$ 16,417
56419-0 EMP ASSISTANCE PROGRAM (EAP) ⁶	95%	5%	4	\$ 663	\$ 663	\$ 680	\$ 697	\$ 714	\$ 732
56420-0 PARS PAYMENT (OPEB) ⁶	95%	5%	4	\$ 1,345,201	\$ -	\$ -	\$ -	\$ -	\$ -
56421-0 DIRECTORS BENEFITS ⁶	95%	5%	4	\$ 122,489	\$ 127,510	\$ 130,698	\$ 133,965	\$ 137,314	\$ 140,747
56510-0 TAXES, PERMITS, FEES	100%	0%	2	\$ 14,300	\$ 14,600	\$ 14,892	\$ 15,190	\$ 15,494	\$ 15,804
56710-0 EQUIPMENT EXPENSE	100%	0%	2	\$ 34,000	\$ 34,700	\$ 35,394	\$ 36,102	\$ 36,824	\$ 37,560
56810-0 DIRECTORS' COMPENSATION ⁵	95%	5%	3	\$ 29,229	\$ 63,204	\$ 64,784	\$ 66,404	\$ 68,064	\$ 69,765
56811-0 AUDITING & ACCOUNTING FEES	100%	0%	2	\$ 48,600	\$ 35,000	\$ 35,700	\$ 36,414	\$ 37,142	\$ 37,885
56812-0 MISCELLANEOUS GENERAL EXPENSE	100%	0%	2	\$ 95,600	\$ 150,000	\$ 153,000	\$ 156,060	\$ 159,181	\$ 162,365
57310-0 MISCELLANEOUS ENGINEERING	100%	0%	2	\$ 301,900	\$ 400,000	\$ 210,000	\$ 214,200	\$ 218,484	\$ 222,854
57312-0 TOOLS & SUPPLIES	100%	0%	2	\$ 54,800	\$ 55,900	\$ 57,018	\$ 58,158	\$ 59,322	\$ 60,508
57314-0 MAINTENANCE & OPERATION	100%	0%	2	\$ 96,300	\$ 98,200	\$ 100,164	\$ 102,167	\$ 104,211	\$ 106,295
57315-0 WATER TESTS	100%	0%	2	\$ 23,700	\$ 24,000	\$ 24,480	\$ 24,970	\$ 25,469	\$ 25,978
57316-0 WATER SUPPLY PLAN. & DEVELP.	100%	0%	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
57319-0 WATER CONSERVATION PROGRAMS	100%	0%	2	\$ 15,000	\$ 50,000	\$ 51,000	\$ 52,020	\$ 53,060	\$ 54,122
57320-0 COMPLIANCE-CERTIFICATIONS	100%	0%	2	\$ 700	\$ 700	\$ 714	\$ 728	\$ 743	\$ 758
57321-0 COMPLIANCE-FEES	100%	0%	2	\$ 93,900	\$ 95,800	\$ 97,716	\$ 99,670	\$ 101,664	\$ 103,697
57322-0 COMPLIANCE-PERMITS	100%	0%	2	\$ 600	\$ 600	\$ 612	\$ 624	\$ 637	\$ 649
57323-0 COMPLIANCE-EQUIPMENT MAINT	100%	0%	2	\$ 2,300	\$ 2,300	\$ 2,346	\$ 2,393	\$ 2,441	\$ 2,490
Sub-Total				\$ 5,301,741	\$ 5,222,473	\$ 5,095,818	\$ 5,215,895	\$ 5,339,073	\$ 5,452,043
Total: Potable				\$ 21,116,316	\$ 21,660,508	\$ 22,699,858	\$ 23,406,500	\$ 24,137,575	\$ 24,880,582

TABLE 18 : CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST	Budget		Projected			
Funding Sources:	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Use of Capital Rehabilitation and Replacement Reserve	\$ 3,902,442	\$ 2,031,445	\$ 1,236,552	\$ 284,422	\$ 32,307	\$ -
Rate Revenue	\$ -	\$ 1,631,655	\$ 2,893,148	\$ 3,737,478	\$ 4,544,193	\$ 4,641,800
Total Sources of Capital Funds	\$ 3,902,442	\$ 3,663,100	\$ 4,129,700	\$ 4,021,900	\$ 4,576,500	\$ 4,641,800
Uses of Capital Funds:						
Total Project Costs	\$ 3,902,442	\$ 3,663,100	\$ 4,129,700	\$ 4,021,900	\$ 4,576,500	\$ 4,641,800
Capital Funding Surplus (Deficiency)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

ROWLAND WATER DISTRICT
WATER RATE STUDY
Capital Improvement Plan Expenditures

EXHIBIT 2

TABLE 19 : Capital Improvement Program Costs (with future escalation)¹

Project Description	2021	2022	2023	2024	2025	2026
Office Equipment						
Office Furniture	\$ 281,937	\$ 25,000	\$ -	\$ -	\$ -	\$ -
Office Back Patio Storage	\$ 110,000	\$ -	\$ -	\$ -	\$ -	\$ -
Office Electrical and Data Upgrades	\$ 33,527	\$ -	\$ -	\$ -	\$ -	\$ -
Office Genset Upgrade or Replacement	\$ -	\$ 40,000	\$ -	\$ -	\$ -	\$ -
Server Replacement and Upgrade	\$ -	\$ 45,000	\$ -	\$ -	\$ -	\$ -
Computer Software	\$ -	\$ 20,000	\$ -	\$ 100,000	\$ -	\$ -
New Servers	\$ 200,000	\$ -	\$ -	\$ 80,000	\$ -	\$ -
Office landscaping	\$ -	\$ 120,000	\$ -	\$ -	\$ -	\$ -
Security Fencing District Yard	\$ 150,000	\$ 250,000	\$ -	\$ -	\$ -	\$ -
Replace AC Units	\$ -	\$ 35,000	\$ -	\$ -	\$ -	\$ -
Sarnafil Roof for Warehouse	\$ 180,000	\$ -	\$ -	\$ -	\$ -	\$ -
Sarnafil Roof for Office	\$ -	\$ -	\$ 125,000	\$ -	\$ -	\$ -
Water Quality						
RCS Structure-Remaining sites Ashbourne, Artigas	\$ 250,000	\$ -	\$ 225,000	\$ 150,000	\$ -	\$ -
Replacement of Mixers	\$ -	\$ -	\$ -	\$ -	\$ 25,000	\$ 25,000
Booster Station Rehab-Roof, Hatches, Paint, Lights & MCC	\$ -	\$ -	\$ -	\$ 300,000	\$ 312,000	\$ 324,000
Asphalt Repair-Reservoir Sites and Service Road Rehabs	\$ 70,000	\$ 120,000	\$ 125,000	\$ 130,000	\$ 135,000	\$ 140,000
Booster Station Engineering for MCC & Building Improvements	\$ -	\$ 50,000	\$ 50,000	\$ -	\$ -	\$ -
JL Cla-Valve Replacement & Electrical Upgrade	\$ -	\$ 150,000	\$ -	\$ -	\$ -	\$ -
Res. 8 RCS & Electrical Upgrade	\$ 410,000	\$ 70,000	\$ -	\$ -	\$ -	\$ -
Reservoir Rehabs						
Fullerton Grade Separation		\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000
Six Basins		\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000
Reservoir JLR 1-Shell only 2006	\$ -	\$ -	\$ -	\$ -	\$ 1,300,000	\$ -
Reservoir JLR 2-Shell only 2006	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,900,000
Reservoir No. 1-Demo	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Reservoir No. 3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Reservoir No. 7	\$ -	\$ -	\$ -	\$ 800,000	\$ -	\$ -
Reservoir No. 8	\$ -	\$ -	\$ 500,000	\$ -	\$ -	\$ -
Reservoir No. 9-Rehabbed 2008	\$ -	\$ -	\$ 150,000	\$ -	\$ -	\$ -
Reservoir No. 10	\$ 675,000	\$ -	\$ -	\$ -	\$ -	\$ -
Reservoir No. 11-AKM Report complete	\$ -	\$ -	\$ 100,000	\$ -	\$ -	\$ -
Reservoir No. 12	\$ -	\$ -	\$ -	\$ -	\$ 500,000	\$ -
Reservoir No. 14	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cuatro Booster Rehab	\$ -	\$ 75,000	\$ 500,000	\$ -	\$ -	\$ -
Scada Network-Programming	\$ 600,000	\$ -	\$ -	\$ -	\$ -	\$ -
Scada Network-Tower Construction	\$ 560,000	\$ -	\$ -	\$ -	\$ -	\$ -
Scada Server Upgrades-Software, etc.	\$ -	\$ 125,000	\$ -	\$ -	\$ -	\$ -
Booster Station Valve Replacement	\$ -	\$ 50,000	\$ 52,000	\$ 54,000	\$ 56,000	\$ 58,000
Reservoir No. 6 Landscape	\$ 110,000	\$ -	\$ -	\$ -	\$ -	\$ -
Security for Remote Sites	\$ -	\$ 75,000	\$ 75,000	\$ 78,000	\$ 81,000	\$ 84,000
Preventative Pump		\$ 72,800	\$ 75,000	\$ 78,000	\$ 81,000	\$ 84,000
Reservoir Site Automated Gates & Fencing		\$ 125,000	\$ 125,000	\$ 130,000	\$ 135,000	\$ 140,000
PLC Upgrade	\$ -	\$ -	\$ -	\$ -	\$ 350,000	\$ -

ROWLAND WATER DISTRICT
WATER RATE STUDY
Capital Improvement Plan Expenditures

EXHIBIT 2

TABLE 20 : Capital Improvement Program Costs (with future escalation)¹

Project Description	2021	2022	2023	2024	2025	2026
Distribution System						
Valve Replacement (La Seda, Cantaria, Altario, Galleano, Johnson, Bixby)	\$ 750,000	\$ 575,000	\$ 600,000	\$ 400,000	\$ 200,000	\$ 200,000
Large Meter Replacements	\$ 123,000	\$ 250,000	\$ 100,000	\$ 104,000	\$ 108,200	\$ 112,500
Meter Replacements			\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000
Service Line Replacement		\$ 125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 125,000
Anaheim Puente Bridge - 2" pipeline	\$ 57,153	\$ -	\$ -	\$ -	\$ -	\$ -
Mainline Replacement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Vehicles						
Emergency Generators	\$ -	\$ 175,000	\$ -	\$ 200,000	\$ -	\$ -
2.5 Ton Dump Truck	\$ -	\$ -	\$ 150,000	\$ -	\$ -	\$ -
10 Wheel Dump Truck	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 275,000
John Deere Flatbed Cart	\$ -	\$ -	\$ -	\$ 25,000	\$ -	\$ -
EOC Trailer/Bathroom Trailer	\$ -	\$ 200,000	\$ -	\$ -	\$ -	\$ -
CAT 430F2 IT	\$ -	\$ -	\$ -	\$ 150,000	\$ -	\$ -
Field Trucks (#5 & #11) F150, F350 4x4 Crew Cab, Short Bed	\$ 246,730	\$ -	\$ -	\$ 75,000	\$ 75,000	\$ 75,000
Tools and Equipment						
Compressor	\$ -	\$ 30,000	\$ -	\$ -	\$ -	\$ -
Prior Year(s) Carry Over Budget	\$ (904,905)					
Contingency Budget (10%)	\$ -	\$ 280,300	\$ 322,700	\$ 312,900	\$ 363,300	\$ 369,300
Average of 5 Year CIP's for Estimated Future CIP's	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total: Capital Improvement Program Costs	\$ 3,902,442	\$ 3,663,100	\$ 4,129,700	\$ 4,021,900	\$ 4,576,500	\$ 4,641,800

1. FY 2020/21 - FY 2026/27 Capital projects are per source file: RWD 2020-21 Five Year Capital Improvement Plan NBS.xlsx. The following years are an average of those five years CIP totals.

Some projects added by District via email from July 9, 2021. Further, all CIP projects are for the potable water system.

2. Project costs are inflated by 4% per year per District estimates.

ROWLAND WATER DISTRICT
WATER RATE STUDY
Debt Service

EXHIBIT 3

TABLE 21

EXISTING DEBT OBLIGATIONS	Budget	Projected				
Annual Repayment Schedules:	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Water Revenue Refinance Bonds - 2014A - \$23,246,366 ¹						
Principal Payment ²	\$ 585,000	\$ 610,000	\$ 630,000	\$ 660,000	\$ 685,000	\$ 715,000
Interest Payment	\$ 718,744	\$ 695,344	\$ 670,944	\$ 645,744	\$ 619,344	\$ 591,944
Subtotal: Annual Debt Service	\$ 1,303,744	\$ 1,305,344	\$ 1,300,944	\$ 1,305,744	\$ 1,304,344	\$1,306,944
Coverage Requirement (%-Amnt. above annual payment) ³	110%	110%	110%	110%	110%	110%
Reserve Requirement (total fund balance) ⁴	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TABLE 22

EXISTING DEBT OBLIGATIONS	Budget	Projected				
Annual Repayment Schedules:	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Water Revenue Bonds \$19,835,000 ⁵						
Principal Payment ⁶	\$ 495,000	\$ 515,000	\$ 540,000	\$ 560,000	\$ 580,000	\$ 605,000
Interest Payment	\$ 666,500	\$ 646,700	\$ 626,100	\$ 604,500	\$ 582,100	\$ 558,900
Subtotal: Annual Debt Service	\$ 1,161,500	\$ 1,161,700	\$ 1,166,100	\$ 1,164,500	\$ 1,162,100	\$1,163,900
Coverage Requirement (%-Amnt. above annual payment) ⁷	110%	110%	110%	110%	110%	110%
Reserve Requirement (total fund balance) ⁸	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TABLE 23

Grand Total: Existing Annual Debt Service	\$ 2,465,244	\$ 2,467,044	\$ 2,467,044	\$ 2,470,244	\$ 2,466,444	\$2,470,844
Grand Total: Existing Annual Coverage Requirement	110%	110%	110%	110%	110%	110%
Grand Total: Existing Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1. 2014A Bonds - Official Statement describes the bond was used primarily to refund 2008 Installment Purchase Contract; source file: *Rowland Water District 2014A OS Statement.pdf*, page 10.

Financing from the 2008 Installment Purchase Contract installed the recycled water system and the payments have been included as part of the recycled water system cost.

2. 2014A Bonds - Official Statement Debt Service Schedule; source file: *Rowland Water District 2014A OS Statement.pdf*, page 10.

3. The City must have net revenues that are at least equal to 1.1 times the annual debt service payment; source file: *Rowland Water District 2014A OS Statement.pdf*, page 8.

4. There are no reserve fund requirements for this debt issuance; source file: *Rowland Water District 2014A OS Statement.pdf*, page 14.

5. 2012 Bonds - Office Statement describes the bonds as used primarily for capital improvements for the water system; source file: *Rowland Water District 2012 OS Statement*, page 4.

6. 2012 Bonds - Official Statement Debt Service Schedule; source file: *Rowland Water District 2012 OS Statement.pdf*, page 10.

Puente Basin Water Agency collects from Rowland Water District to make these payments.

7. The District must have net revenues that are at least equal to 1.1 times the annual debt service payment; source file: *Rowland Water District 2012 OS Statement*, page 15.

8. 2012 Bonds - Following the refunding of the 2008 bonds, RWD is no longer obligated to maintain a reserve fund; source file: *Rowland Water District 2012 OS Statement*, page 18.

ROWLAND WATER DISTRICT
WATER RATE STUDY
Cost of Service Analysis

TABLE 24

Classification of Expenses - Potable System		Volumetric			Fixed			Basis of Classification					
Budget Items	Total Revenue Requirements	Commodity	Add'l. Supply	Zonal	Capacity	Customer	Fire Protection						
	FY 2021/22	COM	AS	ZON	CAP	CA	FP	COM	AS	ZON	CAP	CA	FP
51110-0 WATER PURCHASES - CDWC	\$ 197,900	\$ -	\$ 197,900	\$ -	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%	0%
51210-0 WATER PURCHASES - LHH	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%	0%
51310-0 WATER PURCHASES - TVMWD	\$ 10,568,800	\$ 10,568,800	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%	0%
51410-0 WATER PURCHASES - WRD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%	0%
---- Pre-Purchase of TVMWD Water	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%	0%
51410-1 IMPORT WATER USE CHARGE	\$ 41,500	\$ -	\$ 41,500	\$ -	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%	0%
51410-2 CONNECTED CAPACITY CHARGE	\$ 34,600	\$ -	\$ -	\$ -	\$ 34,600	\$ -	\$ -	0%	0%	0%	100%	0%	0%
51410-3 EQUIVALENT SMALL METER CHARGE	\$ 23,800	\$ -	\$ -	\$ -	\$ 23,800	\$ -	\$ -	0%	0%	0%	100%	0%	0%
51410-5 CAPACITY RESERVATION CHG (CRC)	\$ 223,300	\$ -	\$ -	\$ -	\$ 223,300	\$ -	\$ -	0%	0%	0%	100%	0%	0%
51510-0 WATER PURCHASES-RECLAIMED	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%	0%
51610-0 FIXED CHARGES - PBWA	\$ 3,800	\$ 3,800	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%	0%
51810-0 OPERATING ASSESSMENTS	\$ 50,000	\$ -	\$ -	\$ -	\$ 50,000	\$ -	\$ -	0%	0%	0%	100%	0%	0%
51910-0 OPERATING ASSESSMENTS - PBWA	\$ 230,000	\$ 230,000	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%	0%
52210-0 PUMPING MAINTENANCE	\$ 34,000	\$ 1,020	\$ -	\$ 1,672	\$ 28,460	\$ 1,700	\$ 1,148	3%	0%	5%	84%	5%	3%
52310-0 PUMPING POWER	\$ 300,870	\$ 96,278	\$ -	\$ 204,592	\$ -	\$ -	\$ -	32%	0%	68%	0%	0%	0%
53110-0 WAGES-WATER TREATMENT	\$ 1,011,800	\$ 97,361	\$ -	\$ -	\$ 829,676	\$ 50,590	\$ 34,173	10%	0%	0%	82%	5%	3%
53110-1 WATER TREATMENT/STANDBY HRS	\$ 51,500	\$ 4,956	\$ -	\$ -	\$ 42,230	\$ 2,575	\$ 1,739	10%	0%	0%	82%	5%	3%
53110-2 WATER TREATMENT/OVERTIME HRS	\$ 30,800	\$ 2,964	\$ -	\$ -	\$ 25,256	\$ 1,540	\$ 1,040	10%	0%	0%	82%	5%	3%
54110-0 WAGES-MAINS & SERVICES 3	\$ 790,484	\$ 76,065	\$ -	\$ -	\$ 648,197	\$ 39,524	\$ 26,698	10%	0%	0%	82%	5%	3%
54110-1 MAINS & SERVICES/STANDBY HRS 3	\$ 26,784	\$ 2,577	\$ -	\$ -	\$ 21,963	\$ 1,339	\$ 905	10%	0%	0%	82%	5%	3%
54110-2 MAINS & SERVICES/OVERTIME HRS 3	\$ 38,033	\$ 3,660	\$ -	\$ -	\$ 31,187	\$ 1,902	\$ 1,285	10%	0%	0%	82%	5%	3%
54209-0 TRANS & DIST-RECYCLED WATER	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	10%	0%	0%	82%	5%	3%
54210-0 TRANS & DIST-MAINS	\$ 55,000	\$ 5,292	\$ -	\$ -	\$ 45,100	\$ 2,750	\$ 1,858	10%	0%	0%	82%	5%	3%
54211-0 TRANS & DIST-SERVICES	\$ 155,000	\$ -	\$ -	\$ -	\$ -	\$ 155,000	\$ -	0%	0%	0%	0%	100%	0%
54212-0 TRANS & DIST-METERS	\$ 39,000	\$ -	\$ -	\$ -	\$ -	\$ 39,000	\$ -	0%	0%	0%	0%	100%	0%
54213-0 TRANS & DIST-RESERVOIRS	\$ 105,000	\$ 3,150	\$ -	\$ 10,661	\$ 82,393	\$ 5,250	\$ 3,546	3%	0%	10%	78%	5%	3%
54214-0 TRANS & DIST-VALVES	\$ 80,000	\$ 7,698	\$ -	\$ -	\$ 65,600	\$ 4,000	\$ 2,702	10%	0%	0%	82%	5%	3%
54215-0 TRANS & DIST-HYDRANTS	\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 75,000	0%	0%	0%	0%	0%	100%
54216-0 TRANS & DIST-TELEMETRY SYSTEM	\$ 30,000	\$ 900	\$ -	\$ 2,720	\$ 23,867	\$ 1,500	\$ 1,013	3%	0%	9%	80%	5%	3%
54217-0 CHEMICALS	\$ 100,000	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%	0%
54218-0 COI - RECYCLED SYSTEM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	10%	0%	0%	82%	5%	3%
54219-0 PROJECT EXPENSE (PBWA)	\$ 100,000	\$ 9,623	\$ -	\$ -	\$ 82,000	\$ 5,000	\$ 3,377	10%	0%	0%	82%	5%	3%
54220-0 PROJECT EXPENSE (OTHER)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	10%	0%	0%	82%	5%	3%
55110-0 WAGES-CUSTOMER ACCOUNTS 4	\$ 155,809	\$ -	\$ -	\$ -	\$ -	\$ 155,809	\$ -	0%	0%	0%	0%	100%	0%
55110-1 CUSTOMER SERVICE/STANDBY HRS 4	\$ 9,912	\$ 954	\$ -	\$ -	\$ 8,127	\$ 496	\$ 335	10%	0%	0%	82%	5%	3%
55110-2 CUSTOMER ACCTS/OVERTIME HRS 4	\$ 7,830	\$ 753	\$ -	\$ -	\$ 6,421	\$ 392	\$ 264	10%	0%	0%	82%	5%	3%
55210-0 UNCOLLECTABLE ACCOUNTS	\$ 68,300	\$ 6,572	\$ -	\$ -	\$ 56,006	\$ 3,415	\$ 2,307	10%	0%	0%	82%	5%	3%
56110-0 WAGES-ADMINISTRATIVE 5	\$ 1,506,456	\$ 144,960	\$ -	\$ -	\$ 1,235,294	\$ 75,323	\$ 50,879	10%	0%	0%	82%	5%	3%
56210-0 VEHICLE EXPENSE 3	\$ 78,209	\$ 7,526	\$ -	\$ -	\$ 64,131	\$ 3,910	\$ 2,641	10%	0%	0%	82%	5%	3%
56211-0 BANK / MANAGEMENT FEES 5	\$ 153,550	\$ 14,775	\$ -	\$ -	\$ 125,911	\$ 7,677	\$ 5,186	10%	0%	0%	82%	5%	3%
56212-0 BOOKS & SUBSCRIPTIONS	\$ 1,000	\$ 96	\$ -	\$ -	\$ 820	\$ 50	\$ 34	10%	0%	0%	82%	5%	3%
56214-0 OFFICE SUPPLIES & EXPENSE	\$ 18,400	\$ 1,771	\$ -	\$ -	\$ 15,088	\$ 920	\$ 621	10%	0%	0%	82%	5%	3%
56215-0 MEMBERSHIP, ASSOCIATION & DUES	\$ 41,600	\$ 4,003	\$ -	\$ -	\$ 34,112	\$ 2,080	\$ 1,405	10%	0%	0%	82%	5%	3%
Sub-Total:	\$ 16,438,036	\$ 11,395,555	\$ 239,400	\$ 219,644	\$ 3,803,538	\$ 561,742	\$ 218,156	69.3%	1.5%	1.3%	23.1%	3.4%	1.3%

ROWLAND WATER DISTRICT
WATER RATE STUDY
Cost of Service Analysis

TABLE 25

Classification of Expenses - Potable System, continued		Volumetric				Fixed			Basis of Classification					
Budget Categories	Total Revenue Requirements	Base Commodity	Add'l. Supply	Zonal	Capacity	Customer	Fire Protection							
	FY 2021/22	COM	AS	ZON	CAP	CA	FP	COM	AS	ZON	CAP	CA	FP	
56216-0 POSTAGE, PRINTING & STATIONARY	\$ 15,700	\$ 1,511	\$ -	\$ -	\$ 12,874	\$ 785	\$ 530	10%	0%	0%	82%	5%	3%	
56217-0 TRAVEL EXPENSE	\$ 5,000	\$ 481	\$ -	\$ -	\$ 4,100	\$ 250	\$ 169	10%	0%	0%	82%	5%	3%	
56218-0 LEGAL EXPENSE	\$ 83,000	\$ 7,987	\$ -	\$ -	\$ 68,060	\$ 4,150	\$ 2,803	10%	0%	0%	82%	5%	3%	
56218-1 LEGAL FEES - PBWA	\$ 11,200	\$ 1,078	\$ -	\$ -	\$ 9,184	\$ 560	\$ 378	10%	0%	0%	82%	5%	3%	
56218-2 LEGAL FEES-PWAG	\$ 22,500	\$ 2,165	\$ -	\$ -	\$ 18,450	\$ 1,125	\$ 760	10%	0%	0%	82%	5%	3%	
56219-0 UTILITY SERVICES	\$ 123,100	\$ 11,845	\$ -	\$ -	\$ 100,942	\$ 6,155	\$ 4,158	10%	0%	0%	82%	5%	3%	
56220-0 IT SUPPORT SERVICES	\$ 135,300	\$ 13,019	\$ -	\$ -	\$ 110,946	\$ 6,765	\$ 4,570	10%	0%	0%	82%	5%	3%	
56221-0 COMMUNITY OUTREACH	\$ 235,400	\$ 22,652	\$ -	\$ -	\$ 193,028	\$ 11,770	\$ 7,950	10%	0%	0%	82%	5%	3%	
56223-0 CONFERENCE & MEETINGS	\$ 35,000	\$ 3,368	\$ -	\$ -	\$ 28,700	\$ 1,750	\$ 1,182	10%	0%	0%	82%	5%	3%	
56226-0 IT LICENSING	\$ 235,400	\$ 22,652	\$ -	\$ -	\$ 193,028	\$ 11,770	\$ 7,950	10%	0%	0%	82%	5%	3%	
56310-0 INSURANCE-LIABILITY	\$ 134,500	\$ 12,942	\$ -	\$ -	\$ 110,290	\$ 6,725	\$ 4,543	10%	0%	0%	82%	5%	3%	
56311-0 INSURANCE-WORKERS' COMP	\$ 90,300	\$ 8,689	\$ -	\$ -	\$ 74,046	\$ 4,515	\$ 3,050	10%	0%	0%	82%	5%	3%	
56312-0 SERVICE CONTRACTS	\$ 400,800	\$ 38,567	\$ -	\$ -	\$ 328,656	\$ 20,040	\$ 13,537	10%	0%	0%	82%	5%	3%	
56320-0 SEMINAR & TRAINING EXPENSES	\$ 35,000	\$ 3,368	\$ -	\$ -	\$ 28,700	\$ 1,750	\$ 1,182	10%	0%	0%	82%	5%	3%	
56402-0 CalPERS Unfunded	\$ 380,635	\$ 36,627	\$ -	\$ -	\$ 312,121	\$ 19,032	\$ 12,856	10%	0%	0%	82%	5%	3%	
0 CalPERS Unfunded Additional Contribution	\$ 397,876	\$ 38,286	\$ -	\$ -	\$ 326,259	\$ 19,894	\$ 13,438	10%	0%	0%	82%	5%	3%	
56410-0 PAYROLL TAXES 6	\$ 245,262	\$ 23,601	\$ -	\$ -	\$ 201,115	\$ 12,263	\$ 8,283	10%	0%	0%	82%	5%	3%	
56411-0 HEALTH INSURANCE 6	\$ 629,782	\$ 60,601	\$ -	\$ -	\$ 516,421	\$ 31,489	\$ 21,270	10%	0%	0%	82%	5%	3%	
56412-0 PENSION CONTRIBUTIONS 6	\$ 544,617	\$ 52,406	\$ -	\$ -	\$ 446,586	\$ 27,231	\$ 18,394	10%	0%	0%	82%	5%	3%	
56413-0 DENTAL INSURANCE 6	\$ 40,261	\$ 3,874	\$ -	\$ -	\$ 33,014	\$ 2,013	\$ 1,360	10%	0%	0%	82%	5%	3%	
56414-0 STATE UNEMPLOYMENT INSURANCE 6	\$ 6,631	\$ 638	\$ -	\$ -	\$ 5,438	\$ 332	\$ 224	10%	0%	0%	82%	5%	3%	
56415-0 VISION INSURANCE PLAN 6	\$ 8,621	\$ 830	\$ -	\$ -	\$ 7,069	\$ 431	\$ 291	10%	0%	0%	82%	5%	3%	
56416-0 LIFE INSURANCE PLAN 6	\$ 2,274	\$ 219	\$ -	\$ -	\$ 1,864	\$ 114	\$ 77	10%	0%	0%	82%	5%	3%	
56417-0 RETIREES HEALTH BENEFITS 6	\$ 236,263	\$ 22,735	\$ -	\$ -	\$ 193,736	\$ 11,813	\$ 7,980	10%	0%	0%	82%	5%	3%	
56418-0 DISABILITY INSURANCE 6	\$ 14,873	\$ 1,431	\$ -	\$ -	\$ 12,196	\$ 744	\$ 502	10%	0%	0%	82%	5%	3%	
56419-0 EMP ASSISTANCE PROGRAM (EAP) 6	\$ 663	\$ 64	\$ -	\$ -	\$ 544	\$ 33	\$ 22	10%	0%	0%	82%	5%	3%	
56420-0 PARS PAYMENT (OPEB) 6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	10%	0%	0%	82%	5%	3%	
56421-0 DIRECTORS BENEFITS 6	\$ 127,510	\$ 12,270	\$ -	\$ -	\$ 104,558	\$ 6,375	\$ 4,307	10%	0%	0%	82%	5%	3%	
56510-0 TAXES, PERMITS, FEES	\$ 14,600	\$ 1,405	\$ -	\$ -	\$ 11,972	\$ 730	\$ 493	10%	0%	0%	82%	5%	3%	
56710-0 EQUIPMENT EXPENSE	\$ 34,700	\$ 3,339	\$ -	\$ -	\$ 28,454	\$ 1,735	\$ 1,172	10%	0%	0%	82%	5%	3%	
56810-0 DIRECTORS' COMPENSATION 5	\$ 63,204	\$ 6,082	\$ -	\$ -	\$ 51,827	\$ 3,160	\$ 2,135	10%	0%	0%	82%	5%	3%	
56811-0 AUDITING & ACCOUNTING FEES	\$ 35,000	\$ 3,368	\$ -	\$ -	\$ 28,700	\$ 1,750	\$ 1,182	10%	0%	0%	82%	5%	3%	
56812-0 MISCELLANEOUS GENERAL EXPENSE	\$ 150,000	\$ 14,434	\$ -	\$ -	\$ 123,000	\$ 7,500	\$ 5,066	10%	0%	0%	82%	5%	3%	
57310-0 MISCELLANEOUS ENGINEERING	\$ 400,000	\$ 38,430	\$ -	\$ 60	\$ 328,000	\$ 20,000	\$ 13,510	10%	0%	0%	82%	5%	3%	
57312-0 TOOLS & SUPPLIES	\$ 55,900	\$ 5,379	\$ -	\$ -	\$ 45,838	\$ 2,795	\$ 1,888	10%	0%	0%	82%	5%	3%	
57314-0 MAINTENANCE & OPERATION	\$ 98,200	\$ 9,418	\$ -	\$ 31	\$ 80,524	\$ 4,910	\$ 3,317	10%	0%	0%	82%	5%	3%	
57315-0 WATER TESTS	\$ 24,000	\$ 2,309	\$ -	\$ -	\$ 19,680	\$ 1,200	\$ 811	10%	0%	0%	82%	5%	3%	
57316-0 WATER SUPPLY PLAN. & DEVELP.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	10%	0%	0%	82%	5%	3%	
57319-0 WATER CONSERVATION PROGRAMS	\$ 50,000	\$ 50,000	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%	0%	
57320-0 COMPLIANCE-CERTIFICATIONS	\$ 700	\$ 67	\$ -	\$ -	\$ 574	\$ 35	\$ 24	10%	0%	0%	82%	5%	3%	
57321-0 COMPLIANCE-FEES	\$ 95,800	\$ 9,218	\$ -	\$ -	\$ 78,556	\$ 4,790	\$ 3,236	10%	0%	0%	82%	5%	3%	
57322-0 COMPLIANCE-PERMITS	\$ 600	\$ 58	\$ -	\$ -	\$ 492	\$ 30	\$ 20	10%	0%	0%	82%	5%	3%	
57323-0 COMPLIANCE-EQUIPMENT MAINT	\$ 2,300	\$ 221	\$ -	\$ -	\$ 1,886	\$ 115	\$ 78	10%	0%	0%	82%	5%	3%	
Sub-Total:	\$ 5,222,473	\$ 547,635	\$ -	\$ 91	\$ 4,241,428	\$ 258,624	\$ 174,695	10.5%	0.0%	0.0%	81.2%	5.0%	3.3%	
Grand Total: Water Fund Operations	\$ 21,660,508	\$11,943,191	\$ 239,400	\$ 219,735	\$ 8,044,966	\$ 820,365	\$ 392,851	55%	1%	1%	37%	4%	2%	

ROWLAND WATER DISTRICT
WATER RATE STUDY
Cost of Service Analysis

TABLE 26

Classification of Expenses - Potable System, continued		Volumetric			Fixed			Basis of Classification					
Budget Categories	Total Revenue Requirements	Base Commodity	Add'l. Supply	Zonal	Capacity	Customer	Fire Protection						
	FY 2021/22	COM	AS	ZON	CAP	CA	FP	COM	AS	ZON	CAP	CA	FP
Debt Service Payments													
Water Revenue Bonds \$19,835,000	\$ 1,161,700	\$ -	\$ -	\$ -	\$ 1,103,615	\$ -	\$ 58,085	0%	0%	0%	95%	0%	5%
Recycled Water Subsidy													
Recycled Water Subsidy	\$ 599,805	\$ -	\$ 599,805	\$ -	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%	0%
Capital Expenditures													
Rate Funded Capital Expenses	\$ 1,631,655	\$ -	\$ -	\$ -	\$ 1,582,705	\$ -	\$ 48,950	0%	0%	0%	97%	0%	3%
TOTAL REVENUE REQUIREMENTS	\$ 25,053,669	\$11,943,191	\$ 839,205	\$ 219,735	\$10,731,286	\$ 820,365	\$ 499,886	48%	3%	1%	43%	3%	2%
41110-0 SALES-RESIDENTIAL													
41210-0 SALES-BUSINESS													
41310-0 SALES/PUBLIC/GOVT ENTITIES													
41311-0 INDUSTRIAL-SURCHARGE WATER	\$ (43,800)	\$ (20,880)	\$ (1,467)	\$ (384)	\$ (18,761)	\$ (1,434)	\$ (874)	48%	3%	1%	43%	3%	2%
41710-0 SALES-CONSTRUCTION	\$ (36,200)	\$ (17,257)	\$ (1,213)	\$ (317)	\$ (15,506)	\$ (1,185)	\$ (722)	48%	3%	1%	43%	3%	2%
41810-0 SALES-CONSTRUCTION INVOICES	\$ (25,000)	\$ (11,918)	\$ (837)	\$ (219)	\$ (10,708)	\$ (819)	\$ (499)	48%	3%	1%	43%	3%	2%
41910-0 RWD LABOR SALES/REIMBURSEMENT	\$ (57,150)	\$ (27,244)	\$ (1,914)	\$ (501)	\$ (24,479)	\$ (1,871)	\$ (1,140)	48%	3%	1%	43%	3%	2%
42310-0 CUSTOMER PENALTIES	\$ (139,900)	\$ (66,691)	\$ (4,686)	\$ (1,227)	\$ (59,924)	\$ (4,581)	\$ (2,791)	48%	3%	1%	43%	3%	2%
42313-0 NEW SERVICE CONNECTIONS	\$ (27,500)	\$ -	\$ -	\$ -	\$ -	\$ (27,500)	\$ -	0%	0%	0%	0%	100%	0%
42314-0 NEW SERVICE CONNECTIONS-METERS	\$ (7,200)	\$ -	\$ -	\$ -	\$ -	\$ (7,200)	\$ -	0%	0%	0%	0%	100%	0%
42316-0 OTHER WATER COMPANIES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	48%	3%	1%	43%	3%	2%
42317-0 SALES-RECLAIMED WATER													
42318-0 FLOW TESTS	\$ (20,000)	\$ (9,534)	\$ (670)	\$ (175)	\$ (8,567)	\$ (655)	\$ (399)	48%	3%	1%	43%	3%	2%
42319-0 WATER SERVICE CHARGE													
42325-0 RECYCLED WATER CK./INSP. FEE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	0%	0%	100%	0%
42330-0 CROSS CONNECTION FEES	\$ (8,713)	\$ -	\$ -	\$ -	\$ -	\$ (8,713)	\$ -	0%	0%	0%	0%	100%	0%
42335-0 BACKFLOW ADMINISTRATION FEE	\$ (12,403)	\$ -	\$ -	\$ -	\$ -	\$ (12,403)	\$ -	0%	0%	0%	0%	100%	0%
42340-0 RECONNECTION FEES	\$ (17,000)	\$ -	\$ -	\$ -	\$ -	\$ (17,000)	\$ -	0%	0%	0%	0%	100%	0%
42360-0 NON-REF SERVICE CONNECTIONS	\$ (41,300)	\$ -	\$ -	\$ -	\$ -	\$ (41,300)	\$ -	0%	0%	0%	0%	100%	0%
42370-0 RETURN CHECK FEES	\$ (3,600)	\$ -	\$ -	\$ -	\$ -	\$ (3,600)	\$ -	0%	0%	0%	0%	100%	0%
42380-0 CONTRACT INCOME	\$ (167,100)	\$ (79,657)	\$ (5,597)	\$ (1,466)	\$ (71,574)	\$ (5,472)	\$ (3,334)	48%	3%	1%	43%	3%	2%
42390-0 SHARED SERVICES	\$ (39,000)	\$ (18,591)	\$ (1,306)	\$ (342)	\$ (16,705)	\$ (1,277)	\$ (778)	48%	3%	1%	43%	3%	2%
49210-0 INTEREST INCOME 2	\$ (247,200)	\$ (117,841)	\$ (8,280)	\$ (2,168)	\$ (105,884)	\$ (8,094)	\$ (4,932)	48%	3%	1%	43%	3%	2%
49310-0 COUNTY TAX CONTRIBUTIONS	\$ (387,600)	\$ (184,771)	\$ (12,983)	\$ (3,399)	\$ (166,021)	\$ (12,692)	\$ (7,734)	48%	3%	1%	43%	3%	2%
49325-0 ACREAGE SUPPLY FEES													
49326-0 CAPACITY FEE													
49510-0 MISCELLANEOUS INCOME	\$ (25,000)	\$ (11,918)	\$ (837)	\$ (219)	\$ (10,708)	\$ (819)	\$ (499)	48%	3%	1%	43%	3%	2%
49511-0 GAIN ON SALE OF ASSETS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	48%	3%	1%	43%	3%	2%
NET REVENUE REQUIREMENTS	\$ 23,748,004	\$11,376,890	\$ 799,413	\$ 209,316	\$10,222,449	\$ 663,752	\$ 476,183						
<i>Allocation of Revenue Requirements</i>	100.0%	47.9%	3.4%	0.9%	43.0%	2.8%	2.0%						

ROWLAND WATER DISTRICT
WATER RATE STUDY
Cost of Service Analysis

TABLE 27

Classification of Expenses - Potable System, continued							
Adjustments to Classification of Expenses							
Adjustment for Current Rate Level:	Total	COM	AS	ZON	CAP	CA	FP
Target Rate Rev. After Rate Increases**	\$ 26,060,587						
Projected Rate Revenue at Current Rates	\$ 25,549,595						
Rate Increase FY 2021/22	4.0%						
Target Rate / Adjusted Net Revenue Req.	\$ 26,060,587	\$12,484,773	\$ 877,260	\$ 229,700	\$11,217,912	\$ 728,388	\$ 522,554
<i>Percent of Revenue</i>	<i>100.0%</i>	<i>47.9%</i>	<i>3.4%</i>	<i>0.9%</i>	<i>43.0%</i>	<i>2.8%</i>	<i>2.0%</i>

** Proposed FY 2021/22 rates are effective January 1, 2022.

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TABLE 28 : DEVELOPMENT OF THE COMMODITY ALLOCATION FACTOR

Customer Class	2020 Volume (hcf) ¹	Percent of Total Volume
Single Family Residential	1,764,677	45.0%
Multi-Family ²	473,389	12.1%
Mobile Park	48,438	1.2%
Business	1,384,313	35.3%
Public/Government	79,897	2.0%
Irrigation	164,176	4.2%
Fire Service	5,620	0.1%
Total	3,920,510	100%
Total in Acre Feet	9,000 AF	
Construction	3,463	N/A
Recycled	492,342	N/A
District Meters	1,823	N/A
Grand Total	4,418,138	
Grand Total in Acre Feet	10,143 AF	

1. Consumption in hcf and customer class from 2020 Source file:

Rowland_Water Usage and Billing_2018-2020_Manipulated.xlsx

2. Multi-Family customer class includes Apartment & Condominium customers.

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

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TABLE 29 : DEVELOPMENT OF THE PEAK CAPACITY (MAX MONTH) ALLOCATION FACTORS

Customer Class	Average Monthly Use (hcf)	Peak Monthly Use (hcf) ¹	Peak Month Factor	Max Month Capacity Factor
Single Family Residential	147,056	186,343	1.27	44.8%
Multi-Family	39,449	47,641	1.21	11.5%
Mobile Park	4,037	4,917	1.22	1.2%
Business	115,359	141,776	1.23	34.1%
Public/Government	6,658	10,845	1.63	2.6%
Irrigation	13,681	24,149	1.77	5.8%
Total	326,241	415,670	1.27	100.0%
Total in Acre Feet	749 AF	954 AF		
Fire Service ²	468	539	1.15	N/A
Construction	289	666	2.31	N/A
Recycled	41,029	82,678	2.02	N/A
District Meters	152	339	2.23	N/A
Grand Total	368,178	499,892	1.36	
Grand Total in Acre Feet	845 AF	1,148 AF		

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

2. Capacity used by Fire Service meters is collected through the Fire Protection Allocation.

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

Customer Class	Number of Meters ¹	Percent of Total
Single Family Residential	11,565	84.9%
Multi-Family	398	2.9%
Mobile Park	4	0.0%
Business	1,014	7.4%
Public/Government	48	0.4%
Irrigation	133	1.0%
Fire Service	465	3.4%
Total	13,627	100%
Construction	N/A	N/A
Recycled ⁴	128	N/A
District Meters	13	N/A
Grand Total	13,768	

1. Meter counts and customer class from November & December 2020.

Source file: Rowland_Water Usage and Billing_2018-2020_Manipulated.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.

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TABLE 31 : CONSUMPTION BY TIER

Tier	Monthly Breakpoint ¹	Expected Consumption ²	Percentage of Total SFR Consumption
Tier 1	8 hcf	954,433	54%
Tier 2	15 hcf	435,688	25%
Tier 3	--	374,556	21%
Total		1,764,677	100%

1. Tier 1 break point set to assumed domestic consumption for a typical SFR customer using 50 gpcd with 4 people per home.

Data source: *DWR California Water Plan Update 2013*

(http://www.water.ca.gov/calendar/materials/vol3_urbanwue_apr_release_16033.pdf).

Tier 2 break point set to average summer consumption for SFR customers with 5/8" - 1" meters.

2. Consumption is per source file: *Rowland_Water Usage and Billing_2018-2020_Manipulated.xlsx*

TABLE 32

Development of the Single Family Residential PEAK CAPACITY (MAX MONTH) Allocation Factors				
Tier	Description	Monthly Consumption (hcf) ¹	Additional Capacity Required (hcf) ⁴	Additional Capacity Factor
Tier 1	Max Tier 1 Capacity ²	92,520	0	0.0%
Tier 2	Peak up to Tier 2 ³	163,169	70,649	52.7%
Tier 3	Peak up to Tier 3 ³	226,460	63,291	47.3%
Total			133,940	100.0%

1. Consumption is per source file: *Rowland_Water Usage and Billing_2018-2020_Manipulated.xlsx*

2. Consumption assigned to Tier 1 is the max Tier 1 water use (Tier 1 breakpoint multiplied by the number 5/8" - 1" SFR customers).
Tier breakpoints represent the consumption level in which the higher tier rate takes effect.

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

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

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TABLE 33 : METER EQUIVALENCY FACTORS USED IN FIXED CHARGES CALCULATION

Meter Size	Standard Meters		Fire Meters	
	Meter Capacity (gpm) ¹	Meter Equivalency ²	Meter Capacity (gpm) ³	Meter Equivalency ²
	<u>Displacement Meters</u>		<u>Displacement Meters</u>	
5/8 inch	20	1.00	-	-
3/4 inch	30	1.00	-	-
1 inch	50	1.00	50	1.00
1.5 inch	100	5.00	100	2.00
2 inch	160	8.00	160	3.20
	<u>Compound Class I Meters</u>		<u>Fire Service Type I & II Meters</u>	
3 inch	320	16.00	350	7.00
4 inch	500	25.00	700	14.00
6 inch	1,000	50.00	1,600	32.00
8 inch	1,600	80.00	2,800	56.00
	<u>Turbine Class II Meters</u>			
10 inch	4,200	210.00	4,400	88.00
12 inch	5,300	265.00	5,300	106.00

1. Per AWWA M-1, Table B-1.
2. Meter equivalency factor for standard meters is based on 5/8-inch meters as the base meter size.
Meter equivalency factor for fire meters is based on 1-inch meters as the base meter size.
3. Per AWWA M-6, Table 5-3.

TABLE 34 : ALLOCATION OF WATER REVENUE REQUIREMENTS

Classification Components	Potable Net Revenue Requirements	
<u>Volumetric-Related Costs</u>		
Commodity	\$ 12,484,773	47.9%
Additional Supply Costs	877,260	3.4%
Zonal ¹	229,700	0.9%
Capacity-Related Costs (volumetric)	741,590	2.85%
Subtotal: Volumetric Costs	\$ 14,333,323	55.0%
<u>Fixed-Related Costs</u>		
Capacity-Related Costs (fixed)	\$ 10,476,322	40.2%
Customer-Related Costs	728,388	2.8%
Fire Protection-Related Costs	522,554	2.0%
Subtotal: Capacity Costs	11,727,264	45.0%
Net Revenue Requirement²	\$ 26,060,587	100%

1. Zonal Cost of Service is recovered through a separate zonal surcharge.
2. Net revenue requirement based on current rates with added rate increases.

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TABLE 35 : ALLOCATION OF WATER REVENUE REQUIREMENTS

Potable Net Revenue Requirements

Customer Class	Cost Classification Components							Cost of Service Net Rev. Req'ts	% of COS Net Revenue
	Commodity	Addt'l. Supply	Volumetric Capacity	Zonal	Fixed Capacity	Customer	Fire Protection		
Residential	\$ 5,619,573	\$ 394,867	\$ 332,452	\$ -	\$ 4,696,494	\$ 618,170	\$ -	\$ 11,661,557	44.7%
Multi-Family	1,507,496	105,926	84,995	-	1,200,707	21,274	-	2,920,398	11.2%
Mobile Park	154,250	10,839	8,772	-	123,926	214	-	298,000	1.1%
Business	4,408,313	309,756	252,940	-	3,573,237	54,200	-	8,598,446	33.0%
Public/Government	254,430	17,878	19,348	-	273,319	2,566	-	567,540	2.2%
Irrigation	522,815	36,736	43,084	-	608,639	7,109	-	1,218,383	4.7%
Fire Service	17,897	1,258	-	-	-	24,855	522,554	566,563	2.2%
Zonal	-	-	-	229,700	-	-	-	229,700	0.9%
Total	\$ 12,484,773	\$ 877,260	\$ 741,590	\$ 229,700	\$ 10,476,322	\$ 728,388	\$ 522,554	\$ 26,060,587	100.0%

1. Commodity & Conservation Costs are allocated based upon percentage of expected consumption.
2. Zonal Costs are allocated based upon the amount of consumption expected by customers in each zone.
3. Capacity Costs are allocated based upon Max Month Capacity Factor.
4. Customer Costs are allocated based upon Percentage of Total Accounts.
5. Fire Protection Costs are allocated to Private Fire Meters.

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TABLE 36 : CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES

Potable Net Revenue Requirements

Number of Meters by Class and Size ¹	Proposed Fixed Charges											Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Residential	10,868	71	601	22	3	-	-	-	-	-	-	11,565
Multi-Family	1	-	166	154	59	-	2	10	4	2	-	398
Mobile Park	-	-	-	-	1	-	1	-	2	-	-	4
Business	110	1	145	294	420	20	18	3	2	1	-	1,014
Public/Government	2	-	8	3	20	7	2	6	-	-	-	48
Irrigation	1	-	14	31	86	1	-	-	-	-	-	133
Total Meters/Accounts	10,982	72	934	504	589	28	23	19	8	3	-	13,162
<i>Hydraulic Capacity Factor</i> ²	<i>1.00</i>	<i>1.00</i>	<i>1.00</i>	<i>5.00</i>	<i>8.00</i>	<i>16.00</i>	<i>25.00</i>	<i>50.00</i>	<i>80.00</i>	<i>210.00</i>	<i>265.00</i>	
Total Equivalent Meters	10,982	72	934	2,520	4,712	448	575	950	640	630	-	22,463
Monthly Fixed Service Charges												
Customer Costs (\$/Acct/mo.) ³	\$4.45	\$4.45	\$4.45	\$4.45	\$4.45	\$4.45	\$4.45	\$4.45	\$4.45	\$4.45	\$4.45	
Capacity Costs (\$/Acct/mo.) ⁴	\$38.87	\$38.87	\$38.87	\$194.33	\$310.92	\$621.84	\$971.63	\$1,943.26	\$3,109.21	\$8,161.67	\$10,299.25	
Total Monthly Meter Charge	\$43.32	\$43.32	\$43.32	\$198.78	\$315.38	\$626.30	\$976.08	\$1,947.71	\$3,113.66	\$8,166.13	\$10,303.71	
Annual Fixed Costs Allocated to Monthly Meter Charges												
Customer Costs	\$ 703,533											
Capacity Costs	\$ 10,476,322											
Total Fixed Meter Costs	\$ 11,179,855											
Annual Revenue from Monthly Meter Charges												
Customer Charges	\$ 587,008	\$ 3,849	\$ 49,924	\$ 26,940	\$ 31,483	\$ 1,497	\$ 1,229	\$ 1,016	\$ 428	\$ 160	\$ -	\$ 703,533
Capacity Charges	\$ 5,121,799	\$ 33,579	\$ 435,600	\$ 1,175,281	\$ 2,197,589	\$ 208,939	\$ 268,169	\$ 443,062	\$ 298,484	\$ 293,820	\$ -	\$ 10,476,322
Total Monthly Meter Charge Reve	\$ 5,708,807	\$ 37,428	\$ 485,524	\$ 1,202,221	\$ 2,229,072	\$ 210,435	\$ 269,399	\$ 444,078	\$ 298,912	\$ 293,981	\$ -	\$ 11,179,855

1. Meter counts, consumption rates and customer class from Source files: *Rowland_Water Usage and Billing_2018-2020_Manipulated.xlsx*

2. Source: AWWA Manual M1, "Principles of Water Rates, Fees and Charges", Table VI.2-5. Assumes displacement meters for 5/8 through 2 inch meters, Compound for 3 - 8 inch meters, Turbine for 10 & 12 inch, unless noted otherwise.

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.

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TABLE 37 : CALCULATION OF MONTHLY FIXED FIRE METER SERVICE CHARGES

Potable Net Revenue Requirements

Number of Meters by Class and Size ¹	Proposed Fixed Fire Charges									Total
	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Fire Service	1	-	2	-	53	167	178	62	2	465
Total Meters/Accounts	1	-	2	-	53	167	178	62	2	465
<i>Hydraulic Capacity Factor ²</i>	<i>1.00</i>	<i>2.00</i>	<i>3.20</i>	<i>7.00</i>	<i>14.00</i>	<i>32.00</i>	<i>56.00</i>	<i>88.00</i>	<i>106.00</i>	
Total Equivalent Meters	1	-	6	-	742	5,344	9,968	5,456	212	21,729
Monthly Fixed Service Charges										
Customer Costs (\$/Acct/mo.) ³	\$4.45	\$4.45	\$4.45	\$4.45	\$4.45	\$4.45	\$4.45	\$4.45	\$4.45	
Capacity Costs (\$/Acct/mo.) ⁴	\$2.00	\$4.01	\$6.41	\$14.03	\$28.06	\$64.13	\$112.23	\$176.35	\$212.43	
Total Monthly Meter Charge	\$6.46	\$8.46	\$10.87	\$18.48	\$32.51	\$68.58	\$116.68	\$180.81	\$216.88	
Annual Fixed Costs Allocated to Monthly Meter Charges										
Customer Costs	\$ 24,855									
Fire Costs	\$ 522,554									
Total Fixed Meter Costs	\$ 547,409									
Annual Revenue from Monthly Meter Charges										
Customer Charges	\$ 53	\$ -	\$ 107	\$ -	\$ 2,833	\$ 8,926	\$ 9,514	\$ 3,314	\$ 107	\$ 24,855
Capacity Charges	\$ 24	\$ -	\$ 154	\$ -	\$ 17,844	\$ 128,514	\$ 239,713	\$ 131,207	\$ 5,098	\$ 522,554
Total Monthly Meter Charge Reve	\$ 78	\$ -	\$ 261	\$ -	\$ 20,677	\$ 137,440	\$ 249,227	\$ 134,521	\$ 5,205	\$ 547,409

1. Meter counts, consumption rates and customer class from Source files: Rowland_Water Usage and Billing_2018-2020_Manipulated.xlsx

2. Source: AWWA Manual M1, "Principles of Water Rates, Fees and Charges", Table VI.2-5. Assumes displacement meters for 5/8 through 2 inch meters, Compound for 3 - 8 inch meters, Turbine for 10 & 12 inch, unless noted otherwise.

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.

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PROPOSED POTABLE VOLUMETRIC CHARGES

TABLE 38 : VARIABLE RATE CALCULATION

<i>Potable Net Revenue Requirements</i>								
Rate Structure Type	Number of Meters ¹	Water Consumption (hcf/yr.)	Commodity Allocation	Commodity Costs	Additional Supply Costs	Volumetric Capacity Costs	Capacity Allocation	Uniform Rate
Tiered Potable Commodity Rate (SFR)	11,565	1,764,677	45%	\$ 5,619,573	\$ 394,867	\$ 332,452	45%	N/A
Uniform Potable Commodity Rate (All Other Meters)	2,062	2,155,833	55%	\$ 6,865,200	\$ 482,393	\$ 409,138	55%	\$3.60
Total Potable	13,627	3,920,510	100%	\$12,484,773	\$ 877,260	\$ 741,590		

1. Meter counts, consumption rates and customer class from Source files: Rowland_Water Usage and Billing_2018-2020_Manipulated.xlsx

TABLE 39 : VARIABLE TIERED RATE CALCULATION

<i>Potable Net Revenue Requirements</i>								
Rate Structure Type	Tier Break	Water Consumption (hcf/yr.)	Percentage of Water Consumption	Commodity Costs	Additional Supply Costs	Volumetric Capacity Costs	Capacity Allocation	Combined Tiered Rate
Tier 1	8 hcf	954,433	54%	\$ 3,039,370	\$ -	\$ -	0%	\$3.18
Tier 2	15 hcf	435,688	25%	\$ 1,387,438	\$ -	\$ 175,358	53%	\$3.59
Tier 3		374,556	21%	\$ 1,192,765	\$ 394,867	\$ 157,094	47%	\$4.66
Total		1,764,677	100%	\$ 5,619,573	\$ 394,867	\$ 332,452		

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PROPOSED RECYCLED VOLUMETRIC CHARGES:

TABLE 40 : CALCULATION OF EXPECTED ANNUAL REVENUE FROM FIXED CHARGES FOR RECYCLED WATER METERS

Number of Meters by Class and Size ¹	Projected Recycled Water Fixed Charges											Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Recycled Water Meters	0	1	37	43	34	3	7	1	1	0	1	128
Recycled Monthly Rate ²	\$ 43.32	\$ 43.32	\$ 43.32	\$ 198.78	\$ 315.38	\$ 626.30	\$ 976.08	\$ 1,947.71	\$ 3,113.66	\$ 8,166.13	\$10,303.71	
Expected Revenue	\$ -	\$ 520	\$ 19,234	\$ 102,570	\$ 128,673	\$ 22,547	\$ 81,991	\$ 23,373	\$ 37,364	\$ -	\$ 123,644	\$ 539,916

TABLE 41

Recycled Water Variable Rate Calculation	FY 2021/22
Expected Recycled Revenue Requirement ¹	\$1,716,509
Less: Expected Revenue Fixed Charges ^{1,2}	\$ (539,916)
Required Variable Revenue	\$1,176,593
Expected Recycled Water Consumption (hcf) ¹	492,342
Recycled Water Variable Rate	\$2.39

1. Meter counts, consumption rates and customer class from Source files:

Rowland_Water Usage and Billing_2018-2020_Manipulated.xlsx

Total net revenue requirement shown in financial plan cannot be reached with 5% increases. Therefore, the expected recycled revenue is used in the calculation after rate increases are assumed.

2. Fixed Meter charges for Recycled Water set equal to potable fixed charges.

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TABLE 42 : CALCULATION OF ZONAL ELECTRICAL SURCHARGES

Zone	2020 Consumption Subject to Zonal Charge ¹	2020 Expense ²	Adjusted 2020 Expense ³	Non- Cumulative Electricity Surcharge (\$/hcf)
Zone 2	618,677	\$ 101,309	\$ 116,848	\$0.130
Zone 3	163,818	27,356	31,552	\$0.113
Zone 4	41,145	30,469	35,143	\$0.306
Zone 5	31,520	9,802	11,305	\$0.154
Zone 6	42,106	8,447	9,742	\$0.231
Total:	897,266	\$ 177,383	\$ 204,592	

1. Zonal Consumption from Source files: *Rowland_Water Usage and Billing_2018-2020_Manipulated.xlsx*, *ZoneConsumptionPivot* tab

2. Expenses based on 2020 Edison Charges. Source file: *Pumping Power.xlsx*

3. Adjusted 2020 electricity expense is allocated to each zone based on the percentage of electricity costs for each zone and the cost allocation for Pumping Power.

TABLE 43 : CALCULATION OF ZONAL O&M SURCHARGES

Zone	2020 Consumption by Zone ¹	5-Year Average Expense ²	Non- Cumulative O&M Surcharge (\$/hcf)
Zone 2	618,677	\$ 18,668	\$0.021
Zone 3	163,818	6,952	\$0.025
Zone 4	41,145	4,285	\$0.037
Zone 5	31,520	3,554	\$0.048
Zone 6	42,106	1,653	\$0.039
Total:	897,266	\$ 35,111	

1. Zonal Consumption from Source files: *Rowland_Water Usage and Billing_2018-2020_Manipulated.xlsx*, *ZoneConsumptionPivot* tab

2. Zonal Expense based upon 5 year average.

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TABLE 44 : CALCULATION OF ZONAL O&M SURCHARGES

Zone	2020 Consumption by Zone ¹	Non- Cumulative Electricity Surcharge (\$/hcf)	Non- Cumulative O&M Surcharge (\$/hcf)	Cumulative Total Surcharge (\$/hcf)	Revenue From Surcharges
Zone 2	618,677	\$0.130	\$0.021	\$0.15	\$ 93,440
Zone 3	163,818	\$0.113	\$0.025	\$0.29	47,383
Zone 4	41,145	\$0.306	\$0.037	\$0.63	26,036
Zone 5	31,520	\$0.154	\$0.048	\$0.83	26,307
Zone 6	42,106	\$0.231	\$0.039	\$1.11	46,537
Total	897,266				\$ 239,703

1. Zonal Consumption from Source files: *Rowland_Water Usage and Billing_2018-2020_Manipulated.xlsx*, *ZoneConsumptionPivot* tab

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TABLE 45 : FIVE-YEAR SCHEDULE OF ZONAL ELECTRICAL SURCHARGES

Zone	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
<i>Electricity Cost Inflation</i>		4.40%	4.40%	4.40%	4.40%
Zone 2	\$0.13	\$0.14	\$0.14	\$0.15	\$0.15
Zone 3	\$0.11	\$0.12	\$0.12	\$0.13	\$0.13
Zone 4	\$0.31	\$0.32	\$0.33	\$0.35	\$0.36
Zone 5	\$0.15	\$0.16	\$0.17	\$0.17	\$0.18
Zone 6	\$0.23	\$0.24	\$0.25	\$0.26	\$0.27

TABLE 46 : FIVE-YEAR SCHEDULE OF ZONAL O&M SURCHARGES

Zone	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
<i>O&M Cost Inflation</i>		2.00%	2.00%	2.00%	2.00%
Zone 2	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
Zone 3	\$0.02	\$0.03	\$0.03	\$0.03	\$0.03
Zone 4	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04
Zone 5	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05
Zone 6	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04

TABLE 47 : FIVE-YEAR SCHEDULE OF ZONAL TOTAL SURCHARGES

Zone	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Zone 2	\$0.15	\$0.16	\$0.16	\$0.17	\$0.18
Zone 3	\$0.29	\$0.30	\$0.31	\$0.33	\$0.34
Zone 4	\$0.63	\$0.66	\$0.69	\$0.71	\$0.74
Zone 5	\$0.83	\$0.87	\$0.90	\$0.94	\$0.98
Zone 6	\$1.11	\$1.15	\$1.20	\$1.24	\$1.29

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TABLE 48 : DROUGHT RATES

Expenses Directly Effected By Consumption Changes		
Object Code	Expense Name	Commodity Costs
		FY 2021/22
51310-0	WATER PURCHASES - TVMWD	\$ 10,568,800
52310-0	PUMPING POWER	\$ 96,278
54217-0	CHEMICALS	\$ 100,000
Total		\$ 10,765,078

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TABLE 49

Potable Net Revenue Requirements					
Percentage Of Conservation	Total Expected Consumption FY 2020/21 ¹	Base Commodity Cost	Impacted Commodity Costs	Savings	Updated Commodity Cost
<i>a</i>		<i>b</i>	<i>c</i>	<i>d = (-a) * c</i>	<i>e = b + d</i>
0%	3,920,510 ccf	\$12,484,773	\$10,765,078	\$ -	\$12,484,773
10%	3,528,459 ccf	\$12,484,773	\$10,765,078	\$ (1,076,508)	\$11,408,265
20%	3,136,408 ccf	\$12,484,773	\$10,765,078	\$ (2,153,016)	\$10,331,757
30%	2,744,357 ccf	\$12,484,773	\$10,765,078	\$ (3,229,524)	\$ 9,255,249
40%	2,352,306 ccf	\$12,484,773	\$10,765,078	\$ (4,306,031)	\$ 8,178,741
50%	1,960,255 ccf	\$12,484,773	\$10,765,078	\$ (5,382,539)	\$ 7,102,234
60%	1,568,204 ccf	\$12,484,773	\$10,765,078	\$ (6,459,047)	\$ 6,025,726

1. Water conservation values calculated in source file: Rowland_Water Usage and Billing_2018-2020.xlsx, SFRTierPivot Tab.

TABLE 50

Potable Net Revenue Requirements					
Drought Level	Level Of Conservation	Tier 1 Rate	Tier 2 Rate	Tier 3 Rate	Uniform Rate
No Level	Baseline ¹	\$3.18	\$3.59	\$4.66	\$3.60
Level 1	10%	\$3.23	\$3.70	\$5.19	\$3.69
Level 2	20%	\$3.29	\$3.85	\$6.02	\$3.81
Level 3	30%	\$3.37	\$4.07	\$7.42	\$3.96
Level 4	40%	\$3.48	\$6.17	--	\$4.17
Level 5	50%	\$3.62	\$7.95	--	\$4.45
Level 6	60%	\$3.84	\$11.98	--	\$4.88

ROWLAND WATER DISTRICT
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TABLE 51 : LEVEL 1 - 10% CONSERVATION GOAL

		Potable Net Revenue Requirements						
Rate Structure Type		Water Consumption (hcf/yr.) ¹	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	926,800	26.3%	\$ 2,996,543	\$ -	0.0%	\$ -	\$3.23
	Tier 2	379,051	10.7%	\$ 1,225,553	\$ -	23.6%	\$ 175,358	\$3.70
	Tier 3	282,358	8.0%	\$ 912,924	\$ 394,867	21.2%	\$ 157,094	\$5.19
Uniform Potable Commodity Rate (All Other Meters)		1,940,250	55.0%	\$ 6,273,245	\$ 482,393	55.2%	\$ 409,138	\$3.69
		3,528,459	100.0%	\$11,408,265	\$ 877,260	100.0%	\$ 741,590	

1. Water conservation values calculated in source file: *Rowland_Water Usage and Billing_2018-2020.xlsx, SFRTierPivot Tab.*

TABLE 52 : LEVEL 2 - 20% CONSERVATION GOAL

		Potable Net Revenue Requirements						
Rate Structure Type		Water Consumption (hcf/yr.) ¹	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	892,061	28.4%	\$ 2,938,571	\$ -	0.0%	\$ -	\$3.29
	Tier 2	317,255	10.1%	\$ 1,045,081	\$ -	23.6%	\$ 175,358	\$3.85
	Tier 3	202,426	6.5%	\$ 666,819	\$ 394,867	21.2%	\$ 157,094	\$6.02
Uniform Potable Commodity Rate (All Other Meters)		1,724,666	55.0%	\$ 5,681,286	\$ 482,393	55.2%	\$ 409,138	\$3.81
Total		3,136,408	100.0%	\$10,331,757	\$ 877,260	100.0%	\$ 741,590	

1. Water conservation values calculated in source file: *Rowland_Water Usage and Billing_2018-2020.xlsx, SFRTierPivot Tab.*

ROWLAND WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design

TABLE 53 : LEVEL 3 - 30% CONSERVATION GOAL

Rate Structure Type		Water Consumption (hcf/yr.) ¹	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	847,032	30.9%	\$ 2,856,587	\$ -	0.0%	\$ -	\$3.37
	Tier 2	251,799	9.2%	\$ 849,184	\$ -	23.6%	\$ 175,358	\$4.07
	Tier 3	136,442	5.0%	\$ 460,146	\$ 394,867	21.2%	\$ 157,094	\$7.42
Uniform Potable Commodity Rate (All Other Meters)		1,509,083	55.0%	\$ 5,089,332	\$ 482,393	55.2%	\$ 409,138	\$3.96
Total		2,744,356	100.0%	\$ 9,255,249	\$ 877,260	100.0%	\$ 741,590	

1. Water conservation values calculated in source file: Rowland_Water Usage and Billing_2018-2020.xlsx, SFRTierPivot Tab.

TABLE 54 : LEVEL 4 - 40% CONSERVATION GOAL

Rate Structure Type		Water Consumption (hcf/yr.) ¹	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	789,122	33.5%	\$ 2,743,700	\$ -	0.0%	\$ -	\$3.48
	Tier 2 ²	269,685	11.5%	\$ 937,668	\$ 394,867	44.8%	\$ 332,452	\$6.17
Uniform Potable Commodity Rate (All Other Meters)		1,293,500	55.0%	\$ 4,497,373	\$ 482,393	55.2%	\$ 409,138	\$4.17
Total		2,352,307	100.0%	\$ 8,178,741	\$ 877,260	100.0%	\$ 741,590	

1. Water conservation values calculated in source file: Rowland_Water Usage and Billing_2018-2020.xlsx, SFRTierPivot Tab.

2. Due to conservation, Tier 3 is eliminated.

ROWLAND WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design

TABLE 55 : LEVEL 5 - 50% CONSERVATION GOAL

		Potable Net Revenue Requirements						
Rate Structure Type		Water Consumption (hcf/yr.) ¹	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable	Tier 1	714,116	36.4%	\$ 2,587,325	\$ -	0.0%	\$ -	\$3.62
Commodity Rate (SFR)	Tier 2 ²	168,223	8.6%	\$ 609,491	\$ 394,867	44.8%	\$ 332,452	\$7.95
Uniform Potable Commodity Rate (All Other Meters)		1,077,917	55.0%	\$ 3,905,418	\$ 482,393	55.2%	\$ 409,138	\$4.45
Total		1,960,256	100.0%	\$ 7,102,234	\$ 877,260	100.0%	\$ 741,590	

1. Water conservation values calculated in source file: Rowland_Water Usage and Billing_2018-2020.xlsx, SFRTierPivot Tab.

2. Due to conservation, Tier 3 is eliminated.

TABLE 56 : LEVEL 6 - 60% CONSERVATION GOAL

		Potable Net Revenue Requirements						
Rate Structure Type		Water Consumption (hcf/yr.) ¹	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable	Tier 1	616,544	39.3%	\$ 2,369,032	\$ -	0.0%	\$ -	\$3.84
Commodity Rate (SFR)	Tier 2 ²	89,327	5.7%	\$ 343,233	\$ 394,867	44.8%	\$ 332,452	\$11.98
Uniform Potable Commodity Rate (All Other Meters)		862,333	55.0%	\$ 3,313,461	\$ 482,393	55.2%	\$ 409,138	\$4.88
Total		1,568,204	100.0%	\$ 6,025,726	\$ 877,260	100.0%	\$ 741,590	

1. Water conservation values calculated in source file: Rowland_Water Usage and Billing_2018-2020.xlsx, SFRTierPivot Tab.

2. Due to conservation, Tier 3 is eliminated.

ROWLAND WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design

TABLE 57 : PROPOSED RATE SCHEDULE

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Fixed Service Charge						
Monthly Fixed Service Charge						
Standard Meters:						
5/8 inch	\$42.58	\$43.32	\$45.05	\$46.40	\$47.80	\$49.23
3/4 inch	\$42.58	\$43.32	\$45.05	\$46.40	\$47.80	\$49.23
1 inch	\$42.58	\$43.32	\$45.05	\$46.40	\$47.80	\$49.23
1.5 inch	\$201.67	\$198.78	\$206.73	\$212.93	\$219.32	\$225.90
2 inch	\$320.99	\$315.38	\$327.99	\$337.83	\$347.96	\$358.40
3 inch	\$639.16	\$626.30	\$651.35	\$670.89	\$691.01	\$711.75
4 inch	\$997.12	\$976.08	\$1,015.13	\$1,045.58	\$1,076.95	\$1,109.25
6 inch	\$1,991.43	\$1,947.71	\$2,025.62	\$2,086.39	\$2,148.98	\$2,213.45
8 inch	\$3,184.60	\$3,113.66	\$3,238.21	\$3,335.36	\$3,435.42	\$3,538.48
10 inch	\$8,355.02	\$8,166.13	\$8,492.77	\$8,747.55	\$9,009.98	\$9,280.28
12 inch	\$10,542.50	\$10,303.71	\$10,715.86	\$11,037.33	\$11,368.45	\$11,709.50
Monthly Fixed Service Charge						
Fire Service Meters:						
1 inch	\$3.58	\$6.46	\$6.72	\$6.92	\$7.13	\$7.34
2 inch	\$9.04	\$10.87	\$11.30	\$11.64	\$11.99	\$12.35
3 inch	\$16.44	\$18.48	\$19.22	\$19.80	\$20.39	\$21.00
4 inch	\$30.07	\$32.51	\$33.81	\$34.83	\$35.87	\$36.95
6 inch	\$65.12	\$68.58	\$71.33	\$73.47	\$75.67	\$77.94
8 inch	\$111.85	\$116.68	\$121.35	\$124.99	\$128.74	\$132.60
10 inch	\$174.17	\$180.81	\$188.04	\$193.68	\$199.49	\$205.48
12 inch	\$209.22	\$216.88	\$225.56	\$232.32	\$239.29	\$246.47

ROWLAND WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design

TABLE 58 : PROPOSED RATE SCHEDULE

Water Rate Schedule		Current Rates	Proposed Rates				
			FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Water Rates by Zone							
Cost Per hcf of Water Consumed:							
Single-Family Residential		\$3.11 \$3.38 \$4.62 \$3.47	\$3.18 \$3.59 \$4.66 \$3.60	\$3.31 \$3.73 \$4.84 \$3.74	\$3.41 \$3.84 \$4.99 \$3.85	\$3.51 \$3.96 \$5.14 \$3.97	\$3.62 \$4.08 \$5.29 \$4.09
Tier 1	1-8 hcf						
Tier 2	9-15 hcf						
Tier 3	16+ hcf						
All Other Customers							
Uniform Rate							
Zone 1 -- Tier 1		\$3.11	\$3.18	\$3.31	\$3.41	\$3.51	\$3.62
Zone 1 -- Tier 2		\$3.38	\$3.59	\$3.73	\$3.84	\$3.96	\$4.08
Zone 1 -- Tier 3		\$4.62	\$4.66	\$4.84	\$4.99	\$5.14	\$5.29
Zone 1 -- Uniform Rate		\$3.47	\$3.60	\$3.74	\$3.85	\$3.97	\$4.09
Zone 2 -- Tier 1		\$3.29	\$3.34	\$3.47	\$3.57	\$3.68	\$3.80
Zone 2 -- Tier 2		\$3.56	\$3.74	\$3.89	\$4.01	\$4.13	\$4.25
Zone 2 -- Tier 3		\$4.80	\$4.81	\$5.00	\$5.15	\$5.31	\$5.47
Zone 2 -- Uniform Rate		\$3.65	\$3.75	\$3.90	\$4.02	\$4.14	\$4.27
Zone 3 -- Tier 1		\$3.48	\$3.47	\$3.61	\$3.72	\$3.84	\$3.96
Zone 3 -- Tier 2		\$3.75	\$3.88	\$4.03	\$4.16	\$4.28	\$4.42
Zone 3 -- Tier 3		\$4.99	\$4.95	\$5.15	\$5.30	\$5.47	\$5.63
Zone 3 -- Uniform Rate		\$3.84	\$3.89	\$4.04	\$4.17	\$4.30	\$4.43
Zone 4 -- Tier 1		\$4.01	\$3.82	\$3.97	\$4.10	\$4.23	\$4.36
Zone 4 -- Tier 2		\$4.28	\$4.22	\$4.39	\$4.53	\$4.67	\$4.82
Zone 4 -- Tier 3		\$5.51	\$5.29	\$5.50	\$5.68	\$5.85	\$6.04
Zone 4 -- Uniform Rate		\$4.37	\$4.23	\$4.40	\$4.54	\$4.68	\$4.83
Zone 5 -- Tier 1		\$4.36	\$4.02	\$4.18	\$4.31	\$4.45	\$4.60
Zone 5 -- Tier 2		\$4.63	\$4.42	\$4.60	\$4.75	\$4.90	\$5.05
Zone 5 -- Tier 3		\$5.87	\$5.49	\$5.71	\$5.89	\$6.08	\$6.27
Zone 5 -- Uniform Rate		\$4.72	\$4.43	\$4.61	\$4.76	\$4.91	\$5.07
Zone 6 -- Tier 1		\$4.89	\$4.29	\$4.46	\$4.61	\$4.76	\$4.91
Zone 6 -- Tier 2		\$5.16	\$4.69	\$4.88	\$5.04	\$5.20	\$5.37
Zone 6 -- Tier 3		\$6.40	\$5.76	\$5.99	\$6.19	\$6.38	\$6.59
Zone 6 -- Uniform Rate		\$5.25	\$4.70	\$4.89	\$5.05	\$5.21	\$5.38
Recycled Water Commodity Charges							
Uniform Rate		\$2.33	\$2.39	\$2.51	\$2.63	\$2.77	\$2.90

ROWLAND WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design

TABLE 59 : PROPOSED ZONAL SURCHARGES

Water Rate Schedule - Zonal Surcharges	Current Rates	Proposed Surcharge				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Additional Cost Per hcf of Water Consumed ¹						
No Zone	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Zone 1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Zone 2	\$0.18	\$0.15	\$0.16	\$0.16	\$0.17	\$0.18
Zone 3	\$0.37	\$0.29	\$0.30	\$0.31	\$0.33	\$0.34
Zone 4	\$0.90	\$0.63	\$0.66	\$0.69	\$0.71	\$0.74
Zone 5	\$1.25	\$0.83	\$0.87	\$0.90	\$0.94	\$0.98
Zone 6	\$1.78	\$1.11	\$1.15	\$1.20	\$1.24	\$1.29

1. Zonal surcharges are in addition to standard tiered or uniform volumetric rates.
See detailed zonal map on District website.

TABLE 60 : PROPOSED DROUGHT RATES

Water Rate Schedule Drought Rates ¹		Current Rates	Proposed Rates					
			FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	
Drought Rates - Level 1 - 10% Conservation Goal								
Single-Family Residential: Proposed								
Tier 1	1-8 hcf		\$3.16	\$3.23	\$4.27	\$5.30	\$6.33	\$7.36
Tier 2	9-15 hcf		\$3.47	\$3.70	\$4.74	\$5.77	\$6.80	\$7.83
Tier 3	16+ hcf		\$5.20	\$5.19	\$6.23	\$7.26	\$8.29	\$9.32
All Other Customers:								
Uniform Rate		\$3.56	\$3.69	\$4.73	\$5.76	\$6.79	\$7.82	
Drought Rates - Level 2 - 20% Conservation Goal								
Single-Family Residential: Proposed								
Tier 1	1-8 hcf		\$3.22	\$3.29	\$4.33	\$5.36	\$6.39	\$7.42
Tier 2	9-15 hcf		\$3.60	\$3.85	\$4.89	\$5.92	\$6.95	\$7.98
Tier 3	16+ hcf		\$6.13	\$6.02	\$7.06	\$8.09	\$9.12	\$10.15
All Other Customers:								
Uniform Rate		\$3.67	\$3.81	\$4.85	\$5.88	\$6.91	\$7.94	
Drought Rates - Level 3 - 30% Conservation Goal								
Single-Family Residential: Proposed								
Tier 1	1-8 hcf		\$3.30	\$3.37	\$4.41	\$5.44	\$6.47	\$7.50
Tier 2	9-15 hcf		\$3.79	\$4.07	\$5.11	\$6.14	\$7.17	\$8.20
Tier 3	16+ hcf		\$7.75	\$7.42	\$8.46	\$9.49	\$10.52	\$11.55
All Other Customers:								
Uniform Rate		\$3.82	\$3.96	\$5.00	\$6.03	\$7.06	\$8.09	

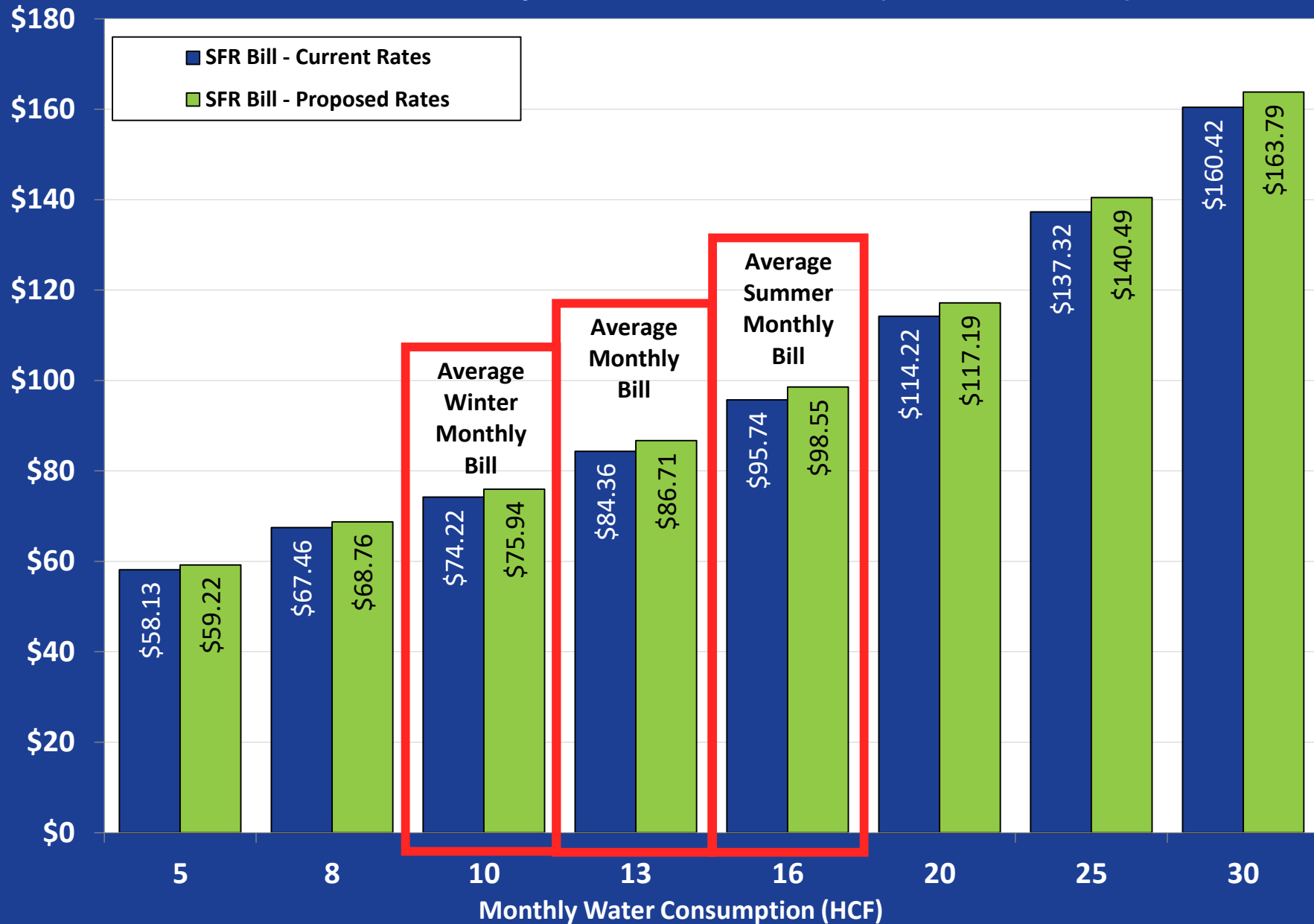
ROWLAND WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design

TABLE 61 : PROPOSED DROUGHT RATES, CONTINUED

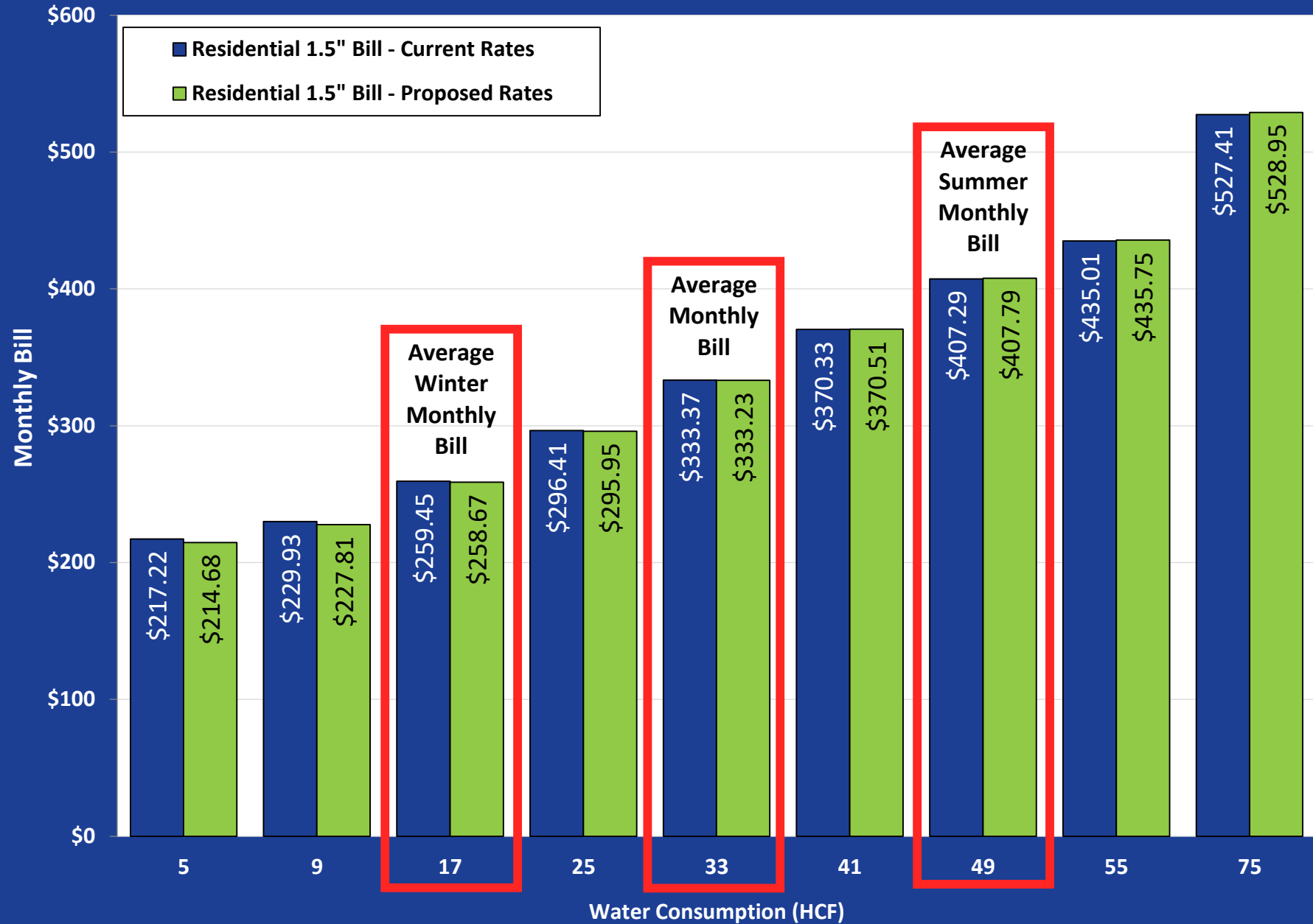
Water Rate Schedule Drought Rates ¹ , cont'd.	Current Rates	Proposed Rates					
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	
Drought Rates - Level 4 - 40% Conservation Goal							
Single-Family Residential: Proposed							
Tier 1 1-8 hcf		\$3.40	\$3.48	\$4.52	\$5.55	\$6.58	\$7.61
Tier 2 9+ hcf		\$5.95	\$6.17	\$7.21	\$8.24	\$9.27	\$10.30
All Other Customers:							
Uniform Rate	\$4.01	\$4.17	\$5.21	\$6.24	\$7.27	\$8.30	
Drought Rates - Level 5 - 50% Conservation Goal							
Single-Family Residential: Proposed							
Tier 1 1-8 hcf		\$3.55	\$3.62	\$4.66	\$5.69	\$6.72	\$7.75
Tier 2 9+ hcf		\$7.77	\$7.95	\$8.99	\$10.02	\$11.05	\$12.08
All Other Customers:							
Uniform Rate	\$4.28	\$4.45	\$5.49	\$6.52	\$7.55	\$8.58	
Drought Rates - Level 6 - 60% Conservation Goal							
Single-Family Residential: Proposed							
Tier 1 1-8 hcf		\$3.78	\$3.84	\$4.88	\$5.91	\$6.94	\$7.97
Tier 2 9+ hcf		\$12.09	\$11.98	\$13.02	\$14.05	\$15.08	\$16.11
All Other Customers:							
Uniform Rate	\$4.68	\$4.88	\$5.92	\$6.95	\$7.98	\$9.01	

1. Drought rates replace the standard tiered or uniform volumetric rates, in each successive conservation target.

Single-Family Residential Monthly Water Bill Comparison Current vs. Proposed 2021/22 Rates (5/8"-1" Meter)



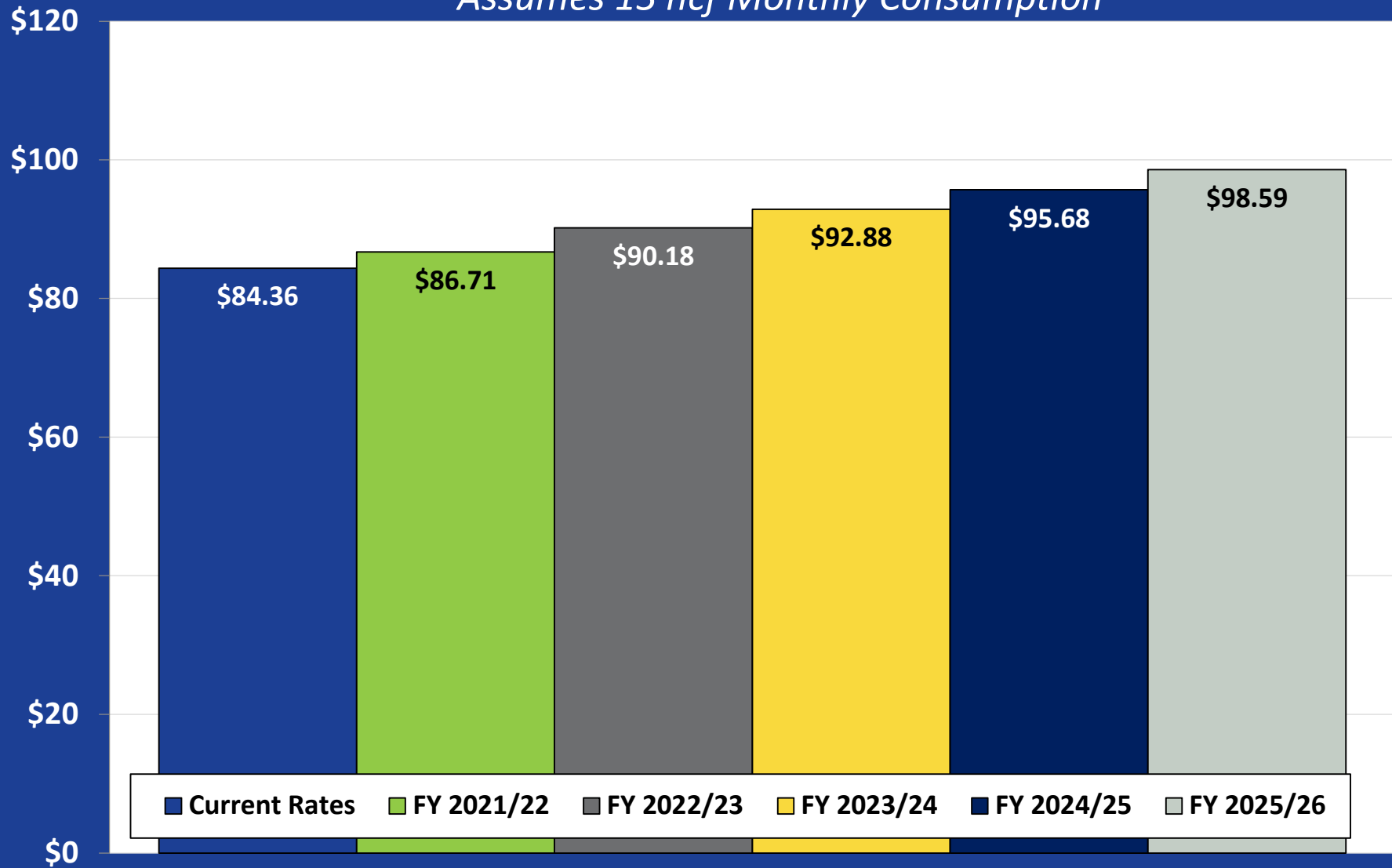
Residential Monthly Water Bill Comparison Current vs. Proposed 2021/22 Rates (1.5" Meter)



Residential Monthly Water Bill Comparison

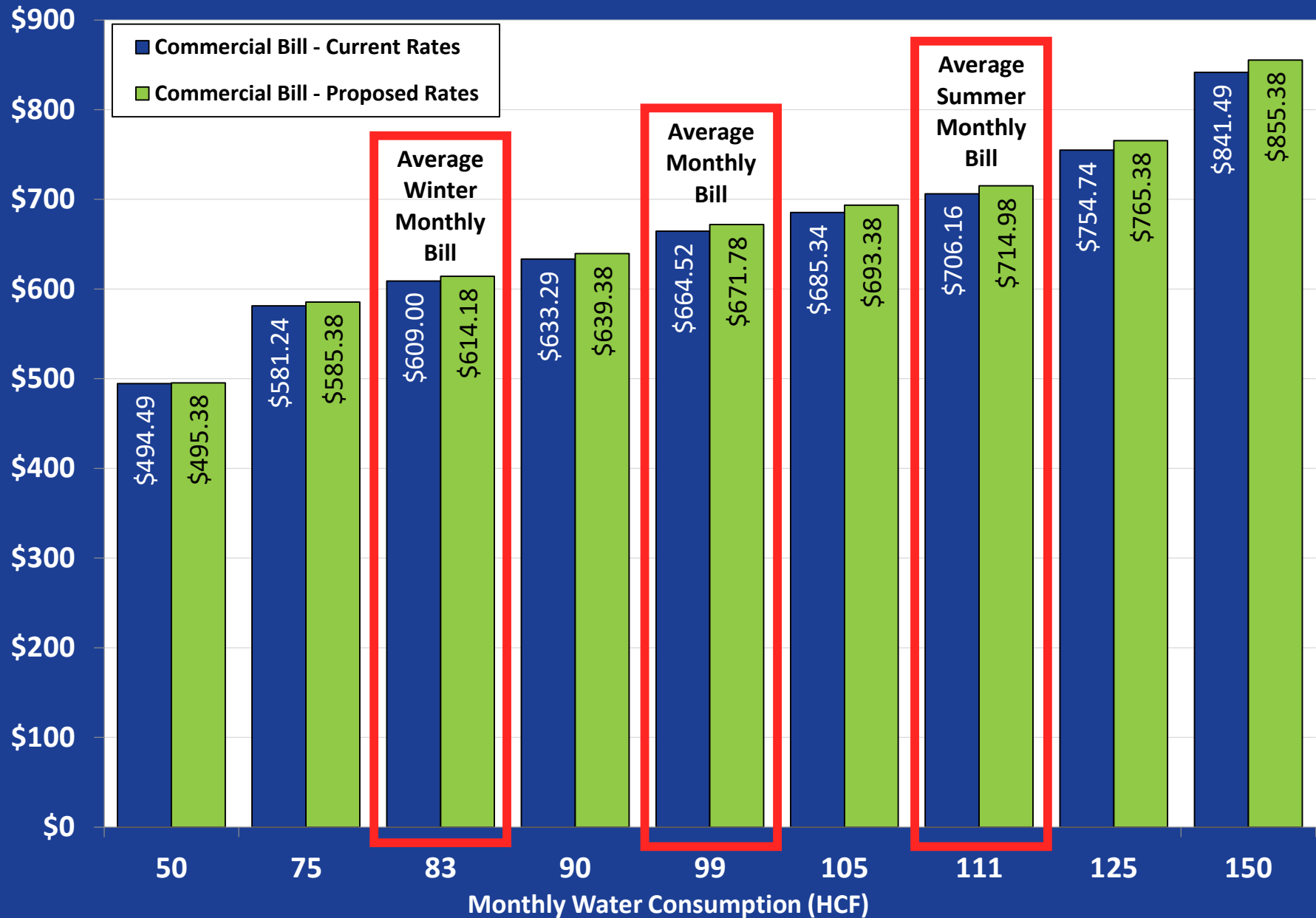
Current and Future Average Bill

Assumes 13 hcf Monthly Consumption



Single-Family Residential Customer - 13 hcf per month

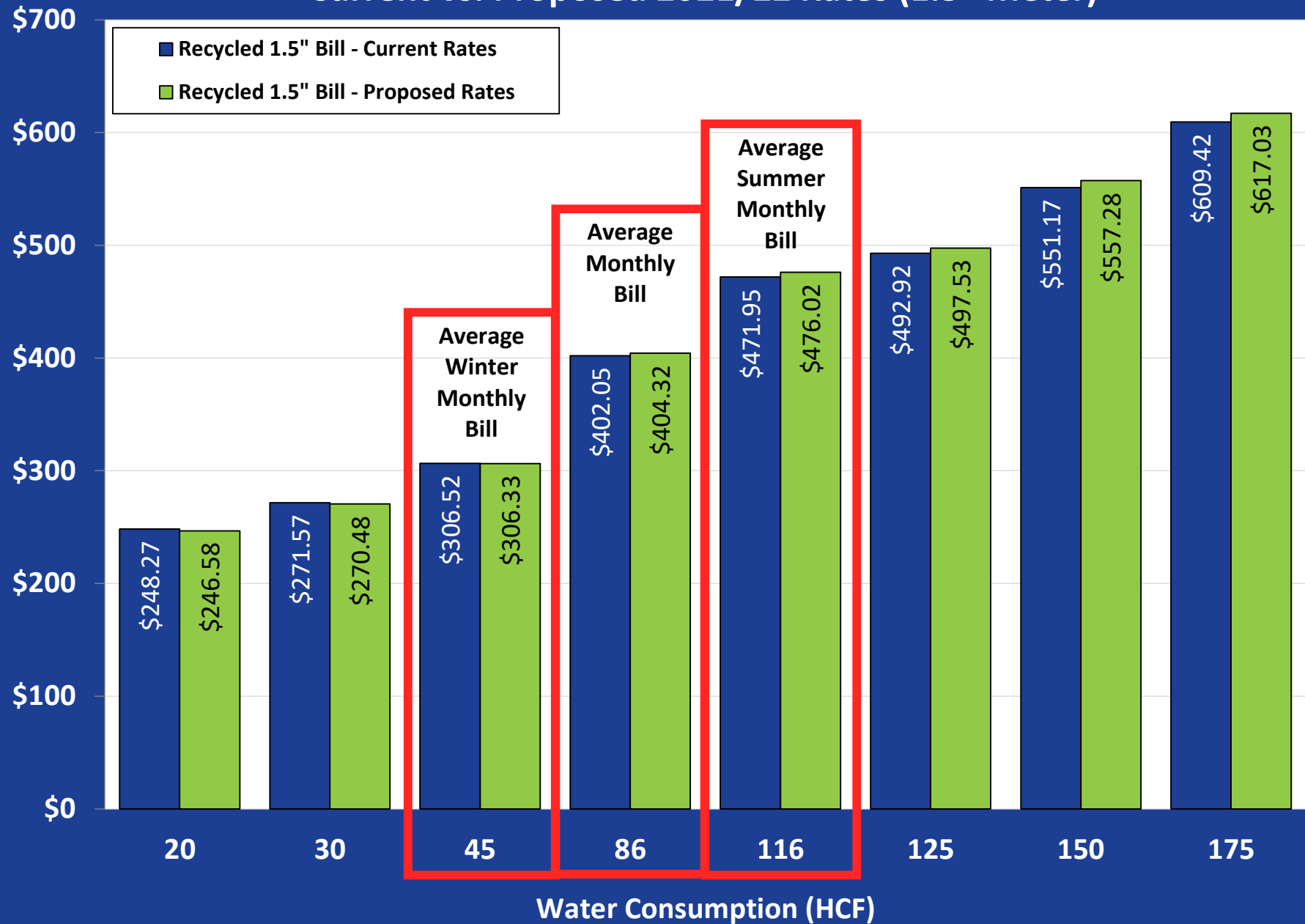
Commercial Monthly Water Bill Comparison Current vs. Proposed 2021/22 Rates (2" Meter)



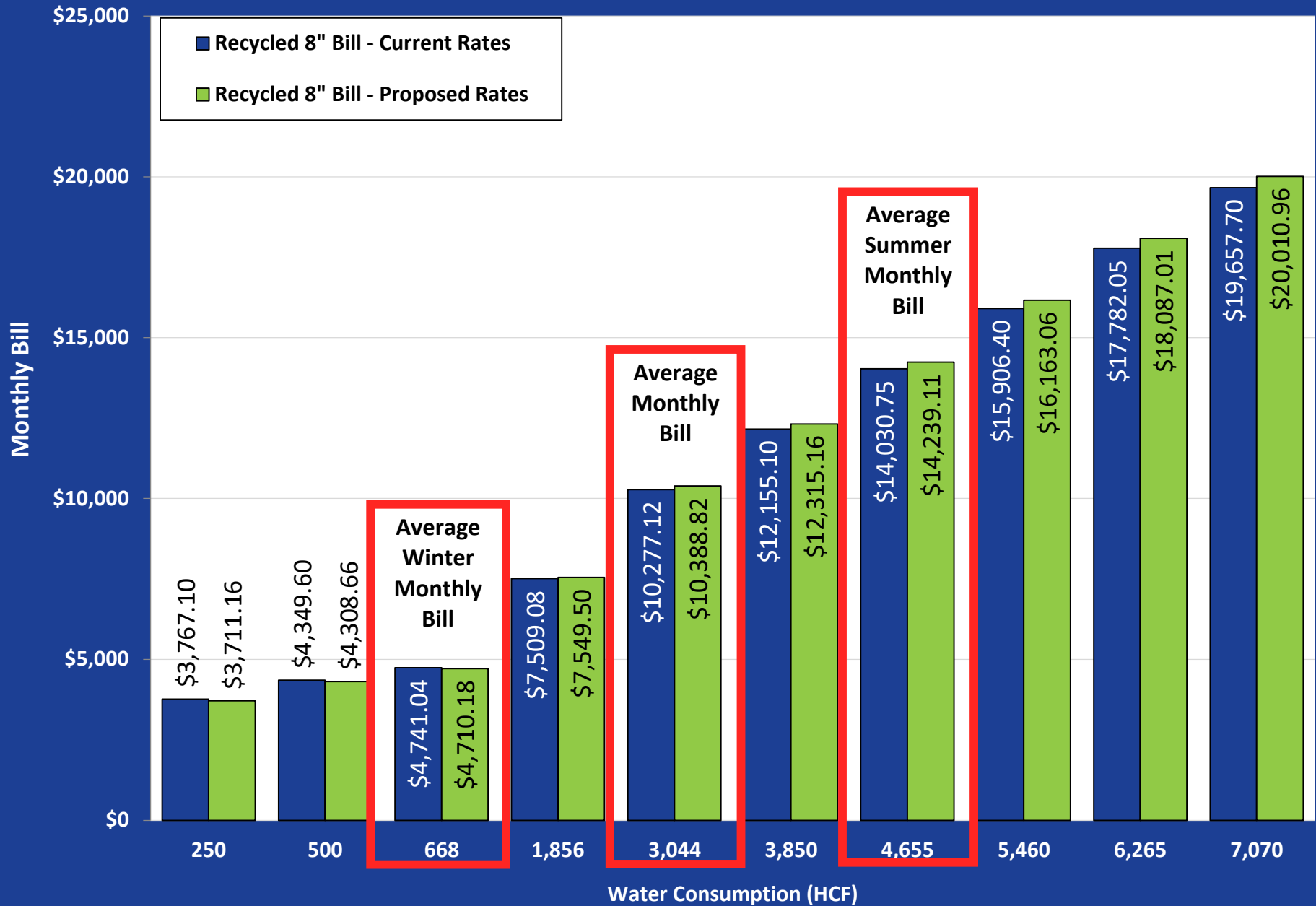
Multi-Family Monthly Water Bill Comparison Current vs. Proposed 2021/22 Rates (8" Meter)



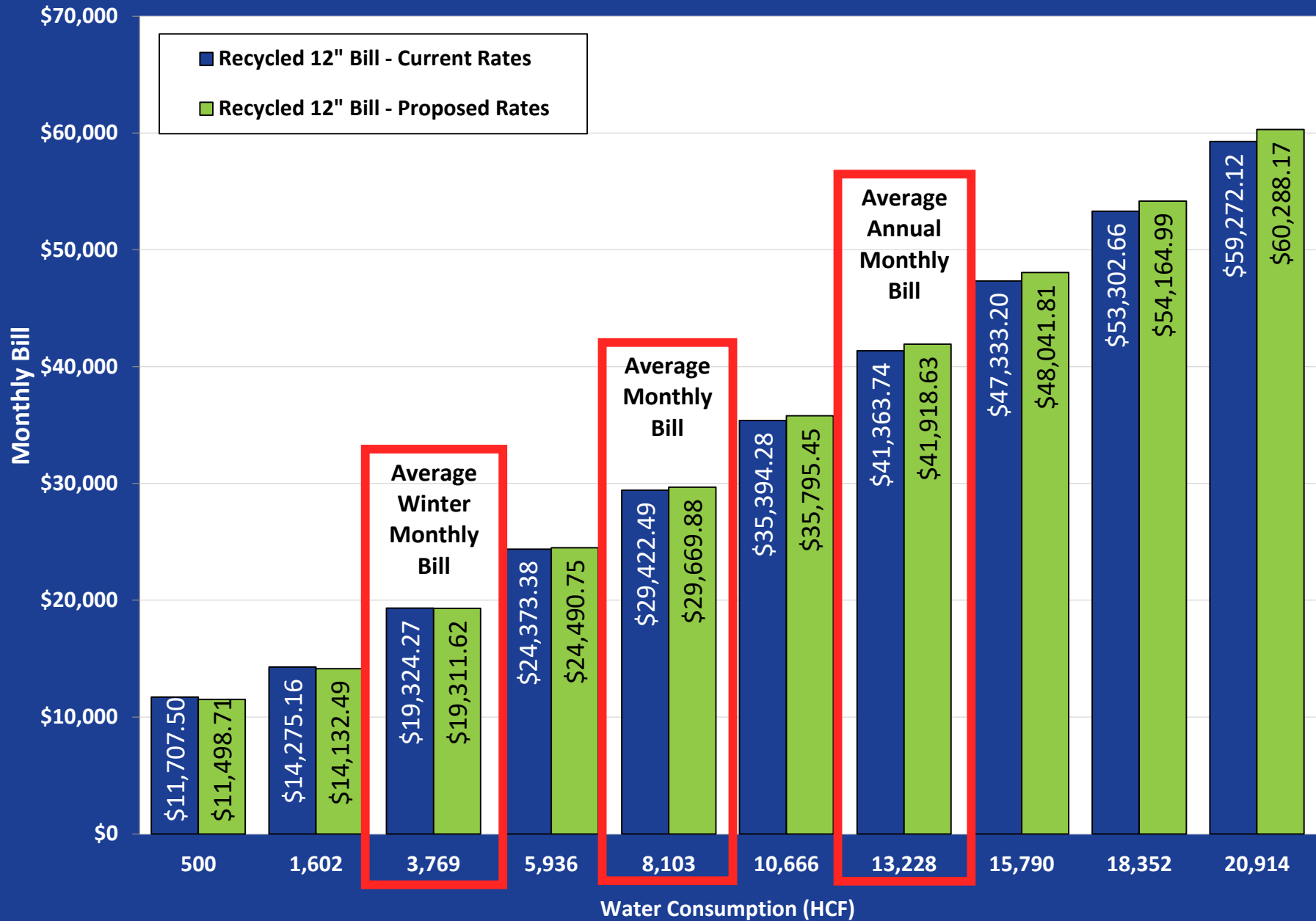
Recycled Water Monthly Bill Comparison Current vs. Proposed 2021/22 Rates (1.5" Meter)



Recycled Water Monthly Bill Comparison Current vs. Proposed 2020/21 Rates (8" Meter)



Recycled Water Monthly Bill Comparison Current vs. Proposed 2020/21 Rates (12" Meter)



ROWLAND WATER DISTRICT
WATER RATE STUDY
Construction Rate Analysis

CONSTRUCTION METER FEE DEVELOPMENT:

Administrative Fee for New Customers	Labor Hours ¹	Labor Cost per hour ¹	Charge to Customer
Application Processing	0.75	\$64.14	\$48.11
Opening Account	0.50	\$64.14	\$32.07
Meter Installation	1.50	\$64.14	\$96.21
Service Truck	1.50	\$25.00	\$37.50
Total Administrative Fee			\$213.89

1. Labor hours and Labor cost per hour estimated by District staff.

Meter Move Fee	Labor Hours ¹	Labor Cost per hour ¹	Charge to Customer
Cost of Moving Meter	1.0	\$71.80	\$71.80
Service Truck	1.0	\$25.00	\$25.00
Total Meter Move Fee (cost per hour)			\$96.80

1. Labor hours and Labor cost per hour estimated by District staff.

Monthly Meter Fee	Effective Date				
	1/1/2022	1/1/2023	1/1/2024	1/1/2025	1/1/2026
<u>Meter Rental Fee Component</u>					
Cost of Construction Meter ¹	\$3,165.00	\$3,259.95	\$3,357.75	\$3,458.48	\$3,562.24
Useful life (years)	5	5	5	5	5
Assumed Annual Cost Inflation	3%	3%	3%	3%	3%
Estimated Replacement Cost (in 5 years ²)	<u>\$3,669.10</u>	<u>\$3,779.18</u>	<u>\$3,892.55</u>	<u>\$4,009.33</u>	<u>\$4,129.61</u>
Monthly Meter Rental Fee Component	\$61.15	\$62.99	\$64.88	\$66.82	\$68.83
<u>Customer Component</u>					
Standard Meter Customer Costs ³	\$4.20	\$4.33	\$4.46	\$4.59	\$4.73
Total Monthly Meter Fee	\$65.35	\$67.31	\$69.33	\$71.41	\$73.55

1. Meter cost per District staff for 2021.

2. 5 year useful life of construction meters provided by District staff.

3. Per July 2021 Water Rate Study.

ROWLAND WATER DISTRICT
WATER RATE STUDY
Construction Rate Analysis

CONSTRUCTION METER POTABLE VOLUMETRIC RATES:

Potable Water Cost ¹	Effective Date				
	1/1/2022	1/1/2023	1/1/2024	1/1/2025	1/1/2026
Total Revenue Requirement	\$ 23,148,198	\$ 24,464,882	\$ 24,913,436	\$ 25,558,912	\$ 25,468,894
Less: Zonal Costs	\$ (229,700)	\$ (236,591)	\$ (243,688)	\$ (250,999)	\$ (258,529)
Net Revenue Requirement from Potable Rates	\$ 22,918,499	\$ 24,228,291	\$ 24,669,748	\$ 25,307,913	\$ 25,210,366
Estimated Potable Consumption	3,920,510	3,959,715	3,999,312	4,039,305	4,079,698
Average Cost of Potable Water (\$/hcf)	\$5.85	\$6.12	\$6.17	\$6.27	\$6.18

1. Per July 2021 Water Rate Study. For consumption, 1% inflation increase annually.

Zonal Surcharges (\$/hcf) ¹	Effective Date				
	1/1/2022	1/1/2023	1/1/2024	1/1/2025	1/1/2026
Zone 2	\$0.15	\$0.16	\$0.16	\$0.17	\$0.18
Zone 3	\$0.29	\$0.30	\$0.31	\$0.33	\$0.34
Zone 4	\$0.63	\$0.66	\$0.69	\$0.71	\$0.74
Zone 5	\$0.83	\$0.87	\$0.90	\$0.94	\$0.98
Zone 6	\$1.11	\$1.15	\$1.20	\$1.24	\$1.29

1. Per July 2021 Water Rate Study.

Construction Water Cost (\$/hcf)	Effective Date				
	1/1/2022	1/1/2023	1/1/2024	1/1/2025	1/1/2026
Zone 1	\$5.85	\$6.12	\$6.17	\$6.27	\$6.18
Zone 2	\$6.00	\$6.28	\$6.33	\$6.44	\$6.36
Zone 3	\$6.14	\$6.42	\$6.48	\$6.59	\$6.52
Zone 4	\$6.48	\$6.78	\$6.85	\$6.98	\$6.92
Zone 5	\$6.68	\$6.99	\$7.07	\$7.21	\$7.16
Zone 6	\$6.95	\$7.27	\$7.36	\$7.51	\$7.47

CONSTRUCTION METER RECYCLED VOLUMETRIC RATES:

Recycled Water Cost ¹	Effective Date				
	1/1/2022	1/1/2023	1/1/2024	1/1/2025	1/1/2026
Total Revenue Requirement	\$ 2,097,185	\$ 2,112,526	\$ 2,136,546	\$ 2,154,852	\$ 2,176,912
Estimated Consumption (hcf)	492,342	497,265	502,238	507,260	512,333
Average Cost of Recycled Water (\$/hcf)²	\$4.26	\$4.25	\$4.25	\$4.25	\$4.25

1. Per July 2021 Water Rate Study. For consumption, 1% inflation increase annually.

See Table 1 in Appendix C.

2. Cost of recycled water assumes consumption is all in Zone 1.

Prepared by NBS

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ROWLAND WATER DISTRICT
WATER RATE STUDY
Construction Rate Analysis

UPDATED FEE SCHEDULE:

Updated Construction Customer Fee Schedule	Effective Date					Explanation of Fee
	1/1/22	1/1/23	1/1/24	1/1/25	1/1/26	
Construction Meter Deposit	\$3,165.00	\$3,259.95	\$3,357.75	\$3,458.48	\$3,562.24	[1]
Administrative Fee	\$213.89	\$220.30	\$226.91	\$233.72	\$240.73	[2]
Meter Move Fee (<i>cost per hour</i>)	\$96.80	\$99.70	\$102.70	\$105.78	\$108.95	[3]
Monthly Fees						
Fixed Charges (\$/meter)						
Monthly Meter Fee	\$65.35	\$67.31	\$69.33	\$71.41	\$73.55	[4]
Volumetric Charges (\$/hcf)						
Potable Water - Zone 1	\$5.85	\$6.12	\$6.17	\$6.27	\$6.18	[5]
Potable Water - Zone 2	\$6.00	\$6.28	\$6.33	\$6.44	\$6.36	[6]
Potable Water - Zone 3	\$6.14	\$6.42	\$6.48	\$6.59	\$6.52	[6]
Potable Water - Zone 4	\$6.48	\$6.78	\$6.85	\$6.98	\$6.92	[6]
Potable Water - Zone 5	\$6.68	\$6.99	\$7.07	\$7.21	\$7.16	[6]
Potable Water - Zone 6	\$6.95	\$7.27	\$7.36	\$7.51	\$7.47	[6]
Recycled Water	\$4.26	\$4.25	\$4.25	\$4.25	\$4.25	[7]

Explanation of Fee:

[1] Based on cost of replacing the meter in the current year, if it is not returned.

[2] Based on labor time and cost for: processing application, opening account and installing meter. Assumes 3% inflation per year.

[3] Based on labor time and cost for moving the meter from one location to another.

[4] Based on replacement cost of meter (assumes a useful life of 5 years), plus standard customer costs.

[5] Based on average cost of potable water, per July 2021 Rate Study.

[6] Based on average cost of potable water, plus zonal surcharge. Per July 2021 Rate Study.

[7] Based on average cost of recycled water, per July 2021 Rate Study.