

DESERT WATER AGENCY

Final Report for:

Cost of Service Study

May 2023

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SECTION 1. PURPOSE AND OVERVIEW OF THE STUDY

Purpose

Desert Water Agency (DWA or “the Agency”) retained NBS to conduct a comprehensive Cost of Service Study which includes the Water, Sewer, and Recycled Water utilities. In DWA’s 2016 rate study, the Agency adopted drought rates and adjusted the water rate structure to recover about 10% more revenue from fixed charges.

Due to the continuing changes in customer consumption patterns, with gradual increases in consumption across all customer classes, the need to recover an appropriate amount of revenue from fixed charges and concerns over conservation and drought-related matters are even more important. The Agency’s broader objectives in this study include ensuring adequate funding for operating and capital costs, maintaining reasonable reserves, ensuring revenue stability in water rates, and updating drought rates to reflect the revenue requirements at various stages of water conservation.

The rates proposed in this study are consistent with industry standards and cost-of-service principles. In addition to documenting the rate study methodology, this report also assists DWA in its continuing efforts to maintain transparent communications with its customers.

NBS worked cooperatively with DWA staff throughout this study to develop rate alternatives that meet the Agency’s goals and objectives. The Board of Directors has the final decision regarding the adoption of the proposed rates and whether to proceed with the Proposition 218 (Prop 218) approval process.

Desert Water Agency Background

DWA was formed in 1961 to import water from the State Water Project (SWP) and create a reliable local water supply, and currently serves an area of 325 square miles. DWA is the water utility for Palm Springs and outlying county areas, such as Desert Hot Springs and parts of Cathedral City.

Potable Water Utility

DWA provides potable water service to approximately 23,581 metered customers. Approximately 85% of the potable water customers are residential, including single-family (67.6% of the total), condos (16.5%), and multi-family users (1.3%). Recent consumption records indicate that residential households use 64% of total water sold compared to all other non-residential customers who use the remaining 36%.

The primary source of water is groundwater, provided through 29 wells which represents 95% of the agency’s potable water supply. The aquifer is replenished with water from the State Water Project (SWP), while additional supply comes from local mountain streams (i.e., Chino Creek, Snow Creek, and Falls Creek). The water system includes over 369 miles of water pipeline and 28 reservoirs.

Recycled Water Utility

Until recently, DWA provided recycled water service to 12 metered customers. Two of these customers switched to groundwater, including the largest irrigation customer who switched in August 2020 and accounted for approximately one-third of recycled water use. This has reduced the total annual consumption of recycled water considerably. Additionally, a third golf course customer converted the property from a golf course to a desert preserve, eliminating all of the turf. Currently, this recycled water customer is only irrigating the remaining trees. The remaining customers use recycled water to irrigate golf courses, parks, medians, and Palm Springs High School fields. The DWA recycled water plant provides additional treatment to wastewater from the City of Palm Springs necessary to use it for irrigation.

Using recycled water for irrigation saves electricity, using one quarter of the energy needed to pump groundwater, and reduces the consumption of potable water. The additional treatment of wastewater at the recycled water plant also reduces nitrates which could otherwise impact the groundwater basin. As with recycled water providers throughout California, DWA's recycled water rates must be competitive with other sources of irrigation water while ideally recovering basic operating costs.

Wastewater Utility

The Wastewater Operations Division protects public health and safety by ensuring that wastewater is properly collected and transported to one of two treatment facilities in the area, Coachella Valley Water District, or the City of Palm Springs. The wastewater utility is smaller than the water utility with approximately 2,200 connections; the vast majority (90%) of which are single-family residential or condo users. The remainder of the customers are primarily commercial users. The sewer system includes 23 miles of pipeline with mains ranging from 6 to 18 inches in size and two lift stations.

Overview of the Study

Comprehensive rate studies, such as this one, typically include three components: (1) preparation of a financial plan which identifies the net revenue requirements for the utility; (2) analysis of the cost to 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's (AWWA) *Principles of Water Rates, Fees, and Charges*,¹ also referred to as Manual M1. In addition to following industry standards and fundamentals, the District must also adhere to the requirements of Proposition 218, which require 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 in which they were performed in this Study.

¹ *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1 Manual*, American Water Works Association (AWWA), Seventh Edition, 2017.

Figure 1. Primary Components of a Rate Study



As in the previous 2016 rate study, NBS projected revenues and expenditures, developed net revenue requirements, performed cost-of-service rate analyses, and developed new potable water, recycled water, and wastewater rates for DWA using this approach. The following sections in this report present an overview of the methodologies, assumptions, and data used along with the financial plans and rates developed. Appendix A provides the rate schedules necessary for the Prop 218 notices; more detailed tables and figures documenting the development of the proposed rates are provided in Appendices B and C.

Rate Design Criteria – It is important for utilities to send proper price signals to its customers about the actual cost of their water usage. However, many agencies emphasize conservation objectives at the expense of revenue stability. In the 2016 rate study, DWA increased the amount of revenue recovered from fixed charges to improve overall revenue stability. Balancing conservation and price signals with revenue stability is primarily addressed through the rate structure design. In other words, the amount of revenue collected from both fixed vs. volumetric charges are important.

Several criteria are typically considered in setting rates and developing sound rate structures. The fundamentals of this process have been documented in a number of rate-setting manuals, such as the AWWA Manual M1. The foundation for evaluating rate structures is generally credited to James C. Bonbright in the *Principles of Public Utility Rates*² which outlines pricing policies, theories, and economic concepts along with various rate designs. The following is a simplified list of the attributes of a sound 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 (i.e., cost based).
- There should be continuity in the rate making philosophy over time.

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, pp. 383-384.

- Rates should address other utility policies (e.g., encouraging 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 DWA staff considered as a part of their review of the rate structure alternatives.

Examining the Rate Structure – The starting point in considering rate structures is the relationship between fixed costs and variable costs. Fixed costs typically do not vary with the amount of water consumed. Debt service 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. The vast majority of rate structures contain a fixed, or minimum charge, in combination with a volumetric charge.

Fixed Charges – Fixed charges can be called base charges, minimum monthly charges, customer charges, fixed meter charges, etc. Fixed charges for water utilities typically increase by meter size. For example, a customer with a 2-inch meter has a fixed meter charge that is more than five times greater than the typical residential customer charge (which in DWA’s case is a 5/8 x 3/4-inch or 1-inch meter³). Residential meters (single-family and condos), represent approximately 85% of all meters in the potable system based on the meter’s safe operating capacity.⁴ Because a large portion of water utilities’ costs are typically related to meeting system capacity requirements, capacity demands of individual customer classes are an important factor in establishing rates.

Volumetric (Consumption-Based) Charges – In contrast to fixed charges, variable costs, such as purchased water, groundwater replenishment costs, and the cost of electricity used in pumping water and chemicals for treatment, tend to change with the quantity of water produced. For a water utility, variable charges are calculated based on a metered consumption per unit price (e.g., per 100 cubic feet, or “CCF”). 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 customer understanding and rate administration/billing. Given that DWA’s primary water supply is groundwater, multiple tiers would be difficult to justify, particularly considering the 2015 San Juan Capistrano court decision that imposed stricter requirements for justifying the cost basis of tiered rates.

Drought and Water Conservation – Beginning in June 2016, communities like DWA were allowed to “self-certify” that they had sufficient supply to meet customer demand for three years but were no longer mandated to achieve a specific conservation target. Today, DWA continues to ask customers to conserve, and while the level of conservation DWA is achieving is beneficial from a supply standpoint, placing a priority on conservation creates financial risks for the utility. To help offset these risks, the drought rates proposed in this study account for various stages of water conservation to allow DWA to continue meeting its financial obligations going forward. The proposed drought rates were developed to

³ Currently, about 59% of DWA residential meters are 5/8 x 3/4-inch, 33% are 1-inch, and 5% are larger.

⁴ *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices*, M1 Manual, AWWA, Seventh Edition, 2017, pp. 151-152.

align with the Agency's Water Shortage Contingency Plan which requires a Board Action that would allow the DWA Board to mandate the conservation. In addition to drought rates, "revenue stabilization rates" were also developed as a second tool for the Agency to use to offset the financial risks during times of reduced consumption and/or rate revenue.

Modifications to Rate Structure – The changes implemented since the 2016 rate study have increased the percentage of revenue collected from the fixed monthly meter charge and transitioned from a fixed charge that previously only collected 17% of potable water rate revenue to one that now collects 30%. The previous study also developed separate rates for the recycled water system and updated the hydraulic capacity factors used to develop monthly fixed service charges. Those changes are continued in the rates proposed below. The continuation of a rate design that collects 70% of the rate revenue from volume-based rates still provides significant incentives for DWA's customers to practice conservation. While DWA will continue to use drought rates, the addition of the revenue stabilization rates adds one more tool to the Agency's toolbox for financial management.

Key Financial Assumptions – The following are the key financial assumptions used in the water rate analyses:

- **Funding of Water Utility Capital Projects** – DWA will fund all planned capital costs using incoming rate revenue and existing reserves. The capital projects listed in the financial plan are from DWA's projection of costs through FY 2042/43.
- **Reserve Targets** – For each utility (i.e., potable water, recycled water, and wastewater), DWA maintains reserves for operations, capital, and other specific needs. The details for each utility's reserve targets are covered in their respective section of this report.
- **Inflation and Growth Projections** – Assumptions were made in the analysis with regard to cost inflation in order to project future revenues and expenses for the study period. The following inflation factors were used in the analysis:
 - ✓ Customer growth for the potable water system is projected to be a little more than 1% per year, or about 223 new connections per year.
 - ✓ Customer growth for wastewater is projected to increase at the same 1% rate.
 - ✓ No growth is expected in the recycled water system.
 - ✓ General cost inflation is 4.8% annually based on the 5-year average annual change in the Consumer Price Index for all Urban Consumers in the Riverside-San Bernardino-Ontario, CA, CA area.
 - ✓ Labor cost inflation is 4% annually based on the 5-year average annual change in the Quarterly Census of Employment and Wages for Riverside County, CA.
 - ✓ Energy cost inflation is 4% annually based on the 5-year average annual change in the Consumer Price Index for all Urban Consumers.
 - ✓ Transportation cost inflation is 3% annually based on the 5-year average annual change in the Consumer Price Index for All Urban Consumers (US City Average).

- ✓ Utilities cost inflation is 5.6% annually based on the 5-year average annual change in the Consumer Price Index - Average Price Data for Fuels and related products and power. This factor is used for utility costs other than electricity.
- ✓ Construction cost inflation is 3.91% annually based on the 5-year average change in the Engineering News Record Construction Cost Index for 2017-2022.

These inflation factors are based on longer term trends. However, considering current short-term inflation, the Agency should re-examine these factors in another year to assess whether short-term trends are a better reflection of the costs going forward.

SECTION 2. POTABLE WATER RATE STUDY

Key Potable Water Rate Study Issues

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

- Generating additional revenue needed to meet projected operating and planned capital costs.
- Continuing with a rate design that promotes revenue stability.
- Updating drought rates.
- Developing new revenue stabilization rates as an additional tool to further protect the Agency from the financial risks of temporary revenue shortfalls.

NBS developed various water rate alternatives as requested by DWA staff over the course of this study. All rate structure alternatives were developed based on industry standards and cost-of-service principles. The fixed and volume-based charges were calculated based on the net revenue requirements, number of customer accounts, water consumption, and other information provided by staff. The information contained in this study provides guidance to the DWA Board of Directors, which is the decision-making authority in establishing the new water service rates. The following are the basic components included in this analysis:

- **Developing Functionalized Costs:** The potable water system revenue requirements were “functionalized” into five categories: (1) commodity (or volume-based) costs; (2) recycled water costs; (3) fixed capacity costs; (4) customer service costs; and (5) fire protection costs. Recycled water is primarily a distribution system similar to, and operated by, the potable water utility staff and is therefore administratively considered part of the potable utility.
- **Determining Revenue Requirements by Customer Class:** Costs for each of these functional 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 functional costs and allocation factors. For example:
 - ✓ Volume-related costs are allocated based on the water consumption for each class.
 - ✓ Fixed capacity costs are allocated based on peaking requirements.
 - ✓ Customer service costs are allocated based on number of meters.

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.

- **Evaluating Rate Design and Fixed vs. Variable Charges:** The revenue requirements for each customer class are collected from both fixed monthly service charges and volumetric rates. Based

on direction from DWA staff, the rates proposed in this report will continue to collect 30% of rate revenue from the fixed charge and 70% from the variable charges.

Potable Water Utility Revenue Requirements

It is important for municipal utilities to not only collect sufficient revenues every year, but to also 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 both operating and capital costs as well as maintain reasonable reserve funds. The current state of DWA, with regard to these objectives, is as follows:

- **Meeting Net Revenue Requirements:** For FY 2023/24 through FY 2027/28, the projected net revenue requirement (that is, total annual expenses plus debt service and rate-funded capital costs, less non-rate revenues) for the potable system range from approximately \$45.8 million to \$57.4 million annually. If no rate adjustments are implemented, the water utility would be operating at a loss beginning in Year 1 (i.e., FY 2023/24), so moderate increases of 6.25% are needed to meet net revenue requirements.
- **Funding Capital Improvement Projects:** In order to maintain current service levels, DWA must ensure there is sufficient funding to pay for necessary capital improvement and rehabilitation projects. During the rate study, DWA engineering staff added approximately \$14 million of what it referred to as “routine projects” that were not previously included in the general plan capital improvements.⁵ This brought the total capital improvement costs for FY 2023/24 through FY 2027/28 to \$70.1 million, averaging \$14 million annually over this period.⁶ As shown in the financial plan, these CIP costs will be paid for with rate revenue (i.e., vs. issuing additional debt).
- **Building and Maintaining Reserve Funds:** DWA has an established reserve policy⁷ which documents the purpose and target balances of the Agency’s various reserve funds. Therefore, NBS evaluated cash balances through FY 2027/28 to identify the year-end reserve balances compared to target ending reserve balances.

The reserves that should be the highest priority are the operating and capital replacements reserves, which are DWA’s “primary reserve funds.” NBS recommends that DWA target a minimum of approximately \$29 million in FY 2023/24 which would increase to \$35 million by the end of FY 2027/28. The minimum target ending balances for the District’s reserve funds are as follows:

- **Operating Reserve** should equal approximately 6 months of operating expenses, or \$17 million in FY 2023/24. 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

⁵ These projects included pipelines, wells, meters and services replacements, transportation equipment, and recycled water plant projects.

⁶ These costs are presented in future-year dollars and calculated using the annual construction cost inflation percentage of 3.91% which is the 5-year average change in the Construction Cost Index from 2017 to 2022. Source: Engineering News Record website (<http://enr.construction.com>).

⁷ Resolution No. 1187.

patterns, the natural inflow and outflow of cash during billing cycles, natural variability in demand-based revenue streams (e.g., volumetric charges), and particularly in periods of economic distress – changes or trends in the age of receivables.

- **Capital and Infrastructure Reserve**, at a minimum, should equal roughly 6% of net capital assets, or approximately \$12 million in FY 2023/24, which increases to \$14 million in FY 2027/28. This reserve is intended to be a cash resource set aside to address long-term capital system replacement and rehabilitation needs.
- **Additional Reserves** are intended to account for various other purposes, such as retirement benefits, disaster response, and land acquisitions. These additional reserves total approximately \$8.2 million in FY 2023/24.

At the end of the five-year rate period, it is projected that the Potable Water Utility will have \$34.7 million in these three reserves, which is very close to the reserve target of \$35 million.

- **Maintaining Adequate Bond Coverage:** DWA is required by its bond covenants to maintain a debt service coverage ratio of at least 1.15 for the outstanding 2016 Revenue Bonds. The Agency is projected to far exceed this minimum which strengthens DWA's credit rating and, in turn, helps lower the interest rates for any future debt-funded capital projects. If DWA adopts the proposed rate increases, the debt coverage requirement will be 10.8 or higher each year, exceeding the required 1.15 debt service coverage ratio throughout the 5-year period.

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

Figure 2. Summary of Potable Water Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	5-Year Rate Projected Period				
	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Sources of Water Funds						
Rate Revenue Under Prevailing Rates ¹	\$ 41,614,000	\$ 42,053,272	\$ 42,497,180	\$ 42,941,089	\$ 43,384,998	\$ 43,828,906
Power Sales	111,000	111,000	111,000	111,000	111,000	111,000
Recycled Water Sales	897,000	906,469	916,037	925,606	935,174	944,743
Other Revenue	3,868,100	4,060,037	4,056,908	4,077,700	4,110,715	4,153,958
Total: Sources of Water Funds	\$ 46,490,100	\$ 47,130,778	\$ 47,581,125	\$ 48,055,395	\$ 48,541,887	\$ 49,038,607
Uses of Water Funds						
Operating Expenses	\$ 33,889,440	\$ 36,407,964	\$ 38,502,040	\$ 40,682,699	\$ 42,983,820	\$ 45,420,163
Debt Service	1,344,150	1,344,650	1,342,650	1,344,450	1,339,850	1,345,100
Rate-Funded Capital Expenses	10,460,946	12,234,410	13,040,394	13,554,183	14,370,585	14,936,385
Total: Uses of Water Funds	\$ 45,694,536	\$ 49,987,024	\$ 52,885,084	\$ 55,581,332	\$ 58,694,256	\$ 61,701,648
Surplus (Deficiency) before Rate Increase	\$ 795,564	\$ (2,856,246)	\$ (5,303,958)	\$ (7,525,937)	\$ (10,152,369)	\$ (12,663,041)
Additional Revenue from Rate Increases ¹	-	1,330,610	5,546,630	8,672,109	12,054,642	15,712,400
Surplus (Deficiency) after Rate Increase	\$ 795,564	\$ (1,525,636)	\$ 242,672	\$ 1,146,172	\$ 1,902,274	\$ 3,049,359
Projected Annual Rate Increase²	0.00%	6.25%	6.25%	6.25%	6.25%	6.25%
Cumulative Rate Increases	0.00%	6.25%	12.89%	19.95%	27.44%	35.41%
Net Revenue Requirement²	\$ 41,715,436	\$ 45,815,986	\$ 48,717,176	\$ 51,392,632	\$ 54,472,541	\$ 57,436,690
Debt Coverage Ratio (After rate increases)	11.14	10.81	12.82	13.94	15.25	16.56

1. Assumes new rates are implemented January 1, 2024.

2. This is the annual amount needed from rates. Net Revenue Requirement = Total Uses of Water Funds - Power Sales - Other Revenue.

Figure 3 summarizes the projected primary reserve fund balances and reserve targets. A summary of the utility's proposed 5-year financial plan is included in Appendix B. The appendix tables include the revenue requirement analysis, reserve fund projections, capital improvement program, and the proposed rate

increases needed to meet DWA's funding requirements. As Figure 3 shows, given the proposed rate increases, the Operating and Capital Replacement reserves do not meet their individual minimum targets, but including the additional reserves exceeds the total minimum target balances in each year. Overall, reserves are still healthy and continue to increase.

Figure 3. Summary of Primary Potable Water Reserve Funds

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget	5-Year Rate Projected Period				
	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Operating Reserve						
Ending Balance	\$ 15,758,460	\$ 14,232,824	\$ 14,475,496	\$ 15,621,668	\$ 17,523,942	\$ 20,573,300
<i>Recommended Minimum Target</i>	<i>15,758,460</i>	<i>16,965,422</i>	<i>17,957,836</i>	<i>18,991,112</i>	<i>20,082,082</i>	<i>21,238,010</i>
Capital Rehabilitation & Replacement Reserve						
Ending Balance	\$ 3,739,804	\$ 5,328,804	\$ 5,428,804	\$ 5,528,804	\$ 5,628,804	\$ 5,728,804
<i>Recommended Minimum Target</i>	<i>11,507,200</i>	<i>11,988,200</i>	<i>12,415,100</i>	<i>12,859,100</i>	<i>13,337,300</i>	<i>13,834,100</i>
Additional Reserves						
Ending Balance	\$ 7,883,842	\$ 7,990,494	\$ 8,098,590	\$ 8,208,147	\$ 8,319,187	\$ 8,431,729
Ending Balance - All Reserves	\$ 27,382,105	\$ 27,552,122	\$ 28,002,889	\$ 29,358,619	\$ 31,471,933	\$ 34,733,833
Total Recommended Minimum Target	\$ 27,265,660	\$ 28,953,622	\$ 30,372,936	\$ 31,850,212	\$ 33,419,382	\$ 35,072,110

Characteristics of Potable Water Customers by Customer Class

The amount of consumption, the peaking factors, and the number of meters by size are used in allocating costs as a part of the cost-of-service analysis (COSA). These components of the COSA are presented in the following figures.

In **Figure 4**, the impact of continued customer conservation appears to be decreasing, as seen by the annual increases over the three-year period shown. As a result, the Agency, in its attempt to accurately account for future conservation, has included a 5% water conservation adjustment for FY 2020/21. Aside from the small amount of growth (about 1% per year), the adjusted consumption for FY 2020/21 represents the agency's best estimate of the expected consumption over the 5-year rate period. Not accounting for this conservation would likely overestimate future consumption and result in the Agency under-collecting volumetric rate revenue.

Figure 4. Water Consumption by Customer Class (CCF)

Customer Class ¹	FY 2018/19	FY 2019/20	FY 2020/21	% Adjustment for Conservation ²	Est. FY'18/19 Volume Adjusted for Conservation	Est. FY'19/20 Volume Adjusted for Conservation	Est. FY'20/21 Volume Adjusted for Conservation	FY 2020/21 % of Total Volume
Potable Water								
Residential	7,056,019	7,153,240	7,834,756	5.0%	6,703,218	6,795,578	7,443,018	57.9%
Multi-Family	264,289	261,779	281,838	5.0%	251,075	248,690	267,746	2.1%
Condo	452,879	443,669	483,124	5.0%	430,235	421,486	458,968	3.6%
Commercial	2,576,791	2,438,961	2,599,571	5.0%	2,447,951	2,317,013	2,469,592	19.2%
Irrigation/Condo	1,385,718	1,432,364	1,587,227	5.0%	1,316,432	1,360,746	1,507,866	11.7%
Fire Private	3,801	1,697	2,486	5.0%	3,611	1,612	2,362	0.0%
Fire Public	-	1	2	5.0%	-	1	2	0.0%
Public Authority	592,089	570,586	625,458	5.0%	562,485	542,057	594,185	4.6%
Potable Water Total	12,331,586	12,302,297	13,414,462		11,715,007	11,687,182	12,743,739	99.2%
Other Water								
Recycled Water ³	1,299,012	1,369,739	1,309,726	5.0%	1,234,061	1,301,252	1,244,239	n/a
Whitewater	n/a	n/a	n/a	5.0%	n/a	n/a	n/a	n/a
Commercial Mains	100,819	83,668	105,939	5.0%	95,778	79,485	100,642	0.8%
Total	13,731,417	13,755,704	14,830,127		13,044,846	13,067,919	14,088,620	100.0%

1. Consumption data is based on the Desert Water Agency's billing data.

2. Conservation factor applied to consumption based on discussions with Agency staff.

3. Recycled water data for FY 2018/19 through FY 2020/21 was updated to exclude the two (2) accounts that switched to groundwater as well as adjust the water consumption based on actual usage for Escena Golf Club and Palms Partners Capital LLC.

Figure 5 shows the peaking factors for each customer class. A “peaking factor” is the relationship between the average use by meter size to its peak use. Both operating costs and capital infrastructure costs incurred to accommodate peak system capacity events are generally allocated to each meter size according to its

contribution to peak capacity events. These peaking factors are used to allocate the capacity-related costs to each customer class and are described in more detail later in this study.

Figure 5. Peaking Factors by Customer Class

Customer Class	Average Monthly Use (ccf) ¹	Peak Monthly Use (ccf) ²	Peak Monthly Factor	Max Month Capacity Factor
Potable Water				
Residential	652,896	861,098	1.32	57.6%
Multi-Family	23,487	28,801	1.23	1.9%
Condo	40,260	47,217	1.17	3.2%
Commercial	216,631	270,361	1.25	18.1%
Irrigation/Condo	132,269	190,597	1.44	12.7%
Fire Private	207	293	1.41	0.0%
Fire Public	0	1	6.00	0.0%
Public Authority	52,122	74,692	1.43	5.0%
Potable Water Total	1,117,872	1,473,060	1.32	98.5%
Other Water				
Recycled Water ³	109,144	151,346	1.39	n/a
Whitewater	575	1,188	2.07	0.1%
Commercial Mains	8,828	21,540	2.44	1.4%
Total	1,236,418	1,647,134	1.33	100.0%

1. Average monthly use is calculated by dividing the FY 2020/21 consumption (see Figure 4) by 12 months.

2. Based on DWA's average monthly use.

3. Recycled water data for FY 2018/19 through FY 2020/21 was updated to exclude the two (2) accounts that switched to groundwater as well as adjust the water consumption for Escena Golf Club and Palms Partners Capital LLC.

Figure 6 shows the number of meters for each customer class. The percentage of total customers by customer class is then used to develop the customer allocation factors and allocate customer costs. Customer costs are those costs associated with having customers connected to the water system and include costs related to meter reading, postage, and billing.

Figure 6. Number of Meters by Customer Class

Customer Class	No. of Meters FY 2020/21 ¹	Percent of Total
Potable Water		
Residential	15,981	67.6%
Multi-Family	310	1.3%
Condo	3,901	16.5%
Commercial	2,172	9.2%
Irrigation/Condo	378	1.6%
Fire Private	568	2.4%
Fire Public	1	0.0%
Public Authority	270	1.1%
Potable Water Total	23,581	99.7%
Other Water		
Recycled Water	10	n/a
Whitewater	4	0.0%
Commercial Mains	71	0.3%
Total	23,666	100.0%

1. From Desert Water Agency's billing data for June 2021.

Cost-of-Service Analysis

The revenue requirements previously shown in Figure 2 are distributed in the cost-of-service analysis to each component of the water rate structure by allocating costs through the functionalization and classification process.

Functionalization, Classification, and Allocations

Most costs are not typically allocated just to fixed or variable categories and, therefore, can be allocated to multiple functions of water service. Those costs are then classified for the purpose of allocating costs to the following five cost causation components:

- **Commodity** related costs are those costs associated with the total consumption of water over a specified period of time (e.g., annual).
- **Capacity** related costs are those costs associated with the maximum demand required or the maximum size of facilities required to meet this demand.
- **Customer** related costs are those costs associated with having a customer on the water system, such as meter reading, postage, and billing.
- **Recycled Water** related costs are those costs associated with the irrigation needs of the Agency's ten recycled water customers.
- **Fire Protection** costs are those costs associated with providing sufficient capacity in the system for fire meters and other operating and maintenance costs of providing water to properties for private fire service protection.

Once costs have been organized in DWA's functional categories and allocated to these cost causation components, they are used to establish new water rates in the form of fixed and variable charges. Appendix B shows in detail how DWA's expenses were allocated to these cost causation components.

Fixed costs generally consist of costs that a utility incurs to serve customers irrespective of the amount of water they use. These include: (1) 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 for groundwater replenishment, groundwater pumping, chemicals used in the treatment process, energy related to pumping for transmission and distribution, and source of supply.

Collecting Fixed vs. Variable Costs – Ideally, all fixed costs would be recovered from fixed charges and all variable costs would be recovered from volumetric charges. When this is the case, fluctuations in water sales revenues would be directly offset by reductions or increases in variable expenses, which provides greater revenue stability for the utility. However, water conservation goals as well as ease of understanding, ease of administration, and customer bill impacts are also considered.⁸ Further, revenue

⁸ *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices*, M1 Manual, AWWA, Seventh Edition, 2017, pp. 6 and 96.

losses resulting from decreased consumption can be mitigated by developing drought rates and/or revenue stabilization rates, both of which were developed in this study.

Figure 7 summarizes how the percentage of costs are allocated to each cost component and used to establish new water rates. **Figure 8** shows the resulting projected costs allocated to each cost classification component. The top line (Commodity-Related Costs) in Figure 7 matches the total commodity-related costs allocated in Figure 8.⁹ The remaining revenue requirements are allocated to capacity, customer, and fire protection cost categories.

Figure 7. Allocation Percentages of Revenue Requirements

Classification Components	ALTERNATIVE 1 (30% Fixed / 70% Variable) Cost-of-Service Net Revenue Requirements (FY 2023/24)	
Commodity-Related Costs ¹	\$ 31,389,819	70.0%
Capacity-Related Costs	11,350,244	26.0%
Customer-Related Costs	1,309,644	3.0%
Fire Protection-Related Costs	436,548	1.0%
Net Revenue Requirement	\$ 44,486,255	100.0%

1. Includes under-charged recycled water revenue.

Figure 8. Allocated Net Revenue Requirements

Customer Classes	Classification Components				Cost of Service Net Rev. Req'ts.
	Commodity- Related Costs	Capacity- Related Costs	Customer- Related Costs	Fire Protection- Related Costs	
Potable Water					
Residential	\$ 18,189,666	\$ 6,534,130	\$ 884,740	\$ -	\$ 25,608,536
Multi-Family	654,333	218,546	17,162	-	890,041
Condo	1,121,651	358,289	215,967	-	1,695,908
Commercial	6,035,329	2,051,536	120,246	-	8,207,111
Irrigation/Condo	3,685,007	1,446,276	20,927	-	5,152,210
Fire Private	5,772	2,223	31,446	435,801	475,242
Fire Public	5	8	55	747	814
Public Authority	1,452,103	566,773	14,948	-	2,033,824
Potable Water Total	31,143,865	11,177,781	1,305,491	436,548	44,063,685
Other Water					
Whitewater	n/a	9,015	221	-	9,236
Commercial Mains	245,955	163,448	3,931	-	413,334
Total Net Revenue Requirement	\$ 31,389,819	\$ 11,350,244	\$ 1,309,644	\$ 436,548	\$ 44,486,255

⁹ The “under-charged recycled water revenue” noted in Figure 7 refers to the recycled water rate revenue that was not collected because the Agency decided to set recycled water rates at less than actual revenue requirements due to market demand (i.e., additional recycled water customers would leave if rates were not reduced).

Proposed Potable Water Rates

As discussed above, the proposed water rates will continue to collect 70% of the rate revenue from volumetric rates and 30% from fixed charges. The following sections summarize the calculation of volumetric rates and fixed charges.

Volumetric Rates

DWA will continue to use a flat uniform rate for all customers. **Figure 9** summarizes the annual revenue collected from each customer class through variable rates, the water consumption that includes a 5% adjustment for conservation, and the calculated uniform rate.

Figure 9. Volumetric Rate Revenue Requirements and Calculated Rate

Customer Classes	FY 2020/21 Number of Meters ¹	FY 2020/21 Water Consumption (ccf/yr) ²	Total Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates (\$/ccf)	Proposed Rate Structure
Potable Water						
Residential	15,981	7,443,018	\$ 18,189,666	40.9%	\$2.44	Uniform
Multi-Family	310	267,746	654,333	1.5%	\$2.44	Uniform
Condo	3,901	458,968	1,121,651	2.5%	\$2.44	Uniform
Commercial	2,172	2,469,592	6,035,329	13.6%	\$2.44	Uniform
Irrigation/Condo	378	1,507,866	3,685,007	8.3%	\$2.44	Uniform
Fire Private	568	2,362	5,772	0.0%	\$2.44	Uniform
Fire Public	1	2	5	0.0%	\$2.44	Uniform
Public Authority	270	594,185	1,452,103	3.3%	\$2.44	Uniform
Potable Water Total	23,581	12,743,739	\$ 31,143,865	70.0%		
Other Water						
Whitewater	4	n/a	n/a	n/a	n/a	Uniform
Commercial Mains	71	100,642	245,955	0.6%	\$2.44	Uniform
Total	75	100,642	245,955	71%		

1. Number of meters is based on DWA's billing data.

2. Projected FY 2020/21 consumption based on actual usage and a 5% adjustment for conservation. See Figure 4.

Fixed Service Charges

Given the projected volumetric rate revenue shown in Figure 9, the remaining rate revenue must be collected from fixed service charges. The fixed service charge recognizes that the water utility incurs fixed costs regardless of whether customers use any water. The two components that comprise the fixed charge are the capacity and customer costs.

The customer service costs do not differ based on 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 sizing the water system to ensure there is sufficient capacity in the system to meet peak demand. A user class with higher peaking (capacity) needs is allocated a proportionately higher share of the capacity related costs compared to customer classes with lower peaking needs.

Meter sizes have different fixed charges based on their capacity requirements, where larger meters have the potential to use more of the system's capacity¹⁰ or, said differently, they can have higher peaking factors compared to smaller meters. The potential capacity demanded (peaking) is proportional to the maximum hydraulic flow through each meter size as established by the AWWA hydraulic capacity ratios.¹¹ The AWWA capacity ratios used for this report are shown in **Figure 10**.

As shown below in Figure 10, DWA has set the equivalency has been set to the 1" meter for the 5/8 x 3/4" meter as a 1" meter is the Agency's standard installation now. One-inch meters are now required due to fire code regulations requiring higher capacity in the event of a fire, but the customer base/homes are the same as are serviced by the 5/8 x 3/4" meters. The decision was made to spread the fixed costs for 5/8 x 3/4" and 1" meters evenly as they typically have the same operating conditions and the only time they will need the additional capacity is in the event of a fire.

Figure 10. Hydraulic Capacity Factors (Standard Meters)

Meter Size	Standard Meters	
	Meter Capacity (gpm) ¹	Equivalency to 1-inch ²
	<i>Displacement</i>	
5/8 x 3/4 inch	20	1.00
1 inch	50	1.00
1.5 inch	100	2.00
2 inch	160	3.20
	<i>Compound Type Class I</i>	
3 inch	350	7.00
4 inch	630	12.60
6 inch	1,300	26.00
	<i>Turbine Class II</i>	
8 inch	2,400	48.00
10 inch	3,800	76.00
12 inch	5,000	100.00

1. Per AWWA, M1, Table 6-1.

2. Per DWA Staff, base meter is 1-inch; therefore, the meter equivalency is set to 1.0 for 5/8 x 3/4 and 1-inch meters.

The actual number of meters by size is multiplied by the corresponding capacity ratios to calculate equivalent meters. The number of equivalent meters is used as a proxy for the potential demand that each customer can place on the water system. **Figure 11** summarizes the number of meters, the hydraulic capacity factors, and the number of equivalent meters (i.e., the number of meters times their hydraulic capacity factor).

¹⁰ System capacity is the system's ability to supply water to all delivery points at the time when demanded.

¹¹ American Water Works Association, *Principles of Water Rates, Fees and Charges: Manual of Water Supply Practices M1*, p. 386, (7th ed. 2012) and American Water Works Association, *Water Meters – Selection, Installation, Testing and Maintenance M6*, pp. 63-65 (5th ed. 2012).

Figure 11. Equivalent Meters

Number of Meters by Class and Size	FY 2023/24										Total
	5/8 x 3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Potable Water											
Residential	8,640	6,470	594	270	7	0	0	0	0	0	15,981
Multi-Family	1	29	186	94	0	0	0	0	0	0	310
Condo	3,342	235	256	68	0	0	0	0	0	0	3,901
Commercial	590	589	517	470	3	1	2	0	0	0	2,172
Irrigation/Condo	12	60	98	208	0	0	0	0	0	0	378
Public Authority	40	61	82	85	1	0	1	0	0	0	270
Potable Water Total	12,625	7,444	1,733	1,195	11	1	3	0	0	0	23,012
Other Water											
Whitewater	0	0	0	3	1	0	0	0	0	0	4
Commercial Mains	0	0	0	0	70	0	1	0	0	0	71
Total Meters/Accounts	12,625	7,444	1,733	1,198	82	1	4	0	0	0	23,087
<i>Hydraulic Capacity Factor</i>	<i>1.00</i>	<i>1.00</i>	<i>2.00</i>	<i>3.20</i>	<i>7.00</i>	<i>12.60</i>	<i>26.00</i>	<i>48.00</i>	<i>76.00</i>	<i>100.00</i>	
Total Equivalent Meters	12,625	7,444	3,466	3,834	574	13	104	0	0	0	28,059

Figure 12 shows the calculation of the fixed service charges, which includes the customer service charge and the fixed capacity-related charge. As previously mentioned, the customer service charge is calculated by dividing the customer service-related costs by the total number of meters, whereas the fixed capacity charge is calculated by dividing the capacity-related costs by the total number of equivalent meters for each meter size.

Figure 12. Calculation of Fixed-Capacity and Customer Service Charges

Number of Meters by Class and Size	FY 2023/24										Total
	5/8 x 3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Monthly Fixed Service Charges											
Customer Costs (\$/Acct/month)	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	
Capacity Costs (\$/Acct/month)	\$33.70	\$33.70	\$67.41	\$107.85	\$235.92	\$424.65	\$876.27	\$1,617.72	\$2,561.40	\$3,370.26	
Total Monthly Meter Charge	\$38.32	\$38.32	\$72.02	\$112.46	\$240.53	\$429.27	\$880.88	\$1,622.34	\$2,566.01	\$3,374.87	
Annual Fixed Costs Allocated to Monthly Meter Charges											
Customer Costs	\$ 1,278,143										
Capacity Costs	11,348,013										
Total Fixed Meter Costs	\$ 12,626,156										
Annual Revenue from Monthly Meter Charges											
Customer Charges	\$ 698,945	\$ 412,115	\$ 95,942	\$ 66,324	\$ 4,540	\$ 55	\$ 221	\$ -	\$ -	\$ -	\$ 1,278,143
Capacity Charges	5,105,943	3,010,585	1,401,758	1,550,427	232,143	5,096	42,061	-	-	-	11,348,013
Total Revenue from Mo. Meter Charges	\$ 5,804,888	\$3,422,700	\$1,497,701	\$1,616,751	\$ 236,683	\$ 5,151	\$ 42,282	\$ -	\$ -	\$ -	\$ 12,626,156

Fixed Service Charges (Fire Service)

The same methodology is used to calculate fixed charges for fire service meters. However, fire service customers differ from other water service customers because their service is more of a standby nature, where a readiness-to-serve charge is more appropriate. Except in the event of a fire, these users are not intended to use water on a regular basis. While DWA still needs to provide sufficient capacity for fire meters and recover other operating and maintenance costs, the overall cost to serve these users is less than that of a standard service; therefore, the fixed charges are less.

Figure 13 summarizes the hydraulic capacity factors for fire service meters and Figure 14 summarizes the results of the fixed charge calculations for fire meters. These fixed charges include the customer service charge which is calculated by dividing the customer service-related costs by the total number of meters, and the fixed capacity charge which is calculated by dividing the capacity-related costs by the total number of equivalent meters for each meter size.

Figure 13. Hydraulic Capacity Factors (Fire Meters)

Meter Size	Fire Service Meters	
	Meter Capacity (gpm) ¹	Equivalency to 1-inch ²
<i>Displacement</i>		
5/8 x 3/4 inch	20	1.00
1 inch	50	1.00
1.5 inch	100	2.00
2 inch	160	3.20
<i>Fire Service Type I & II³</i>		
3 inch	350	7.00
4 inch	630	12.60
6 inch	1,400	28.00
8 inch	2,400	48.00
10 inch	3,800	76.00
12 inch	5,000	100.00

1. Per AWWA, M1, Table 6-1.

2. Per DWA Staff, base meter is 1-inch; therefore, the meter equivalency is set to 1.0 for 5/8 x 3/4 and 1-inch meters.

3. Capacity factors are for Fire Service Type I and II meters from AWWA, M6, Table 5-3.

Figure 14. Calculation of Fire Meter Fixed Charges

Number of Meters by Class and Size	FY 2023/24										Total
	5/8 x 3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Fire Private	0	0	0	2	0	237	177	135	14	3	568
Fire Public	0	0	0	0	0	0	0	1	0	0	1
Total Meters/Accounts	0	0	0	2	0	237	177	136	14	3	569
<i>Hydraulic Capacity Factor</i>	<i>1.00</i>	<i>1.00</i>	<i>2.00</i>	<i>3.20</i>	<i>7.00</i>	<i>12.60</i>	<i>28.00</i>	<i>48.00</i>	<i>76.00</i>	<i>100.00</i>	
Total Equivalent Meters	0	0	0	6	0	2,986	4,956	6,528	1,064	300	15,841
Monthly Fixed Service Charges											
Customer Costs (\$/Acct/month)	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	
Capacity Costs (\$/Acct/month)	\$2.31	\$2.31	\$4.62	\$7.39	\$16.16	\$29.08	\$64.63	\$110.80	\$175.43	\$230.83	
Total Monthly Meter Charge	\$6.92	\$6.92	\$9.23	\$12.00	\$20.77	\$33.70	\$69.25	\$115.41	\$180.04	\$235.44	
Annual Fixed Costs Allocated to Monthly Meter Charges											
Customer Costs	\$ 31,501										
Capacity & Fire Protection Costs	438,779										
Total Fixed Meter Costs	\$ 470,280										
Annual Revenue from Monthly Meter Charges											
Customer Charges	\$ -	\$ -	\$ -	\$ 111	\$ -	\$ 13,121	\$ 9,799	\$ 7,529	\$ 775	\$ 166	\$ 31,501
Capacity Charges	-	-	-	177	-	82,717	137,279	180,823	29,472	8,310	438,779
Total Revenue from Mo. Meter Charges	\$ -	\$ -	\$ -	\$ 288	\$ -	\$ 95,837	\$ 147,078	\$ 188,352	\$ 30,247	\$ 8,476	\$ 470,280

Current and Proposed Water Rates

Figure 15 provides a comparison of the current and proposed water rates for FY 2023/24 through 2027/28. While the overall increase in rate revenue is the same each year (i.e., 6.25%), the cost-of-service analysis (COSA) by nature “re-balances” how costs are allocated between customer classes and, as a result, there are uneven adjustments in the first year of the analysis. In contrast, in the following years (Years 2 through 5), rate increases are applied evenly “across-the-board” to all rates (i.e., both fixed and volumetric).

In addition to the 6.25% annual increase in the projected rate revenue, the potable water rates included a small adjustment necessitated by the decrease in the current recycled water rate from \$0.79 to \$0.60, effective July 1, 2022. This adjustment decreases each year as the recycled water rate increases by \$0.05 annually.

The decision by Agency staff to decrease the recycled water rate was necessitated by the fact that two (2) of DWA's largest recycled water connections recently switched to well water and, in response to the concerns of the remaining recycled water customers, the Agency needs to maintain affordable rates to incentivize the remaining recycled water customers to continue using recycled water. These recycled customers have their own wells and, without this incentive, may be inclined to use their own well water vs. recycled water from DWA's recycled water plant.

More detailed tables on the development of the proposed water rates are documented in Appendix B.

Figure 15. Current and Proposed Water Rates

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Fixed Monthly Service Charge						
Meter Size - Standard Meters:						
5/8 x 3/4 inch	\$33.53	\$38.32	\$40.72	\$43.27	\$45.97	\$48.84
1 inch	\$33.53	\$38.32	\$40.72	\$43.27	\$45.97	\$48.84
1.5 inch	\$64.02	\$72.02	\$76.52	\$81.30	\$86.38	\$91.78
2 inch	\$100.61	\$112.46	\$119.49	\$126.96	\$134.90	\$143.33
3 inch	\$198.18	\$240.53	\$255.56	\$271.53	\$288.50	\$306.53
4 inch	\$307.94	\$429.27	\$456.10	\$484.61	\$514.90	\$547.08
6 inch	\$612.85	\$880.88	\$935.94	\$994.44	\$1,056.59	\$1,122.63
8 inch	\$978.73	\$1,622.34	\$1,723.74	\$1,831.47	\$1,945.94	\$2,067.56
10 inch	\$2,564.22	\$2,566.01	\$2,726.39	\$2,896.79	\$3,077.84	\$3,270.21
12 inch	\$3,235.01	\$3,374.87	\$3,585.80	\$3,809.91	\$4,048.03	\$4,301.03
Monthly Fixed Service Charge - Fire Service Meters:						
2 inch	--	\$12.00	\$12.75	\$13.55	\$14.40	\$15.30
3 inch	--	\$20.77	\$22.07	\$23.45	\$24.92	\$26.48
4 inch	\$30.15	\$33.70	\$35.81	\$38.05	\$40.43	\$42.96
6 inch	\$64.99	\$69.25	\$73.58	\$78.18	\$83.07	\$88.26
8 inch	\$111.46	\$115.41	\$122.62	\$130.28	\$138.42	\$147.07
10 inch	\$173.41	\$180.04	\$191.29	\$203.25	\$215.95	\$229.45
12 inch	\$208.26	\$235.44	\$250.16	\$265.80	\$282.41	\$300.06
Commodity Charges for All Water Consumed						
Uniform Rate for All Customers	\$2.28	\$2.44	\$2.59	\$2.75	\$2.92	\$3.10

Comparison of Current and Proposed Water Bills

Figure 16 and **Figure 17** compare a range of monthly water bills under the current and proposed water rates for single-family residential (SFR) customers and commercial customers. These monthly bills are based on typical meter sizes and highlight the average consumption levels for each customer.

Figure 16. Monthly Water Bill Comparison for Single-Family Customers

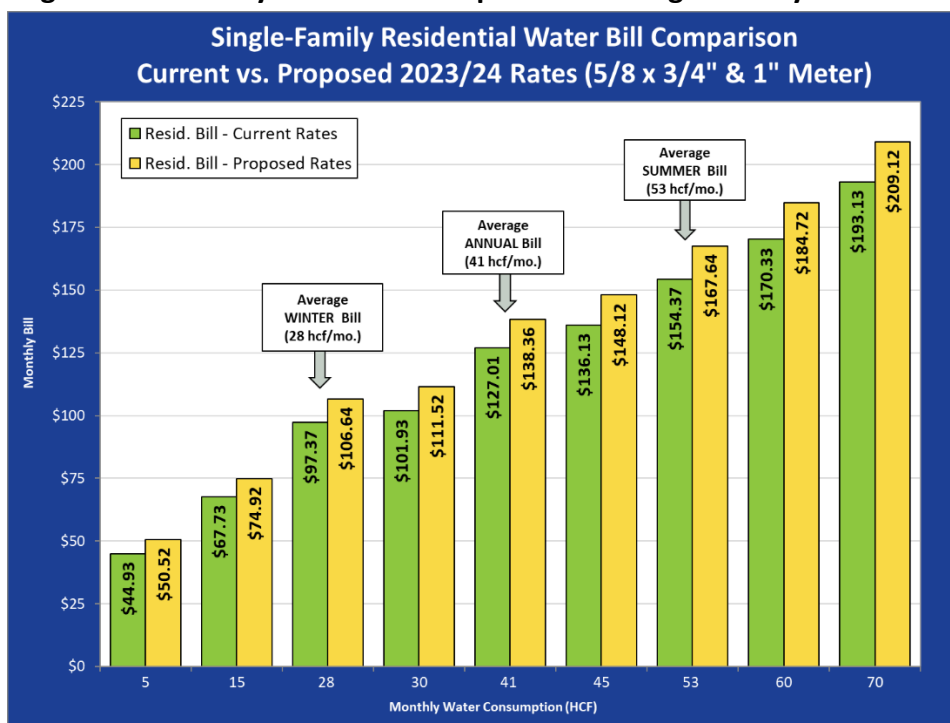
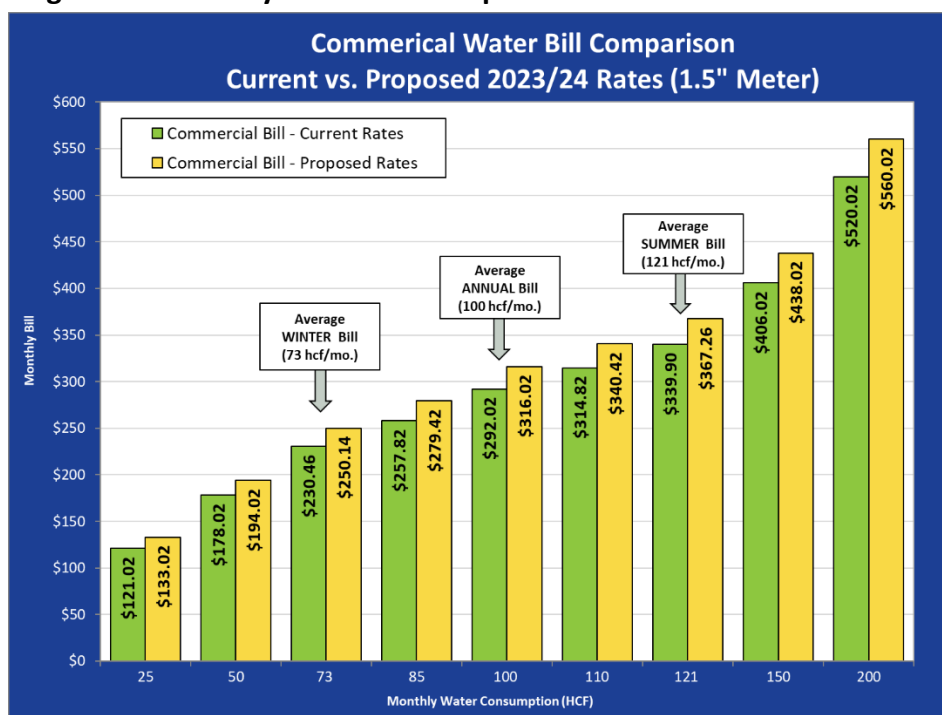


Figure 17. Monthly Water Bill Comparison for Commercial Customers



Drought and Revenue Stabilization Rates

Drought Rates – DWA is obligated to meet its annual net revenue requirements regardless of whether consumption levels decline due to conservation or other unexpected events (e.g., unseasonal weather, natural disasters, etc.). To this end, drought rates are intended to maintain the necessary level of revenues and have also taken into consideration the fact that, in these cases, some costs will also decrease.¹² **Figure 18** shows baseline consumption and consumption at each increased drought level for FY 2023/24. **Figure 19** shows the expenses that are expected to decrease as consumption decreases. **Figure 20** shows the proposed drought response charge that would replace the uniform volumetric rate (shown above in Figure 15) at each stage of conservation through FY 2027/28.

The projected monthly revenues are based on the FY 2020/21 monthly consumption levels adjusted for conservation and the volumetric rate. Key aspects of the drought rates include:

- The drought response charge was developed using water usage for FY 2020/21 less the 5% conservation factor, the same assumption used in the proposed volumetric rates.
- Once the drought response charge is added to the uniform volumetric rate on a per unit basis, this covers the cost of water service during times of mandated conservation and/or extreme water supply shortage.
- If consumption is at Water Shortage Contingency level 2 through 6 (that is, below the level used in projecting revenue forecasts), the drought rate may be activated by the Desert Water Agency Board but may not exceed the rate for the Water Shortage Contingency Plan Level.
- The Desert Water Agency Board must activate the drought response charge. If the response charge is activated, it will remain in effect as necessary and will be reviewed by the Agency Board at a minimum of every six (6) months for determination of necessity until the response charge is deactivated.

Figure 18. Projected Consumption at Baseline and Each Successive Drought Stage

Shortage Level ¹	Percent Shortage Range ²	Potable Water Consumption (AF/yr.)	Potable Water Consumption (ccf/yr.)	Difference to Baseline (ccf)
1	Less than 10% Conservation³	29,256	12,743,739	0
2	Up to 20% Conservation	26,330	11,469,365	(1,274,374)
3	Up to 30% Conservation	23,404	10,194,991	(2,548,748)
4	Up to 40% Conservation	20,479	8,920,617	(3,823,122)
5	Up to 50% Conservation	17,553	7,646,243	(5,097,496)
6	Greater than 50% Conservation	14,628	6,371,869	(6,371,869)

1. DWA Water Shortage Contingency Plan Shortage Level.

2. Drought levels based on the Agency's Water Shortage Contingency Plan. Source file: *DWA_WSCP 2020 FINAL.pdf*.

3. This represents the baseline consumption for FY 2020/21 consumption (excludes recycled water). Conservation percentage for each drought stage is relative to the baseline consumption.

¹² Details regarding the calculation of the drought rates can be found in Appendix B.

Figure 19. Projected Variable Expenses Considered

Expenses Directly Effected By Consumption Changes							
Fund	Division	Expense Name	Commodity-Related Costs				
			2023/24	2024/25	2025/26	2026/27	2027/28
Operating Fund	Pumping	Power Purchases	\$ 3,728,736	\$ 3,877,885	\$ 4,033,001	\$ 4,194,321	\$ 4,362,094
Operating Fund	Water Treatment	Chemicals & Filtering Material	294,027	308,140	322,931	338,432	354,676
Total:			\$ 4,022,763	\$ 4,186,026	\$ 4,355,932	\$ 4,532,752	\$ 4,716,770

Figure 20. Proposed Drought Rates

Drought Rate Schedule		Current Drought Rates	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Level 2	Up to 20% Conservation	\$2.65	\$2.68	\$2.72	\$2.93	\$3.14	\$3.38
Level 3	Up to 30% Conservation	\$2.91	\$2.98	\$3.02	\$3.25	\$3.49	\$3.75
Level 4	Up to 40% Conservation	\$3.26	\$3.36	\$3.41	\$3.67	\$3.94	\$4.23
Level 5	Up to 50% Conservation	\$3.74	\$3.81	\$3.92	\$4.22	\$4.54	\$4.88
Level 6	Greater than 50% Conservation	\$4.48	\$4.51	\$4.64	\$4.99	\$5.37	\$5.78

Revenue Stabilization Rates – These rates are similar to drought rates except that they are not tied to drought stages, but instead can be triggered whenever the Agency’s monthly volumetric rate revenue falls 10% or more below projected monthly volumetric revenue. Also, they are set at increments of 5% vs. the 10% increments used for drought rates.

The projected monthly revenues are based on the FY 2020/21 monthly consumption levels, adjusted for conservation, and the volumetric rate. The volumetric rate revenue requirements for the proposed revenue stabilization rates are shown in **Figure 21** for FY 2023/24. **Figure 22** shows the proposed revenue stabilization rates for the 5-year rate period.

Figure 21. Calculation of Proposed Revenue Stabilization Rates for FY 2023/24

Customer Class	Total Target Rev. Req't from Vol. Charges	10%	15%	20%	25%	30%
Potable Water	\$ 31,143,865	\$2.72	\$2.88	\$3.05	\$3.26	\$3.49
Other Water	245,955					
Total Net Revenue Requirement	\$ 31,389,819					

Figure 22. Proposed Revenue Stabilization Rates

Revenue Stabilization Rate Schedule*	Current Rates	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
10% Revenue Stabilization Rate	N.A.	\$2.72	\$2.89	\$3.07	\$3.26	\$3.46
15% Revenue Stabilization Rate	N.A.	\$2.88	\$3.05	\$3.25	\$3.45	\$3.66
20% Revenue Stabilization Rate	N.A.	\$3.05	\$3.25	\$3.45	\$3.66	\$3.89
25% Revenue Stabilization Rate	N.A.	\$3.26	\$3.46	\$3.68	\$3.91	\$4.15
30% Revenue Stabilization Rate	N.A.	\$3.49	\$3.71	\$3.94	\$4.19	\$4.45

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

DWA Board Direction – After review of the revenue stabilization rate procedures, the DWA Board directed staff to proceed with revenue stabilization rates as follows:

- DWA will only consider using revenue stabilization rates as directed by the Board.
- However, revenue stabilization rates will be considered a tool available for the Board’s use should they decide their use is necessary and advisable.

- Drought rates will remain the primary means of addressing revenue shortfalls during times of declared water shortage in conjunction with the Agency's drought program.

Temporary Construction Meter Rates

DWA provides temporary construction meter water service to about 71 customers. This is a fundamentally different type of service because of the temporary nature and the use of transitory meters and backflow devices that hook up to hydrants. Because of this, there are several charges, including deposits to ensure that devices are returned or can be replaced, typical monthly fixed charges, and volumetric rates.

The Agency's charges for this service are based on recovering the additional costs involved in providing this service as well as the fixed and variable costs recovered from all other potable water customers based on cost-of-service principles.

Figure 23 summarizes the temporary construction meter costs and calculated volumetric rate; **Figure 24** summarizes the project fixed charges, volumetric rates, and other charges for the next five years.

Figure 23. Temporary Construction Meter Costs & Volumetric Rate

Temporary Construction Meter Costs ¹	Meter Size		Total
	3 inch	6 inch	
Fixed Charges			
No. of Commercial Mains	70	1	71
Customer Charges (\$/Acct/month)	\$4.61	\$4.61	
Total Fixed Charges (\$/Yr.) ¹	\$3,875	\$55	\$3,931
Volumetric Charges			
Proposed Uniform Vol. Rate (FY23/24)	\$2.44	\$2.44	
Annual Consumption	71,819	28,357	100,176
Volumetric Charges (\$/Yr.)	\$ 175,515	\$ 69,300	\$ 244,816
Total Fixed & Volumetric Charges	\$ 179,391	\$ 69,356	\$ 248,746
Total Annual Consumption (hcf/Yr.)			100,176
Proposed Volumetric Rate (\$/hcf)			\$2.48

1. No. of meters times Customer and Capacity Charges per month times 12 months.

Figure 24. Proposed Temporary Construction Meter Charges

Construction Meter Charges	Current Charges	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Volumetric Rate (\$/hcf)	\$2.60	\$2.48	\$2.64	\$2.80	\$2.98	\$3.16

SECTION 3. RECYCLED WATER RATE STUDY

Key Recycled Water Rate Study Issues

Recycled water rates face a unique set of challenges in determining what rates should be charged. Regardless of actual system costs, rates cannot exceed what the “market” can bear, or else recycled water customers will likely use alternative sources. This has often resulted in setting these rates arbitrarily low so that they do not exceed the costs of alternative sources (or exceed potable prices). Actual costs are also unclear because typically wastewater customers benefit from recycled water through reduced wastewater disposal costs and those reduced cost aren’t always reflected in recycled water costs. Additionally, DWA has lost three 18-hole golf courses as customers, Indian Canyon's North and South Golf Courses and Mesquite Golf Course. Escena Golf Course and the City of Palm Springs Tahquitz Creek Golf Courses requested a more competitive rate as compared to groundwater pumping costs.

The primary issues addressed in this study for the recycled water system were: (1) ensuring rates generate a reasonable level of revenue to pay for operating costs of the system, and (2) establishing reasonable rates considering the Indian Canyons Golf Courses are now pumping groundwater, Mesquite Golf Course has gone out of business for financial reasons and the remaining golf courses are struggling financially.

DWA currently charges recycled water customers a reduced rate compared to potable customers. On July 1, 2022, DWA reduced the recycled water rate from \$0.79 to \$0.60 per CCF. This new rate is intended to match cost of pumping groundwater from a private well. The plan is to increase this rate by \$0.05 each year on July 1, through year 2028 and thereafter a new rate study will be performed to determine the new recycled water rate. As a condition of this reduced rate, Escena Golf Course has ceased pumping groundwater from their private well and is now contractually obligated to use recycled water for 95% of its golf course irrigation needs in perpetuity.

Recycled Water Utility Revenue Requirements

The costs allocated to recycled water were previously determined in the functionalization analysis that allocated a percentage of the system costs to recycled water.¹³ **Figure 25** summarizes the recycled water revenue requirements for FY 2023/24.

Figure 25. Summary of Recycled Water Revenue Requirements

Classification Components	PROPOSED ALTERNATIVE Cost-of-Service Net Revenue Requirements (FY 2023/24)	
	\$ - Allocated ¹	% - Allocated
Commodity Related Costs	\$ 1,578,013	99.5%
Capacity-Related Costs	7,930	0.5%
Customer-Related Costs	-	0.0%
Net Revenue Requirement	\$ 1,585,943	100%

1. Based on the potable water functionalized cost allocations.

¹³ See discussion of functionalized costs at the beginning of Section 2 and in the cost-of-service analysis of Section 2.

Proposed Recycled Water Rates

Variable Charges

Given the amount of consumption relative to the number of meters in the recycled water system, it is expected that almost all (99.5%)¹⁴ of the rate revenue will be collected from the variable charge. **Figure 26** summarizes the variable rate calculation for FY 2023/24.

Figure 26. Recycled Water Variable Rate Calculation

Rate Structure Type	Number of Meters ¹	Water Consumption (hcf/yr.) ²	Actual Net Rev. Req't from Vol. Charges	Adjusted Rev. Req't from Vol. Charges ³	Uniform Commodity Rates (\$/hcf)	Proposed Rate Structure
Uniform Commodity Rate (\$/hcf)	10	1,244,239	\$ 1,585,943	\$ 746,544	\$0.60	Uniform

1. Meter counts, consumption rates, and customer class from DWA provided source file: *Summary Tables_FS v9.xlsx*.

2. Projected FY 2020/21 consumption based on actual usage and a 5% adjustment for conservation. See Figure 4.

3. Target revenue adjusted based on DWA's recently adopted uniform commodity rate of \$0.60 per hcf.

Fixed Charges

Fixed charges have been calculated in the same manner as potable water fixed charges. **Figure 27** shows the calculation of the monthly fixed meter charges. In total, the fixed and variable charges collect the target revenue from recycled water customers as shown previously in Figure 25.

Figure 27. Recycled Water Fixed Rate Calculation

Number of Meters by Class and Size	FY 2023/24										Total
	5/8 x 3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Recycled Water	5	0	0	0	0	1	4	0	0	0	10
Total Meters/Accounts	5	0	0	0	0	1	4	0	0	0	10
<i>Hydraulic Capacity Factor</i>	1.00	1.00	2.00	3.20	6.40	10.00	20.00	32.00	84.00	106.00	
Total Equivalent Meters	5	0	0	0	0	10	80	0	0	0	95
Monthly Fixed Service Charges											
Customer Costs (\$/Acct/mo.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Capacity Costs (\$/Acct/mo.)	6.96	6.96	13.91	22.26	44.52	69.56	139.12	222.59	584.29	737.32	
Total Monthly Meter Charge	\$6.96	\$6.96	\$13.91	\$22.26	\$44.52	\$69.56	\$139.12	\$222.59	\$584.29	\$737.32	
Annual Fixed Costs Allocated to Monthly Meter Charges											
Customer Costs	\$ -										
Capacity Costs	7,930										
Total Fixed Meter Costs	\$ 7,930										
Annual Revenue from Monthly Meter Charges											
Customer Charges	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capacity Charges	417	-	-	-	-	835	6,678	-	-	-	7,930
Total Revenue from Mo. Meter Charges	\$ 417	\$ -	\$ -	\$ -	\$ -	\$ 835	\$ 6,678	\$ -	\$ -	\$ -	\$ 7,930

Current vs. Proposed Recycled Water Rates

Figure 28 shows the current and proposed recycled water rates for FY 2023/24 through FY 2027/28.

¹⁴ The allocation percentage of 99.5% is from the 2016 rate study and was not changed.

Figure 28. Current and Proposed Recycled Water Rates

Recycled Water Rate Schedule	Current Rates ¹	Proposed Rates ²				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Fixed Monthly Service Charge						
Fixed Monthly Service Charge:						
5/8 x 3/4 inch	--	\$6.96	\$7.40	\$7.86	\$8.35	\$8.87
1 inch	--	\$6.96	\$7.40	\$7.86	\$8.35	\$8.87
1.5 inch	--	\$13.91	\$14.78	\$15.70	\$16.68	\$17.72
2 inch	\$15.00	\$22.26	\$23.65	\$25.13	\$26.70	\$28.37
3 inch	\$26.97	\$44.52	\$47.30	\$50.26	\$53.40	\$56.74
4 inch	\$40.43	\$69.56	\$73.91	\$78.53	\$83.44	\$88.66
6 inch	\$77.83	\$139.12	\$147.82	\$157.06	\$166.88	\$177.31
8 inch	\$122.71	\$222.59	\$236.50	\$251.28	\$266.99	\$283.68
10 inch	\$317.19	\$584.29	\$620.81	\$659.61	\$700.84	\$744.64
12 inch	\$399.47	\$737.32	\$783.40	\$832.36	\$884.38	\$939.65
Commodity Charges for All Water Consumed						
Uniform Rate for All Customers ³	\$0.60	\$0.65	\$0.70	\$0.75	\$0.80	\$0.85

1. Current recycled water fixed charges set by Resolution No. 978 and does not include the \$35 flow control valve charge for meters 8" or larger.

2. Initial adjustment to rates would be effective July 1, 2023.

3. The uniform commodity rate of \$0.60/ccf was effective as of July 1, 2022. Future rate increases were adopted at the direction of the DWA Board.

SECTION 4. WASTEWATER RATE STUDY

Key Wastewater Rate Study Issues

DWA manages a wastewater collection system for approximately 2,200 customers within its service area. While DWA bills all wastewater customers for services for collection and treatment, the portion of rate revenue that is retained by DWA represents only the percentage necessary to recover costs for collection and transmission. The remainder of the revenue is passed through to the agencies responsible for treatment. Depending on the customer's location, it is either the City of Palm Springs or Coachella Valley Water District. More details are provided in Appendix C.

Revenue Requirements

Similar to the water utilities, it is important for the wastewater utility to ensure rates provide sufficient funding to cover operating and maintenance costs, planned capital expenditures, and maintain reasonable reserves.¹⁵ The wastewater utility's rate increases are governed by these needs, and the current state of DWA's wastewater utility is as follows:

- **Meeting Net Revenue Requirements:** For FY 2023/24 through FY 2027/28, the projected net revenue requirements (total operating expenses plus rate-funded capital costs, less non-rate revenues) for the wastewater utility are approximately \$308,000 to \$381,000. This is an increase of more than 70% since the last rate study.

Even though current rate revenue funds nearly all operating costs, capital costs, and can maintain a sufficient level of reserves, NBS is recommending an annual increase of 4.8% each year, which is the general inflation rate, to address the small deficits shown in the financial plan which will continue to grow without rate increases. Therefore, the charge per EDU increased as a result of this recommendation.

With the 4.8% rate increases, the ending reserve balances are more than three times the target reserve levels throughout the five-year rate adoption period, indicating that the financial health of the wastewater utility will remain strong.

- **Maintaining Reserve Funds:** For the wastewater utility, NBS recommends that DWA target a minimum of approximately \$560,000 in unrestricted reserve funds over the 5-year period. The reserve funds, which are considered unrestricted, consist of the following:
 - **Operating Reserve** should equal 6 months of operating expenses, or approximately \$164,000 in FY 2023/24, which is consistent with existing DWA policy for the potable water utility. An Operating Reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures.

¹⁵ A summary of the wastewater utility's proposed 5-year financial plan as well as the proposed rates are provided in Appendix C.

- **Reserve for Replacements** should equal 3% of net capital assets, or approximately \$402,000 in FY 2023/24, which is set aside to address long-term capital system replacement and rehabilitation needs. Since DWA does not maintain a capital replacement reserve for the wastewater utility, we have included this amount in the operating reserve which together total approximately \$560,000.

It is projected that the wastewater utility will exceed these reserve targets throughout the 5-year rate period as the current reserve balance is estimated at \$2.0 million.

Figure 29 summarizes the sources and uses of funds, net revenue requirements, and the recommended annual increases in wastewater rate revenue proposed for the next 5 years. **Figure 30** summarizes the projected reserve fund balances and reserve targets.

Figure 29. Summary of Wastewater Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	5-Year Rate Adoption Period				
	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Sources of Wastewater Funds						
Rate Revenue Under Current Rates	\$ 277,200	\$ 280,126	\$ 283,052	\$ 285,978	\$ 288,904	\$ 291,830
Other Operating Revenue	29,880	30,195	30,511	30,826	31,142	31,457
Non-Rate Revenues	-	-	-	-	-	-
Interest Income	10,800	26,531	26,342	26,156	25,977	25,807
Total Sources of Funds	\$ 317,880	\$ 336,852	\$ 339,905	\$ 342,961	\$ 346,023	\$ 349,095
Uses of Wastewater Funds						
Operating Expenses	\$ 312,850	\$ 327,816	\$ 343,502	\$ 359,940	\$ 377,169	\$ 395,225
Existing Debt Service	-	-	-	-	-	-
New Debt Service	-	-	-	-	-	-
Rate Funded Capital Expenses	35,631	37,024	38,472	39,976	41,539	43,163
Total Use of Funds	\$ 348,481	\$ 364,841	\$ 381,974	\$ 399,916	\$ 418,708	\$ 438,388
Surplus (Deficiency) before Rate Increase	\$ (30,601)	\$ (27,988)	\$ (42,069)	\$ (56,956)	\$ (72,685)	\$ (89,294)
Additional Revenue from Rate Increases ¹	-	13,446	27,825	43,189	59,593	77,094
Total Rate Revenue After Rate Increases	-	\$293,572	\$310,877	\$329,167	\$348,497	\$368,924
Surplus (Deficiency) after Rate Increase	\$ (30,601)	\$ (14,542)	\$ (14,244)	\$ (13,766)	\$ (13,092)	\$ (12,200)
Increase in Rate Revenue	0.00%	4.80%	4.80%	4.80%	4.80%	4.80%
Cumulative Increases	0.00%	4.80%	9.83%	15.10%	20.63%	26.42%

1. Assumes new rates are implemented January 1, 2024.

Figure 30. Summary of Wastewater Reserve Funds

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget	5-Year Rate Adoption Period				
	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Unappropriated Reserve Fund¹						
Ending Balance	\$ 2,040,818	\$ 2,026,276	\$ 2,012,032	\$ 1,998,266	\$ 1,985,174	\$ 1,972,974
<i>Recommended Minimum Target</i>	<i>570,425</i>	<i>565,908</i>	<i>563,751</i>	<i>560,970</i>	<i>559,584</i>	<i>558,613</i>
Total Ending Balance (Unrestricted)	\$ 2,040,818	\$ 2,026,276	\$ 2,012,032	\$ 1,998,266	\$ 1,985,174	\$ 1,972,974
<i>Recommended Minimum Target</i>	<i>\$ 570,425</i>	<i>\$ 565,908</i>	<i>\$ 563,751</i>	<i>\$ 560,970</i>	<i>\$ 559,584</i>	<i>\$ 558,613</i>

1. The Agency only maintains an Unappropriated Reserve Fund rather than separate operating and capital reserves.

Current vs. Proposed Wastewater Rates

The current wastewater rate structure is based on a rate per Equivalent Dwelling Unit (EDU) which is assigned to each customer according to the expected volume of flow and the strength of effluent produced by each customer. DWA currently collects a charge of \$6.15 per EDU each month to cover operating, maintenance, and administrative costs. However, the number of EDUs and the annual revenue requirements have changed since the previous rate study, and DWA has increased sewer rates by 3.5% per

year in an across-the-board manner. Current rates (before rate increases) generate approximately \$295,000 to \$300,000 per year which means that the Agency requires minimal rate increases of 4.8% throughout the rate adoption period to keep up with inflation and maintain healthy reserves, despite small annual deficits.

DWA has chosen to maintain the existing rate structure. However, as a result of the cost-of-service analysis, different rates are recommended going forward. **Figure 31** summarizes the original charge of \$5.36/EDU from the 2017 rate study, the current rate of \$6.15/EDU, which is the result of 3.5% annual rate increases since 2017, and the updated rate of \$7.31/EDU. The proposed new rate is the 2023 total revenue requirement of \$293,572 divided by the current number of EDUs and reflects the recommended rate increase of 4.8%.

Figure 31. Summary of EDUs, Revenue Requirements, and Wastewater Rates

Customer Class	No. of EDUs	Total Revenue Requirement (\$/Yr.)	Monthly Fixed Charge Per EDU
Total 2017	3,242	\$ 208,553	\$5.36
Current Rate		\$ 296,799	\$6.15
Total 2023	3,348	\$ 293,572	\$7.31

Figure 32 shows DWA’s current and proposed wastewater rates for FY 2023/24 through FY 2027/28. Although the \$/EDU “rate” is the same for all customers, the total monthly charges will differ based on the number of EDUs assigned to each customer.

DWA collects their charges along with charges for treatment provided by outside agencies. Therefore, the total projected charges per EDU will vary depending on what agency provides treatment. **Figure 33** summarizes DWA charges along with treatment charges for various customer classes.

Figure 32. Current and Projected Wastewater Rates

Wastewater Rate Schedule	Current Rates	Proposed Rates				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
<i>Projected Increase in Rate Revenue per Financial Plan:</i>		4.80%	4.80%	4.80%	4.80%	4.80%
Fixed Monthly Service Charge Per EDU	\$6.15	\$7.31	\$7.66	\$8.03	\$8.41	\$8.81

Figure 33. Proposed Wastewater Rates for FY 2023/24

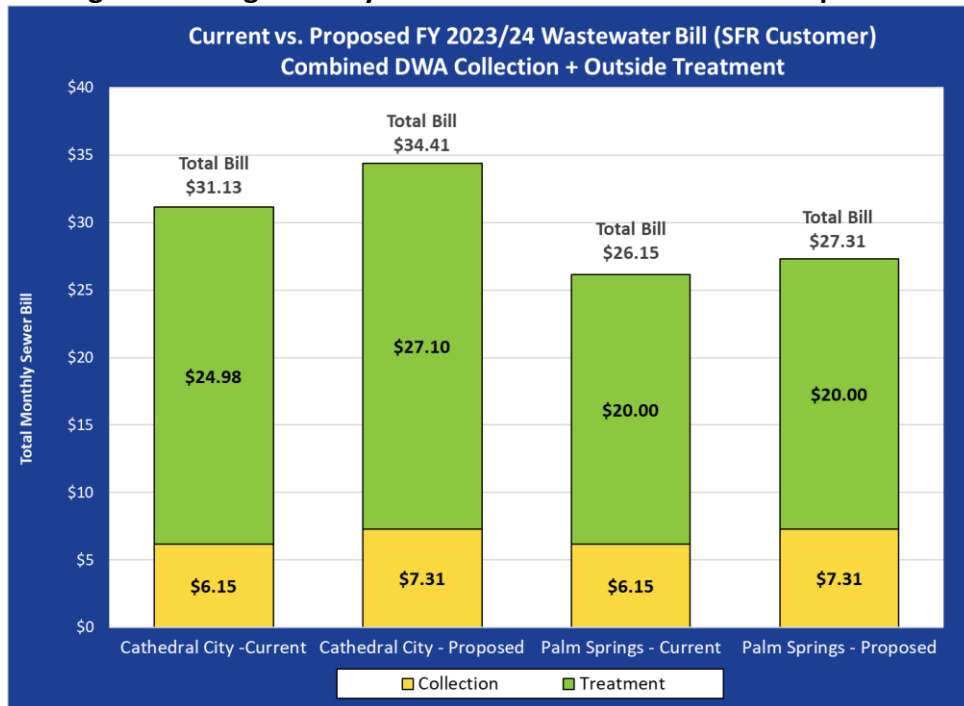
Wastewater Rate Schedule ¹							
Customer Types	EDU Scale	CVWD Treatment - Cathedral City			City Treatment - Palm Oasis / Dream Homes Only		
		CVWD Charges per EDU	DWA Charges per EDU	Total Charges	City of Palm Springs Charges (per EDU)	DWA Charges (per EDU)	Total Charges
Single Family/Condo	1 EDU = 1 Unit	\$27.10	\$7.31	\$34.41	\$20.00	\$7.31	\$27.31
Mobile Home Park	1 EDU = 1 Space	\$27.10	\$7.31	\$34.41	\$20.00 + \$1.98/FU ²	\$7.31	\$29.29
Apartments	1 EDU = 1 Unit	\$27.10	\$7.31	\$34.41	\$20.00	\$7.31	\$27.31
Hotel/Motel	1/2 EDU = 1 Room	\$27.10	\$7.31	\$34.41	N/A	N/A	N/A
RV Park	1/2 EDU = 1 Space	\$27.10	\$7.31	\$34.41	N/A	N/A	N/A
Comm./Ind./ Inst.	V & F ²	\$27.10	\$7.31	\$34.41	\$1.98/FU (Min. \$20.00)	\$7.31	\$27.31 Min.
Schools and Colleges	Per Student & EDU	\$27.10	\$7.31	\$34.41	\$1.98/FU (Min. \$20.00)	\$7.31	\$27.31 Min.
All Other Schools	Per Student & EDU	\$27.10	\$7.31	\$34.41	N/A	N/A	N/A

1. Assumes new rates are implemented January 1, 2024.

2. "V & F" = Volumetric and Fixed and "FU" = Fixture Units.

Figure 34 compares the total monthly bill for residential customers under current and proposed rates and includes the outside treatment component, depending on where the customer is located.¹⁶

Figure 34. Single Family Residential Wastewater Bill Comparison



¹⁶ Coachella Valley Water District treats the wastewater for customers located in Cathedral City. The City of Palm Springs treats the wastewater for customers located in Palm Springs.

SECTION 5. RECOMMENDATIONS AND NEXT STEPS

Consultant Recommendations

NBS recommends DWA take the following actions:

- **Approve and Accept this Study:** NBS recommends the DWA Board of Directors formally approve and adopt this Study 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:** Based on successfully meeting the Proposition 218 procedural requirements, DWA should proceed with implementing the 5-year schedule of proposed rates (including drought and temporary construction meter rates) and rate increases¹⁷ previously shown in Figure 15, Figure 20, Figure 22, Figure 28, Figure 32, and Figure 33. This will help ensure the continued financial health of DWA's utilities.

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 financial plan, revenue requirements, cost-of-service, and the rate design analyses that have been summarized in this report.

NBS' Principal Assumptions and Considerations

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

¹⁷ A full rate schedule for Prop 218 purposes is shown in Appendix A at the end of this report.

to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others.

TECHNICAL APPENDICES

Appendix A - Prop 218 Rate Tables

Potable Water Rates:

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Fixed Monthly Service Charge						
Meter Size - Standard Meters:						
5/8 x 3/4 inch	\$33.53	\$38.32	\$40.72	\$43.27	\$45.97	\$48.84
1 inch	\$33.53	\$38.32	\$40.72	\$43.27	\$45.97	\$48.84
1.5 inch	\$64.02	\$72.02	\$76.52	\$81.30	\$86.38	\$91.78
2 inch	\$100.61	\$112.46	\$119.49	\$126.96	\$134.90	\$143.33
3 inch	\$198.18	\$240.53	\$255.56	\$271.53	\$288.50	\$306.53
4 inch	\$307.94	\$429.27	\$456.10	\$484.61	\$514.90	\$547.08
6 inch	\$612.85	\$880.88	\$935.94	\$994.44	\$1,056.59	\$1,122.63
8 inch	\$978.73	\$1,622.34	\$1,723.74	\$1,831.47	\$1,945.94	\$2,067.56
10 inch	\$2,564.22	\$2,566.01	\$2,726.39	\$2,896.79	\$3,077.84	\$3,270.21
12 inch	\$3,235.01	\$3,374.87	\$3,585.80	\$3,809.91	\$4,048.03	\$4,301.03
Monthly Fixed Service Charge - Fire Service Meters:						
2 inch	--	\$12.00	\$12.75	\$13.55	\$14.40	\$15.30
3 inch	--	\$20.77	\$22.07	\$23.45	\$24.92	\$26.48
4 inch	\$30.15	\$33.70	\$35.81	\$38.05	\$40.43	\$42.96
6 inch	\$64.99	\$69.25	\$73.58	\$78.18	\$83.07	\$88.26
8 inch	\$111.46	\$115.41	\$122.62	\$130.28	\$138.42	\$147.07
10 inch	\$173.41	\$180.04	\$191.29	\$203.25	\$215.95	\$229.45
12 inch	\$208.26	\$235.44	\$250.16	\$265.80	\$282.41	\$300.06
Commodity Charges for All Water Consumed						
Uniform Rate for All Customers	\$2.28	\$2.44	\$2.59	\$2.75	\$2.92	\$3.10

Drought Rates:

Drought Rate Schedule	Current Rates	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Up to 20% Conservation	\$2.65	\$2.68	\$2.72	\$2.93	\$3.14	\$3.38
Up to 30% Conservation	\$2.91	\$2.98	\$3.02	\$3.25	\$3.49	\$3.75
Up to 40% Conservation	\$3.26	\$3.36	\$3.41	\$3.67	\$3.94	\$4.23
Up to 50% Conservation	\$3.74	\$3.81	\$3.92	\$4.22	\$4.54	\$4.88
Greater than 50% Conservation	\$4.48	\$4.51	\$4.64	\$4.99	\$5.37	\$5.78

Detail of Rates and Drought Response Charge for Each Drought Stage:

Proposed Drought Rates										
Drought Rate Schedule ¹	FY 2023/24		FY 2024/25		FY 2025/26		FY 2026/27		FY 2027/28	
Uniform Rate for All Customers	\$2.44		\$2.59		\$2.75		\$2.92		\$3.10	
Water Consumption Baseline (hcf/yr) ²	12,743,739 hcf		12,743,739 hcf		12,743,739 hcf		12,743,739 hcf		12,743,739 hcf	
Conservation Target	Drought Response Charge ³	Drought Rate ⁴	Drought Response Charge ³	Drought Rate ⁴	Drought Response Charge ³	Drought Rate ⁴	Drought Response Charge ³	Drought Rate ⁴	Drought Response Charge ³	Drought Rate ⁴
Less than 10% Conservation	\$0.00	\$2.44	\$0.00	\$2.59	\$0.00	\$2.75	\$0.00	\$2.92	\$0.00	\$3.10
Up to 20% Conservation	\$0.24	\$2.68	\$0.13	\$2.72	\$0.18	\$2.93	\$0.22	\$3.14	\$0.28	\$3.38
Up to 30% Conservation	\$0.53	\$2.98	\$0.43	\$3.02	\$0.50	\$3.25	\$0.57	\$3.49	\$0.65	\$3.75
Up to 40% Conservation	\$0.91	\$3.36	\$0.82	\$3.41	\$0.92	\$3.67	\$1.02	\$3.94	\$1.13	\$4.23
Up to 50% Conservation	\$1.37	\$3.81	\$1.33	\$3.92	\$1.47	\$4.22	\$1.62	\$4.54	\$1.78	\$4.88
Greater than 50% Conservation	\$2.07	\$4.51	\$2.05	\$4.64	\$2.24	\$4.99	\$2.45	\$5.37	\$2.68	\$5.78

1. ACTIVATION - The Drought Response Charge will NOT be added on water bills unless approved by the Desert Water Agency Board. If the response charge is activated, it will remain in effect as necessary and will be reviewed by the Agency Board a minimum of every six (6) months for a determination of necessity until the response charge is deactivated.
2. Baseline water consumption is based on water usage for FY 2020/21 less 5% for conservation, the same assumption used in the proposed volumetric rates.
3. Drought Response Charge is added to the Uniform Rate on a per unit basis to cover the cost of water service during times of State Agency mandated conservation and/or extreme water supply shortage, resulting in water consumption below the established baseline.
4. The Drought Rate equals the Volumetric Rate plus Volumetric Response Charge. This does not include pumping charges which will apply where applicable.

Revenue Stabilization Rates:

Revenue Stabilization Rate Schedule*	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
10% Revenue Stabilization Rate	\$2.72	\$2.89	\$3.07	\$3.26	\$3.46
15% Revenue Stabilization Rate	\$2.88	\$3.05	\$3.25	\$3.45	\$3.66
20% Revenue Stabilization Rate	\$3.05	\$3.25	\$3.45	\$3.66	\$3.89
25% Revenue Stabilization Rate	\$3.26	\$3.46	\$3.68	\$3.91	\$4.15
30% Revenue Stabilization Rate	\$3.49	\$3.71	\$3.94	\$4.19	\$4.45

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

Recycled Water Rates:

Recycled Water Rate Schedule	Current Rates ¹	Proposed Rates ²				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Fixed Monthly Service Charge						
Fixed Monthly Service Charge:						
5/8 x 3/4 inch	--	\$6.96	\$7.40	\$7.86	\$8.35	\$8.87
1 inch	--	\$6.96	\$7.40	\$7.86	\$8.35	\$8.87
1.5 inch	--	\$13.91	\$14.78	\$15.70	\$16.68	\$17.72
2 inch	\$15.00	\$22.26	\$23.65	\$25.13	\$26.70	\$28.37
3 inch	\$26.97	\$44.52	\$47.30	\$50.26	\$53.40	\$56.74
4 inch	\$40.43	\$69.56	\$73.91	\$78.53	\$83.44	\$88.66
6 inch	\$77.83	\$139.12	\$147.82	\$157.06	\$166.88	\$177.31
8 inch	\$122.71	\$222.59	\$236.50	\$251.28	\$266.99	\$283.68
10 inch	\$317.19	\$584.29	\$620.81	\$659.61	\$700.84	\$744.64
12 inch	\$399.47	\$737.32	\$783.40	\$832.36	\$884.38	\$939.65
Commodity Charges for All Water Consumed						
Uniform Rate for All Customers ³	\$0.60	\$0.65	\$0.70	\$0.75	\$0.80	\$0.85

1. Current recycled water fixed charges set by Resolution No. 978 and does not include the \$35 flow control valve charge for meters 8" or larger.
2. Initial adjustment to rates would be effective July 1, 2023.
3. The uniform commodity rate of \$0.60/ccf was effective as of July 1, 2022. Future rate increases were adopted at the direction of the DWA Board.

Wastewater Rates:

Wastewater Rate Schedule ¹							
Customer Types	EDU Scale	CVWD Treatment - Cathedral City			City Treatment - Palm Oasis / Dream Homes Only		
		CVWD Charges per EDU	DWA Charges per EDU	Total Charges	City of Palm Springs Charges (per EDU)	DWA Charges (per EDU)	Total Charges
Single Family/Condo	1 EDU = 1 Unit	\$27.10	\$7.31	\$34.41	\$20.00	\$7.31	\$27.31
Mobile Home Park	1 EDU = 1 Space	\$27.10	\$7.31	\$34.41	\$20.00 + \$1.98/FU ²	\$7.31	\$29.29
Apartments	1 EDU = 1 Unit	\$27.10	\$7.31	\$34.41	\$20.00	\$7.31	\$27.31
Hotel/Motel	1/2 EDU = 1 Room	\$27.10	\$7.31	\$34.41	N/A	N/A	N/A
RV Park	1/2 EDU = 1 Space	\$27.10	\$7.31	\$34.41	N/A	N/A	N/A
Comm./Ind./ Inst.	V & F ²	\$27.10	\$7.31	\$34.41	\$1.98/FU (Min. \$20.00)	\$7.31	\$27.31 Min.
Schools and Colleges	Per Student & EDU	\$27.10	\$7.31	\$34.41	\$1.98/FU (Min. \$20.00)	\$7.31	\$27.31 Min.
All Other Schools	Per Student & EDU	\$27.10	\$7.31	\$34.41	N/A	N/A	N/A

1. Assumes new rates are implemented January 1, 2024.

2. "V & F" = Volumetric and Fixed and "FU" = Fixture Units.

Appendix B - Detailed Water & Recycled Water Rate Study Tables & Figures

TABLE 1 : FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY ¹	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
Sources of Water Funds													
<u>Operating Fund Revenues:</u>													
Water Sales	\$ 37,855,469	\$ 39,412,065	\$ 41,614,000	\$ 42,053,272	\$ 42,497,180	\$ 42,941,089	\$ 43,384,998	\$ 43,828,906	\$ 44,272,815	\$ 44,716,724	\$ 45,160,632	\$ 45,604,655	\$ 46,048,677
Power Sales ³	23,184	97,688	111,000	111,000	111,000	111,000	111,000	111,000	111,000	111,000	111,000	111,000	111,000
Reclamation Water Sales	1,182,864	1,212,480	897,000	906,469	916,037	925,606	935,174	944,743	954,311	963,880	973,449	983,020	992,591
Fire Protection	386,089	412,730	410,900	415,237	419,621	424,004	428,387	432,770	437,153	441,537	445,920	450,304	454,688
Interest Income ⁴	209,824	232,528	583,200	213,180	192,542	195,825	211,330	237,064	278,316	301,174	313,532	313,970	339,336
Other Revenue	3,473,232	1,942,009	2,874,000	3,431,620	3,444,746	3,457,872	3,470,998	3,484,124	3,497,250	3,510,376	3,523,629	3,537,127	3,550,256
Total: Sources of Water Funds	\$ 43,130,663	\$ 43,309,500	\$ 46,490,100	\$ 47,130,778	\$ 47,581,125	\$ 48,055,395	\$ 48,541,887	\$ 49,038,607	\$ 49,550,845	\$ 50,044,690	\$ 50,528,162	\$ 51,000,075	\$ 51,496,548
Uses of Water Funds: ⁵													
<u>Operating Fund Expenses:</u>													
Source of Supply - Groundwater Replenish. Assm't.	\$ 5,765,675	\$ 5,914,733	\$ 5,506,800	\$ 6,648,313	\$ 7,301,000	\$ 7,972,840	\$ 8,694,515	\$ 9,477,431	\$ 9,926,519	\$ 10,077,279	\$ 10,216,833	\$ 10,298,874	\$ 10,380,703
Source of Supply - Other Supply Costs	527,026	424,237	1,290,720	1,351,545	1,415,244	1,481,953	1,551,816	1,624,981	1,701,606	1,781,853	1,865,895	1,953,912	2,046,091
Pumping Expenses	3,761,844	4,382,413	4,759,800	5,013,859	5,281,589	5,563,729	5,861,061	6,174,409	6,504,639	6,852,669	7,219,463	7,606,039	8,013,472
Regulatory Water Treatment	720,936	869,423	873,720	912,904	953,859	996,666	1,041,407	1,088,173	1,137,054	1,188,148	1,241,555	1,297,380	1,355,734
Transmission & Distribution	2,738,176	2,939,952	4,317,240	4,518,832	4,729,876	4,950,815	5,182,115	5,424,264	5,677,773	5,943,175	6,221,032	6,511,930	6,816,482
Customer Account	1,072,404	991,507	1,272,600	1,329,909	1,389,873	1,452,615	1,518,268	1,586,967	1,658,856	1,734,084	1,812,809	1,895,194	1,981,413
Administrative & General	10,646,479	8,686,005	14,606,160	15,245,137	15,912,440	16,609,336	17,337,155	18,097,284	18,891,172	19,720,336	20,586,361	21,490,904	22,435,696
Regulatory Expenditures	312,270	361,092	426,360	446,825	468,273	490,750	514,306	538,993	564,864	591,978	620,393	650,172	681,380
Net Other Operating Expenditures	(973,279)	(739,335)	(1,536,480)	(1,536,480)	(1,536,480)	(1,536,480)	(1,536,480)	(1,536,480)	(1,536,480)	(1,536,480)	(1,536,480)	(1,536,480)	(1,536,480)
Total: Operating Fund Expenses	\$ 24,571,531	\$ 23,830,027	\$ 31,516,920	\$ 33,930,845	\$ 35,915,673	\$ 37,982,225	\$ 40,164,164	\$ 42,476,021	\$ 44,526,002	\$ 46,353,042	\$ 48,247,860	\$ 50,167,924	\$ 52,174,491
<u>Other Expenditures:</u>													
Non Operating Expenses	\$ 1,125,806	\$ 1,109,144	\$ 943,560	\$ 981,747	\$ 1,021,483	\$ 1,062,830	\$ 1,105,855	\$ 1,150,625	\$ 1,197,212	\$ 1,245,689	\$ 1,296,134	\$ 1,348,626	\$ 1,403,249
Snow Creek Hydro Expenses	33,809	69,661	60,000	62,880	65,898	69,061	72,376	75,850	79,491	83,307	87,305	91,496	95,888
Recycled Water System Expenses	885,837	1,203,590	1,368,960	1,432,492	1,498,986	1,568,582	1,641,425	1,717,667	1,797,466	1,880,991	1,968,415	2,059,921	2,155,701
Total: Other Operating Expenses	\$ 2,045,452	\$ 2,382,395	\$ 2,372,520	\$ 2,477,119	\$ 2,586,367	\$ 2,700,474	\$ 2,819,656	\$ 2,944,142	\$ 3,074,170	\$ 3,209,987	\$ 3,351,855	\$ 3,500,044	\$ 3,654,838
<u>Debt Service and Capital Expenditures:</u>													
Existing Debt Service	\$ 1,342,750	\$ 1,338,950	\$ 1,344,150	\$ 1,344,650	\$ 1,342,650	\$ 1,344,450	\$ 1,339,850	\$ 1,345,100	\$ 1,342,850	\$ 1,343,250	\$ 1,342,050	\$ 1,344,250	\$ 1,344,650
New Debt Service	-	-	-	-	-	-	-	-	-	-	-	-	-
Rate-Funded Capital Expenses	10,567,231	11,329,351	10,460,946	12,234,410	13,040,394	13,554,183	14,370,585	14,936,385	16,274,221	17,563,374	18,827,665	19,944,400	14,493,536
Subtotal: Debt Service and Capital Expenditures	\$ 11,909,981	\$ 12,668,301	\$ 11,805,096	\$ 13,579,060	\$ 14,383,044	\$ 14,898,633	\$ 15,710,435	\$ 16,281,485	\$ 17,617,071	\$ 18,906,624	\$ 20,169,715	\$ 15,288,650	\$ 15,838,186
Total: Uses of Water Funds	\$ 38,526,964	\$ 38,880,723	\$ 45,694,536	\$ 49,987,024	\$ 52,885,084	\$ 55,581,332	\$ 58,694,256	\$ 61,701,648	\$ 65,217,242	\$ 68,469,653	\$ 71,769,430	\$ 68,956,618	\$ 71,667,515
Plus: Revenue from Rate Increases	-	-	-	1,330,610	5,546,630	8,672,109	12,054,642	15,712,400	17,692,314	19,763,878	21,273,629	22,835,767	24,451,554
Annual Surplus/(Deficit)	\$ 4,603,700	\$ 4,428,777	\$ 795,564	\$ (1,525,636)	\$ 242,672	\$ 1,146,172	\$ 1,902,274	\$ 3,049,359	\$ 2,025,917	\$ 1,338,915	\$ 32,360	\$ 4,879,225	\$ 4,280,587
Net Revenue Req't. (Total Uses less Non-Rate Revenue)	\$ 34,434,634	\$ 36,195,769	\$ 41,715,436	\$ 45,815,986	\$ 48,717,176	\$ 51,392,632	\$ 54,472,541	\$ 57,436,690	\$ 60,893,523	\$ 64,105,567	\$ 67,375,349	\$ 64,544,217	\$ 67,212,234
Total Rate Revenue After Rate Increases	\$ 38,264,743	\$ 39,922,483	\$ 42,135,900	\$ 43,910,119	\$ 48,574,431	\$ 52,148,202	\$ 55,979,027	\$ 60,085,076	\$ 62,513,282	\$ 65,033,138	\$ 66,991,181	\$ 69,001,726	\$ 71,065,919
Projected Annual Rate Revenue Increase⁶	0.00%	0.00%	0.00%	6.25%	6.25%	6.25%	6.25%	6.25%	3.00%	3.00%	2.00%	2.00%	2.00%
Cumulative Increase from Annual Revenue Increases	0.00%	0.00%	0.00%	6.25%	12.89%	19.95%	27.44%	35.41%	39.47%	43.65%	46.53%	49.46%	52.45%
Debt Coverage After Rate Increase⁷	13.82	14.55	11.14	10.81	12.82	13.94	15.25	16.56	16.92	17.46	17.55	17.61	17.68

1. Revenue and expenses for FY 2020/21 through FY 2022/23 provided by Agency staff. Source files: [2] 2021-06 - OP Revenue.PDF, [12d] 2021-06 - OP Expense.pdf, 2022-06- OP Revenue & Expense.PDF, 2022-2023 BUDGETREV.xlsx, & 2022-2023 BUDGETEXP - Augmented 8-2-2022.xlsx.

2. Initial rate increases are anticipated to be effective January 1, 2024 and each January 1st thereafter.

3. Power sales are projected to remain steady with no increases.

4. Interest income for FY 2020/21 through FY 2022/23 provided by Agency staff and calculated for all future years. This is the estimated interest income in the Operating Reserve. See Table 2 below for the calculation of the Interest income for all other reserves funds.

5. Operating fund expenses do not include depreciation since it is a non-cash expense.

6. Newly proposed rates are for FY 2023/24 through FY 2027/28 with an implementation data of January 1, 2024.

7. Debt coverage requirement (excluding the Franchise Fee) is 1.15. Source file: [7b] 2016 Bond Preliminary Official Statement.pdf. Conditional formatting has been applied to highlight years where the debt coverage ratio is not met.

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Financial Plan and Reserve Projections

Financial Plan & Reserve Summary

3	<-- Select Financial Plan Scenario Here													
Financial Plan Alternatives		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
1	Alternative 1 - 1% Annual Rate Increases	0.00%	0.00%	0.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
2	Alternative 2 - 3% Inflationary Rate Increases	0.00%	0.00%	0.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3	Alternative 3 - Custom Rate Increases	0.00%	0.00%	0.00%	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%
4	Alternative 4 - No Rate Increases	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

TABLE 2 : WATER RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
Unrestricted Reserves:													
Total Beginning Cash¹	\$ 14,080,000	\$ 15,626,000	\$ 18,227,700										
Operating Reserve (Contingency Reserve)													
Beginning Reserve Balance	\$ 11,320,000	\$ 12,866,000	\$ 15,467,700	\$ 15,758,460	\$ 14,232,824	\$ 14,475,496	\$ 15,621,668	\$ 17,523,942	\$ 20,573,300	\$ 22,263,001	\$ 23,176,521	\$ 23,208,881	\$ 25,083,962
Plus: Net Cash Flow (After Rate Increases)	4,603,700	4,428,777	795,564	(1,525,636)	242,672	1,146,172	1,902,274	3,049,359	2,025,917	1,338,915	32,360	4,879,225	4,280,587
Plus: Transfer of Debt Reserve Surplus	-	-	-	-	-	-	-	-	-	-	-	-	-
Less: Transfer Out to Capital Replacement Reserve	(3,637,934)	(5,379,763)	(504,804)	-	-	-	-	-	(336,216)	(425,395)	-	(3,004,144)	(3,277,303)
Ending Operating Reserve Balance	\$ 12,285,765	\$ 11,915,014	\$ 15,758,460	\$ 14,232,824	\$ 14,475,496	\$ 15,621,668	\$ 17,523,942	\$ 20,573,300	\$ 22,263,001	\$ 23,176,521	\$ 23,208,881	\$ 25,083,962	\$ 26,087,245
Target Ending Balance (6-months of O&M)²	\$ 12,285,765	\$ 11,915,014	\$ 15,758,460	\$ 16,965,422	\$ 17,957,836	\$ 18,991,112	\$ 20,082,082	\$ 21,238,010	\$ 22,263,001	\$ 23,176,521	\$ 24,123,930	\$ 25,083,962	\$ 26,087,245
Capital Replacement Reserve													
Beginning Reserve Balance	\$ 2,760,000	\$ 2,760,000	\$ 2,760,000	\$ 3,739,804	\$ 5,328,804	\$ 5,428,804	\$ 5,528,804	\$ 5,628,804	\$ 5,728,804	\$ 6,165,020	\$ 6,690,414	\$ 6,790,414	\$ 9,894,559
Plus: Grant Proceeds	-	475,000	475,000	1,589,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Plus: Transfer of Operating Reserve Surplus	3,637,934	5,379,763	504,804	-	-	-	-	-	336,216	425,395	-	3,004,144	3,277,303
Less: Use of Reserves for Capital Projects	-	-	-	-	-	-	-	-	-	-	-	-	-
Ending Capital and Infrastructure Reserve Balance	\$ 6,397,934	\$ 8,614,763	\$ 3,739,804	\$ 5,328,804	\$ 5,428,804	\$ 5,528,804	\$ 5,628,804	\$ 5,728,804	\$ 6,165,020	\$ 6,690,414	\$ 6,790,414	\$ 9,894,559	\$ 13,271,862
Target Ending Balance (6% of Net Assets)	\$ 10,799,600	\$ 11,184,400	\$ 11,507,200	\$ 11,988,200	\$ 12,415,100	\$ 12,859,100	\$ 13,337,300	\$ 13,834,100	\$ 14,393,800	\$ 15,011,800	\$ 15,684,800	\$ 16,053,500	\$ 16,443,000
Ending Balance - Unrestricted Reserves Only	\$ 18,683,700	\$ 20,529,777	\$ 19,498,264	\$ 19,561,628	\$ 19,904,299	\$ 21,150,472	\$ 23,152,745	\$ 26,302,104	\$ 28,428,021	\$ 29,866,935	\$ 29,999,296	\$ 34,978,521	\$ 39,359,107
Min. Target Ending Balance - Unrestricted Reserves	\$ 23,085,365	\$ 23,099,414	\$ 27,265,660	\$ 28,953,622	\$ 30,372,936	\$ 31,850,212	\$ 33,419,382	\$ 35,072,110	\$ 36,656,801	\$ 38,188,321	\$ 39,808,730	\$ 41,137,462	\$ 42,530,245
Ending Surplus/(Deficit) Compared to Reserve Targets	\$ (4,401,666)	\$ (2,569,637)	\$ (7,767,396)	\$ (9,391,995)	\$ (10,468,637)	\$ (10,699,741)	\$ (10,266,636)	\$ (8,770,006)	\$ (8,228,780)	\$ (8,321,386)	\$ (9,809,434)	\$ (6,158,941)	\$ (3,171,138)
Days Cash on Hand	264	298	217	203	195	197	204	220	227	229	221	248	269
Additional Reserves:													
Beginning Reserve Balances		\$ 7,675,000	\$ 7,778,613	\$ 7,883,842	\$ 7,990,494	\$ 8,098,590	\$ 8,208,147	\$ 8,319,187	\$ 8,431,729	\$ 8,545,794	\$ 8,661,401	\$ 8,778,572	\$ 8,897,329
Additional Water ³	-	-	-	-	-	-	-	-	-	-	-	-	-
Land Acquisitions	675,000	-	-	-	-	-	-	-	-	-	-	-	-
Retirement Benefits	5,000,000	-	-	-	-	-	-	-	-	-	-	-	-
Disaster Response	2,000,000	-	-	-	-	-	-	-	-	-	-	-	-
Plus: Interest Earnings	-	103,613	105,229	106,653	108,095	109,558	111,040	112,542	114,064	115,607	117,171	118,757	120,363
Ending Balance - Additional Reserves	\$ 7,675,000	\$ 7,778,613	\$ 7,883,842	\$ 7,990,494	\$ 8,098,590	\$ 8,208,147	\$ 8,319,187	\$ 8,431,729	\$ 8,545,794	\$ 8,661,401	\$ 8,778,572	\$ 8,897,329	\$ 9,017,692
Grand Total Ending Balance - All Reserves	\$ 26,358,700	\$ 28,308,389	\$ 27,382,105	\$ 27,552,122	\$ 28,002,889	\$ 29,358,619	\$ 31,471,933	\$ 34,733,833	\$ 36,973,814	\$ 38,528,336	\$ 38,777,868	\$ 43,875,850	\$ 48,376,800
Days Cash on Hand	359	392	292	274	264	263	267	279	284	284	275	299	318
Annual Interest Earnings Rate⁴	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%

1. Beginning cash balances provided by Agency staff for FY 2020/21 and FY 2021/22. Source files: [5] 2021-06 - OP Trial Balance.PDF & Updated Operating Fund Trial Balance 06-30-2022 (3).PDF.

2. Target Operating Reserve balance is set to 50%, or 6 months, of annual operating expenditures.

3. The reserve for additional water is funded with property taxes and the supplemental imported water fee.

4. Historical interest earning rates are per the average annual yields for funds invested in LAIF (2018-2022). The source is the California State Treasurer's website: <https://www.treasurer.ca.gov/pmia-laif/historical/annual.asp>.

CHART 1

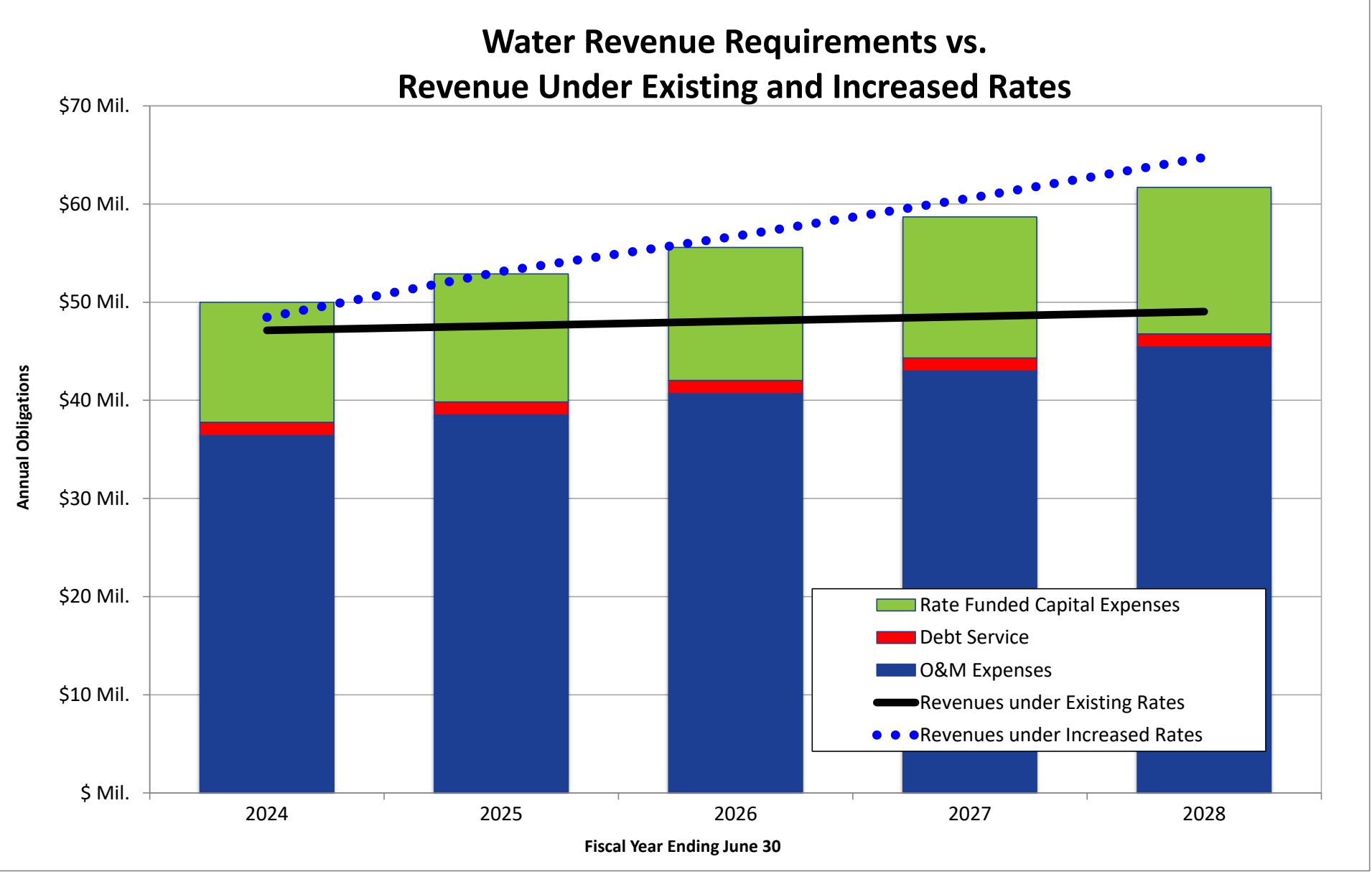


CHART 2

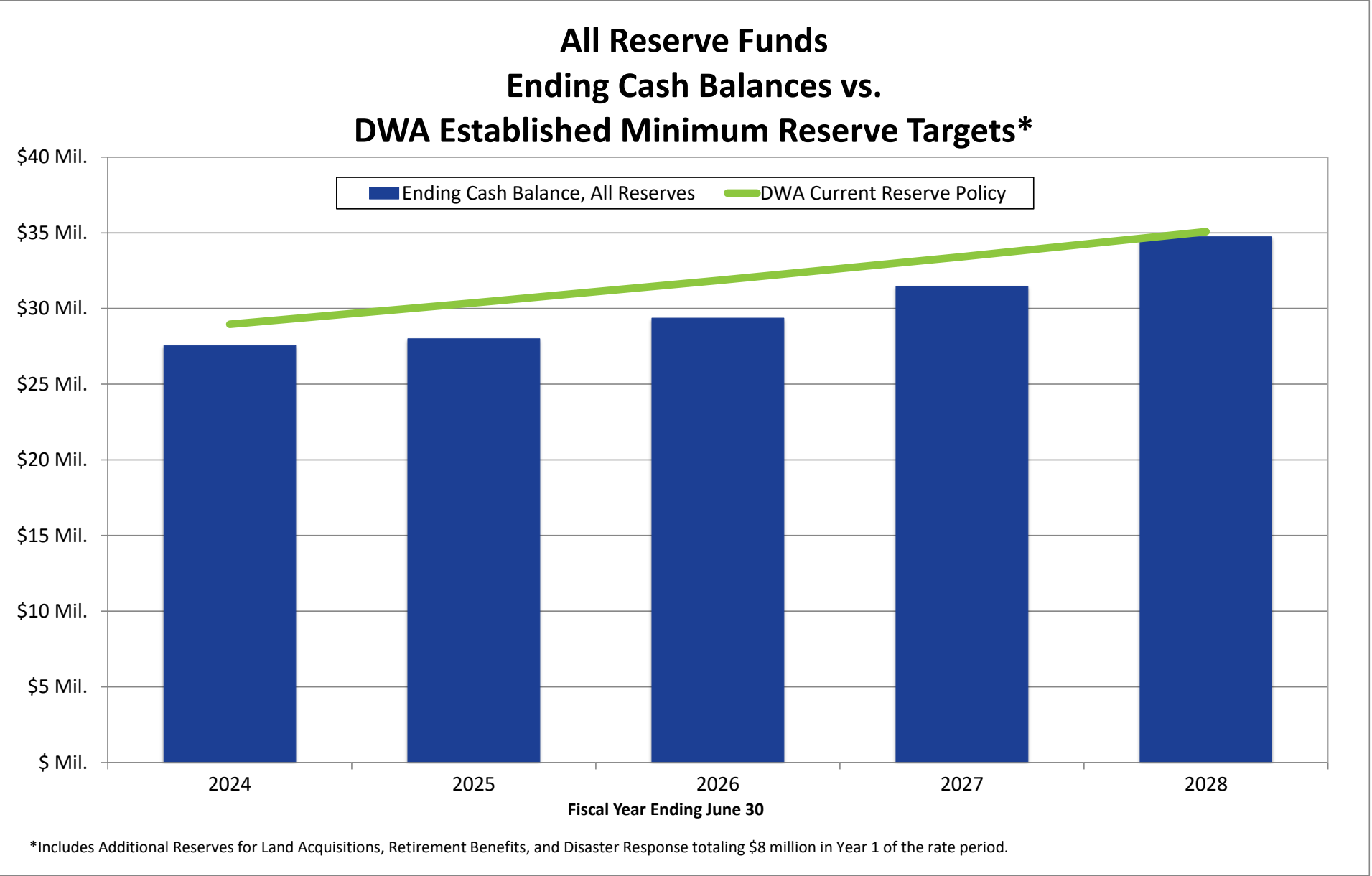


CHART 3

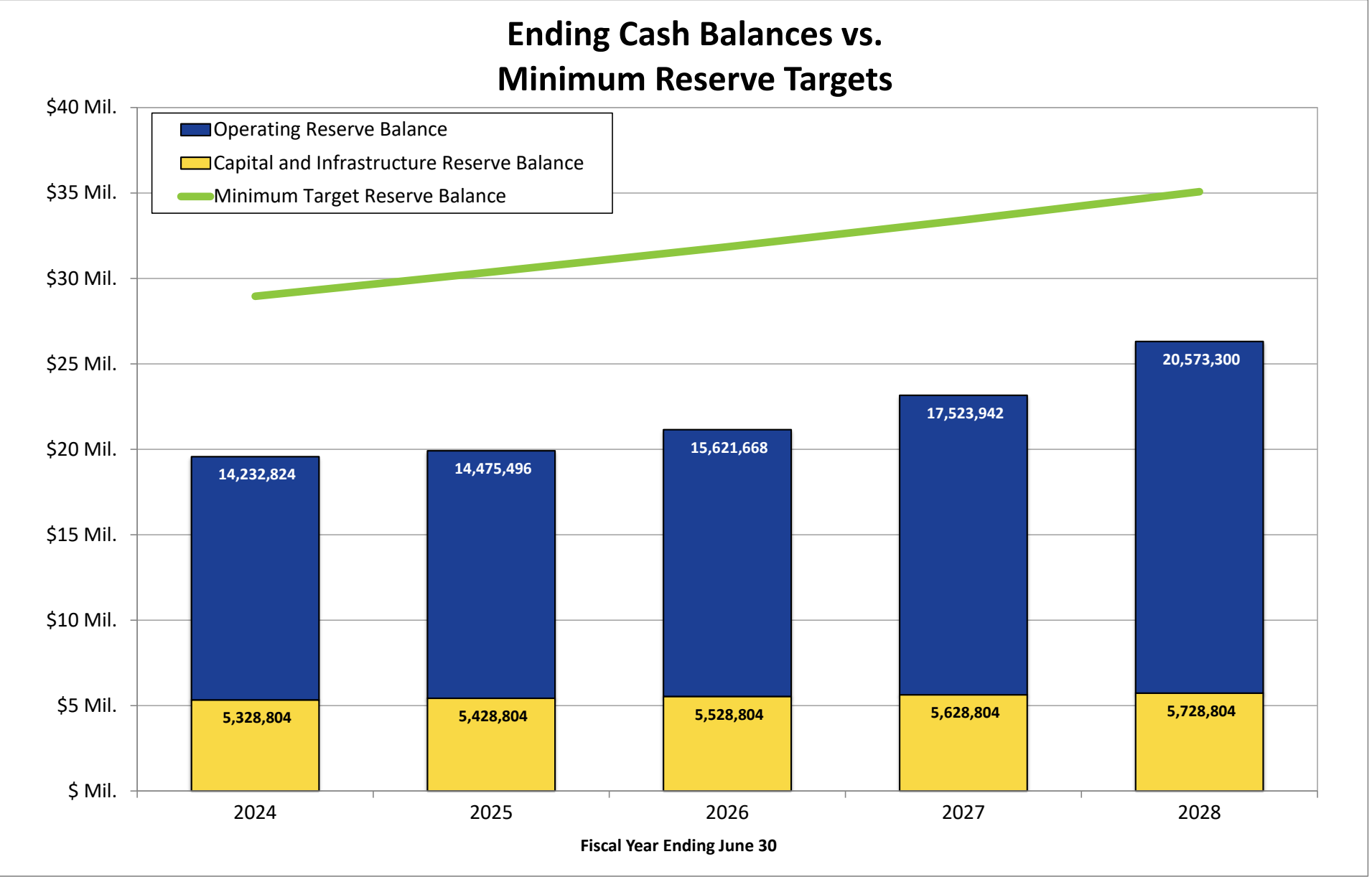


CHART 4

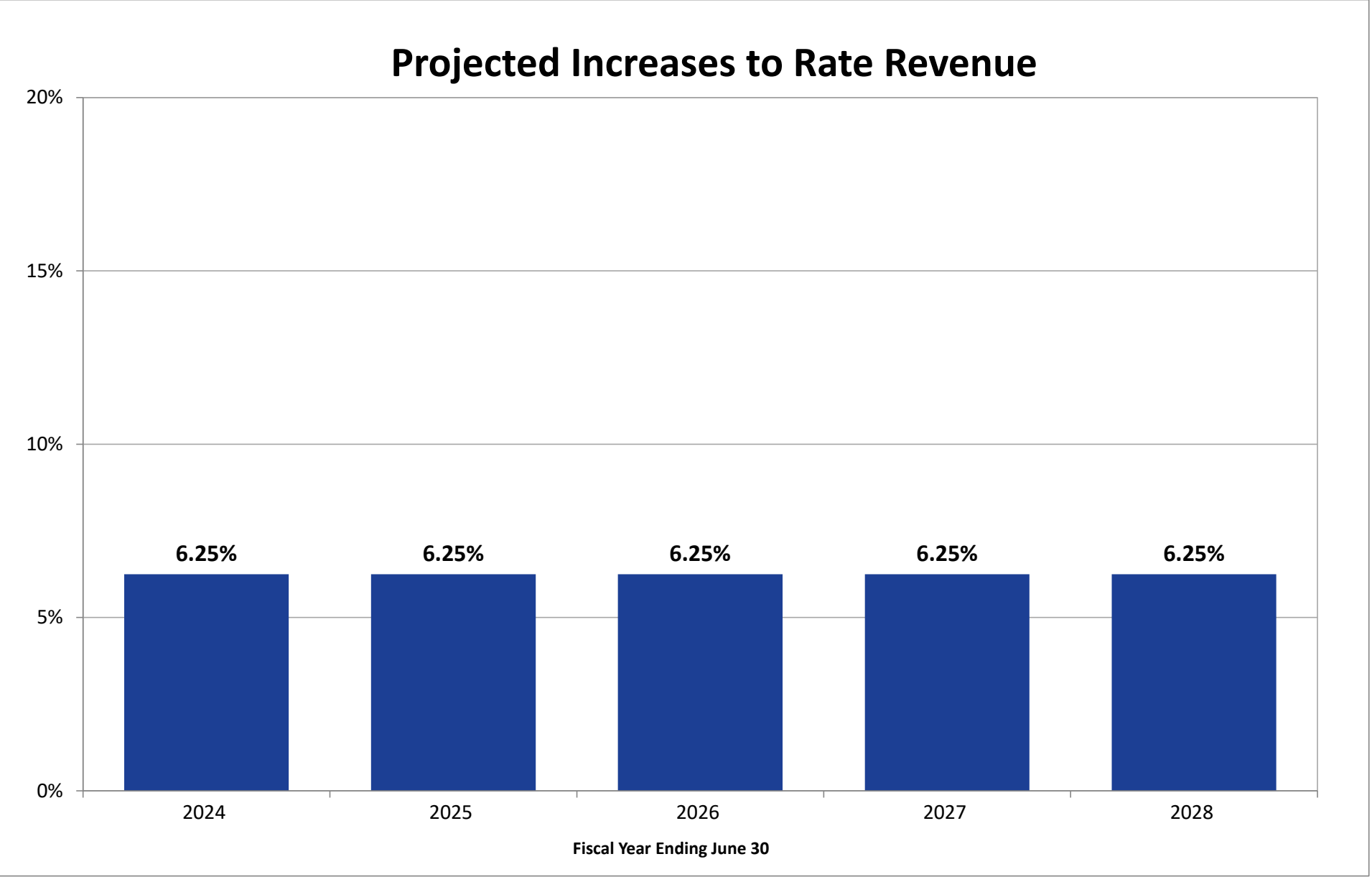


CHART 5

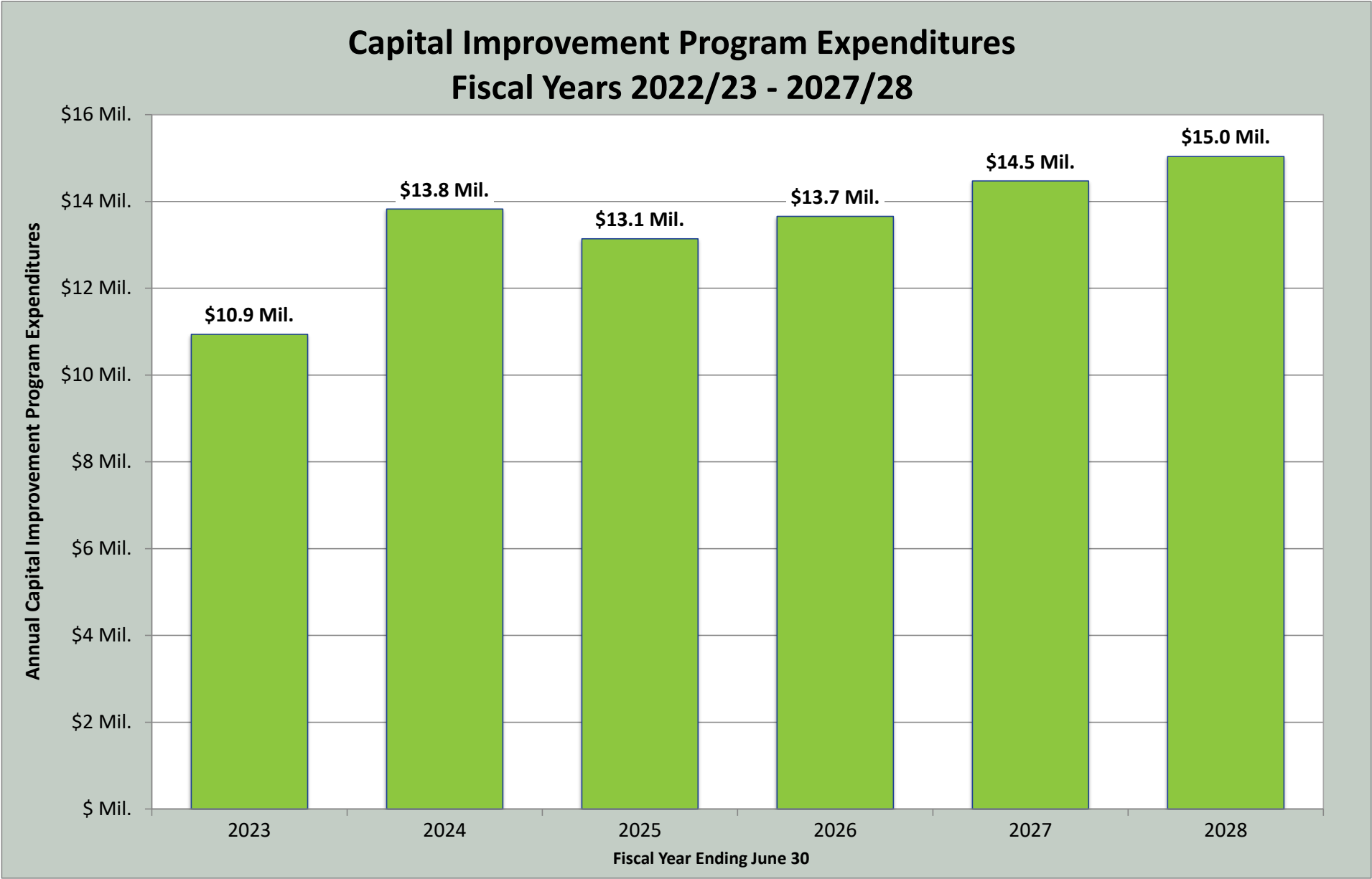


TABLE 3 : REVENUE FORECAST¹

DESCRIPTION	Basis	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected					
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	
Sources Of Water Funds															
Metered Sales - Gen Customers	1	\$ 27,026,298	\$ 28,738,284	\$ 41,614,000	\$ 42,053,272	\$ 42,497,180	\$ 42,941,089	\$ 43,384,998	\$ 43,828,906	\$ 44,272,815	\$ 44,716,724	\$ 45,160,632	\$ 45,604,655	\$ 46,048,677	
Metered Sales - Commercial	1	9,039,911	8,898,370	Included											
Metered Sales - Whitewater	1	303,830	320,447	Included											
Metered Sales - Public Authority	1	1,485,430	1,454,965	Included											
Other Operating Revenues															
Fire Services - Public & Private	1	386,089	412,730	410,900	415,237	419,621	424,004	428,387	432,770	437,153	441,537	445,920	450,304	454,688	
Charge for Installation of Service & Meters	See Exh 1A	190,618	205,846	189,700	497,224	497,224	497,224	497,224	497,224	497,224	497,224	497,351	497,351	497,351	
Backup Facility Charge	See Exh 1A	1,686,018	1,073,028	1,201,000	1,438,107	1,438,107	1,438,107	1,438,107	1,438,107	1,438,107	1,438,107	1,438,107	1,438,475	1,438,475	
Turn-On Charges	1	8,427	12,770	167,000	168,763	170,544	172,326	174,107	175,889	177,670	179,451	181,233	183,015	184,797	
Late Fee Charges	1	(325)	340,050	301,200	304,379	307,592	310,805	314,018	317,231	320,444	323,657	326,870	330,084	333,298	
Services Rendered - Customers	1	346,268	321,191	311,600	314,889	318,213	321,537	324,861	328,185	331,509	334,833	338,157	341,481	344,806	
Revenue - General Fund	1	111,544	115,670	108,600	109,746	110,905	112,063	113,222	114,380	115,539	116,697	117,856	119,014	120,173	
Inspection Labor-Work-Order	1	(50)	(125)	-	-	-	-	-	-	-	-	-	-	-	
Plan Check Fees	1	9,008	12,529	8,200	8,287	8,374	8,462	8,549	8,636	8,724	8,811	8,899	8,986	9,074	
Fire Flow Model Fees	1	19,000	19,140	18,900	19,100	19,301	19,503	19,704	19,906	20,108	20,309	20,511	20,712	20,914	
Design Review Fees	1	-	700	-	-	-	-	-	-	-	-	-	-	-	
Front Footage Charges	1	54,600	-	-	-	-	-	-	-	-	-	-	-	-	
Power Sales															
Snow Creek Hydro Sales	8	23,184	97,688	111,000	111,000	111,000	111,000	111,000	111,000	111,000	111,000	111,000	111,000	111,000	
Non-Operating Revenues															
Revenue From Leases	8	171,701	222,444	189,300	189,300	189,300	189,300	189,300	189,300	189,300	189,300	189,300	189,300	189,300	
Interest S/T Investments	Refer to FP	209,893	221,399	583,200	-	-	-	-	-	-	-	-	-	-	
Interest - Miscellaneous	Refer to FP	-	11,128	-	-	-	-	-	-	-	-	-	-	-	
Interest - Other Investments	Refer to FP	(68)	-	-	-	-	-	-	-	-	-	-	-	-	
Unrealized Gain/Loss Investment	8	(29,465)	(1,035,176)	-	-	-	-	-	-	-	-	-	-	-	
Gain/Loss Sale Of Investments	8	-	(710)	-	-	-	-	-	-	-	-	-	-	-	
Services Rendered - Other	8	4,060	3,920	-	-	-	-	-	-	-	-	-	-	-	
Other Income	8	63,420	(740)	-	-	-	-	-	-	-	-	-	-	-	
DWA Front Footages Charges	8	-	90,300	-	-	-	-	-	-	-	-	-	-	-	
Contributed Rev - Constr W.O.	1	723,435	541,122	315,000	318,325	321,685	325,045	328,406	331,766	335,126	338,486	341,846	345,208	348,569	
Revenue App To Prior Years	8	(14,445)	685	-	-	-	-	-	-	-	-	-	-	-	
Government Grant Funding	See Exh 2	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gains On Retirements	8	129,047	18,552	63,100	63,100	63,100	63,100	63,100	63,100	63,100	63,100	63,100	63,100	63,100	
Discounts	8	371	814	400	400	400	400	400	400	400	400	400	400	400	
Reclamation Sales															
Water Reclamation Sales	1	1,182,864	1,212,480	897,000	906,469	916,037	925,606	935,174	944,743	954,311	963,880	973,449	983,020	992,591	
TOTAL: REVENUE		\$ 43,130,663	\$ 43,309,500	\$ 46,490,100	\$ 46,917,597	\$ 47,388,584	\$ 47,859,570	\$ 48,330,557	\$ 48,801,543	\$ 49,272,530	\$ 49,743,516	\$ 50,214,630	\$ 50,686,105	\$ 51,157,212	

TABLE 4 : REVENUE SUMMARY

DESCRIPTION	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
Operating Revenues													
Water Sales	\$ 37,855,469	\$ 39,412,065	\$ 41,614,000	\$ 42,053,272	\$ 42,497,180	\$ 42,941,089	\$ 43,384,998	\$ 43,828,906	\$ 44,272,815	\$ 44,716,724	\$ 45,160,632	\$ 45,604,655	\$ 46,048,677
Power Sales	23,184	97,688	111,000	111,000	111,000	111,000	111,000	111,000	111,000	111,000	111,000	111,000	111,000
Reclamation Water Sales	1,182,864	1,212,480	897,000	906,469	916,037	925,606	935,174	944,743	954,311	963,880	973,449	983,020	992,591
Other Operating Revenues													
Fire Protection	386,089	412,730	410,900	415,237	419,621	424,004	428,387	432,770	437,153	441,537	445,920	450,304	454,688
Charge For Installation of Service & Meter	190,618	205,846	189,700	497,224	497,224	497,224	497,224	497,224	497,224	497,224	497,351	497,351	497,351
Back-Up Facility Charge	1,686,018	1,073,028	1,201,000	1,438,107	1,438,107	1,438,107	1,438,107	1,438,107	1,438,107	1,438,107	1,438,107	1,438,475	1,438,475
Service Charges	436,927	706,255	806,900	815,418	824,025	832,632	841,240	849,847	858,455	867,062	875,670	884,279	892,889
Revenue - General Fund	111,544	115,670	108,600	109,746	110,905	112,063	113,222	114,380	115,539	116,697	117,856	119,014	120,173
Non-Operating Revenues													
Revenue From Leases	171,701	222,444	189,300	189,300	189,300	189,300	189,300	189,300	189,300	189,300	189,300	189,300	189,300
Interest Income	209,824	232,528	583,200	-	-	-	-	-	-	-	-	-	-
Gain/Loss Investments	(29,465)	(1,035,886)	-	-	-	-	-	-	-	-	-	-	-
Other Income	53,035	94,165	-	-	-	-	-	-	-	-	-	-	-
Contributed Rev - Constr W.O.	723,435	541,122	315,000	318,325	321,685	325,045	328,406	331,766	335,126	338,486	341,846	345,208	348,569
Gains On Retirements	129,047	18,552	63,100	63,100	63,100	63,100	63,100	63,100	63,100	63,100	63,100	63,100	63,100
Discounts	371	814	400	400	400	400	400	400	400	400	400	400	400
TOTAL: REVENUE	\$ 43,130,663	\$ 43,309,500	\$ 46,490,100	\$ 46,917,597	\$ 47,388,584	\$ 47,859,570	\$ 48,330,557	\$ 48,801,543	\$ 49,272,530	\$ 49,743,516	\$ 50,214,630	\$ 50,686,105	\$ 51,157,212

TABLE 5 : OPERATING EXPENSE FORECAST¹

DESCRIPTION	Basis	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected						
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33		
WATER OPERATING FUND EXPENSES																
Source of Supply Expense																
Supervision & Engineering	3	\$ 65,082	\$ 68,897	\$ 84,000	\$ 87,360	\$ 90,854	\$ 94,489	\$ 98,268	\$ 102,199	\$ 106,287	\$ 110,538	\$ 114,960	\$ 119,558	\$ 124,341		
Operating Labor	3	53,121	54,034	57,240	59,530	61,911	64,387	66,963	69,641	72,427	75,324	78,337	81,470	84,729		
Misc. Source of Supply	2	35,424	36,817	154,080	161,476	169,227	177,350	185,862	194,784	204,133	213,932	224,200	234,962	246,240		
Maintenance - Structures & Improvements	2	38,376	91,542	234,120	245,358	257,135	269,477	282,412	295,968	310,175	325,063	340,666	357,018	374,155		
Snow Creek Cabin Expense	2	10,654	14,590	43,080	45,148	47,315	49,586	51,966	54,461	57,075	59,814	62,685	65,694	68,848		
Snow Creek - Security Expense	2	65,233	65,991	74,880	78,474	82,241	86,189	90,326	94,661	99,205	103,967	108,957	114,187	119,668		
Reservoir Security	2	5,510	-	-	-	-	-	-	-	-	-	-	-	-		
Maintenance - Coll & Impound Rsv	2	-	23	-	-	-	-	-	-	-	-	-	-	-		
Maintenance of Roads	2	6,833	29,804	324,120	339,678	355,982	373,069	390,977	409,744	429,411	450,023	471,624	494,262	517,987		
Maintenance of Intakes	2	238,737	61,445	306,360	321,065	336,476	352,627	369,553	387,292	405,882	425,364	445,782	467,179	489,604		
Maintenance of Wells	2	8,056	1,095	12,840	13,456	14,102	14,779	15,489	16,232	17,011	17,828	18,683	19,580	20,520		
Ground Water Replenishment	See Exh 1B	5,765,675	5,914,733	5,506,800	6,648,313	7,301,000	7,972,840	8,694,515	9,477,431	9,926,519	10,077,279	10,216,833	10,298,874	10,380,703		
Total - Source Of Supply Expense		\$ 6,292,702	\$ 6,338,971	\$ 6,797,520	\$ 7,999,857	\$ 8,716,244	\$ 9,454,794	\$ 10,246,331	\$ 11,102,412	\$ 11,628,124	\$ 11,859,132	\$ 12,082,728	\$ 12,252,786	\$ 12,426,795		
Pumping Expense																
Supervision & Engineering	3	\$ 114,387	\$ 111,912	\$ 139,200	\$ 144,768	\$ 150,559	\$ 156,581	\$ 162,844	\$ 169,358	\$ 176,132	\$ 183,178	\$ 190,505	\$ 198,125	\$ 206,050		
Pumping Labor & Expenses	3	164,849	172,630	193,200	200,928	208,965	217,324	226,017	235,057	244,460	254,238	264,408	274,984	285,983		
Misc. Pumping Expenses	2	131,900	117,002	131,760	138,084	144,713	151,659	158,938	166,567	174,563	182,942	191,723	200,926	210,570		
Maintenance - Structures & Improvements	2	110,789	219,311	322,800	338,294	354,533	371,550	389,384	408,075	427,663	448,190	469,703	492,249	515,877		
Maintenance - Pumping Equipment	2	233,366	331,416	441,840	463,048	485,275	508,568	532,979	558,562	585,373	613,471	642,918	673,778	706,119		
Power Purchased	6	3,006,554	3,430,142	3,531,000	3,728,736	3,937,545	4,158,048	4,390,898	4,636,789	4,896,449	5,170,650	5,460,206	5,765,978	6,088,873		
Total - Pumping Expense		\$ 3,761,844	\$ 4,382,413	\$ 4,759,800	\$ 5,013,859	\$ 5,281,589	\$ 5,563,729	\$ 5,861,061	\$ 6,174,409	\$ 6,504,639	\$ 6,852,669	\$ 7,219,463	\$ 7,606,039	\$ 8,013,472		
Regulatory Water Treatment																
Supervision & Engineering	3	\$ 127,331	\$ 140,403	\$ 142,800	\$ 148,512	\$ 154,452	\$ 160,631	\$ 167,056	\$ 173,738	\$ 180,688	\$ 187,915	\$ 195,432	\$ 203,249	\$ 211,379		
Operating Labor & Expenses	3	212,928	242,270	201,480	209,539	217,921	226,638	235,703	245,131	254,936	265,134	275,739	286,769	298,240		
Misc. Water Treatment Expense	2	124,164	123,144	138,000	144,624	151,566	158,841	166,465	174,456	182,830	191,606	200,803	210,441	220,542		
Chemicals & Filter Materials	2	158,672	276,786	280,560	294,027	308,140	322,931	338,432	354,676	371,701	389,542	408,240	427,836	448,372		
Maintenance - Structures & Improvements	2	11,697	6,309	14,880	15,594	16,343	17,127	17,949	18,811	19,714	20,660	21,652	22,691	23,780		
Maintenance Water Treatment Equip	2	86,144	80,511	96,000	100,608	105,437	110,498	115,802	121,361	127,186	133,291	139,689	146,394	153,421		
Total - Regulatory Water Treatment		\$ 720,936	\$ 869,423	\$ 873,720	\$ 912,904	\$ 953,859	\$ 996,666	\$ 1,041,407	\$ 1,088,173	\$ 1,137,054	\$ 1,188,148	\$ 1,241,555	\$ 1,297,380	\$ 1,355,734		
Trans. And Dist. Expense																
Supervision & Engineering	3	\$ 538,245	\$ 571,279	\$ 704,400	\$ 732,576	\$ 761,879	\$ 792,354	\$ 824,048	\$ 857,010	\$ 891,291	\$ 926,942	\$ 964,020	\$ 1,002,581	\$ 1,042,684		
Storage Facilities Expense	2	117,740	119,595	144,000	150,912	158,156	165,747	173,703	182,041	190,779	199,936	209,533	219,591	230,131		
Trans & Dist Line Expense	2	65,817	101,123	93,000	97,464	102,142	107,045	112,183	117,568	123,211	129,125	135,323	141,819	148,626		
Hand Tools & Equipment	2	36,780	50,828	67,200	70,426	73,806	77,349	81,061	84,952	89,030	93,304	97,782	102,476	107,395		
Meter Expense	2	31,332	100,120	127,560	133,683	140,100	146,824	153,872	161,258	168,998	177,110	185,611	194,521	203,858		
Meter Test Charges	2	-	-	-	-	-	-	-	-	-	-	-	-	-		
Customer Connection Expense	2	88,929	123,819	150,240	157,452	165,009	172,930	181,230	189,929	199,046	208,600	218,613	229,106	240,103		
Cross Connection Expense	2	118,986	137,683	193,080	202,348	212,061	222,239	232,907	244,086	255,803	268,081	280,949	294,435	308,567		
Misc. Supplies & Expense	2	55,633	105,009	53,760	56,340	59,045	61,879	64,849	67,962	71,224	74,643	78,226	81,981	85,916		
Maintenance - Structures & Improvements	2	1,611	2,756	4,080	4,276	4,481	4,696	4,922	5,158	5,405	5,665	5,937	6,222	6,520		
Maintenance of Reservoirs & Tanks	2	315,744	184,967	107,640	112,807	118,221	123,896	129,843	136,076	142,607	149,452	156,626	164,144	172,023		
Maintenance - Transmission & Distr. Mains	2	818,152	912,722	1,598,040	1,674,746	1,755,134	1,839,380	1,927,670	2,020,199	2,117,168	2,218,792	2,325,294	2,436,908	2,553,880		
Maintenance - Whitewater Mutual WC	2	36,636	33,835	322,080	337,540	353,742	370,721	388,516	407,165	426,709	447,191	468,656	491,151	514,727		
Maintenance of Fire Services	2	47,575	44,422	110,040	115,322	120,857	126,659	132,738	139,110	145,787	152,785	160,118	167,804	175,859		
Maintenance of Services	2	256,692	245,821	275,040	288,242	302,078	316,577	331,773	347,698	364,388	381,878	400,208	419,418	439,550		
Maintenance of Meters	2	82,542	89,930	189,960	199,078	208,634	218,648	229,143	240,142	251,669	263,749	276,409	289,677	303,581		
Meter Repair Parts	2	6,702	5,616	2,040	2,138	2,241	2,348	2,461	2,579	2,703	2,832	2,968	3,111	3,260		
Maintenance of Fire Hydrants	2	119,058	110,427	175,080	183,484	192,291	201,521	211,194	221,331	231,955	243,089	254,757	266,986	279,801		
Total - Trans. And Dist. Expense		\$ 2,738,176	\$ 2,939,952	\$ 4,317,240	\$ 4,518,832	\$ 4,729,876	\$ 4,950,815	\$ 5,182,115	\$ 5,424,264	\$ 5,677,773	\$ 5,943,175	\$ 6,221,032	\$ 6,511,930	\$ 6,816,482		
Subtotal: Water Operating Fund Expenses		\$ 13,513,658	\$ 14,530,758	\$ 16,748,280	\$ 18,445,453	\$ 19,681,568	\$ 20,966,003	\$ 22,330,915	\$ 23,789,258	\$ 24,947,590	\$ 25,843,124	\$ 26,764,778	\$ 27,668,134	\$ 28,612,482		

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Operating Revenue and Expenses - Potable & Recycled Water

Exhibit 1

TABLE 6 : OPERATING EXPENSE FORECAST, cont.¹

DESCRIPTION	Basis	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected				
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
Customer Acct. Expense														
Supervision & Engineering	3	\$ 171,854	\$ 156,893	\$ 213,600	\$ 222,144	\$ 231,030	\$ 240,271	\$ 249,882	\$ 259,877	\$ 270,272	\$ 281,083	\$ 292,326	\$ 304,019	\$ 316,180
Meter Reading Expense	2	135,576	140,592	153,600	160,973	168,699	176,797	185,283	194,177	203,497	213,265	223,502	234,230	245,473
Customer Records & Collection Expense	2	591,665	576,176	661,920	693,692	726,989	761,885	798,455	836,781	876,947	919,040	963,154	1,009,385	1,057,836
Customer Records Postage	2	98,405	95,933	148,800	155,942	163,428	171,272	179,493	188,109	197,138	206,601	216,518	226,910	237,802
Cust Records - Print & Stationery	2	24,826	30,572	36,000	37,728	39,539	41,437	43,426	45,510	47,695	49,984	52,383	54,898	57,533
Customer Records - Shortages/Overages	2	11	48	-	-	-	-	-	-	-	-	-	-	-
IBM Paper	2	-	2,530	3,480	3,647	3,822	4,006	4,198	4,399	4,610	4,832	5,064	5,307	5,562
Uncollectible Accounts	1	50,068	(11,237)	55,200	55,783	56,365	56,948	57,531	58,113	58,696	59,279	59,862	60,444	61,027
Total - Customer Acct. Expense		\$ 1,072,404	\$ 991,507	\$ 1,272,600	\$ 1,329,909	\$ 1,389,873	\$ 1,452,615	\$ 1,518,268	\$ 1,586,967	\$ 1,658,856	\$ 1,734,084	\$ 1,812,809	\$ 1,895,194	\$ 1,981,413
General And Administrative Expenses														
Administration & General Salaries	3	\$ 846,893	\$ 938,836	\$ 1,138,800	\$ 1,184,352	\$ 1,231,726	\$ 1,280,995	\$ 1,332,235	\$ 1,385,524	\$ 1,440,945	\$ 1,498,583	\$ 1,558,526	\$ 1,620,867	\$ 1,685,702
Office Supplies & Expenses	2	124,390	92,197	116,520	122,113	127,974	134,117	140,555	147,301	154,372	161,782	169,547	177,686	186,214
Office Expense - Power	2	26,801	36,801	34,800	36,470	38,221	40,056	41,978	43,993	46,105	48,318	50,637	53,068	55,615
Office-Telephone & Answer Svc	2	78,227	47,397	66,600	69,797	73,147	76,658	80,338	84,194	88,235	92,471	96,909	101,561	106,436
Office - Stationery & Forms	2	360	1,433	3,000	3,144	3,295	3,453	3,619	3,793	3,975	4,165	4,365	4,575	4,794
Office Supplies - Xerox	2	1,073	1,285	1,800	1,886	1,977	2,072	2,171	2,276	2,385	2,499	2,619	2,745	2,877
Office Supplies - Photo / Camera	2	-	749	960	1,006	1,054	1,105	1,158	1,214	1,272	1,333	1,397	1,464	1,534
Convention Expense & Seminars	2	2,300	13,138	61,440	64,389	67,480	70,719	74,113	77,671	81,399	85,306	89,401	93,692	98,189
Dues / Memberships / Subscriptions	2	35,442	49,999	50,400	52,819	55,355	58,012	60,796	63,714	66,773	69,978	73,337	76,857	80,546
Office Expense - Heating	2	4,406	4,706	5,400	5,659	5,931	6,216	6,514	6,827	7,154	7,498	7,857	8,235	8,630
Postage/Mailing Machine	2	3,074	3,662	6,000	6,288	6,590	6,906	7,238	7,585	7,949	8,331	8,731	9,150	9,589
Legal Services	2	116,514	55,129	109,200	114,442	119,935	125,692	131,725	138,048	144,674	151,618	158,896	166,523	174,516
Engineering	2	155,084	53,007	84,000	88,032	92,258	96,686	101,327	106,191	111,288	116,629	122,228	128,095	134,243
Auditing	2	39,293	34,526	36,000	37,728	39,539	41,437	43,426	45,510	47,695	49,984	52,383	54,898	57,533
Travel & Seminar Expense	2	-	555	-	-	-	-	-	-	-	-	-	-	-
Consultants	2	132,795	138,795	248,040	259,946	272,423	285,500	299,204	313,565	328,617	344,390	360,921	378,245	396,401
Appraisals	2	-	-	10,080	10,564	11,071	11,602	12,159	12,743	13,355	13,996	14,667	15,371	16,109
Insurance	2	158,639	225,900	321,600	337,037	353,215	370,169	387,937	406,558	426,073	446,524	467,957	490,419	513,959
Damages Hit & Run	2	23,440	10,369	15,000	15,720	16,475	17,265	18,094	18,963	19,873	20,827	21,826	22,874	23,972
Jury Duty	2	3,634	8,521	9,000	9,432	9,885	10,359	10,856	11,378	11,924	12,496	13,096	13,724	14,383
Safety Meeting - Labor Only	2	15,861	34,977	24,120	25,278	26,491	27,763	29,095	30,492	31,955	33,489	35,097	36,781	38,547
Workers Compensation Injuries & Medical	2	23,139	18,372	27,000	28,296	29,654	31,078	32,569	34,133	35,771	37,488	39,287	41,173	43,150
Worker Compensation Insurance	2	262,364	228,125	280,800	294,278	308,404	323,207	338,721	354,980	372,019	389,876	408,590	428,202	448,756
Safety Equipment & Supplies	2	183,562	180,541	111,480	116,831	122,439	128,316	134,475	140,930	147,695	154,784	162,214	170,000	178,160
Pension	3	2,610,442	612,355	2,939,400	3,056,976	3,179,255	3,306,425	3,438,682	3,576,230	3,719,279	3,868,050	4,022,772	4,183,683	4,351,030
Other Employee Benefits	3	168,856	196,365	200,400	208,416	216,753	225,423	234,440	243,817	253,570	263,713	274,261	285,232	296,641
Tuition & Schooling	2	7,775	38,440	51,240	53,700	56,277	58,978	61,809	64,776	67,885	71,144	74,559	78,138	81,888
Subtotal - General And Administrative Expenses		\$ 5,024,365	\$ 3,026,180	\$ 5,953,080	\$ 6,204,599	\$ 6,466,822	\$ 6,740,207	\$ 7,025,235	\$ 7,322,403	\$ 7,632,234	\$ 7,955,271	\$ 8,292,081	\$ 8,643,256	\$ 9,009,414
Subtotal: Water Operating Fund Expenses		\$ 6,096,768	\$ 4,017,687	\$ 7,225,680	\$ 7,534,508	\$ 7,856,695	\$ 8,192,823	\$ 8,543,503	\$ 8,909,370	\$ 9,291,090	\$ 9,689,355	\$ 10,104,890	\$ 10,538,451	\$ 10,990,827

TABLE 7 : OPERATING EXPENSE FORECAST, cont.¹

DESCRIPTION	Basis	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected						
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33		
General And Administrative Expenses, Cont.																
License Renewal / DMV & Misc.	2	\$ 22,914	\$ 3,871	\$ 16,920	\$ 17,732	\$ 18,583	\$ 19,475	\$ 20,410	\$ 21,390	\$ 22,417	\$ 23,493	\$ 24,620	\$ 25,802	\$ 27,040		
Life Insurance	2	15,562	14,644	18,600	19,493	20,428	21,409	22,437	23,514	24,642	25,825	27,065	28,364	29,725		
Blue Cross Insurance	2	1,380,112	(745,188)	1,608,000	1,685,184	1,766,073	1,850,844	1,939,685	2,032,790	2,130,364	2,232,621	2,339,787	2,452,097	2,569,797		
Disability Insurance	2	18,527	18,907	21,600	22,637	23,723	24,862	26,055	27,306	28,617	29,990	31,430	32,939	34,520		
Vision Insurance	2	17,127	(6,390)	22,800	23,894	25,041	26,243	27,503	28,823	30,207	31,657	33,176	34,769	36,437		
Dental Insurance	2	71,531	(320)	80,400	84,259	88,304	92,542	96,984	101,639	106,518	111,631	116,989	122,605	128,490		
Attendance Bonus Plan	2	347,887	468,734	360,000	377,280	395,389	414,368	434,258	455,102	476,947	499,841	523,833	548,977	575,328		
On-Call Pay	3	385	-	-	-	-	-	-	-	-	-	-	-	-		
OASDI Taxes	3	574,079	597,861	628,800	653,952	680,110	707,314	735,607	765,031	795,633	827,458	860,556	894,978	930,778		
CA Unemployment Insurance	3	14,848	-	18,000	18,720	19,469	20,248	21,057	21,900	22,776	23,687	24,634	25,620	26,644		
Vacation Pay	3	571,384	572,176	600,000	624,000	648,960	674,918	701,915	729,992	759,191	789,559	821,141	853,987	888,147		
Holiday Pay	3	341,897	371,429	434,400	451,776	469,847	488,641	508,187	528,514	549,655	571,641	594,506	618,287	643,018		
Floating Holiday Pay	3	66,802	71,796	73,200	76,128	79,173	82,340	85,634	89,059	92,621	96,326	100,179	104,186	108,354		
Operations Center - Security	2	5,015	24	12,000	12,576	13,180	13,812	14,475	15,170	15,898	16,661	17,461	18,299	19,178		
Maintenance - Operations Center	2	196,496	216,142	264,240	276,924	290,216	304,146	318,745	334,045	350,079	366,883	384,493	402,949	422,291		
Building Maintenance - Alarm/Land/Plant	2	83,296	75,228	73,680	77,217	80,923	84,807	88,878	93,144	97,615	102,301	107,211	112,357	117,750		
Solar Facility Maintenance	2	7,105	6,208	6,960	7,294	7,644	8,011	8,396	8,799	9,221	9,664	10,127	10,614	11,123		
Hardware / Software / PCs / Printers	2	123,658	486,255	361,320	378,663	396,839	415,887	435,850	456,771	478,696	501,673	525,754	550,990	577,437		
Data Processing - Programmer	2	396,400	1,909,437	1,123,080	1,176,988	1,233,483	1,292,690	1,354,740	1,419,767	1,487,916	1,559,336	1,634,184	1,712,625	1,794,831		
Data Processing - Ribbons & Misc	2	13,885	5,421	15,000	15,720	16,475	17,265	18,094	18,963	19,873	20,827	21,826	22,874	23,972		
Maintenance Office Equipment - Xerox & Post	2	63,942	70,879	67,920	71,180	74,597	78,177	81,930	85,863	89,984	94,303	98,830	103,574	108,545		
Maintenance Office Equipment - Misc/Repair	2	17,329	12,522	17,880	18,738	19,638	20,580	21,568	22,603	23,688	24,825	26,017	27,266	28,575		
Maintenance Office Equipment - Type & Add	2	49	-	-	-	-	-	-	-	-	-	-	-	-		
Maintenance I/S Equipment - Misc.	2	68,953	29,628	50,040	52,442	54,959	57,597	60,362	63,259	66,296	69,478	72,813	76,308	79,971		
Maintenance Data Equipment	2	2,378	-	5,040	5,282	5,535	5,801	6,080	6,371	6,677	6,998	7,334	7,686	8,055		
Maintenance I/S Equipment - Print/POC	2	2,377	1,575	12,600	13,205	13,839	14,503	15,199	15,929	16,693	17,494	18,334	19,214	20,136		
Maintenance - Telemetry Equipment	2	29,667	38,252	43,440	45,525	47,710	50,000	52,400	54,916	57,552	60,314	63,209	66,243	69,423		
Maintenance - Communication Equip	2	8,963	19,413	38,040	39,866	41,779	43,785	45,887	48,089	50,397	52,816	55,352	58,009	60,793		
Engineering & Supervision	2	208,270	214,934	262,800	275,414	288,634	302,489	317,008	332,225	348,171	364,884	382,398	400,753	419,989		
Storeroom Expense	2	82,316	95,690	100,080	104,884	109,918	115,194	120,724	126,518	132,591	138,956	145,626	152,616	159,941		
Transportation Expense	5	320,287	463,054	769,680	792,770	816,554	841,050	866,282	892,270	919,038	946,609	975,008	1,004,258	1,034,386		
Tools & Work Equipment	2	137,496	137,711	130,080	136,324	142,867	149,725	156,912	164,444	172,337	180,609	189,278	198,364	207,885		
Backhoe	2	3,272	(1,643)	10,080	10,564	11,071	11,602	12,159	12,743	13,355	13,996	14,667	15,371	16,109		
Directors Fees	2	50,862	54,955	48,000	50,304	52,719	55,249	57,901	60,680	63,593	66,645	69,844	73,197	76,710		
Public Information	2	130,735	202,782	247,440	259,317	271,764	284,809	298,480	312,807	327,822	343,557	360,048	377,330	395,442		
Water Conservation	2	72,786	61,191	251,280	263,341	275,982	289,229	303,112	317,661	332,909	348,889	365,635	383,186	401,579		
Water Conservation - Turf Buyback Program	2	153,523	192,648	859,680	900,945	944,190	989,511	1,037,008	1,086,784	1,138,950	1,193,619	1,250,913	1,310,957	1,373,883		
Subtotal - General And Administrative Expenses		\$ 5,622,114	\$ 5,659,825	\$ 8,653,080	\$ 9,040,538	\$ 9,445,618	\$ 9,869,129	\$ 10,311,921	\$ 10,774,881	\$ 11,258,938	\$ 11,765,065	\$ 12,294,280	\$ 12,847,647	\$ 13,426,281		
Other Operating Expenses																
Services Rendered - Customers	8	144,268	159,669	170,400	170,400	170,400	170,400	170,400	170,400	170,400	170,400	170,400	170,400	170,400		
Direct Costs Applied To Work-Orders	8	530,969	457,586	568,080	568,080	568,080	568,080	568,080	568,080	568,080	568,080	568,080	568,080	568,080		
Indirect Costs Adm & Gen	8	(1,648,516)	(1,356,590)	(2,274,960)	(2,274,960)	(2,274,960)	(2,274,960)	(2,274,960)	(2,274,960)	(2,274,960)	(2,274,960)	(2,274,960)	(2,274,960)	(2,274,960)		
Total - Other Operating Expenses		\$ (973,279)	\$ (739,335)	\$ (1,536,480)	\$ (1,536,480)	\$ (1,536,480)	\$ (1,536,480)	\$ (1,536,480)	\$ (1,536,480)	\$ (1,536,480)	\$ (1,536,480)	\$ (1,536,480)	\$ (1,536,480)	\$ (1,536,480)		
Subtotal: Water Operating Fund Expenses		\$ 4,648,834	\$ 4,920,490	\$ 7,116,600	\$ 7,504,058	\$ 7,909,138	\$ 8,332,649	\$ 8,775,441	\$ 9,238,401	\$ 9,722,458	\$ 10,228,585	\$ 10,757,800	\$ 11,311,167	\$ 11,889,801		
Subtotal: Water Operating Fund Expenses		\$ 24,259,261	\$ 23,468,935	\$ 31,090,560	\$ 33,484,020	\$ 35,447,400	\$ 37,491,475	\$ 39,649,858	\$ 41,937,028	\$ 43,961,138	\$ 45,761,064	\$ 47,627,467	\$ 49,517,752	\$ 51,493,111		

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Operating Revenue and Expenses - Potable & Recycled Water

Exhibit 1

TABLE 8 : OPERATING EXPENSE FORECAST, cont.¹

DESCRIPTION	Basis	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected						
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33		
Regulatory Expenses																
Certification/Training/Schooling	2	\$ 75,296	\$ 98,198	\$ 146,640	\$ 153,679	\$ 161,055	\$ 168,786	\$ 176,888	\$ 185,378	\$ 194,276	\$ 203,602	\$ 213,375	\$ 223,617	\$ 234,350		
Water Treatment	2	-	-	-	-	-	-	-	-	-	-	-	-	-		
Health Dept / Health Services	2	19,491	17,605	19,080	19,996	20,956	21,962	23,016	24,120	25,278	26,492	27,763	29,096	30,492		
State - Permits / Regulatory	2	153,764	166,647	165,120	173,046	181,352	190,057	199,180	208,740	218,760	229,260	240,265	251,797	263,884		
Federal - Permits / Regulatory	2	14,859	2,506	32,400	33,955	35,585	37,293	39,083	40,959	42,925	44,986	47,145	49,408	51,779		
Reclamation - Permits/Regulatory	2	5,155	5,469	5,040	5,282	5,535	5,801	6,080	6,371	6,677	6,998	7,334	7,686	8,055		
AQMD Compliance	2	2,152	2,017	3,000	3,144	3,295	3,453	3,619	3,793	3,975	4,165	4,365	4,575	4,794		
RMOP / OSHA / Miscellaneous	2	41,504	68,650	55,080	57,724	60,495	63,398	66,441	69,631	72,973	76,476	80,146	83,993	88,025		
Legal - Compliance / Regulatory	2	50	-	-	-	-	-	-	-	-	-	-	-	-		
Total - Regulatory Expenses		\$ 312,270	\$ 361,092	\$ 426,360	\$ 446,825	\$ 468,273	\$ 490,750	\$ 514,306	\$ 538,993	\$ 564,864	\$ 591,978	\$ 620,393	\$ 650,172	\$ 681,380		
Non Operating Expense																
Other Interest - Miscellaneous	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
OPEB Interest	3	996,782	742,561	780,000	811,200	843,648	877,394	912,490	948,989	986,949	1,026,427	1,067,484	1,110,183	1,154,591		
Prior Year Expenses	2	(77,697)	(7,435)	-	-	-	-	-	-	-	-	-	-	-		
Customer Assistance Program (Non-Rate)	2	30,000	-	35,520	37,225	39,012	40,884	42,847	44,903	47,059	49,318	51,685	54,166	56,766		
Grant Expenses	2	27,341	206,267	20,040	21,002	22,010	23,066	24,174	25,334	26,550	27,824	29,160	30,560	32,027		
Losses On Retirements	3	149,380	167,752	108,000	112,320	116,813	121,485	126,345	131,399	136,654	142,121	147,805	153,718	159,866		
Subtotal - Non Operating Expense		\$ 1,125,806	\$ 1,109,144	\$ 943,560	\$ 981,747	\$ 1,021,483	\$ 1,062,830	\$ 1,105,855	\$ 1,150,625	\$ 1,197,212	\$ 1,245,689	\$ 1,296,134	\$ 1,348,626	\$ 1,403,249		
Snow Creek Hydro Expenses																
Snow Creek Hydro Expenses	2	\$ 24,211	\$ 61,289	\$ 51,600	\$ 54,077	\$ 56,672	\$ 59,393	\$ 62,244	\$ 65,231	\$ 68,362	\$ 71,644	\$ 75,083	\$ 78,687	\$ 82,464		
Snow Creek Power Purchased	2	9,597	8,372	8,400	8,803	9,226	9,669	10,133	10,619	11,129	11,663	12,223	12,809	13,424		
Subtotal - Snow Creek Hydro Expenses		\$ 33,809	\$ 69,661	\$ 60,000	\$ 62,880	\$ 65,898	\$ 69,061	\$ 72,376	\$ 75,850	\$ 79,491	\$ 83,307	\$ 87,305	\$ 91,496	\$ 95,888		
Subtotal: Water Operating Fund Expenses		\$ 1,471,885	\$ 1,539,897	\$ 1,429,920	\$ 1,491,452	\$ 1,555,654	\$ 1,622,641	\$ 1,692,537	\$ 1,765,468	\$ 1,841,568	\$ 1,920,974	\$ 2,003,832	\$ 2,090,294	\$ 2,180,517		
Total: Water Operating Fund Expenses		\$ 25,731,145	\$ 25,008,832	\$ 32,520,480	\$ 34,975,472	\$ 37,003,054	\$ 39,114,116	\$ 41,342,395	\$ 43,702,496	\$ 45,802,705	\$ 47,682,038	\$ 49,631,300	\$ 51,608,046	\$ 53,673,628		

TABLE 9 : OPERATING EXPENSE FORECAST, cont.¹

DESCRIPTION	Basis	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected						
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33		
Reclamation Plant Expenses																
Pumping Expense																
Operating Labor	3	\$ 63,062	\$ 75,202	\$ 73,680	\$ 76,627	\$ 79,692	\$ 82,880	\$ 86,195	\$ 89,643	\$ 93,229	\$ 96,958	\$ 100,836	\$ 104,870	\$ 109,064		
Maintenance of Pumps & Equipment	2	127,898	209,016	91,560	95,955	100,561	105,388	110,446	115,748	121,304	127,126	133,228	139,623	146,325		
Maintenance of Structures	2	1,026	1,082	5,640	5,911	6,194	6,492	6,803	7,130	7,472	7,831	8,207	8,601	9,013		
Power Purchased	4	100,918	151,223	165,000	171,600	178,464	185,603	193,027	200,748	208,778	217,129	225,814	234,846	244,240		
Misc. Tools & Supplies	2	-	123	1,200	1,258	1,318	1,381	1,448	1,517	1,590	1,666	1,746	1,830	1,918		
Subtotal - Pumping Expense		\$ 292,905	\$ 436,646	\$ 337,080	\$ 351,350	\$ 366,229	\$ 381,743	\$ 397,919	\$ 414,785	\$ 432,372	\$ 450,710	\$ 469,831	\$ 489,770	\$ 510,561		
Treatment Expense																
Operating Labor	3	\$ 29,683	\$ 37,225	\$ 35,040	\$ 36,442	\$ 37,899	\$ 39,415	\$ 40,992	\$ 42,632	\$ 44,337	\$ 46,110	\$ 47,955	\$ 49,873	\$ 51,868		
Maintenance of Filters	2	28,546	213,659	31,560	33,075	34,662	36,326	38,070	39,897	41,812	43,819	45,923	48,127	50,437		
Maintenance of Water Treatment Equipment	2	30,712	37,487	112,440	117,837	123,493	129,421	135,633	142,144	148,966	156,117	163,610	171,464	179,694		
Maintenance of Structures	2	5,271	4,547	14,280	14,965	15,684	16,437	17,226	18,052	18,919	19,827	20,779	21,776	22,821		
Chemicals	2	237,623	251,663	250,080	262,084	274,664	287,848	301,664	316,144	331,319	347,223	363,889	381,356	399,661		
Laboratory Samples & Supplies	2	67,408	66,868	75,000	78,600	82,373	86,327	90,470	94,813	99,364	104,133	109,132	114,370	119,860		
Maintenance of Laboratory Equipment	2	4,750	68	2,040	2,138	2,241	2,348	2,461	2,579	2,703	2,832	2,968	3,111	3,260		
Misc. Tools & Supplies	2	92	11	9,600	10,061	10,544	11,050	11,580	12,136	12,719	13,329	13,969	14,639	15,342		
Subtotal - Treatment Expense		\$ 404,085	\$ 611,529	\$ 530,040	\$ 555,202	\$ 581,560	\$ 609,171	\$ 638,096	\$ 668,397	\$ 700,139	\$ 733,391	\$ 768,225	\$ 804,716	\$ 842,943		
Transmission & Distribution Expense																
Operating Labor	3	\$ 740	\$ 148	\$ 960	\$ 998	\$ 1,038	\$ 1,080	\$ 1,123	\$ 1,168	\$ 1,215	\$ 1,263	\$ 1,314	\$ 1,366	\$ 1,421		
Maintenance of Tanks	2	18,178	7,710	18,960	19,870	20,824	21,823	22,871	23,969	25,119	26,325	27,589	28,913	30,301		
Maintenance of Trans & Distr Mains	2	622	2,356	136,440	142,989	149,853	157,046	164,584	172,484	180,763	189,440	198,533	208,062	218,049		
Maintenance of Services	2	13,060	10,134	20,640	21,631	22,669	23,757	24,897	26,093	27,345	28,658	30,033	31,475	32,985		
Maintenance of Meters & Equipment	2	9,892	4,601	34,200	35,842	37,562	39,365	41,254	43,235	45,310	47,485	49,764	52,153	54,656		
Misc. Tools & Supplies	2	95	234	1,680	1,761	1,845	1,934	2,027	2,124	2,226	2,333	2,445	2,562	2,685		
Subtotal - Transmission & Distribution Expense		\$ 42,588	\$ 25,184	\$ 212,880	\$ 223,091	\$ 233,791	\$ 245,005	\$ 256,756	\$ 269,071	\$ 281,978	\$ 295,503	\$ 309,677	\$ 324,531	\$ 340,097		
General And Administrative																
Supervision & Engineering	3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
Power/Utilities	6	-	1,881	2,400	2,534	2,676	2,826	2,984	3,152	3,328	3,514	3,711	3,919	4,139		
Office Supplies & Expenses	2	-	-	-	-	-	-	-	-	-	-	-	-	-		
Insurance	2	16,918	18,509	24,000	25,152	26,359	27,625	28,951	30,340	31,796	33,323	34,922	36,598	38,355		
Safety Equipment & Supplies	2	10,341	4,756	10,080	10,564	11,071	11,602	12,159	12,743	13,355	13,996	14,667	15,371	16,109		
Engineering & Consultants	2	6,884	-	115,080	120,604	126,393	132,460	138,818	145,481	152,464	159,782	167,452	175,490	183,913		
Maint of Structures - Operations Building	2	284	1,866	7,680	8,049	8,435	8,840	9,264	9,709	10,175	10,663	11,175	11,712	12,274		
Maint of Landscape & Improvements	2	111,736	103,219	110,040	115,322	120,857	126,659	132,738	139,110	145,787	152,785	160,118	167,804	175,859		
Maint of Telemetry & Monitor	2	97	-	9,600	10,061	10,544	11,050	11,580	12,136	12,719	13,329	13,969	14,639	15,342		
Permits / Regulatory	2	-	-	10,080	10,564	11,071	11,602	12,159	12,743	13,355	13,996	14,667	15,371	16,109		
Subtotal - General And Administrative		\$ 146,259	\$ 130,230	\$ 288,960	\$ 302,849	\$ 317,406	\$ 332,663	\$ 348,654	\$ 365,413	\$ 382,978	\$ 401,388	\$ 420,682	\$ 440,905	\$ 462,099		
Total: Water Reclamation Expenses		\$ 885,837	\$ 1,203,590	\$ 1,368,960	\$ 1,432,492	\$ 1,498,986	\$ 1,568,582	\$ 1,641,425	\$ 1,717,667	\$ 1,797,466	\$ 1,880,991	\$ 1,968,415	\$ 2,059,921	\$ 2,155,701		
GRAND TOTAL: OPERATING EXPENSES		\$ 26,616,982	\$ 26,212,422	\$ 33,889,440	\$ 36,407,964	\$ 38,502,040	\$ 40,682,699	\$ 42,983,820	\$ 45,420,163	\$ 47,600,172	\$ 49,563,029	\$ 51,599,715	\$ 53,667,968	\$ 55,829,329		

TABLE 10 : DEPRECIATION EXPENSE FORECAST (Excluded from the analysis)²

DESCRIPTION	Basis	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected				
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
OTHER OPERATING EXPENSES														
Depreciation	2	\$ 5,822,134	\$ 5,776,729	\$ 6,252,000	\$ 6,552,096	\$ 6,866,597	\$ 7,196,193	\$ 7,541,611	\$ 7,903,608	\$ 8,282,981	\$ 8,680,564	\$ 9,097,231	\$ 9,533,898	\$ 9,991,525
Depreciation - Tools & Work Equipment	2	450,680	441,717	394,800	413,750	433,610	454,424	476,236	499,095	523,052	548,158	574,470	602,045	630,943
TOTAL: ANNUAL DEPRECIATION EXPENSE		\$ 6,272,814	\$ 6,218,445	\$ 6,646,800	\$ 6,965,846	\$ 7,300,207	\$ 7,650,617	\$ 8,017,847	\$ 8,402,703	\$ 8,806,033	\$ 9,228,723	\$ 9,671,701	\$ 10,135,943	\$ 10,622,468

TABLE 11 : FORECASTING ASSUMPTIONS

INFLATION FACTORS ³	Basis	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Customer Growth ⁴	1	0.00%	1.08%	1.07%	1.06%	1.04%	1.03%	1.02%	1.01%	1.00%	0.99%	0.98%	0.97%	0.96%
General Cost Inflation ⁵	2	0.00%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%
Labor Cost Inflation ⁶	3	0.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Energy Cost Inflation ⁷	4	0.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Transportation ⁸	5	0.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Utilities ⁹	6	0.00%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%
Construction Cost Inflation ¹⁰	7	0.00%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%
No Escalation	8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Revenue and expenses are actuals for FY 2020/21 and FY 2021/22, budget for FY 2022/23, and all other years are escalated based on the forecasting assumptions in Table 11. Source files: [2] 2021-06 - OP Revenue.PDF, [12d] 2021-06 - OP Expense.pdf, 2022-06- OP Revenue & Expense.PDF, 2022-2023 BUDGETREV.xlsx, & 2022-2023 BUDGETEXP - Augmented 8-2-2022.xlsx.
2. The following revenues and expenses have been excluded from this analysis since they do not represent actual cash expenses.
3. Expenses are inflated each year by the following annual inflation factor categories.
4. Customer growth rate is based on Table 6.3 in the 2020 Coachella Valley Regional Urban Water Manage Plan and is estimated at 223 new connections per year. Source files: [13b] Urban Water Management Plan.pdf, page 136 & [9]_Water_Bills_2021.xlsx.
5. General cost inflation is based on the 5-year average annual change in the Consumer Price Index for all Urban Consumers in the Riverside-San Bernardino-Ontario, CA, CA area.
6. Labor cost inflation is based on the 5-year average annual change in the Quarterly Census of Employment and Wages for Riverside County, CA.
7. Energy cost inflation is based on the 5-year average annual change in the Consumer Price Index for all Urban Consumers. Source: <https://data.bls.gov>.
8. Transportation cost inflation is based on the 5-year average annual change in the Consumer Price Index for All Urban Consumers (US City Average). Source: <https://data.bls.gov>.
9. Utilities cost inflation is based on the 5-year average annual change in the Consumer Price Index - Average Price Data for Fuels and related products and power. This factor is used for utility costs other than electricity.
10. Construction cost Inflation is the 5-year average change in the Construction Cost Index for 2017-2022 (3.91%). Source: Engineering News Record website (<http://enr.construction.com>).

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Estimate of Future Revenues from Various Increased Capacity Charges

Exhibit 1.A

TABLE 12 : FORECASTING ASSUMPTIONS

Economic Variables ¹	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32
Water Customer Growth	0.00%	1.08%	1.07%	1.06%	1.04%	1.03%	1.02%	1.01%	1.00%	0.99%	0.98%	0.97%
Recycled Water Customer Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Economic Variables are the same throughout the Exhibit 1 Series.

TABLE 13 : FORECASTING ASSUMPTIONS

Estimated Number of Customers In Each Utility ¹	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32
Water	21,597	21829.8918	22,063	22,296	22,529	22,761	22,994	23,227	23,460	23,693	23,926	24,159
Recycled Water	10	10	10	10	10	10	10	10	10	10	10	10

1. Number of customers is as of June 30, 2021.

TABLE 14 : REVENUE ESTIMATES

Water Utility Revenue Estimates ¹	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32
Increase in Number of Customers over previous year	0	233	233	233	233	233	233	233	233	233	233	233
Water System Backup Facility Charge ²	6,175	6,175	6,175	6,175	6,175	6,175	6,175	6,175	6,175	6,175	6,175	6,175
Estimated Annual Backup Facility Charges	-	1,438,107	1,438,107	1,438,107	1,438,107	1,438,107	1,438,107	1,438,107	1,438,107	1,438,107	1,438,475	1,438,475
Supplemental Imported Water Capacity Charges ³	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250
Est. Annual Supplemental Imported Water Capacity Charges	-	524,006	524,006	524,006	524,006	524,006	524,006	524,006	524,006	524,006	524,141	524,141
Meter Installation Charge ⁴	335	335	335	335	335	335	335	335	335	335	335	335
Service Connection Charge ⁴	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
Estimated Revenue for Installation of Service & Meters	-	497,224	497,224	497,224	497,224	497,224	497,224	497,224	497,224	497,224	497,351	497,351
Total: Increased Capacity Charges	\$ -	\$ 2,459,337	\$ 2,459,337	\$ 2,459,337	\$ 2,459,337	\$ 2,459,337	\$ 2,459,337	\$ 2,459,337	\$ 2,459,337	\$ 2,459,337	\$ 2,459,966	\$ 2,459,966

1. Annual charges shown in this table are linked to Exhibit 1 (O&M). Source: <https://dwa.org/customer-service/development/developer-rates-charges>.

2. Charge for a 1-inch meter in the Base Zone.

3. Charge for a Residential property with a 1-inch meter. Money goes to the General Fund and then will be used for water CIP as needed, meaning it will not be counted as revenue or reserves in the Water Financial Plan.

4. Charge for a 1-inch meter.

TABLE 15 : SUMMARY OF REVENUE ESTIMATES

Summary of All Increased Capacity Charges	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32
Backup Facility Charges	\$ -	\$ 1,438,107	\$ 1,438,107	\$ 1,438,107	\$ 1,438,107	\$ 1,438,107	\$ 1,438,107	\$ 1,438,107	\$ 1,438,107	\$ 1,438,107	\$ 1,438,475	\$ 1,438,475
Supplemental Imported Water Capacity Charges	-	524,006	524,006	524,006	524,006	524,006	524,006	524,006	524,006	524,006	524,141	524,141
Charge for Installation of Service & Meters	-	497,224	497,224	497,224	497,224	497,224	497,224	497,224	497,224	497,224	497,351	497,351
Total: Increased Capacity Charges	\$ -	\$ 2,459,337	\$ 2,459,337	\$ 2,459,337	\$ 2,459,337	\$ 2,459,337	\$ 2,459,337	\$ 2,459,337	\$ 2,459,337	\$ 2,459,337	\$ 2,459,966	\$ 2,459,966

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Estimate of Future Revenues from Various Increased Capacity Charges

Exhibit 1.A

For informational purposes (from Esther 10-15-21):

DESERT WATER AGENCY				
Back-up Facility Charge Summary				
Revenues & Expenditures				
Water Service				
A Backup Facility Charge is levied on a premises for the purpose of providing water service connection capacity in the Agency's overall water supply. (DWA Ordinance 70 Section 1-1.4)				
The purpose of the Backup Facility Charge is to raise a portion of the funds required by the Agency to develop new water production and storage facilities. (DWA Ordinance 70 Section 7-1.3)				
Revenue	Back-up Facility Revenue received in a fiscal year in accordance with DWA Ordinance 70 Section 1-1.4 inclusive of any interest on cumulative excess revenues in accordance with DWA Resolution 1230 Section 5.			
Expenditures	Capital expenditures funded by Desert Water, put into service in a given fiscal year. These capital expenditures are recorded in proportion to the increased capacity they provide to DWA's water system.			
Year	Revenue	Expenditures	Cumulative Balance*	
1988-1989	\$ 308,255.92	\$ -	\$	308,255.92
1989-1990	\$ 259,874.94	\$ 401,979.26	\$	166,151.60
1990-1991	\$ 157,005.00	\$ 397,885.22	\$	(74,728.62)
1991-1992	\$ 167,250.00	\$ 2,040,172.06	\$	(1,947,650.68)
1992-1993	\$ 44,285.00	\$ 406,160.00	\$	(2,309,525.68)
1993-1994	\$ 52,300.00	\$ 1,000,209.54	\$	(3,257,435.22)
1994-1995	\$ 76,590.00	\$ 2,139,954.41	\$	(5,320,799.63)
1995-1996	\$ 104,680.00	\$ 2,107,535.08	\$	(7,323,654.71)
1996-1997	\$ 81,660.00	\$ 614,238.17	\$	(7,856,232.88)
1997-1998	\$ 98,410.00	\$ -	\$	(7,757,822.88)
1998-1999	\$ 158,840.00	\$ 2,513,445.91	\$	(10,112,428.79)
1999-2000	\$ 263,778.00	\$ 961,408.67	\$	(10,810,059.46)
2000-2001	\$ 267,580.00	\$ 455,155.73	\$	(10,997,635.19)
2001-2002	\$ 172,850.00	\$ 802,284.36	\$	(11,627,069.54)
2002-2003	\$ 334,440.00	\$ 4,291,367.90	\$	(15,583,997.44)
2003-2004	\$ 1,277,190.00	\$ 841,011.61	\$	(15,147,819.05)
2004-2005	\$ 3,393,467.00	\$ 1,370,488.06	\$	(13,124,840.11)
2005-2006	\$ 1,287,940.00	\$ -	\$	(11,836,900.11)
2006-2007	\$ 2,218,549.00	\$ 3,408,196.30	\$	(13,026,547.41)
2007-2008	\$ 603,536.00	\$ 735,649.81	\$	(13,158,661.22)
2008-2009	\$ 181,840.00	\$ 2,409,194.71	\$	(15,386,015.92)
2009-2010	\$ 90,820.00	\$ -	\$	(15,295,195.92)
2010-2011	\$ 138,080.00	\$ 57,858.00	\$	(15,214,973.92)
2011-2012	\$ 396,420.00	\$ 884,623.00	\$	(15,703,176.92)
2012-2013	\$ 481,060.00	\$ 222,131.66	\$	(15,444,248.58)
2013-2014	\$ 657,460.00	\$ 81,411.00	\$	(14,868,199.58)
2014-2015	\$ 680,110.00	\$ 2,713,074.69	\$	(16,901,164.28)
2015-2016	\$ 574,675.00	\$ 1,688,799.26	\$	(18,015,288.54)
2016-2017	\$ 939,845.00	\$ 285,968.36	\$	(17,361,411.90)
2017-2018	\$ 841,190.00	\$ 1,137,230.45	\$	(17,657,452.35)
2018-2019	\$ 954,159.00	\$ 1,237,336.28	\$	(17,940,629.63)
2019-2020	\$ 1,186,060.00	\$ 3,778,694.83	\$	(20,533,264.45)
Total	\$ 18,450,199.86	\$ 38,983,464.31	\$	(20,533,264.45)
Sum Check	\$ -	\$ -	\$	-
*A negative cumulative balance represents Agency capital expenditures in excess of Backup Facility Charges levied/collected.				

DESERT WATER AGENCY				
Back-up Facility Charge Summary				
Revenues & Expenditures				
Reclaimed Water Service				
A Backup Facility Charge for recycled water service shall be imposed for all existing water service connections for which increased capacity is requested and larger meters are installed. (DWA Resolution 1168 Section 2)				
The purpose of the Backup Facility Charge is to raise a portion of the funds required by the Agency to develop recycled water supplies and construct storage and distribution facilities. (DWA Ordinance 67 Section 6-1.3)				
Revenue	Back-up Facility Revenue received in a fiscal year in accordance with DWA Ordinance 67 Section 6-1.3 inclusive of any interest on cumulative excess revenues in accordance with DWA Resolution 1168 Section 3.			
Expenditures	Capital expenditures funded by Desert Water, put into service in a given fiscal year. These capital expenditures are recorded in proportion to the increased capacity they provide to DWA's water system.			
Year	Revenue	Expenditures	Cumulative Balance*	
1988-1989	\$ -	\$ 8,496,895.00	\$ (8,496,895.00)	
1989-1990	\$ 96,193.00	\$ 28,934.00	\$ (8,429,636.00)	
1990-1991	\$ -	\$ -	\$ (8,429,636.00)	
1991-1992	\$ -	\$ 37,793.00	\$ (8,467,429.00)	
1992-1993	\$ -	\$ -	\$ (8,467,429.00)	
1993-1994	\$ -	\$ 19,190.00	\$ (8,486,619.00)	
1994-1995	\$ -	\$ 21,123.00	\$ (8,507,742.00)	
1995-1996	\$ -	\$ 3,545,644.00	\$ (12,053,386.00)	
1996-1997	\$ -	\$ 49,258.00	\$ (12,102,644.00)	
1997-1998	\$ -	\$ 33,313.00	\$ (12,135,957.00)	
1998-1999	\$ -	\$ 177,863.00	\$ (12,313,820.00)	
1999-2000	\$ -	\$ 28,864.00	\$ (12,342,684.00)	
2000-2001	\$ -	\$ 1,207,954.00	\$ (13,550,638.00)	
2001-2002	\$ -	\$ 339,383.00	\$ (13,890,021.00)	
2002-2003	\$ -	\$ 38,056.00	\$ (13,928,077.00)	
2003-2004	\$ -	\$ 522,373.00	\$ (14,450,450.00)	
2004-2005	\$ -	\$ 50,211.00	\$ (14,500,661.00)	
2005-2006	\$ -	\$ 25,173.00	\$ (14,525,834.00)	
2006-2007	\$ -	\$ 4,198,092.00	\$ (18,723,926.00)	
2007-2008	\$ -	\$ 1,935,892.00	\$ (20,659,818.00)	
2008-2009	\$ -	\$ 180,517.00	\$ (20,840,335.00)	
2009-2010	\$ -	\$ 45,005.00	\$ (20,885,340.00)	
2010-2011	\$ -	\$ 55,067.00	\$ (20,940,407.00)	
2011-2012	\$ -	\$ 4,973,063.00	\$ (25,913,470.00)	
2012-2013	\$ -	\$ -	\$ (25,913,470.00)	
2013-2014	\$ -	\$ 739,724.00	\$ (26,653,194.00)	
2014-2015	\$ -	\$ 99,660.00	\$ (26,752,854.00)	
2015-2016	\$ -	\$ 2,555,400.00	\$ (29,308,254.00)	
2016-2017	\$ -	\$ 26,248.00	\$ (29,334,502.00)	
2017-2018	\$ -	\$ 45,207.00	\$ (29,379,709.00)	
2018-2019	\$ -	\$ -	\$ (29,379,709.00)	
2019-2020	\$ -	\$ -	\$ (29,379,709.00)	
Total	\$ 96,193.00	\$ 29,475,902.00	\$ (29,379,709.00)	
Sum Check	\$ -	\$ -	\$ -	
*A negative cumulative balance represents Agency capital expenditures in excess of Backup Facility Charges levied/collected.				

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Groundwater Replenishment Assessment

Exhibit 1.B

2	
Financial Plan Alternatives	
1	Alternative 1
2	Alternative 2

TABLE 16 : ASSESSMENT RATE FORECAST - Alternative 2 Source file: [12e] costs - 2021-2022 Engineer's Report (RAC Costs).pdf Table 6, page 89.

Projected Effective Replenishment Assessment Rates	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
Anticipated Groundwater Replenishment Assessment Rate ¹	\$175.00	\$175.00	\$175.00	\$195.00	\$215.00	\$235.00	\$255.00	\$275.00	\$285.00	\$285.00	\$285.00	\$285.00	\$285.00
Estimated Assessable Production (in Acre Feet) ²	40,830	44,830	46,272	45,954	45,771	45,729	45,957	46,452	46,946	47,659	48,319	48,707	49,094
Estimated Total Assessment	\$ 7,145,250	\$ 7,845,250	\$ 8,097,600	\$ 8,961,030	\$ 9,840,765	\$ 10,746,315	\$ 11,719,035	\$ 12,774,300	\$ 13,379,610	\$ 13,582,815	\$ 13,770,915	\$ 13,881,495	\$ 13,991,790

1. Replenishment assessment rate for FY 2020/21 and 2021/22 are per the DWA website and FY 2022/23 and beyond are per the Krieger & Stewart May 2021 Groundwater Replenishment & Assessment Program Report (Table 6, page 89).
2. Per the Krieger & Stewart May 2021 Groundwater Replenishment & Assessment Program Report (Table 6, page 89).

TABLE 17 : ASSESSMENT BY SUBBASIN

Alternative 2			
Assessment by Subbasin ¹	\$-Amount	Amount of Water (AF)	%-Allocation
Whitewater River Subbasin	\$ 6,167,000	35,240	79%
Mission Creek Subbasin	1,678,250	9,590	21%
Total Assessment	\$ 7,845,250	44,830	100%

1. Per the Krieger & Stewart May 2021 Groundwater Replenishment & Assessment Program Report (Table 2, page 85).

TABLE 18 : WHITEWATER RIVER PRODUCTION

Alternative 2			
Whitewater River Subbasin Assessable Production ¹	Amount of Water (AF)	Replenishment Assessment	% of Production & Assessment
Desert Water Agency Assessable Production (AF)	33,260	\$ 6,485,700	94%
All Other Producers (AF)	1,980	386,100	6%
Total Whitewater River Subbasin Assessable Production	35,240	\$ 6,871,800	100%

1. Per the Krieger & Stewart May 2021 Groundwater Replenishment & Assessment Program Report (Table 2, page 85).

From Esther (email of 10-21-21):

The Krieger & Stewart May 2021 Groundwater Replenishment & Assessment Program Report (Table 2, page 85) projected the Groundwater Replenishment Assessment will increase by over 50% from '21/22 to '22/23 (from \$175 to \$268). Should we use this estimate, or do you have a different assumption you'd prefer to use?

Our goal is to increase our replenishment assessment by \$20 each year until we 'break even' with the current Table A charges. See Table 7 (Pg 90) of the Groundwater Replenishment & Assessment Report, Column "Table A Allocation \$/AF". Future rates, based off of Table 7 will be as follows:

Year	Table A \$/AF	RAC \$/AF
21/22	\$ 248.00	\$ 175.00
22/23	\$ 268.00	\$ 175.00
23/24	\$ 275.00	\$ 195.00
24/25	\$ 278.00	\$ 215.00
25/26	\$ 283.00	\$ 235.00
26/27	\$ 283.00	\$ 255.00
27/28	\$ 284.00	\$ 275.00
28/29	\$ 285.00	\$ 285.00
29/30	\$ 285.00	\$ 285.00
30/31	\$ 285.00	\$ 285.00
31/32	\$ 285.00	\$ 285.00
32/33	\$ 285.00	\$ 285.00
33/34	\$ 286.00	\$ 286.00
34/35	\$ 295.00	\$ 295.00
35/36	\$ 295.00	\$ 295.00
36/37	\$ 295.00	\$ 295.00

2	
Financial Plan Alternatives	
1	Alternative 1
2	Alternative 2

TABLE 19 : CALCULATION OF REPLENISHMENT ASSESSMENTS

Calculation of Replenishment Assessment Amounts	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
<i>Assessment Levied by Desert Water Agency (Revenue to DWA):</i>													
Estimated Assessable Groundwater Production (AF) ¹	40,830	44,830	46,272	45,954	45,771	45,729	45,957	46,452	46,946	47,659	48,319	48,707	49,094
Assessment Rate (per AF)	\$175.00	\$175.00	\$175.00	\$195.00	\$215.00	\$235.00	\$255.00	\$275.00	\$285.00	\$285.00	\$285.00	\$285.00	\$285.00
Revenue from Assessment	\$ 7,145,250	\$ 7,845,250	\$ 8,097,600	\$ 8,961,030	\$ 9,840,765	\$ 10,746,315	\$ 11,719,035	\$ 12,774,300	\$ 13,379,610	\$ 13,582,815	\$ 13,770,915	\$ 13,881,495	\$13,991,790
<i>Replenishment Assessment due from Desert Water Agency (Expense to DWA):</i>													
Estimated Assessable Groundwater Production (AF) ²	33,260	33,260	34,330	34,094	33,958	33,927	34,096	34,463	34,830	35,359	35,849	36,136	36,424
Assessment Rate (per AF)	\$175.00	\$175.00	\$175.00	\$195.00	\$215.00	\$235.00	\$255.00	\$275.00	\$285.00	\$285.00	\$285.00	\$285.00	\$285.00
Expense from Assessment	\$ 5,820,500	\$ 5,820,500	\$ 6,007,722	\$ 6,648,313	\$ 7,301,000	\$ 7,972,840	\$ 8,694,515	\$ 9,477,431	\$ 9,926,519	\$ 10,077,279	\$ 10,216,833	\$ 10,298,874	\$10,380,703

1. Per the Krieger & Stewart May 2021 Groundwater Replenishment & Assessment Program Report (Table 6, page 89).

2. Per the Krieger and Stewart report for FY 2020/21 and FY 2021/22. For all future years, it is assumed to be 79% of the total assessable water (35,240/44,830 = 79%). Source: Krieger & Stewart May 2021 Groundwater Replenishment & Assessment Program Report (Table 2, page 85).

TABLE 20 : CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected				
Funding Sources:	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
Grants - USBR for AMI ¹	\$ -	\$ 375,000	\$ 375,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grants - Sentinel Mitigation for water conservation programs ¹	-	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Government Grant Funding ²	-	-	-	1,489,000	-	-	-	-	-	-	-	-	-
Use of Capacity Fee Reserves	-	-	-	-	-	-	-	-	-	-	-	-	-
SRF Loan Funding	-	-	-	-	-	-	-	-	-	-	-	-	-
Use of New Revenue Bond Proceeds	-	-	-	-	-	-	-	-	-	-	-	-	-
Use of Capital Rehabilitation and Replacement Reserve	-	-	-	-	-	-	-	-	-	-	-	-	-
Rate Revenue	10,567,231	11,329,351	10,460,946	12,234,410	13,040,394	13,554,183	14,370,585	14,936,385	16,274,221	17,563,374	18,827,665	13,944,400	14,493,536
Total Sources of Capital Funds	\$ 10,567,231	\$ 11,804,351	\$ 10,935,946	\$ 13,823,410	\$ 13,140,394	\$ 13,654,183	\$ 14,470,585	\$ 15,036,385	\$ 16,374,221	\$ 17,663,374	\$ 18,927,665	\$ 14,044,400	\$ 14,593,536
Uses of Capital Funds:													
Total Project Costs	\$ 10,567,231	\$ 11,804,351	\$ 10,935,946	\$ 13,823,410	\$ 13,140,394	\$ 13,654,183	\$ 14,470,585	\$ 15,036,385	\$ 16,374,221	\$ 17,663,374	\$ 18,927,665	\$ 14,044,400	\$ 14,593,536
Capital Funding Surplus (Deficiency)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1. The Agency has the following active grants (no checks received to date):

- \$290,000 - Prop 1 Round 1 from the Department of Water Resources for grass removal
- \$75,000 - USBR SWEP 2019 from the US Bureau of Reclamation (USBR) for grass removal
- \$100,000 per year - Sentinel Mitigation for water conservation programs. Should occur every year.
- \$750,000 - USBR for AMI. Matching grant and is awarded. Split over '21/22 and '22/23

2. This is for FEMA and other Grant Awards that are one time in nature.

	5-Year Rate Projected Period						Total	Avg. Annual
	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28			
New CIP	\$ 13,823,410	\$ 13,140,394	\$ 13,654,183	\$ 14,470,585	\$ 15,036,385		\$ 70,124,957	\$ 14,024,991
Old CIP	\$ 10,749,974	\$ 11,018,873	\$ 10,070,106	\$ 11,826,240	\$ 12,288,646		\$ 55,953,840	\$ 11,190,768
Difference	\$ 3,073,436	\$ 2,121,521	\$ 3,584,077	\$ 2,644,345	\$ 2,747,739		\$ 14,171,118	

CAPITAL IMPROVEMENT PROGRAM

TABLE 21 : CAPITAL IMPROVEMENT PROGRAM COSTS (in Current-Year Dollars)^{1,2}

CAPITAL IMPROVEMENT PROJECTS	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
CAPITAL PROJECTS BY SYSTEM COMPONENT													
Water Treatment Facilities													
Chino West Filtration Plant	\$ 450,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Well Pumping Facilities													
Palm Springs Base Zone Well 45 Pumping Plant Construction	-	1,600,000	-	-	-	-	-	-	-	-	-	-	-
Palm Springs Chino Zone System Well 42 Pumping Plant Rehabilitation	-	-	750,000	-	-	-	-	-	-	-	-	-	-
Palm Springs Base Zone Well 44 Pumping Plant Construction	-	-	-	-	-	-	-	-	-	-	-	160,000	160,000
Palm Oasis Zone Well Pumping Plant Drilling and Construction	-	-	-	-	-	-	-	-	-	-	-	-	-
Booster Pumping Facilities													
Upgrade Terrace Booster (Booster 6)	-	-	-	130,000	-	-	-	-	-	-	-	-	-
Upgrade Vista Miller Booster (Booster 7)	-	-	-	130,000	-	-	-	-	-	-	-	-	-
Convert RW Booster to Potable Water Booster (East Zone to South Zone)	-	-	-	750,000	-	-	-	-	-	-	-	-	-
Upgrade Palm Oasis Booster (Booster 13)	-	-	-	-	-	-	-	-	-	-	-	20,000	20,000
Storage Facilities													
Construct Desert Palisade No. 2 Steel Reservoir 0.5 MG	-	-	-	-	-	-	216,000	216,000	216,000	216,000	216,000	-	-
Construct Palm Oasis No. 3 Steel Reservoir 2.0 MG	-	-	-	-	-	-	-	-	-	-	-	287,000	287,000
Pipelines (to include replacement pipeline projects)													
Replacement Pipeline Project	-	4,100,000	-	-	-	-	-	-	-	-	-	-	-
Replacement Pipeline Project	2,550,000	-	-	-	-	-	-	-	-	-	-	-	-
36" Avenida Caballeros Pipeline (Ramon Road to Baristo Way)	1,845,000	-	-	-	-	-	-	-	-	-	-	-	-
Indian Canyon Way (Andreas to Tahquitz Canyon Way)	200,000	-	-	-	-	-	-	-	-	-	-	-	-
Replacement Pipeline Project	-	-	5,000,000	-	-	-	-	-	-	-	-	-	-
30" Avenida Caballeros (Tahquitz Canyon Way to Baristo Way)	-	-	1,650,000	-	-	-	-	-	-	-	-	-	-
16" Amado Road (Palm Canyon Drive to Calle Encillia)	-	-	-	-	-	-	-	-	81,000	81,000	81,000	81,000	81,000
16" Tahquitz Canyon Way (Indian Canyon Drive to Calle Encillia)	-	-	-	-	-	-	-	-	54,000	54,000	54,000	54,000	54,000
12" Racquet Club Drive (Via Miraleste to Avenida Caballeros)	-	-	-	-	-	-	-	-	79,200	79,200	79,200	79,200	79,200
12" Via Miraleste (Via Esuela to Racquet Club Drive)	-	-	-	-	-	-	-	-	85,800	85,800	85,800	85,800	85,800
12" Via Miraleste (Vista Chino to Louise Drive)	-	-	-	-	-	-	-	-	-	-	-	-	-
12" Tahquitz Canyon Way North Side (Avenida Caballeros to Sunrise Way)	-	-	-	-	-	-	-	-	151,800	151,800	151,800	151,800	151,800
12" Vista Drive (Grandview to Vista Miller Site)	-	-	-	-	-	-	-	-	79,200	79,200	79,200	79,200	79,200
Replacement Pipeline Project	-	-	-	-	-	-	-	-	-	-	-	-	-
12" Tahquitz Canyon Way South Side (Museum Drive to Farrell Drive)	-	-	-	-	-	-	-	-	-	442,200	442,200	442,200	442,200
Replacement Pipeline Project	-	-	-	-	-	-	-	-	-	-	-	-	-
12" Tachevah Drive (Indian Canyon to Via Miraleste)	-	-	-	-	-	-	-	-	-	-	85,800	85,800	85,800
12" Tachevah Drive (Sunrise Way to Farrell Drive)	-	-	-	-	-	-	-	-	-	-	151,800	151,800	151,800
12" Alejo Road (Calle Encillia to Avenida Caballeros)	-	-	-	-	-	-	-	-	-	-	138,600	138,600	138,600
12" Arenas Road (Cahuilla Road to South Palm Canyon)	-	-	-	-	-	-	-	-	-	-	-	-	-
Replacement Pipeline Project - Winter	-	-	-	4,250,000	4,250,000	4,250,000	4,250,000	4,250,000	4,250,000	4,250,000	4,250,000	4,700,000	4,700,000
Replacement Pipeline Project - Summer	-	-	-	4,250,000	4,250,000	4,250,000	4,250,000	4,250,000	4,250,000	4,250,000	4,250,000	-	-
Subtotal: Capital Improvement Projects (in Current-Year Dollars)	\$ 5,045,000	\$ 5,700,000	\$ 7,400,000	\$ 9,510,000	\$ 8,500,000	\$ 8,500,000	\$ 8,716,000	\$ 8,716,000	\$ 9,247,000	\$ 9,689,200	\$ 10,065,400	\$ 6,516,400	\$ 6,516,400

TABLE 22 : CAPITAL IMPROVEMENT PROGRAM COSTS (in Current-Year Dollars)²

CAPITAL IMPROVEMENT PROJECTS	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
ROUTINE PROJECTS (NOT INCLUDED IN GENERAL PLAN CIP)													
Pipelines	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000
Wells	243,200	-	134,000	134,000	134,000	134,000	134,000	134,000	134,000	134,000	134,000	134,000	134,000
Reservoirs	-	193,800	-	-	-	-	-	-	-	-	-	-	-
Reclamation Plant	201,700	-	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000
Transportation Equipment	383,300	234,000	154,000	154,000	154,000	154,000	154,000	154,000	154,000	154,000	154,000	154,000	154,000
Meters	773,000	735,400	406,000	406,000	406,000	406,000	406,000	406,000	406,000	406,000	406,000	406,000	406,000
Services	1,655,000	1,691,000	900,000	900,000	900,000	900,000	900,000	900,000	900,000	900,000	900,000	900,000	900,000
Miscellaneous	1,668,400	2,178,500	520,300	520,300	520,300	520,300	520,300	520,300	520,300	520,300	520,300	520,300	520,300
Subtotal: Routine Projects (in Current-Year Dollars)	\$ 5,124,600	\$ 5,232,700	\$ 2,347,300	\$ 2,347,300	\$ 2,347,300	\$ 2,347,300	\$ 2,347,300	\$ 2,347,300	\$ 2,347,300	\$ 2,347,300	\$ 2,347,300	\$ 2,347,300	\$ 2,347,300
Total: Capital Improvement Projects (in Current-Year Dollars)	\$ 10,169,600	\$ 10,932,700	\$ 9,747,300	\$ 11,857,300	\$ 10,847,300	\$ 10,847,300	\$ 11,063,300	\$ 11,063,300	\$ 11,594,300	\$ 12,036,500	\$ 12,412,700	\$ 8,863,700	\$ 8,863,700

TABLE 23 : CAPITAL IMPROVEMENT PROGRAM COSTS (in Future-Year Dollars)³

CAPITAL IMPROVEMENT PROJECTS	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
CAPITAL PROJECTS BY SYSTEM COMPONENT													
Water Treatment Facilities													
Chino West Filtration Plant	\$ 467,595	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Well Pumping Facilities													
Palm Springs Base Zone Well 45 Pumping Plant Construction	-	1,727,566	-	-	-	-	-	-	-	-	-	-	-
Palm Springs Chino Zone System Well 42 Pumping Plant Rehabilitation	-	-	841,460	-	-	-	-	-	-	-	-	-	-
Palm Springs Base Zone Well 44 Pumping Plant Construction	-	-	-	-	-	-	-	-	-	-	-	253,518	263,430
Palm Oasis Zone Well Pumping Plant Drilling and Construction	-	-	-	-	-	-	-	-	-	-	-	-	-
Booster Pumping Facilities													
Upgrade Terrace Booster (Booster 6)	-	-	-	151,556	-	-	-	-	-	-	-	-	-
Upgrade Vista Miller Booster (Booster 7)	-	-	-	151,556	-	-	-	-	-	-	-	-	-
Convert RW Booster to Potable Water Booster (East Zone to South Zone)	-	-	-	874,361	-	-	-	-	-	-	-	-	-
Upgrade Palm Oasis Booster (Booster 13)	-	-	-	-	-	-	-	-	-	-	-	31,690	32,929
Storage Facilities													
Construct Desert Palisade No. 2 Steel Reservoir 0.5 MG	-	-	-	-	-	-	282,524	293,571	305,049	316,977	329,370	-	-
Construct Palm Oasis No. 3 Steel Reservoir 2.0 MG	-	-	-	-	-	-	-	-	-	-	-	454,747	472,528
Pipelines (to include replacement pipeline projects)													
Replacement Pipeline Project	-	4,426,888	-	-	-	-	-	-	-	-	-	-	-
Replacement Pipeline Project	2,649,705	-	-	-	-	-	-	-	-	-	-	-	-
36" Avenida Caballeros Pipeline (Ramon Road to Baristo Way)	1,917,140	-	-	-	-	-	-	-	-	-	-	-	-
Indian Canyon Way (Andreas to Tahquitz Canyon Way)	207,820	-	-	-	-	-	-	-	-	-	-	-	-
Replacement Pipeline Project	-	-	5,609,731	-	-	-	-	-	-	-	-	-	-
30" Avenida Caballeros (Tahquitz Canyon Way to Baristo Way)	-	-	1,851,211	-	-	-	-	-	-	-	-	-	-
16" Amado Road (Palm Canyon Drive to Calle Encillia)	-	-	-	-	-	-	-	-	114,393	118,866	123,514	128,343	133,362
16" Tahquitz Canyon Way (Indian Canyon Drive to Calle Encillia)	-	-	-	-	-	-	-	-	76,262	79,244	82,343	85,562	88,908
12" Racquet Club Drive (Via Miraleste to Avenida Caballeros)	-	-	-	-	-	-	-	-	111,851	116,225	120,769	125,491	130,398
12" Via Miraleste (Via Esuela to Racquet Club Drive)	-	-	-	-	-	-	-	-	121,172	125,910	130,833	135,949	141,264
12" Via Miraleste (Vista Chino to Louise Drive)	-	-	-	-	-	-	-	-	-	-	-	-	-
12" Tahquitz Canyon Way North Side (Avenida Caballeros to Sunrise Way)	-	-	-	-	-	-	-	-	214,382	222,764	231,474	240,525	249,929
12" Vista Drive (Grandview to Vista Miller Site)	-	-	-	-	-	-	-	-	111,851	116,225	120,769	125,491	130,398
Replacement Pipeline Project	-	-	-	-	-	-	-	-	-	-	-	-	-
12" Tahquitz Canyon Way South Side (Museum Drive to Farrell Drive)	-	-	-	-	-	-	-	-	-	648,922	674,294	700,659	728,055
Replacement Pipeline Project	-	-	-	-	-	-	-	-	-	-	-	-	-
12" Tachevah Drive (Indian Canyon to Via Miraleste)	-	-	-	-	-	-	-	-	-	-	130,833	135,949	141,264
12" Tachevah Drive (Sunrise Way to Farrell Drive)	-	-	-	-	-	-	-	-	-	-	231,474	240,525	249,929
12" Alejo Road (Calle Encillia to Avenida Caballeros)	-	-	-	-	-	-	-	-	-	-	211,346	219,610	228,196
12" Arenas Road (Cahuilla Road to South Palm Canyon)	-	-	-	-	-	-	-	-	-	-	-	-	-
Replacement Pipeline Project - Winter	-	-	-	4,954,711	5,148,440	5,349,744	5,558,919	5,776,273	6,002,125	6,236,808	6,480,667	7,447,080	7,738,260
Replacement Pipeline Project - Summer	-	-	-	4,954,711	5,148,440	5,349,744	5,558,919	5,776,273	6,002,125	6,236,808	6,480,667	-	-
Subtotal: Capital Improvement Projects (in Future-Year Dollars)	\$ 5,242,260	\$ 6,154,454	\$ 8,302,402	\$ 11,086,894	\$ 10,296,880	\$ 10,699,488	\$ 11,400,362	\$ 11,846,116	\$ 13,059,212	\$ 14,218,748	\$ 15,348,355	\$ 10,325,138	\$ 10,728,851

TABLE 24 : CAPITAL IMPROVEMENT PROGRAM COSTS (in Future-Year Dollars)³

CAPITAL IMPROVEMENT PROJECTS	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
ROUTINE PROJECTS (NOT INCLUDED IN GENERAL PLAN CIP)													
Pipelines	\$ 207,820	\$ 215,946	\$ 224,389	\$ 233,163	\$ 242,280	\$ 251,753	\$ 261,596	\$ 271,825	\$ 282,453	\$ 293,497	\$ 304,973	\$ 316,897	\$ 329,288
Wells	252,709	-	150,341	156,219	162,327	168,674	175,269	182,122	189,243	196,643	204,332	212,321	220,623
Reservoirs	-	209,251	-	-	-	-	-	-	-	-	-	-	-
Reclamation Plant	209,586	-	37,024	38,472	39,976	41,539	43,163	44,851	46,605	48,427	50,320	52,288	54,332
Transportation Equipment	398,287	252,657	172,780	179,535	186,555	193,850	201,429	209,305	217,489	225,993	234,829	244,011	253,552
Meters	803,224	794,033	455,510	473,321	491,827	511,058	531,040	551,804	573,379	595,799	619,094	643,301	668,454
Services	1,719,711	1,825,821	1,009,752	1,049,233	1,090,258	1,132,887	1,177,183	1,223,211	1,271,038	1,320,736	1,372,377	1,426,037	1,481,795
Miscellaneous	1,733,634	2,352,189	583,749	606,573	630,290	654,935	680,542	707,152	734,801	763,532	793,386	824,408	856,642
Subtotal: Routine Projects (in Future-Year Dollars)	\$ 5,324,972	\$ 5,649,897	\$ 2,633,544	\$ 2,736,516	\$ 2,843,514	\$ 2,954,695	\$ 3,070,224	\$ 3,190,269	\$ 3,315,009	\$ 3,444,626	\$ 3,579,311	\$ 3,719,262	\$ 3,864,685
Total: Capital Improvement Projects (in Future-Year Dollars)	\$ 10,567,231	\$ 11,804,351	\$ 10,935,946	\$ 13,823,410	\$ 13,140,394	\$ 13,654,183	\$ 14,470,585	\$ 15,036,385	\$ 16,374,221	\$ 17,663,374	\$ 18,927,665	\$ 14,044,400	\$ 14,593,536

TABLE 25 : FORECASTING ASSUMPTIONS

Economic Variables	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
Annual Construction Cost Inflation, Per Engineering News Record ⁴	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%
Cumulative Construction Cost Multiplier from FY 2020/21	1.04	1.08	1.12	1.17	1.21	1.26	1.31	1.36	1.41	1.47	1.52	1.58	1.65

1. Capital project costs were provided by DWA staff. Source files: *Capital Improvement Summary Budget Years 2020-2023 through 2050-2051.xlsx* & *DWA_Rate Study_Draft Report_03-06-2023 - General Plan CIP_DT.pdf*.

2. Routine project costs provided by Agency staff and estimated at \$2.3M annually. Source file: *Projected reoccurring Misc Capital Budget.xlsx*.

3. Future project costs are inflated by 3.91% per year. Source: Engineering News Record website (<http://enr.construction.com>).

4. For reference purposes, the annual Construction Cost Inflation percentage is the 5-year average change in the Construction Cost Index from 2017 to 2022 (3.91%). Source: Engineering News Record website (<http://enr.construction.com>).

TABLE 26 : EXISTING DEBT OBLIGATIONS

EXISTING DEBT OBLIGATIONS	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected				
Annual Repayment Schedules:	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
REVNEUE BONDS													
<u>Water Revenue Refunding Bonds, Series 2016, - \$19,720,000¹</u>													
Principal Payment ²	\$ 720,000	\$ 745,000	\$ 780,000	\$ 800,000	\$ 830,000	\$ 865,000	\$ 895,000	\$ 945,000	\$ 990,000	\$ 1,030,000	\$ 1,070,000	\$ 1,115,000	\$ 1,160,000
Interest Payment ²	622,750	593,950	564,150	544,650	512,650	479,450	444,850	400,100	352,850	313,250	272,050	229,250	184,650
Subtotal: Annual Debt Service	\$ 1,342,750	\$ 1,338,950	\$ 1,344,150	\$ 1,344,650	\$ 1,342,650	\$ 1,344,450	\$ 1,339,850	\$ 1,345,100	\$ 1,342,850	\$ 1,343,250	\$ 1,342,050	\$ 1,344,250	\$ 1,344,650
Coverage Requirement (\$-Amnt above annual payment) ³	\$ 1,544,163	\$ 1,606,740	\$ 1,612,980	\$ 1,613,580	\$ 1,611,180	\$ 1,613,340	\$ 1,607,820	\$ 1,614,120	\$ 1,611,420	\$ 1,611,900	\$ 1,610,460	\$ 1,613,100	\$ 1,613,580
Reserve Requirement (total fund balance) ⁴	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1. Revenue bonds issued to refund the outstanding 2007 COPs and pay the issuance cost of the bonds. Source file: [7b] 2016 Bond Preliminary Official Statement.pdf .

2. Debt repayment schedule provided by Agency staff. Source file: [6] 2016 Bond Payment Schedule.pdf .

3. The Agency must have net revenues that are at least equal to 1.15 times the annual debt service payment. Source file: [7b] 2016 Bond Preliminary Official Statement.pdf , page 11.

4. Per the Preliminary Official Statement, the Agency is not required to fund a debt service reserve.

TABLE 27 : EXISTING ANNUAL DEBT OBLIGATIONS TO BE SATISFIED BY WATER RATES

Existing Annual Debt Service	\$ 1,342,750	\$ 1,338,950	\$ 1,344,150	\$ 1,344,650	\$ 1,342,650	\$ 1,344,450	\$ 1,339,850	\$ 1,345,100	\$ 1,342,850	\$ 1,343,250	\$ 1,342,050	\$ 1,344,250	\$ 1,344,650
Existing Annual Coverage Requirement	\$ 1,544,163	\$ 1,606,740	\$ 1,612,980	\$ 1,613,580	\$ 1,611,180	\$ 1,613,340	\$ 1,607,820	\$ 1,614,120	\$ 1,611,420	\$ 1,611,900	\$ 1,610,460	\$ 1,613,100	\$ 1,613,580
Existing Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Projected Water Rates Under Existing Rate Schedule

Exhibit 4

TABLE 28 : CURRENT WATER RATE SCHEDULE

Water Rate Schedule ¹	Current Rates
Fixed Monthly Service Charge (Standard Meters)	
5/8 x 3/4 inch	\$33.53
1 inch	\$33.53
1 1/2 inch	\$64.02
2 inch	\$100.61
3 inch	\$198.18
4 inch	\$307.94
6 inch	\$612.85
8 inch	\$978.73
10 inch	\$2,564.22
12 inch	\$3,235.01
Private Fire Protection Monthly Service Charges	
2 inch	\$7.99
4 inch	\$30.15
6 inch	\$64.99
8 inch	\$111.46
10 inch	\$173.41
12 inch	\$208.26
Volumetric (Unit) Rate (\$/hcf)²	
Uniform Rate	\$2.28
Drought Response Charge	
10%	\$0.16
20%	\$0.37
30%	\$0.63
40%	\$0.98
50%	\$1.46
60%	\$2.20
Zone Pumping Charges (\$/hcf)³	
Base	\$0.00
A	\$0.28
B	\$0.31
C	\$0.64
D	\$2.85
Recycled Water Monthly Service Charges	
2 inch	\$15.00
3 inch	\$26.97
4 inch	\$40.43
6 inch	\$77.83
8 inch	\$122.71
10 inch	\$317.19
12 inch	\$399.47
Recycled Water Volumetric Rate (\$/hcf)²	
Uniform Rate	\$0.60

1. The rates are per Resolution No. 1264 and effective January 1, 2022. Source file: *01264 Establishing Rates Fees Charges for Domestic Water.pdf*.
2. HCF = Hundred Cubic Feet or 748 gallons.
3. A zone pumping charge is added to the volumetric rate for higher elevations areas. This charge is per unit (hcf).

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Cost-of-Service Analysis

TABLE 29 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Recycled Water	Capacity	Customer	Fire Protection	Basis of Classification				
	FY 2023/24	(COM)	(RW)	(CAP)	(CA)	(FP)	(COM)	(RW)	(CAP)	(CA)	(FP)
Water Operating Fund Expenses											
Source of Supply Expense											
Supervision & Engineering	\$ 87,360	\$ 87,360	\$ -	\$ -	\$ -	\$ -	100.0%	0.0%	0.0%	0.0%	0.0%
Operating Labor	59,530	59,530	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%
Misc. Source of Supply	161,476	161,476	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%
Maintenance - Structures & Improvements	245,358	245,358	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%
Snow Creek Cabin Expense	45,148	45,148	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%
Snow Creek - Security Expense	78,474	78,474	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%
Reservoir Security	-	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%
Maintenance - Coll & Impound Rsv	-	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%
Maintenance of Roads	339,678	339,678	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%
Maintenance of Intakes	321,065	321,065	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%
Maintenance of Wells	13,456	13,456	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%
Ground Water Replenishment	6,648,313	6,648,313	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%
Total - Source Of Supply Expense	\$ 7,999,857	\$ 7,999,857	\$ -	\$ -	\$ -	\$ -	100.0%	0.0%	0.0%	0.0%	0.0%
Pumping Expense											
Supervision & Engineering	\$ 144,768	\$ 50,669	\$ 1,211	\$ 88,679	\$ -	\$ 4,208	35.0%	0.8%	61.3%	0.0%	2.9%
Pumping Labor & Expenses	200,928	70,325	1,681	123,081	-	5,841	35.0%	0.8%	61.3%	0.0%	2.9%
Misc. Pumping Expenses	138,084	48,330	1,155	84,585	-	4,014	35.0%	0.8%	61.3%	0.0%	2.9%
Maintenance - Structures & Improvements	338,294	118,403	2,831	207,227	-	9,834	35.0%	0.8%	61.3%	0.0%	2.9%
Maintenance - Pumping Equipment	463,048	162,067	3,874	283,646	-	13,461	35.0%	0.8%	61.3%	0.0%	2.9%
Power Purchased	3,728,736	3,728,736	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%
Total - Pumping Expense	\$ 5,013,859	\$ 4,178,529	\$ 10,753	\$ 787,219	\$ -	\$ 37,359	83.3%	0.2%	15.7%	0.0%	0.7%
Regulatory Water Treatment											
Supervision & Engineering	\$ 148,512	\$ 84,790	\$ -	\$ 59,405	\$ -	\$ 4,317	57.1%	0.0%	40.0%	0.0%	2.9%
Operating Labor & Expenses	209,539	119,632	-	83,816	-	6,091	57.1%	0.0%	40.0%	0.0%	2.9%
Misc. Water Treatment Expense	144,624	140,420	-	-	-	4,204	97.1%	0.0%	0.0%	0.0%	2.9%
Chemicals & Filter Materials	294,027	294,027	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%
Maintenance - Structures & Improvements	15,594	8,903	-	6,238	-	453	57.1%	0.0%	40.0%	0.0%	2.9%
Maintenance Water Treatment Equip	100,608	57,440	-	40,243	-	2,925	57.1%	0.0%	40.0%	0.0%	2.9%
Total - Regulatory Water Treatment	\$ 912,904	\$ 705,212	\$ -	\$ 189,701	\$ -	\$ 17,991	77.2%	0.0%	20.8%	0.0%	2.0%
Trans. And Dist. Expense											
Supervision & Engineering	\$ 732,576	\$ 366,288	\$ 6,130	\$ 332,733	\$ 6,130	\$ 21,296	50.0%	0.8%	45.4%	0.8%	2.9%
Storage Facilities Expense	150,912	75,456	1,263	68,544	1,263	4,387	50.0%	0.8%	45.4%	0.8%	2.9%
Trans & Dist Line Expense	97,464	48,732	815	44,268	815	2,833	50.0%	0.8%	45.4%	0.8%	2.9%
Hand Tools & Equipment	70,426	35,213	589	31,987	589	2,047	50.0%	0.8%	45.4%	0.8%	2.9%
Meter Expense	133,683	66,841	1,119	60,718	1,119	3,886	50.0%	0.8%	45.4%	0.8%	2.9%
Meter Test Charges	-	-	-	-	-	-	50.0%	0.8%	45.4%	0.8%	2.9%
Customer Connection Expense	157,452	78,726	1,317	71,514	1,317	4,577	50.0%	0.8%	45.4%	0.8%	2.9%
Cross Connection Expense	202,348	101,174	1,693	91,906	1,693	5,882	50.0%	0.8%	45.4%	0.8%	2.9%
Misc. Supplies & Expense	56,340	28,170	471	25,590	471	1,638	50.0%	0.8%	45.4%	0.8%	2.9%
Maintenance - Structures & Improvements	4,276	2,138	36	1,942	36	124	50.0%	0.8%	45.4%	0.8%	2.9%
Maintenance of Reservoirs & Tanks	112,807	56,403	944	51,236	944	3,279	50.0%	0.8%	45.4%	0.8%	2.9%
Maintenance - Transmission & Distr. Mains	1,674,746	837,373	14,013	760,662	14,013	48,685	50.0%	0.8%	45.4%	0.8%	2.9%
Maintenance - Whitewater Mutual WC	337,540	168,770	2,824	153,309	2,824	9,812	50.0%	0.8%	45.4%	0.8%	2.9%
Maintenance of Fire Services	115,322	57,661	965	52,379	965	3,352	50.0%	0.8%	45.4%	0.8%	2.9%
Maintenance of Services	288,242	144,121	2,412	130,918	2,412	8,379	50.0%	0.8%	45.4%	0.8%	2.9%
Maintenance of Meters	199,078	99,539	1,666	90,420	1,666	5,787	50.0%	0.8%	45.4%	0.8%	2.9%
Meter Repair Parts	2,138	1,069	18	971	18	62	50.0%	0.8%	45.4%	0.8%	2.9%
Maintenance of Fire Hydrants	183,484	91,742	1,535	83,338	1,535	5,334	50.0%	0.8%	45.4%	0.8%	2.9%
Total - Trans. And Dist. Expense	\$ 4,518,832	\$ 2,259,416	\$ 37,810	\$ 2,052,434	\$ 37,810	\$ 131,362	50.0%	0.8%	45.4%	0.8%	2.9%
Subtotal: Water Operating Fund Expenses	\$ 18,445,453	\$ 15,143,015	\$ 48,563	\$ 3,029,354	\$ 37,810	\$ 186,712	82.1%	0.3%	16.4%	0.2%	1.0%

DESERT WATER AGENCY
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TABLE 30 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS, cont.

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Recycled Water	Capacity	Customer	Fire Protection	Basis of Classification				
	FY 2023/24	(COM)	(RW)	(CAP)	(CA)	(FP)	(COM)	(RW)	(CAP)	(CA)	(FP)
Water Operating Fund Expenses											
Customer Acct. Expense											
Supervision & Engineering	\$ 222,144	\$ -	\$ -	\$ -	\$ 222,144	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Meter Reading Expense	160,973	-	-	-	160,973	-	0.0%	0.0%	0.0%	100.0%	0.0%
Customer Records & Collection Expense	693,692	-	-	-	693,692	-	0.0%	0.0%	0.0%	100.0%	0.0%
Customer Records Postage	155,942	-	-	-	155,942	-	0.0%	0.0%	0.0%	100.0%	0.0%
Cust Records - Print & Stationery	37,728	-	-	-	37,728	-	0.0%	0.0%	0.0%	100.0%	0.0%
Customer Records - Shortages/Overages	-	-	-	-	-	-	0.0%	0.0%	0.0%	100.0%	0.0%
IBM Adj Entries-Water Cons	-	-	-	-	-	-	0.0%	0.0%	0.0%	100.0%	0.0%
IBM Paper	3,647	-	-	-	3,647	-	0.0%	0.0%	0.0%	100.0%	0.0%
Uncollectible Accounts	55,783	-	-	-	55,783	-	0.0%	0.0%	0.0%	100.0%	0.0%
Total - Customer Acct. Expense	\$ 1,329,909	\$ -	\$ -	\$ -	\$ 1,329,909	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
General And Administrative Expenses											
Administration & General Salaries	\$ 1,184,352	\$ 414,523	\$ 9,910	\$ 666,272	\$ 59,218	\$ 34,429	35.0%	0.8%	56.3%	5.0%	2.9%
Office Supplies & Expenses	122,113	42,740	1,022	68,696	6,106	3,550	35.0%	0.8%	56.3%	5.0%	2.9%
Office Expense - Power	36,470	12,765	305	20,517	1,824	1,060	35.0%	0.8%	56.3%	5.0%	2.9%
Office-Telephone & Answer Svc	69,797	24,429	584	39,265	3,490	2,029	35.0%	0.8%	56.3%	5.0%	2.9%
Office - Stationery & Forms	3,144	1,100	26	1,769	157	91	35.0%	0.8%	56.3%	5.0%	2.9%
Office Supplies - Xerox	1,886	660	16	1,061	94	55	35.0%	0.8%	56.3%	5.0%	2.9%
Office Supplies - Photo / Camera	1,006	352	8	566	50	29	35.0%	0.8%	56.3%	5.0%	2.9%
Convention Expense & Seminars	64,389	22,536	539	36,223	3,219	1,872	35.0%	0.8%	56.3%	5.0%	2.9%
Dues / Memberships / Subscriptions	52,819	18,487	442	29,714	2,641	1,535	35.0%	0.8%	56.3%	5.0%	2.9%
Office Expense - Heating	5,659	1,981	47	3,184	283	165	35.0%	0.8%	56.3%	5.0%	2.9%
Postage/Mailing Machine	6,288	2,201	53	3,537	314	183	35.0%	0.8%	56.3%	5.0%	2.9%
Legal Services	114,442	40,055	958	64,381	5,722	3,327	35.0%	0.8%	56.3%	5.0%	2.9%
Engineering	88,032	30,811	737	49,524	4,402	2,559	35.0%	0.8%	56.3%	5.0%	2.9%
Auditing	37,728	13,205	316	21,224	1,886	1,097	35.0%	0.8%	56.3%	5.0%	2.9%
Travel & Seminar Expense	-	-	-	-	-	-	35.0%	0.8%	56.3%	5.0%	2.9%
Consultants	259,946	90,981	2,175	146,236	12,997	7,557	35.0%	0.8%	56.3%	5.0%	2.9%
Appraisals	10,564	3,697	88	5,943	528	307	35.0%	0.8%	56.3%	5.0%	2.9%
Insurance	337,037	117,963	2,820	189,604	16,852	9,798	35.0%	0.8%	56.3%	5.0%	2.9%
Damages Hit & Run	15,720	5,502	132	8,843	786	457	35.0%	0.8%	56.3%	5.0%	2.9%
Jury Duty	9,432	3,301	79	5,306	472	274	35.0%	0.8%	56.3%	5.0%	2.9%
Safety Meeting - Labor Only	25,278	8,847	212	14,220	1,264	735	35.0%	0.8%	56.3%	5.0%	2.9%
Workers Compensation Injuries & Medical	28,296	9,904	237	15,918	1,415	823	35.0%	0.8%	56.3%	5.0%	2.9%
Worker Compensation Insurance	294,278	102,997	2,462	165,550	14,714	8,555	35.0%	0.8%	56.3%	5.0%	2.9%
Safety Equipment & Supplies	116,831	40,891	978	65,725	5,842	3,396	35.0%	0.8%	56.3%	5.0%	2.9%
Pension	3,056,976	1,069,942	25,578	1,719,741	152,849	88,866	35.0%	0.8%	56.3%	5.0%	2.9%
OPEB Expense	-	-	-	-	-	-	35.0%	0.8%	56.3%	5.0%	2.9%
Other Employee Benefits	208,416	72,946	1,744	117,247	10,421	6,059	35.0%	0.8%	56.3%	5.0%	2.9%
Tuition & Schooling	53,700	18,795	449	30,209	2,685	1,561	35.0%	0.8%	56.3%	5.0%	2.9%
Subtotal - General And Administrative Expenses	\$ 6,204,599	\$ 2,171,610	\$ 51,915	\$ 3,490,477	\$ 310,230	\$ 180,368	35.0%	0.8%	56.3%	5.0%	2.9%

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
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TABLE 31 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS, cont.

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Recycled Water	Capacity	Customer	Fire Protection	Basis of Classification				
	FY 2023/24	(COM)	(RW)	(CAP)	(CA)	(FP)	(COM)	(RW)	(CAP)	(CA)	(FP)
Water Operating Fund Expenses											
General And Administrative Expenses, Cont.											
License Renewal / DMV & Misc.	\$ 17,732	\$ 6,206	\$ 148	\$ 9,975	\$ 887	\$ 515	35.0%	0.8%	56.3%	5.0%	2.9%
Life Insurance	19,493	6,822	163	10,966	975	567	35.0%	0.8%	56.3%	5.0%	2.9%
Blue Cross Insurance	1,685,184	589,814	14,100	948,022	84,259	48,988	35.0%	0.8%	56.3%	5.0%	2.9%
Disability Insurance	22,637	7,923	189	12,735	1,132	658	35.0%	0.8%	56.3%	5.0%	2.9%
Vision Insurance	23,894	8,363	200	13,442	1,195	695	35.0%	0.8%	56.3%	5.0%	2.9%
Dental Insurance	84,259	29,491	705	47,401	4,213	2,449	35.0%	0.8%	56.3%	5.0%	2.9%
Attendance Bonus Plan	377,280	132,048	3,157	212,244	18,864	10,968	35.0%	0.8%	56.3%	5.0%	2.9%
On-Call Pay	-	-	-	-	-	-	35.0%	0.8%	56.3%	5.0%	2.9%
OASDI Taxes	653,952	228,883	5,472	367,889	32,698	19,010	35.0%	0.8%	56.3%	5.0%	2.9%
CA Unemployment Insurance	18,720	6,552	157	10,531	936	544	35.0%	0.8%	56.3%	5.0%	2.9%
Vacation Pay	624,000	218,400	5,221	351,039	31,200	18,140	35.0%	0.8%	56.3%	5.0%	2.9%
Holiday Pay	451,776	158,122	3,780	254,152	22,589	13,133	35.0%	0.8%	56.3%	5.0%	2.9%
Floating Holiday Pay	76,128	26,645	637	42,827	3,806	2,213	35.0%	0.8%	56.3%	5.0%	2.9%
Operations Center - Security	12,576	4,402	105	7,075	629	366	35.0%	0.8%	56.3%	5.0%	2.9%
Maintenance - Operations Center	276,924	96,923	2,317	155,787	13,846	8,050	35.0%	0.8%	56.3%	5.0%	2.9%
Building Maintenance - Alarm/Land/Plant	77,217	27,026	646	43,439	3,861	2,245	35.0%	0.8%	56.3%	5.0%	2.9%
Solar Facility Maintenance	7,294	2,553	61	4,103	365	212	35.0%	0.8%	56.3%	5.0%	2.9%
Hardware / Software / PCs / Printers	378,663	132,532	3,168	213,022	18,933	11,008	35.0%	0.8%	56.3%	5.0%	2.9%
Data Processing - Programmer	1,176,988	411,946	9,848	662,130	58,849	34,215	35.0%	0.8%	56.3%	5.0%	2.9%
Data Processing - Ribbons & Misc	15,720	5,502	132	8,843	786	457	35.0%	0.8%	56.3%	5.0%	2.9%
Maintenance Office Equipment - Xerox & Post	71,180	24,913	596	40,043	3,559	2,069	35.0%	0.8%	56.3%	5.0%	2.9%
Maintenance Office Equipment - Misc/Repair	18,738	6,558	157	10,541	937	545	35.0%	0.8%	56.3%	5.0%	2.9%
Maintenance Office Equipment - Type & Add	-	-	-	-	-	-	35.0%	0.8%	56.3%	5.0%	2.9%
Maintenance I/S Equipment - Misc.	52,442	18,355	439	29,502	2,622	1,524	35.0%	0.8%	56.3%	5.0%	2.9%
Maintenance Data Equipment	5,282	1,849	44	2,971	264	154	35.0%	0.8%	56.3%	5.0%	2.9%
Maintenance I/S Equipment - Print/POC	13,205	4,622	110	7,429	660	384	35.0%	0.8%	56.3%	5.0%	2.9%
Maintenance - Telemetry Equipment	45,525	15,934	381	25,611	2,276	1,323	35.0%	0.8%	56.3%	5.0%	2.9%
Maintenance - Communication Equip	39,866	13,953	334	22,427	1,993	1,159	35.0%	0.8%	56.3%	5.0%	2.9%
Engineering & Supervision	275,414	96,395	2,304	154,938	13,771	8,006	35.0%	0.8%	56.3%	5.0%	2.9%
Storeroom Expense	104,884	36,709	878	59,004	5,244	3,049	35.0%	0.8%	56.3%	5.0%	2.9%
Transportation Expense	792,770	277,470	6,633	445,983	39,639	23,046	35.0%	0.8%	56.3%	5.0%	2.9%
Tools & Work Equipment	136,324	47,713	1,141	76,691	6,816	3,963	35.0%	0.8%	56.3%	5.0%	2.9%
Backhoe	10,564	3,697	88	5,943	528	307	35.0%	0.8%	56.3%	5.0%	2.9%
Payroll - Clearing	-	-	-	-	-	-	35.0%	0.8%	56.3%	5.0%	2.9%
Directors Fees	50,304	17,606	421	28,299	2,515	1,462	35.0%	0.8%	56.3%	5.0%	2.9%
Public Information	259,317	90,761	2,170	145,882	12,966	7,538	35.0%	0.8%	56.3%	5.0%	2.9%
Water Conservation	263,341	263,341	2,203	(2,203)	-	-	100.0%	0.8%	-0.8%	0.0%	0.0%
Water Conservation - Turf Buyback Program	900,945	900,945	7,538	(7,538)	-	-	100.0%	0.8%	-0.8%	0.0%	0.0%
Subtotal - General And Administrative Expenses	\$ 9,040,538	\$ 3,920,974	\$ 75,644	\$ 4,421,145	\$ 393,813	\$ 228,963	43.4%	0.8%	48.9%	4.4%	2.5%
Other Operating Expenses											
Services Rendered - Customers	\$ 170,400	\$ -	\$ -	\$ -	\$ 170,400	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Direct Costs Applied To Work-Orders	568,080	198,828	4,753	319,581	28,404	16,514	35.0%	0.8%	56.3%	5.0%	2.9%
Indirect Costs Adm & Gen	(2,274,960)	(796,236)	(19,035)	(1,279,808)	(113,748)	(66,133)	35.0%	0.8%	56.3%	5.0%	2.9%
Total - Other Operating Expenses	\$ (1,536,480)	\$ (597,408)	\$ (14,282)	\$ (960,227)	\$ 85,056	\$ (49,619)	38.9%	0.9%	62.5%	-5.5%	3.2%
Subtotal: Water Operating Fund Expenses	\$ 7,504,058	\$ 3,323,566	\$ 61,362	\$ 3,460,918	\$ 478,869	\$ 179,344	44.3%	0.8%	46.1%	6.4%	2.4%
Subtotal: Water Operating Fund Expenses	\$ 33,484,020	\$ 20,638,191	\$ 161,840	\$ 9,980,748	\$ 2,156,818	\$ 546,423	61.6%	0.5%	29.8%	6.4%	1.6%

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TABLE 32 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS, cont.

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Recycled Water	Capacity	Customer	Fire Protection	Basis of Classification				
	FY 2023/24	(COM)	(RW)	(CAP)	(CA)	(FP)	(COM)	(RW)	(CAP)	(CA)	(FP)
Water Operating Fund Expenses											
Regulatory Expenses											
Certification/Training/Schooling	\$ 153,679	\$ 101,822	\$ 1,286	\$ 46,104	\$ -	\$ 4,467	66.3%	0.8%	30.0%	0.0%	2.9%
Water Treatment	-	-	-	-	-	-	66.3%	0.8%	30.0%	0.0%	2.9%
Health Dept / Health Services	19,996	13,249	167	5,999	-	581	66.3%	0.8%	30.0%	0.0%	2.9%
State - Permits / Regulatory	173,046	114,654	1,448	51,914	-	5,030	66.3%	0.8%	30.0%	0.0%	2.9%
Federal - Permits / Regulatory	33,955	22,497	284	10,187	-	987	66.3%	0.8%	30.0%	0.0%	2.9%
Reclamation - Permits/Regulatory	5,282	3,500	44	1,585	-	154	66.3%	0.8%	30.0%	0.0%	2.9%
AQMD Compliance	3,144	2,083	26	943	-	91	66.3%	0.8%	30.0%	0.0%	2.9%
RMOP / OSHA / Miscellaneous	57,724	38,246	483	17,317	-	1,678	66.3%	0.8%	30.0%	0.0%	2.9%
Legal - Compliance / Regulatory	-	-	-	-	-	-	66.3%	0.8%	30.0%	0.0%	2.9%
Total - Regulatory Expenses	\$ 446,825	\$ 296,050	\$ 3,739	\$ 134,048	\$ -	\$ 12,989	66.3%	0.8%	30.0%	0.0%	2.9%
Non Operating Expense											
Other Interest - Miscellaneous	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	30.0%	0.8%	61.3%	5.0%	2.9%
OPEB Interest	811,200	243,360	6,787	496,911	40,560	23,582	30.0%	0.8%	61.3%	5.0%	2.9%
Prior Year Expenses	-	-	-	-	-	-	30.0%	0.8%	61.3%	5.0%	2.9%
Depreciation Year Depreciation Expense	-	-	-	-	-	-	30.0%	0.8%	61.3%	5.0%	2.9%
Services To Others	-	-	-	-	-	-	30.0%	0.8%	61.3%	5.0%	2.9%
Customer Assistance Program (Non-Rate)	37,225	11,167	311	22,803	1,861	1,082	30.0%	0.8%	61.3%	5.0%	2.9%
Grant Expenses	21,002	-	-	-	21,002	-	0.0%	0.0%	0.0%	100.0%	0.0%
Losses On Retirements	112,320	33,696	940	68,803	5,616	3,265	30.0%	0.8%	61.3%	5.0%	2.9%
Subtotal - Non Operating Expense	\$ 981,747	\$ 288,223	\$ 8,039	\$ 588,517	\$ 69,039	\$ 27,929	29.4%	0.8%	59.9%	7.0%	2.8%
Snow Creek Hydro Expenses											
Snow Creek Hydro Expenses	\$ 54,077	\$ 16,223	\$ -	\$ 37,854	\$ -	\$ -	30.0%	0.0%	70.0%	0.0%	0.0%
Snow Creek Power Purchased	8,803	2,641	-	6,162	-	-	30.0%	0.0%	70.0%	0.0%	0.0%
Subtotal - Snow Creek Hydro Expenses	\$ 62,880	\$ 18,864	\$ -	\$ 44,016	\$ -	\$ -	30.0%	0.0%	70.0%	0.0%	0.0%
Subtotal: Water Operating Fund Expenses	\$ 1,491,452	\$ 603,137	\$ 11,777	\$ 766,580	\$ 69,039	\$ 40,918	40.4%	0.8%	51.4%	4.6%	2.7%
Total: Water Operating Fund Expenses	\$ 34,975,472	\$ 21,241,328	\$ 173,617	\$ 10,747,329	\$ 2,225,857	\$ 587,341	60.7%	0.5%	30.7%	6.4%	1.7%

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TABLE 33 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS, cont.

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Recycled Water	Capacity	Customer	Fire Protection	Basis of Classification				
	FY 2023/24	(COM)	(RW)	(CAP)	(CA)	(FP)	(COM)	(RW)	(CAP)	(CA)	(FP)
Reclamation Plant Expenses											
Pumping Expense											
Operating Labor	\$ 76,627	\$ -	\$ 76,627	\$ -	\$ -	\$ -	0.0%	100.0%	0.0%	0.0%	0.0%
Maintenance of Pumps & Equipment	95,955	-	95,955	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Maintenance of Structures	5,911	-	5,911	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Power Purchased	171,600	-	171,600	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Misc. Tools & Supplies	1,258	-	1,258	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Subtotal - Pumping Expense	\$ 351,350	\$ -	\$ 351,350	\$ -	\$ -	\$ -	0.0%	100.0%	0.0%	0.0%	0.0%
Treatment Expense											
Operating Labor	\$ 36,442	\$ -	\$ 36,442	\$ -	\$ -	\$ -	0.0%	100.0%	0.0%	0.0%	0.0%
Maintenance of Filters	33,075	-	33,075	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Maintenance of Water Treatment Equipment	117,837	-	117,837	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Maintenance of Structures	14,965	-	14,965	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Chemicals	262,084	-	262,084	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Laboratory Samples & Supplies	78,600	-	78,600	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Maintenance of Laboratory Equipment	2,138	-	2,138	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Misc. Tools & Supplies	10,061	-	10,061	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Subtotal - Treatment Expense	\$ 555,202	\$ -	\$ 555,202	\$ -	\$ -	\$ -	0.0%	100.0%	0.0%	0.0%	0.0%
Transmission & Distribution Expense											
Operating Labor	\$ 998	\$ -	\$ 998	\$ -	\$ -	\$ -	0.0%	100.0%	0.0%	0.0%	0.0%
Maintenance of Tanks	19,870	-	19,870	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Maintenance of Trans & Distr Mains	142,989	-	142,989	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Maintenance of Services	21,631	-	21,631	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Maintenance of Meters & Equipment	35,842	-	35,842	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Misc. Tools & Supplies	1,761	-	1,761	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Subtotal - Transmission & Distribution Expense	\$ 223,091	\$ -	\$ 223,091	\$ -	\$ -	\$ -	0.0%	100.0%	0.0%	0.0%	0.0%
General And Administrative											
Supervision & Engineering	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	100.0%	0.0%	0.0%	0.0%
Power/Utilities	2,534	-	2,534	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Office Supplies & Expenses	-	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Insurance	25,152	-	25,152	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Safety Equipment & Supplies	10,564	-	10,564	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Engineering & Consultants	120,604	-	120,604	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Maint of Structures - Operations Building	8,049	-	8,049	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Maint of Landscape & Improvements	115,322	-	115,322	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Maint of Telemetry & Monitor	10,061	-	10,061	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Permits / Regulatory	10,564	-	10,564	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%
Subtotal - General And Administrative	\$ 302,849	\$ -	\$ 302,849	\$ -	\$ -	\$ -	0.0%	100.0%	0.0%	0.0%	0.0%
Total: Water Reclamation Expenses	\$ 1,432,492	\$ -	\$ 1,432,492	\$ -	\$ -	\$ -	0.0%	100.0%	0.0%	0.0%	0.0%
GRAND TOTAL: OPERATING EXPENSES	\$ 36,407,964	\$ 21,241,328	\$ 1,606,109	\$ 10,747,329	\$ 2,225,857	\$ 587,341	58.3%	4.4%	29.5%	6.1%	1.6%

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TABLE 34 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS, cont.

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Recycled Water	Capacity	Customer	Fire Protection	Basis of Classification				
	FY 2023/24	(COM)	(RW)	(CAP)	(CA)	(FP)	(COM)	(RW)	(CAP)	(CA)	(FP)
Debt Service Payments							Commodity	Recycled Water	Capacity	Customer	Fire Protection
Outstanding Debt	\$ 1,344,650	\$ 1,344,650	\$ -	\$ -	\$ -	\$ -	100.0%	0.0%	0.0%	0.0%	0.0%
Total Debt Service Payments	\$ 1,344,650	\$ 1,344,650	\$ -	\$ -	\$ -	\$ -	100.0%	0.0%	0.0%	0.0%	0.0%
Capital Expenditures											
Rate Funded Capital Expenses	\$ 12,234,410	\$ -		\$ 12,234,410	\$ -	\$ -	0.0%	0.0%	100.0%	0.0%	0.0%
TOTAL REVENUE REQUIREMENTS	\$ 49,987,024	\$ 22,585,978	\$ 1,606,109	\$ 22,981,739	\$ 2,225,857	\$ 587,341	45.2%	3.2%	46.0%	4.5%	1.2%
Less: Non-Rate Revenues											
Power Sales	\$ (111,000)	\$ (50,154)	\$ -	\$ (54,599)	\$ (4,943)	\$ (1,304)	45.2%	0.0%	49.2%	4.5%	1.2%
Fire Protection	(415,237)	(187,620)	-	(204,249)	(18,490)	(4,879)	45.2%	0.0%	49.2%	4.5%	1.2%
Charge For Installation of Service & Meter	(497,224)	(224,664)	-	(244,577)	(22,141)	(5,842)	45.2%	0.0%	49.2%	4.5%	1.2%
Back-Up Facility Charge	(1,438,107)	-	-	(1,438,107)	-	-	0.0%	0.0%	100.0%	0.0%	0.0%
Service Charges	(815,418)	(368,436)	-	(401,091)	(36,309)	(9,581)	45.2%	0.0%	49.2%	4.5%	1.2%
Revenue - General Fund	(109,746)	(49,587)	-	(53,983)	(4,887)	(1,290)	45.2%	0.0%	49.2%	4.5%	1.2%
Revenue From Leases	(189,300)	(85,533)	-	(93,114)	(8,429)	(2,224)	45.2%	0.0%	49.2%	4.5%	1.2%
Interest Income	(213,180)	(96,323)	-	(104,860)	(9,493)	(2,505)	45.2%	0.0%	49.2%	4.5%	1.2%
Gain/Loss Investments	-	-	-	-	-	-	45.2%	0.0%	49.2%	4.5%	1.2%
Other Income	-	-	-	-	-	-	45.2%	0.0%	49.2%	4.5%	1.2%
Contributed Rev - Constr W.O.	(318,325)	(143,831)	-	(156,579)	(14,175)	(3,740)	45.2%	0.0%	49.2%	4.5%	1.2%
Gains On Retirements	(63,100)	(28,511)	-	(31,038)	(2,810)	(741)	45.2%	0.0%	49.2%	4.5%	1.2%
Discounts	(400)	(181)	-	(197)	(18)	(5)	45.2%	0.0%	49.2%	4.5%	1.2%
NET REVENUE REQUIREMENTS	\$ 45,815,986	\$ 21,351,139	\$ 1,606,109	\$ 20,199,345	\$ 2,104,163	\$ 555,230					
Allocation of Revenue Requirements	100.0%	46.6%	3.5%	44.1%	4.6%	1.2%					

TABLE 35 : ADJUSTMENT TO CLASSIFICATION OF EXPENSES FOR COSA

Classification of Expenses						
Adjustment for Current Rate Level:	Total	(COM)	(RW)	(CAP)	(CA)	(FP)
Projected Rate Revenue at Current Rates	\$ 42,579,509					
Test Year (FY 2023/24) Projected Rate Adjustment	6.3%					
Additional Revenue from Rate Increases	\$2,661,219					
Adjusted Net Revenue Req'ts	\$ 45,240,728	\$ 21,083,058	\$ 1,585,943	\$ 19,945,726	\$ 2,077,743	\$ 548,258
<i>Percent of Revenue</i>	<i>100%</i>	<i>46.6%</i>	<i>3.5%</i>	<i>44.1%</i>	<i>4.6%</i>	<i>1.2%</i>

TABLE 36 : RATE ALTERNATIVES BASED ON COSA

Alternative #1 - Current Rate Design (30% Fixed / 70% Variable)	Total Rate Revenue Requirements FY 2023/24	Variable Costs	Fixed Costs		
		Commodity Related Costs	Capacity Related Costs	Customer Related Costs	Fire Protection Related Costs
Rate-Design Adjustments to Fixed/Variable %	100.0%	70.0%	26.0%	3.0%	1.0%
Rate-Design Adjustments to Fixed/Variable (\$)	\$ 43,654,785	\$30,558,350	\$11,350,244	\$1,309,644	\$436,548
Variable (Volumetric Rates)	70%				
Fixed Charges	30%				

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TABLE 37 : DEVELOPMENT OF THE COMMODITY ALLOCATION FACTOR FISCAL YEAR FY 2020/21

Development of the Volumetric/Variable Allocation Factor ¹															
Customer Class	FY 2018/19	FY 2019/20	FY 2020/21	3-Year Average	% Adjustment for Conservation ²	Est. FY'18/19 Volume Adjusted for Conservation	Est. FY'19/20 Volume Adjusted for Conservation	Est. FY'20/21 Volume Adjusted for Conservation	3-yr Avg. Volume Adjusted for Conservation	FY 2018/19 % of Total Volume	FY 2019/20 % of Total Volume	FY 2020/21 % of Total Volume	3-yr Avg. % of Total Volume	Estimated FY 2015/16 Volume Adjusted for Conservation	Percent of Total Volume from 2016 (for comparison)
Potable Water															
Residential	7,056,019	7,153,240	7,834,756	7,348,005	5.0%	6,703,218	6,795,578	7,443,018	6,980,605	56.8%	57.8%	57.9%	57.5%	5,801,532	44.0%
Multi-Family	264,289	261,779	281,838	269,302	5.0%	251,075	248,690	267,746	255,837	2.1%	2.1%	2.1%	2.1%	241,981	1.8%
Condo	452,879	443,669	483,124	459,891	5.0%	430,235	421,486	458,968	436,896	3.6%	3.6%	3.6%	3.6%	423,764	3.2%
Commercial	2,576,791	2,438,961	2,599,571	2,538,441	5.0%	2,447,951	2,317,013	2,469,592	2,411,519	20.7%	19.7%	19.2%	19.9%	3,275,825	24.8%
Irrigation/Condo	1,385,718	1,432,364	1,587,227	1,468,436	5.0%	1,316,432	1,360,746	1,507,866	1,395,015	11.1%	11.6%	11.7%	11.5%	1,109,106	8.4%
Fire Private	3,801	1,697	2,486	2,661	5.0%	3,611	1,612	2,362	2,528	0.0%	0.0%	0.0%	0.0%	1,223	0.0%
Fire Public	-	1	2	1	5.0%	-	1	2	1	0.0%	0.0%	0.0%	0.0%	-	0.0%
Public Authority	592,089	570,586	625,458	596,044	5.0%	562,485	542,057	594,185	566,242	4.8%	4.6%	4.6%	4.7%	469,401	3.6%
Potable Water Total	12,331,586	12,302,297	13,414,462	12,682,782		11,715,007	11,687,182	12,743,739	12,048,643	99.2%	99.3%	99.2%	99.2%	11,322,832	85.8%
Other Water															
Recycled Water ³	1,299,012	1,369,739	1,309,726	1,326,159	5.0%	1,234,061	1,301,252	1,244,239	1,259,851	n/a	n/a	n/a	n/a	1,722,221	13.1%
Whitewater	n/a	n/a	n/a	n/a	5.0%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-	0.0%
Commercial Mains	100,819	83,668	105,939	96,809	5.0%	95,778	79,485	100,642	91,968	0.8%	0.7%	0.8%	0.8%	150,759	1.1%
Total	13,731,417	13,755,704	14,830,127	14,105,749		13,044,846	13,067,919	14,088,620	13,400,462	100.0%	100.0%	100.0%	100.0%	13,195,812	100%

1. Consumption data is based on the Desert Water Agency's billing data.
2. Conservation factor applied to consumption based on discussions with Agency staff.
3. Recycled water data for FY 2018/19 through FY 2020/21 was updated to exclude the two (2) accounts that switched to groundwater as well as adjust the water consumption for Escena Golf Club and Palms Partners Capital LLC.

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

TABLE 38 : DEVELOPMENT OF THE CAPACITY ALLOCATION FACTORS

Development of the PEAK CAPACITY (MAX MONTH) Allocation Factors					
Customer Class	Average Monthly Use (ccf) ¹	Peak Monthly Use (ccf) ²	Peak Monthly Factor	Max Month Capacity Factor	Max Month Capacity Factor from 2016 (for comparison)
Potable Water					
Residential	652,896	861,098	1.32	57.6%	50.3%
Multi-Family	23,487	28,801	1.23	1.9%	2.0%
Condo	40,260	47,217	1.17	3.2%	3.6%
Commercial	216,631	270,361	1.25	18.1%	27.6%
Irrigation/Condo	132,269	190,597	1.44	12.7%	10.0%
Fire Private	207	293	1.41	0.0%	0.0%
Fire Public	0	1	6.00	0.0%	n/a
Public Authority	52,122	74,692	1.43	5.0%	4.1%
Potable Water Total	1,117,872	1,473,060	1.32	98.5%	
Other Water					
Recycled Water ³	109,144	151,346	1.39	n/a	14.6%
Whitewater	575	1,188	2.07	0.1%	0.0%
Commercial Mains	8,828	21,540	2.44	1.4%	2.4%
Total	1,236,418	1,647,134	1.33	100.0%	100.0%

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.

1. Average monthly use is calculated by dividing the FY 2020/21 consumption (see Table 37) by 12 months.
2. Based on DWA's average monthly use.
3. Recycled water data for FY 2018/19 through FY 2020/21 was updated to exclude the two (2) accounts that switched to groundwater as well as adjust the water consumption for Escena Golf Club and Palms Partners Capital LLC.

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TABLE 39 : DEVELOPMENT OF THE CUSTOMER ALLOCATION FACTORS

Development of the Customer Allocation Factor				
Customer Class	No. of Meters FY 2020/21 ¹	Percent of Total	Meters from 2016 Study	2016 Percent of Total
Potable Water				
Residential	15,981	67.6%	14,739	64.9%
Multi-Family	310	1.3%	310	1.4%
Condo	3,901	16.5%	3,834	16.9%
Commercial	2,172	9.2%	2,595	11.4%
Irrigation/Condo	378	1.6%	377	1.7%
Fire Private	568	2.4%	516	2.3%
Fire Public	1	0.0%	n/a	n/a
Public Authority	270	1.1%	263	1.2%
Potable Water Total	23,581	99.7%	22,634	99.7%
Other Water				
Recycled Water	10	n/a	12	n/a
Whitewater	4	0.0%	0	0.0%
Commercial Mains	71	0.3%	71	0.3%
Total	23,666	100.0%	22,717	100.0%

1. From Desert Water Agency's billing data for June 2021.

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 40 : ALLOCATION OF WATER REVENUE REQUIREMENTS

Classification Components	Not Being Considered					
	ALTERNATIVE 1 (30% Fixed / 70% Variable) Cost-of-Service Net Revenue Requirements (FY 2023/24)		ALTERNATIVE 2 (50% Fixed / 50% Variable) Cost-of-Service Net Revenue Requirements (FY 2023/24)		ALTERNATIVE 3 (40% Fixed / 60% Variable) Cost-of-Service Net Revenue Requirements (FY 2023/24)	
Commodity-Related Costs ¹	\$ 31,389,819	70.0%	\$ 21,349,219	48.0%	\$ 26,691,753	60.0%
Capacity-Related Costs	11,350,244	26.0%	20,517,749	46.0%	15,570,189	35.0%
Customer-Related Costs	1,309,644	3.0%	2,182,739	5.0%	1,779,450	4.0%
Fire Protection-Related Costs	436,548	1.0%	436,548	1.0%	444,863	1.0%
Net Revenue Requirement	\$ 44,486,255	100.0%	\$ 44,486,255	100.0%	\$ 44,486,255	100.0%

1. Includes under-charged recycled water revenue.

Unadjusted Net Rev. Req'ts.
70.0% total variable
30.0% total fixed
100.0%

TABLE 41 : METER EQUIVALENCY FACTORS USED IN FIXED CHARGE CALCULATION

Meter Size	Standard Meters		Fire Service Meters	
	Meter Capacity (gpm) ¹	Equivalency to 1-inch ²	Meter Capacity (gpm) ¹	Equivalency to 1-inch ²
	<u>Displacement</u>		<u>Displacement</u>	
5/8 x 3/4 inch	20	1.00	20	1.00
1 inch	50	1.00	50	1.00
1.5 inch	100	2.00	100	2.00
2 inch	160	3.20	160	3.20
	<u>Compound Type Class I</u>		<u>Fire Service Type I & II³</u>	
3 inch	350	7.00	350	7.00
4 inch	630	12.60	630	12.60
6 inch	1,300	26.00	1,400	28.00
	<u>Turbine Class II</u>			
8 inch	2,400	48.00	2,400	48.00
10 inch	3,800	76.00	3,800	76.00
12 inch	5,000	100.00	5,000	100.00

1. Per AWWA, M1, Table 6-1.

2. Per DWA Staff, base meter is 1-inch; therefore, the meter equivalency is set to 1.0 for 5/8 x 3/4 and 1-inch meters.

3. Capacity factors are for Fire Service Type I and II meters from AWWA, M6, Table 5-3.

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TABLE 42 : ALLOCATION OF NET REVENUE REQUIREMENTS

Alternative #1 - Current Rate Design (30% Fixed / 70% Variable)						
Customer Classes	Classification Components				Cost of Service Net Rev. Req'ts.	% of COS Net Revenue Req'ts.
	Commodity- Related Costs	Capacity- Related Costs	Customer- Related Costs	Fire Protection- Related Costs		
Potable Water						
Residential	\$ 18,189,666	\$ 6,534,130	\$ 884,740	\$ -	\$ 25,608,536	57.6%
Multi-Family	654,333	218,546	17,162	-	890,041	2.0%
Condo	1,121,651	358,289	215,967	-	1,695,908	3.8%
Commercial	6,035,329	2,051,536	120,246	-	8,207,111	18.4%
Irrigation/Condo	3,685,007	1,446,276	20,927	-	5,152,210	11.6%
Fire Private	5,772	2,223	31,446	435,801	475,242	1.1%
Fire Public	5	8	55	747	814	0.0%
Public Authority	1,452,103	566,773	14,948	-	2,033,824	4.6%
Potable Water Total	31,143,865	11,177,781	1,305,491	436,548	44,063,685	99.1%
Other Water						
Whitewater	n/a	9,015	221	-	9,236	0.0%
Commercial Mains	245,955	163,448	3,931	-	413,334	0.9%
Total Net Revenue Requirement	\$ 31,389,819	\$ 11,350,244	\$ 1,309,644	\$ 436,548	\$ 44,486,255	100.0%

TABLE 43 : CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES

Alternative #1 - Current Rate Design (30% Fixed / 70% Variable)											
Number of Meters by Class and Size ¹	FY 2023/24										Total
	5/8 x 3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Potable Water											
Residential	8,640	6,470	594	270	7	0	0	0	0	0	15,981
Multi-Family	1	29	186	94	0	0	0	0	0	0	310
Condo	3,342	235	256	68	0	0	0	0	0	0	3,901
Commercial	590	589	517	470	3	1	2	0	0	0	2,172
Irrigation/Condo	12	60	98	208	0	0	0	0	0	0	378
Public Authority	40	61	82	85	1	0	1	0	0	0	270
Potable Water Total	12,625	7,444	1,733	1,195	11	1	3	0	0	0	23,012
Other Water											
Whitewater	0	0	0	3	1	0	0	0	0	0	4
Commercial Mains	0	0	0	0	70	0	1	0	0	0	71
Total Meters/Accounts	12,625	7,444	1,733	1,198	82	1	4	0	0	0	23,087
Hydraulic Capacity Factor ²	1.00	1.00	2.00	3.20	7.00	12.60	26.00	48.00	76.00	100.00	
Total Equivalent Meters	12,625	7,444	3,466	3,834	574	13	104	0	0	0	28,059
Monthly Fixed Service Charges											
Customer Costs (\$/Acct/month) ³	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	
Capacity Costs (\$/Acct/month) ⁴	\$33.70	\$33.70	\$67.41	\$107.85	\$235.92	\$424.65	\$876.27	\$1,617.72	\$2,561.40	\$3,370.26	
Total Monthly Meter Charge	\$38.32	\$38.32	\$72.02	\$112.46	\$240.53	\$429.27	\$880.88	\$1,622.34	\$2,566.01	\$3,374.87	
Annual Fixed Costs Allocated to Monthly Meter Charges											
Customer Costs	\$ 1,278,143										
Capacity Costs	11,348,013										
Total Fixed Meter Costs	\$ 12,626,156										
Annual Revenue from Monthly Meter Charges											
Customer Charges	\$ 698,945	\$ 412,115	\$ 95,942	\$ 66,324	\$ 4,540	\$ 55	\$ 221	\$ -	\$ -	\$ -	\$1,278,143
Capacity Charges	5,105,943	3,010,585	1,401,758	1,550,427	232,143	5,096	42,061	-	-	-	11,348,013
Total Revenue from Mo. Meter Charges	\$ 5,804,888	\$ 3,422,700	\$ 1,497,701	\$ 1,616,751	\$ 236,683	\$ 5,151	\$ 42,282	\$ -	\$ -	\$ -	12,626,156

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TABLE 44 : CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES

Alternative #1 - Current Rate Design (30% Fixed / 70% Variable)

Number of Meters by Class and Size ¹	FY 2023/24										Total
	5/8 x 3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Fire Private	0	0	0	2	0	237	177	135	14	3	568
Fire Public	0	0	0	0	0	0	0	1	0	0	1
Total Meters/Accounts	0	0	0	2	0	237	177	136	14	3	569
Hydraulic Capacity Factor ²	1.00	1.00	2.00	3.20	7.00	12.60	28.00	48.00	76.00	100.00	
Total Equivalent Meters	0	0	0	6	0	2,986	4,956	6,528	1,064	300	15,841
Monthly Fixed Service Charges											
Customer Costs (\$/Acct/month) ³	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	\$4.61	
Capacity Costs (\$/Acct/month) ⁴	\$2.31	\$2.31	\$4.62	\$7.39	\$16.16	\$29.08	\$64.63	\$110.80	\$175.43	\$230.83	
Total Monthly Meter Charge	\$6.92	\$6.92	\$9.23	\$12.00	\$20.77	\$33.70	\$69.25	\$115.41	\$180.04	\$235.44	
Annual Fixed Costs Allocated to Monthly Meter Charges											
Customer Costs	\$ 31,501										
Capacity & Fire Protection Costs	438,779										
Total Fixed Meter Costs	\$ 470,280										
Annual Revenue from Monthly Meter Charges											
Customer Charges	\$ -	\$ -	\$ -	\$ 111	\$ -	\$ 13,121	\$ 9,799	\$ 7,529	\$ 775	\$ 166	\$ 31,501
Capacity Charges	-	-	-	177	-	82,717	137,279	180,823	29,472	8,310	438,779
Total Revenue from Mo. Meter Charges	\$ -	\$ -	\$ -	\$ 288	\$ -	\$ 95,837	\$ 147,078	\$ 188,352	\$ 30,247	\$ 8,476	\$ 470,280

1. Number of meters by class and size are based on June 2021 customer data. Excludes recycled water. Source file: *Summary Tables_FS v9.xlsx*.

2. Source: AWWA Manual M1, *Principles of Water Rates, Fees, and Charges*, Table VI.2-5. Assumes Displacement Meters for 5/8 x 3/4 to 2-inch meters, Compound Meters for 3 to 6-inch and Turbine Class II Meters for 8 to 10-inch meters.

3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.

4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

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TABLE 45 : PROPOSED VOLUMETRIC CHARGES FOR FY 2023/24

Alternative #1 - Current Rate Design (30% Fixed / 70% Variable)

Customer Classes	FY 2020/21 Number of Meters ¹	FY 2020/21 Water Consumption (ccf/yr) ²	Total Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates (\$/ccf)	Proposed Rate Structure
Potable Water						
Residential	15,981	7,443,018	\$ 18,189,666	40.9%	\$2.44	Uniform
Multi-Family	310	267,746	654,333	1.5%	\$2.44	Uniform
Condo	3,901	458,968	1,121,651	2.5%	\$2.44	Uniform
Commercial	2,172	2,469,592	6,035,329	13.6%	\$2.44	Uniform
Irrigation/Condo	378	1,507,866	3,685,007	8.3%	\$2.44	Uniform
Fire Private	568	2,362	5,772	0.0%	\$2.44	Uniform
Fire Public	1	2	5	0.0%	\$2.44	Uniform
Public Authority	270	594,185	1,452,103	3.3%	\$2.44	Uniform
Potable Water Total	23,581	12,743,739	\$ 31,143,865	70.0%		
Other Water						
Whitewater	4	n/a	n/a	n/a	n/a	Uniform
Commercial Mains	71	100,642	245,955	0.6%	\$2.44	Uniform
Total	75	100,642	245,955	71%		

1. Number of meters is based on DWA's billing data.

2. Projected FY 2020/21 consumption based on actual usage and a 5% adjustment for conservation. See Table 37.

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 RECYCLED WATER RATE STUDY
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TABLE 46 : ALLOCATION OF WATER REVENUE REQUIREMENTS

Classification Components	PROPOSED ALTERNATIVE Cost-of-Service Net Revenue Requirements (FY 2023/24)	
	\$ - Allocated ¹	% - Allocated
Commodity Related Costs	\$ 1,578,013	99.5%
Capacity-Related Costs	7,930	0.5%
Customer-Related Costs	-	0.0%
Net Revenue Requirement	\$ 1,585,943	100%

1. Based on the potable water functionalized cost allocations.

TABLE 47 : PROPOSED VOLUMETRIC CHARGES FOR FY 2023/24 (RECYCLED WATER)

Alternative #1 - Current Rate Design (30% Fixed / 70% Variable)						
Rate Structure Type	Number of Meters ¹	Water Consumption (hcf/yr.) ²	Actual Net Rev. Req't from Vol. Charges	Adjusted Rev. Req't from Vol. Charges ³	Uniform Commodity Rates (\$/hcf)	Proposed Rate Structure
Uniform Commodity Rate (\$/hcf)	10	1,244,239	\$ 1,585,943	\$ 746,544	\$0.60	Uniform

1. Meter counts, consumption rates, and customer class from DWA provided source file: *Summary Tables_FS v9.xlsx*.

2. Projected FY 2020/21 consumption based on actual usage and a 5% adjustment for conservation. See Figure 4.

3. Target revenue adjusted based on DWA's recently adopted uniform commodity rate of \$0.60 per hcf.

\$ 831,470 Needs to be made up by potable water rates

NBS Proposed Adjustment	Year 1	Year 2	Year 3	Year 4	Year 5
Projected Net Revenue Req't.	\$ 1,578,013	\$ 1,676,639	\$ 1,781,429	\$ 1,892,768	\$ 2,011,066
DWA Requested RW Commodity Rate	\$0.65	\$0.70	\$0.75	\$0.80	\$0.85
Target Revenue	\$ 746,544	\$ 870,968	\$ 933,180	\$ 995,392	\$ 1,057,604
Annual Shortfall	\$ (831,470)	\$ (805,672)	\$ (848,250)	\$ (897,377)	\$ (953,463)
Adjustment to Potable Water Rates	-\$0.026	-\$0.023	-\$0.023	-\$0.022	-\$0.022

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TABLE 48 : CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES FOR FY 2023/24

Number of Meters by Class and Size ¹	FY 2023/24										Total
	5/8 x 3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Recycled Water	5	0	0	0	0	1	4	0	0	0	10
Total Meters/Accounts	5	0	0	0	0	1	4	0	0	0	10
<i>Hydraulic Capacity Factor²</i>	<i>1.00</i>	<i>1.00</i>	<i>2.00</i>	<i>3.20</i>	<i>6.40</i>	<i>10.00</i>	<i>20.00</i>	<i>32.00</i>	<i>84.00</i>	<i>106.00</i>	
Total Equivalent Meters	5	0	0	0	0	10	80	0	0	0	95
Monthly Fixed Service Charges											
Customer Costs (\$/Acct/mo.) ³	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Capacity Costs (\$/Acct/mo.) ⁴	6.96	6.96	13.91	22.26	44.52	69.56	139.12	222.59	584.29	737.32	
Total Monthly Meter Charge	\$6.96	\$6.96	\$13.91	\$22.26	\$44.52	\$69.56	\$139.12	\$222.59	\$584.29	\$737.32	
Annual Fixed Costs Allocated to Monthly Meter Charges											
Customer Costs	\$ -										
Capacity Costs	7,930										
Total Fixed Meter Costs	\$ 7,930										
Annual Revenue from Monthly Meter Charges											
Customer Charges	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capacity Charges	417	-	-	-	-	835	6,678	-	-	-	7,930
Total Revenue from Mo. Meter Charges	\$ 417	\$ -	\$ -	\$ -	\$ -	\$ 835	\$ 6,678	\$ -	\$ -	\$ -	\$ 7,930

1. Number of meters by size and class are from the DWA utility billing system. Source file: *Summary Tables_FS v9.xlsx*.
2. Source: AWWA Manual M1, *Principles of Water Rates, Fees, and Charges*, Table VI.2-5. Assumes Displacement Meters for 3/4 to 2-inch meters, Compound Meters for 3 to 6-inch and Turbine Class II Meters for 8 to 10-inch.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

TABLE 49 : METER EQUIVALENCY FACTORS USED IN FIXED CHARGE CALCULATION

Meter Size	Standard Meters	
	Meter Capacity (gpm) ¹	DWA Current Equivalency Factors
	<u>Displacement Meters</u>	
5/8 x 3/4 inch	30	1.00
1 inch	50	1.00
1.5 inch	100	1.55
2 inch	160	2.22
	<u>Compound Class I Meters</u>	
3 inch	320	3.98
4 inch	500	5.97
6 inch	1,000	11.50
8 inch	1,600	18.13
	<u>Turbine Class II Meters</u>	
10 inch	4,200	46.85
12 inch	5,300	59.01

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

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TABLE 50 : SUMMARY OF PROJECTED TEMPORARY CONSTRUCTION METER CHARGES

Summary of Projected Temporary Construction Meter Charges						
Construction Meter Charges	Current Charges	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Volumetric Rate (\$/hcf)	\$2.60	\$2.48	\$2.64	\$2.80	\$2.98	\$3.16

TABLE 51 : SUMMARY OF PROJECTED TEMPORARY CONSTRUCTION METER CHARGES

Summary of Temporary Construction Meter Costs			
Temporary Construction Meter Costs ¹	Meter Size		Total
	3 inch	6 inch	
Fixed Charges			
No. of Commercial Mains	70	1	71
Customer Charges (\$/Acct/month)	\$4.61	\$4.61	
Total Fixed Charges (\$/Yr.) ¹	\$3,875	\$55	\$3,931
Volumetric Charges			
Proposed Uniform Vol. Rate (FY23/24)	\$2.44	\$2.44	
Annual Consumption	71,819	28,357	100,176
Volumetric Charges (\$/Yr.)	\$ 175,515	\$ 69,300	\$ 244,816
Total Fixed & Volumetric Charges	\$ 179,391	\$ 69,356	\$ 248,746
Total Annual Consumption (hcf/Yr.)			100,176
Proposed Volumetric Rate (\$/hcf)			\$2.48

1. No. of meters times Customer and Capacity Charges per month times 12 months.

Current Volumetric Construction Meter Rate	
Volumetric Rate (\$/AF)	\$1,132.90
Volumetric Rate (\$/hcf)	\$2.60

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TABLE 52 : ASSUMPTIONS USED IN DROUGHT RATE ANALYSIS

2020/21 Consumption Assumptions				
Shortage Level ¹	Percent Shortage Range ²	Potable Water Consumption (AF/yr.)	Potable Water Consumption (ccf/yr.)	Difference to Baseline (ccf)
1	Less than 10% Conservation ³	29,256	12,743,739	0
2	Up to 20% Conservation	26,330	11,469,365	(1,274,374)
3	Up to 30% Conservation	23,404	10,194,991	(2,548,748)
4	Up to 40% Conservation	20,479	8,920,617	(3,823,122)
5	Up to 50% Conservation	17,553	7,646,243	(5,097,496)
6	Greater than 50% Conservation	14,628	6,371,869	(6,371,869)

1. DWA Water Shortage Contingency Plan Shortage Level.
2. Drought levels based on the Agency's Water Shortage Contingency Plan. Source file: *DWA_WSCP 2020 FINAL.pdf*.
3. This represents the baseline consumption for FY 2020/21 consumption (excludes recycled water).
Conservation percentage for each drought stage is relative to the baseline consumption.

Note: For the rate period (FY 2023/24 - FY 2027/28), water consumption is assumed to be the same each year to be consistent with how volumetric rates were calculated even though there are new connections each year. The rate each year at the "5% Conservation" level is the same as the proposed volumetric rate.

TABLE 53 : DROUGHT RATES

Expenses Directly Effected By Consumption Changes							
Fund	Division	Expense Name	Commodity-Related Costs				
			2023/24	2024/25	2025/26	2026/27	2027/28
Operating Fund	Pumping	Power Purchases	\$ 3,728,736	\$ 3,877,885	\$ 4,033,001	\$ 4,194,321	\$ 4,362,094
Operating Fund	Water Treatment	Chemicals & Filtering Material	294,027	308,140	322,931	338,432	354,676
Total:			\$ 4,022,763	\$ 4,186,026	\$ 4,355,932	\$ 4,532,752	\$ 4,716,770

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TABLE 54 : CALCULATION OF DROUGHT RATES FOR FY 2023/24

Alternative #1 - Current Rate Design (30% Fixed / 70% Variable)						
Conservation Goal	Water Consumption (ccf/yr.)	Baseline Rev. Req't from Vol. Charges	Cost Reduction Due to Conservation ¹	Target Rev. Req't from Vol. Charges	Drought Response Charge (\$/ccf)	Uniform Commodity Rates (\$/ccf)
< 10%	12,743,739	\$ 31,143,865	\$ -	\$ 31,143,865	\$0.00	\$2.44
Up to 20%	11,469,365	31,143,865	(402,276)	30,741,589	\$0.24	\$2.68
Up to 30%	10,194,991	31,143,865	(804,553)	30,339,312	\$0.53	\$2.98
Up to 40%	8,920,617	31,143,865	(1,206,829)	29,937,036	\$0.91	\$3.36
Up to 50%	7,646,243	31,143,865	(2,011,381)	29,132,483	\$1.37	\$3.81
> 50%	6,371,869	31,143,865	(2,413,658)	28,730,207	\$2.07	\$4.51

1. Cost reduction equals the conservation goal percentage multiplied by expenses directly effected by consumption charges.

TABLE 55 : CALCULATION OF DROUGHT RATES FOR FY 2024/25

Alternative #1 - Current Rate Design (30% Fixed / 70% Variable)						
Conservation Goal	Water Consumption (ccf/yr.)	Baseline Rev. Req't from Vol. Charges	Cost Reduction Due to Conservation ¹	Target Rev. Req't from Vol. Charges	Drought Response Charge (\$/ccf)	Uniform Commodity Rates (\$/ccf)
< 10%	12,743,739	\$ 31,668,510	\$ -	\$ 31,668,510	\$0.00	\$2.59
Up to 20%	11,469,365	31,668,510	(418,603)	31,249,907	\$0.13	\$2.72
Up to 30%	10,194,991	31,668,510	(837,205)	30,831,305	\$0.43	\$3.02
Up to 40%	8,920,617	31,668,510	(1,255,808)	30,412,702	\$0.82	\$3.41
Up to 50%	7,646,243	31,668,510	(1,674,410)	29,994,100	\$1.33	\$3.92
> 50%	6,371,869	31,668,510	(2,093,013)	29,575,497	\$2.05	\$4.64

1. Cost reduction equals the conservation goal percentage multiplied by expenses directly effected by consumption charges.

TABLE 56 : CALCULATION OF DROUGHT RATES FOR FY 2025/26

Alternative #1 - Current Rate Design (30% Fixed / 70% Variable)						
Conservation Goal	Water Consumption (ccf/yr.)	Baseline Rev. Req't from Vol. Charges	Cost Reduction Due to Conservation ¹	Target Rev. Req't from Vol. Charges	Drought Response Charge (\$/ccf)	Uniform Commodity Rates (\$/ccf)
< 10%	12,743,739	\$ 34,002,102	\$ -	\$ 34,002,102	\$0.00	\$2.75
Up to 20%	11,469,365	34,002,102	(435,593)	33,566,509	\$0.18	\$2.93
Up to 30%	10,194,991	34,002,102	(871,186)	33,130,916	\$0.50	\$3.25
Up to 40%	8,920,617	34,002,102	(1,306,780)	32,695,322	\$0.92	\$3.67
Up to 50%	7,646,243	34,002,102	(1,742,373)	32,259,729	\$1.47	\$4.22
> 50%	6,371,869	34,002,102	(2,177,966)	31,824,136	\$2.24	\$4.99

1. Cost reduction equals the conservation goal percentage multiplied by expenses directly effected by consumption charges.

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Water Cost-of-Service Analysis & Rate Design

TABLE 57 : CALCULATION OF DROUGHT RATES FOR FY 2026/27

Alternative #1 - Current Rate Design (30% Fixed / 70% Variable)						
Conservation Goal	Water Consumption (ccf/yr.)	Baseline Rev. Req't from Vol. Charges	Cost Reduction Due to Conservation ¹	Target Rev. Req't from Vol. Charges	Drought Response Charge (\$/ccf)	Uniform Commodity Rates (\$/ccf)
< 10%	12,743,739	\$ 36,503,742	\$ -	\$ 36,503,742	\$0.00	\$2.92
Up to 20%	11,469,365	36,503,742	(453,275)	36,050,466	\$0.22	\$3.14
Up to 30%	10,194,991	36,503,742	(906,550)	35,597,191	\$0.57	\$3.49
Up to 40%	8,920,617	36,503,742	(1,359,826)	35,143,916	\$1.02	\$3.94
Up to 50%	7,646,243	36,503,742	(1,813,101)	34,690,641	\$1.62	\$4.54
> 50%	6,371,869	36,503,742	(2,266,376)	34,237,365	\$2.45	\$5.37

1. Cost reduction equals the conservation goal percentage multiplied by expenses directly effected by consumption charges.

TABLE 58 : CALCULATION OF DROUGHT RATES FOR FY 2027/28

Alternative #1 - Current Rate Design (30% Fixed / 70% Variable)						
Conservation Goal	Water Consumption (ccf/yr.)	Baseline Rev. Req't from Vol. Charges	Cost Reduction Due to Conservation ¹	Target Rev. Req't from Vol. Charges	Drought Response Charge (\$/ccf)	Uniform Commodity Rates (\$/ccf)
< 10%	12,743,739	\$ 39,185,319	\$ -	\$ 39,185,319	\$0.00	\$3.10
Up to 20%	11,469,365	39,185,319	(471,677)	38,713,642	\$0.28	\$3.38
Up to 30%	10,194,991	39,185,319	(943,354)	38,241,965	\$0.65	\$3.75
Up to 40%	8,920,617	39,185,319	(1,415,031)	37,770,288	\$1.13	\$4.23
Up to 50%	7,646,243	39,185,319	(1,886,708)	37,298,611	\$1.78	\$4.88
> 50%	6,371,869	39,185,319	(2,358,385)	36,826,934	\$2.68	\$5.78

1. Cost reduction equals the conservation goal percentage multiplied by expenses directly effected by consumption charges.

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Water Revenue Stabilization Rates

TABLE 59 : ALLOCATION OF WATER COST REQUIREMENTS

Classification Components	Adjusted Net Revenue Requirements (FY 2023/24)	
Commodity-Related Costs	\$ 31,389,819	70.6%
Capacity-Related Costs (Fixed)	11,350,244	25.5%
Customer-Related Costs	1,309,644	2.9%
Fire Protection-Related Costs	436,548	1.0%
<i>Subtotal Revenue Requirement</i>	<i>\$ 44,486,255</i>	<i>100.0%</i>
Zonal-Related Costs	\$ -	0.0%
Net Total Revenue Requirement	\$ 44,486,255	100%

TABLE 60 : AVERAGE MONTHLY CONSUMPTION AT VARIOUS LEVELS OF CONSERVATION

Customer Class	Water Consumption ¹ (hcf/yr.)	Average Annual Consumption at Various Conservation Levels				
		10%	15%	20%	25%	30%
Potable Water						
Residential	7,443,018	6,698,716	6,326,565	5,954,415	5,582,264	5,210,113
Multi-Family	267,746	240,971	227,584	214,197	200,810	187,422
Condo	458,968	413,071	390,123	367,174	344,226	321,277
Commercial	2,469,592	2,222,633	2,099,154	1,975,674	1,852,194	1,728,715
Irrigation/Condo	1,507,866	1,357,079	1,281,686	1,206,293	1,130,899	1,055,506
Fire Private	2,362	2,126	2,007	1,889	1,771	1,653
Fire Public	2	2	2	2	1	1
Public Authority	594,185	534,767	505,057	475,348	445,639	415,930
Total	12,743,739	11,469,365	10,832,178	10,194,991	9,557,804	8,920,617
Other Water						
Commercial Mains	100,642	90,578	85,546	80,514	75,482	70,449
Total	12,844,381	11,559,943	10,917,724	10,275,505	9,633,286	8,991,067

1. FY 2020/21 Volume Adjusted for Conservation from Table 37 - Development of the Commodity Allocation Factor.

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Water Revenue Stabilization Rates

TABLE 61 : ALLOCATION OF NET REVENUE REQUIREMENTS

Customer Class	Cost Classification Components				Cost of Service Net Revenue Req'ts	% of COS Net Revenue Req'ts
	Commodity	Capacity	Customer	Fire Protection		
Potable Water						
Residential	\$ 18,189,666	\$ 6,534,130	\$ 884,740	\$ -	\$ 25,608,536	57.6%
Multi-Family	654,333	218,546	17,162	-	890,041	2.0%
Condo	1,121,651	358,289	215,967	-	1,695,908	3.8%
Commercial	6,035,329	2,051,536	120,246	-	8,207,111	18.5%
Irrigation/Condo	3,685,007	1,446,276	20,927	-	5,152,210	11.6%
Fire Private	5,772	2,223	31,446	435,801	475,242	1.1%
Fire Public	5	8	55	747	814	0.0%
Public Authority	1,452,103	566,773	14,948	-	2,033,824	4.6%
Total	31,143,865	11,177,781	1,305,491	436,548	44,063,685	99.1%
Other Water						
Commercial Mains	245,955	163,448	3,931	-	413,334	0.9%
Total Net Revenue Requirement	\$ 31,389,819	\$ 11,341,230	\$ 1,309,422	\$ 436,548	\$ 44,477,019	100.0%

1. Net revenue has been excluded since this is non-potable surface water in the Whitewater Irrigation system that has rates set by agreement with each customer.

TABLE 62 : PROPOSED REVENUE STABILIZATION VOLUMETRIC CHARGES FOR FY 2023/24

Customer Class	Total Target Rev. Req't from Vol. Charges	10%	15%	20%	25%	30%
Potable Water	\$ 31,143,865	\$2.72	\$2.88	\$3.05	\$3.26	\$3.49
Other Water ¹	245,955					
Total Net Revenue Requirement	\$ 31,389,819					

1. Other Water customers include Commercial Mains only.

TABLE 63 : PROPOSED RATE STABILIZATION VOLUMETRIC CHARGES FOR FY 2022/23

Revenue Stabilization Rate Component	Reduction in Volumetric Rate Revenue					
	0%	10%	15%	20%	25%	30%
Variable Revenue After Reductions ¹	\$ 31,389,819	\$ 31,389,819	\$ 31,389,819	\$ 31,389,819	\$ 31,389,819	\$ 31,389,819
Total Consumption ²	12,844,381	11,559,943	10,917,724	10,275,505	9,633,286	8,991,067
Revenue Stabilization Rate		\$2.72	\$2.88	\$3.05	\$3.26	\$3.49

1. Variable revenue less commodity-related cost reductions (from drought rate calculations).

2. Consumption at each volumetric level.

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Water Revenue Stabilization Rates

TABLE 64 : PROPOSED REVENUE STABILIZATION VOLUMETRIC CHARGES THROUGH FY 2027/28

Revenue Stabilization Rates*					
Consumption Level	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
10% Revenue Stabilization Rate	\$2.72	\$2.89	\$3.07	\$3.26	\$3.46
15% Revenue Stabilization Rate	\$2.88	\$3.05	\$3.25	\$3.45	\$3.66
20% Revenue Stabilization Rate	\$3.05	\$3.25	\$3.45	\$3.66	\$3.89
25% Revenue Stabilization Rate	\$3.26	\$3.46	\$3.68	\$3.91	\$4.15
30% Revenue Stabilization Rate	\$3.49	\$3.71	\$3.94	\$4.19	\$4.45

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

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Water Cost-of-Service Analysis & Rate Design

TABLE 65 : CURRENT VS. PROPOSED WATER RATES

Alternative #1 - Current Rate Design (30% Fixed / 70% Variable)

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Projected Increase in Rate Revenue per Financial Plan:		6.25%	6.25%	6.25%	6.25%	6.25%
Fixed Monthly Service Charge						
Meter Size - Standard Meters:						
5/8 x 3/4 inch	\$33.53	\$38.32	\$40.72	\$43.27	\$45.97	\$48.84
1 inch	\$33.53	\$38.32	\$40.72	\$43.27	\$45.97	\$48.84
1.5 inch	\$64.02	\$72.02	\$76.52	\$81.30	\$86.38	\$91.78
2 inch	\$100.61	\$112.46	\$119.49	\$126.96	\$134.90	\$143.33
3 inch	\$198.18	\$240.53	\$255.56	\$271.53	\$288.50	\$306.53
4 inch	\$307.94	\$429.27	\$456.10	\$484.61	\$514.90	\$547.08
6 inch	\$612.85	\$880.88	\$935.94	\$994.44	\$1,056.59	\$1,122.63
8 inch	\$978.73	\$1,622.34	\$1,723.74	\$1,831.47	\$1,945.94	\$2,067.56
10 inch	\$2,564.22	\$2,566.01	\$2,726.39	\$2,896.79	\$3,077.84	\$3,270.21
12 inch	\$3,235.01	\$3,374.87	\$3,585.80	\$3,809.91	\$4,048.03	\$4,301.03
Monthly Fixed Service Charge - Fire Service Meters:						
2 inch	--	\$12.00	\$12.75	\$13.55	\$14.40	\$15.30
3 inch	--	\$20.77	\$22.07	\$23.45	\$24.92	\$26.48
4 inch	\$30.15	\$33.70	\$35.81	\$38.05	\$40.43	\$42.96
6 inch	\$64.99	\$69.25	\$73.58	\$78.18	\$83.07	\$88.26
8 inch	\$111.46	\$115.41	\$122.62	\$130.28	\$138.42	\$147.07
10 inch	\$173.41	\$180.04	\$191.29	\$203.25	\$215.95	\$229.45
12 inch	\$208.26	\$235.44	\$250.16	\$265.80	\$282.41	\$300.06
Commodity Charges for All Water Consumed						
Uniform Rate for All Customers	\$2.28	\$2.44	\$2.59	\$2.75	\$2.92	\$3.10

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Water Cost-of-Service Analysis & Rate Design

TABLE 66 : RATES AND DROUGHT RESPONSE CHARGE FOR EACH DROUGHT STAGE

<i>Proposed Drought Rates</i>										
Drought Rate Schedule ¹	FY 2023/24		FY 2024/25		FY 2025/26		FY 2026/27		FY 2027/28	
Uniform Rate for All Customers	\$2.44		\$2.59		\$2.75		\$2.92		\$3.10	
Water Consumption Baseline (hcf/yr) ²	12,743,739 hcf		12,743,739 hcf		12,743,739 hcf		12,743,739 hcf		12,743,739 hcf	
Conservation Target	Drought Response Charge ³	Drought Rate ⁴	Drought Response Charge ³	Drought Rate ⁴	Drought Response Charge ³	Drought Rate ⁴	Drought Response Charge ³	Drought Rate ⁴	Drought Response Charge ³	Drought Rate ⁴
Less than 10% Conservation	\$0.00	\$2.44	\$0.00	\$2.59	\$0.00	\$2.75	\$0.00	\$2.92	\$0.00	\$3.10
Up to 20% Conservation	\$0.24	\$2.68	\$0.13	\$2.72	\$0.18	\$2.93	\$0.22	\$3.14	\$0.28	\$3.38
Up to 30% Conservation	\$0.53	\$2.98	\$0.43	\$3.02	\$0.50	\$3.25	\$0.57	\$3.49	\$0.65	\$3.75
Up to 40% Conservation	\$0.91	\$3.36	\$0.82	\$3.41	\$0.92	\$3.67	\$1.02	\$3.94	\$1.13	\$4.23
Up to 50% Conservation	\$1.37	\$3.81	\$1.33	\$3.92	\$1.47	\$4.22	\$1.62	\$4.54	\$1.78	\$4.88
Greater than 50% Conservation	\$2.07	\$4.51	\$2.05	\$4.64	\$2.24	\$4.99	\$2.45	\$5.37	\$2.68	\$5.78

1. ACTIVATION - The Drought Response Charge will NOT be added on water bills unless approved by the Desert Water Agency Board. If the response charge is activated, it will remain in effect as necessary and will be reviewed by the Agency Board a minimum of every six (6) months for a determination of necessity until the response charge is deactivated.
2. Baseline water consumption is based on water usage for FY 2020/21 less 5% for conservation, the same assumption used in the proposed volumetric rates.
3. Drought Response Charge is added to the Uniform Rate on a per unit basis to cover the cost of water service during times of State Agency mandated conservation and/or extreme water supply shortage, resulting in water consumption below the established baseline.
4. The Drought Rate equals the Volumetric Rate plus Volumetric Response Charge. This does not include pumping charges which will apply where applicable.

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Water Cost-of-Service Analysis & Rate Design

TABLE 67 : CURRENT VS. PROPOSED DROUGHT RATES

Alternative #1 - Current Rate Design (30% Fixed / 70% Variable)

Drought Rate Schedule		Current Drought Rates	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Level 2	Up to 20% Conservation	\$2.65	\$2.68	\$2.72	\$2.93	\$3.14	\$3.38
Level 3	Up to 30% Conservation	\$2.91	\$2.98	\$3.02	\$3.25	\$3.49	\$3.75
Level 4	Up to 40% Conservation	\$3.26	\$3.36	\$3.41	\$3.67	\$3.94	\$4.23
Level 5	Up to 50% Conservation	\$3.74	\$3.81	\$3.92	\$4.22	\$4.54	\$4.88
Level 6	Greater than 50% Conservation	\$4.48	\$4.51	\$4.64	\$4.99	\$5.37	\$5.78

TABLE 68 : PROPOSED REVENUE STABILIZATION RATES

Alternative #1 - (30% Fixed / 70% Variable)

Revenue Stabilization Rate Schedule*	Current Rates	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
10% Revenue Stabilization Rate	N.A.	\$2.72	\$2.89	\$3.07	\$3.26	\$3.46
15% Revenue Stabilization Rate	N.A.	\$2.88	\$3.05	\$3.25	\$3.45	\$3.66
20% Revenue Stabilization Rate	N.A.	\$3.05	\$3.25	\$3.45	\$3.66	\$3.89
25% Revenue Stabilization Rate	N.A.	\$3.26	\$3.46	\$3.68	\$3.91	\$4.15
30% Revenue Stabilization Rate	N.A.	\$3.49	\$3.71	\$3.94	\$4.19	\$4.45

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

DESERT WATER AGENCY
WATER & RECYCLED WATER RATE STUDY
Recycled Water Cost-of-Service Analysis & Rate Design

TABLE 69 : CURRENT VS. PROPOSED RECYCLED WATER RATES

Recycled Water Rate Schedule	Current Rates ¹	Proposed Rates ²				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Fixed Monthly Service Charge						
Fixed Monthly Service Charge:						
5/8 x 3/4 inch	--	\$6.96	\$7.40	\$7.86	\$8.35	\$8.87
1 inch	--	\$6.96	\$7.40	\$7.86	\$8.35	\$8.87
1.5 inch	--	\$13.91	\$14.78	\$15.70	\$16.68	\$17.72
2 inch	\$15.00	\$22.26	\$23.65	\$25.13	\$26.70	\$28.37
3 inch	\$26.97	\$44.52	\$47.30	\$50.26	\$53.40	\$56.74
4 inch	\$40.43	\$69.56	\$73.91	\$78.53	\$83.44	\$88.66
6 inch	\$77.83	\$139.12	\$147.82	\$157.06	\$166.88	\$177.31
8 inch	\$122.71	\$222.59	\$236.50	\$251.28	\$266.99	\$283.68
10 inch	\$317.19	\$584.29	\$620.81	\$659.61	\$700.84	\$744.64
12 inch	\$399.47	\$737.32	\$783.40	\$832.36	\$884.38	\$939.65
Commodity Charges for All Water Consumed						
Uniform Rate for All Customers ³	\$0.60	\$0.65	\$0.70	\$0.75	\$0.80	\$0.85

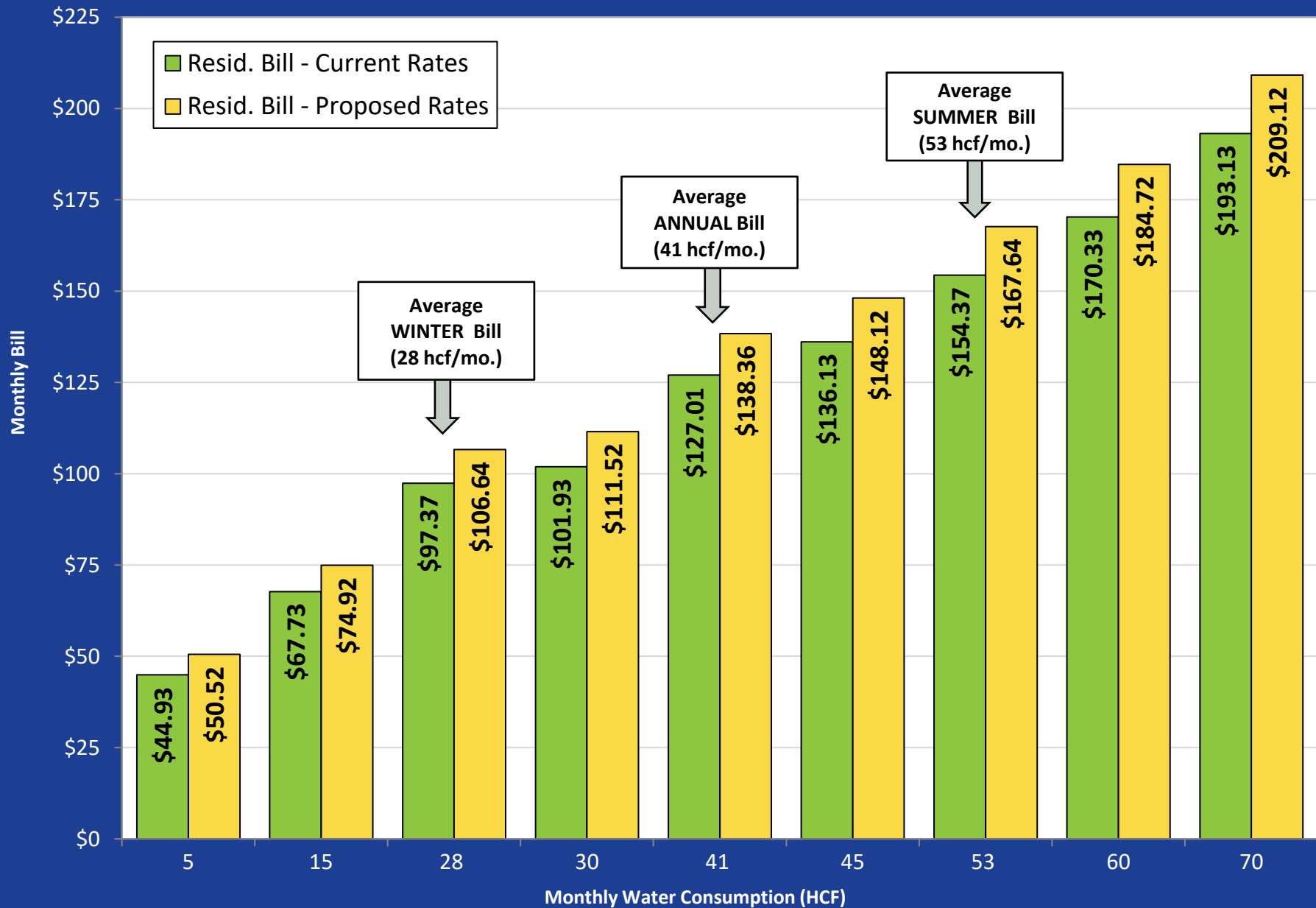
1. Current recycled water fixed charges set by Resolution No. 978 and does not include the \$35 flow control valve charge for meters 8" or larger.

2. Initial adjustment to rates would be effective July 1, 2023.

3. The uniform commodity rate of \$0.60/ccf was effective as of July 1, 2022. Future rate increases were adopted at the direction of the DWA Board.

Single-Family Residential Water Bill Comparison

Current vs. Proposed 2023/24 Rates (5/8 x 3/4" & 1" Meter)



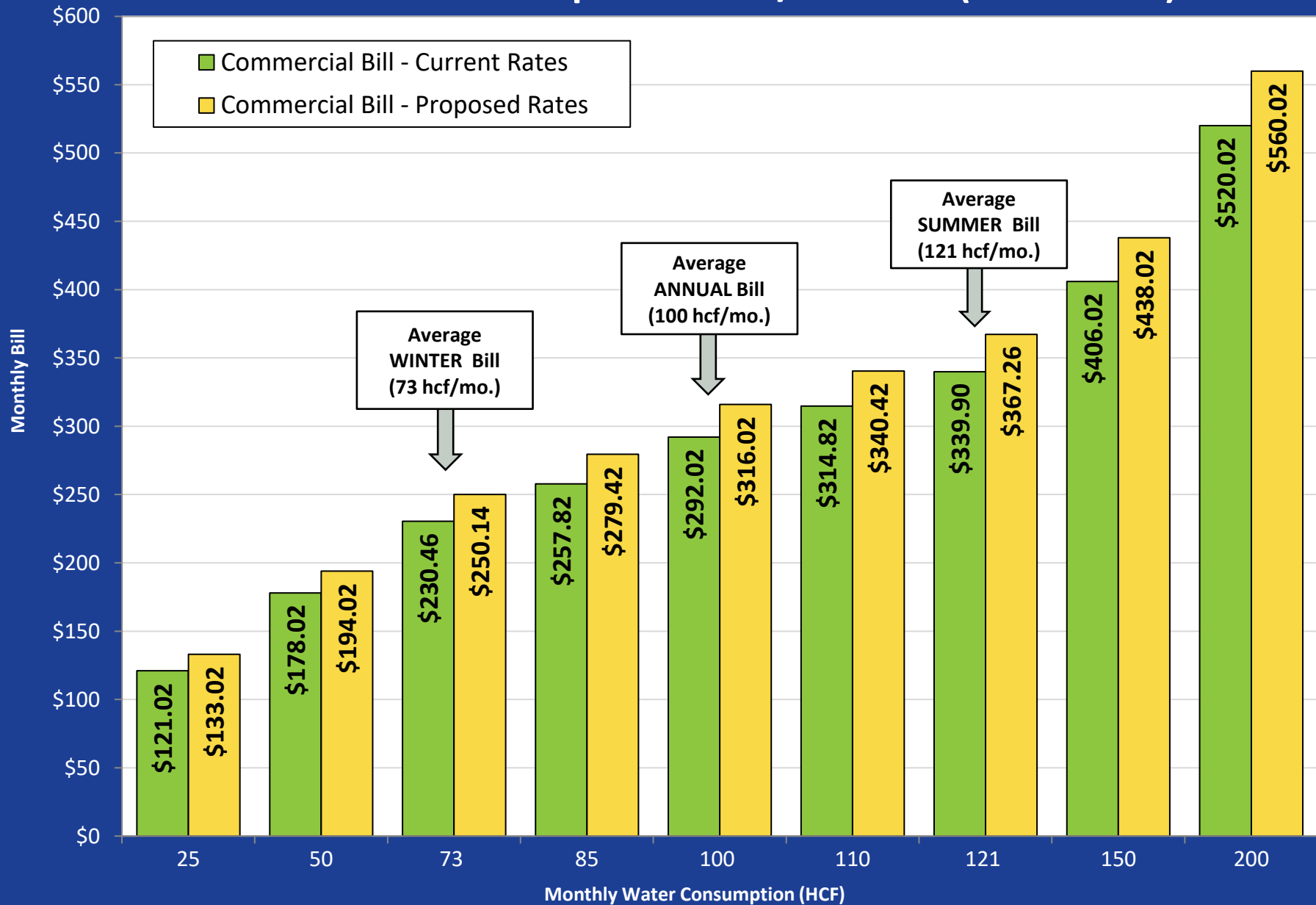
Average Single-Family Residential Customer Five-Year Bill Projection

Assumes 41 HCF Consumption and 5/8 x 3/4" Meter



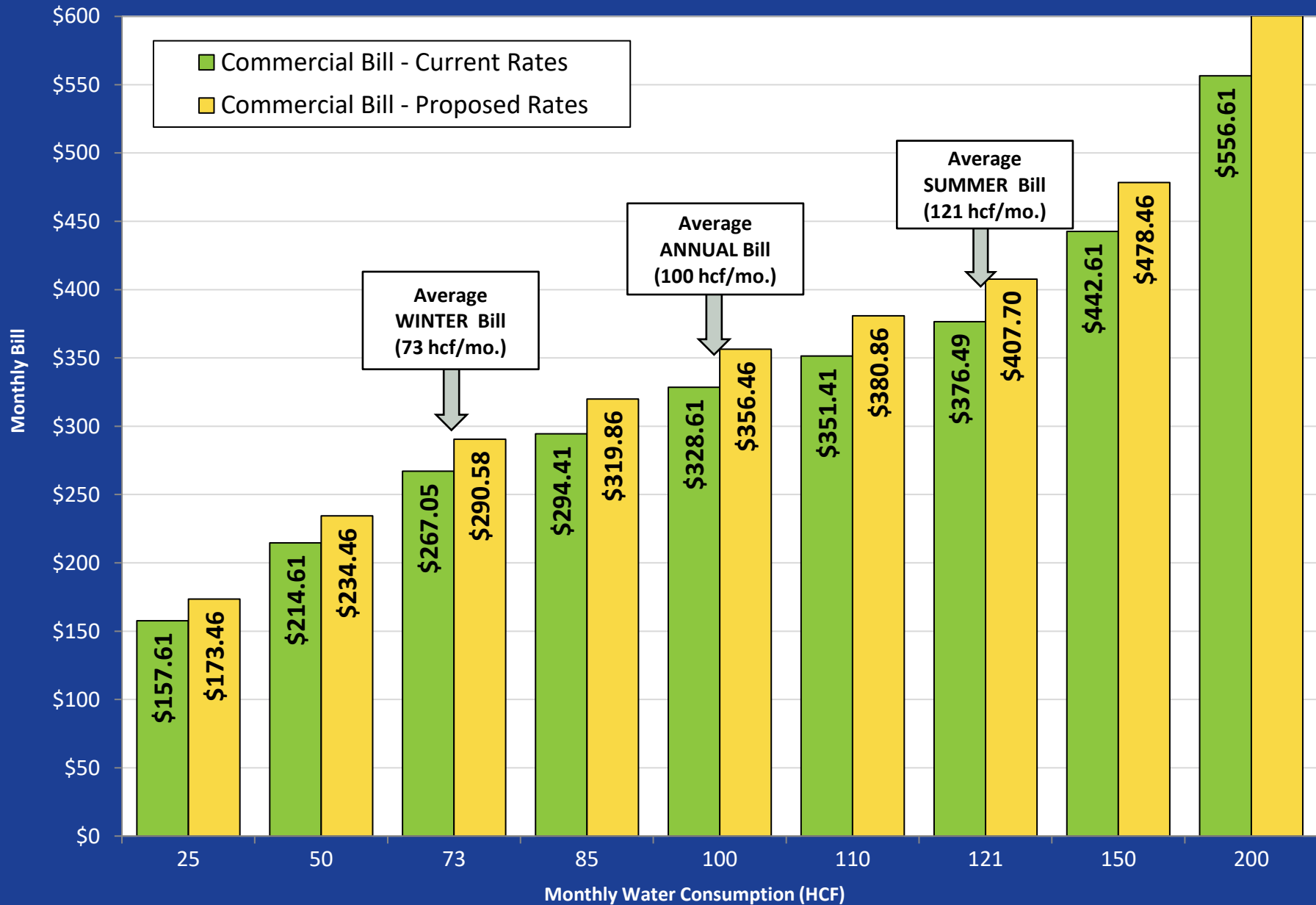
Commerical Water Bill Comparison

Current vs. Proposed 2023/24 Rates (1.5" Meter)



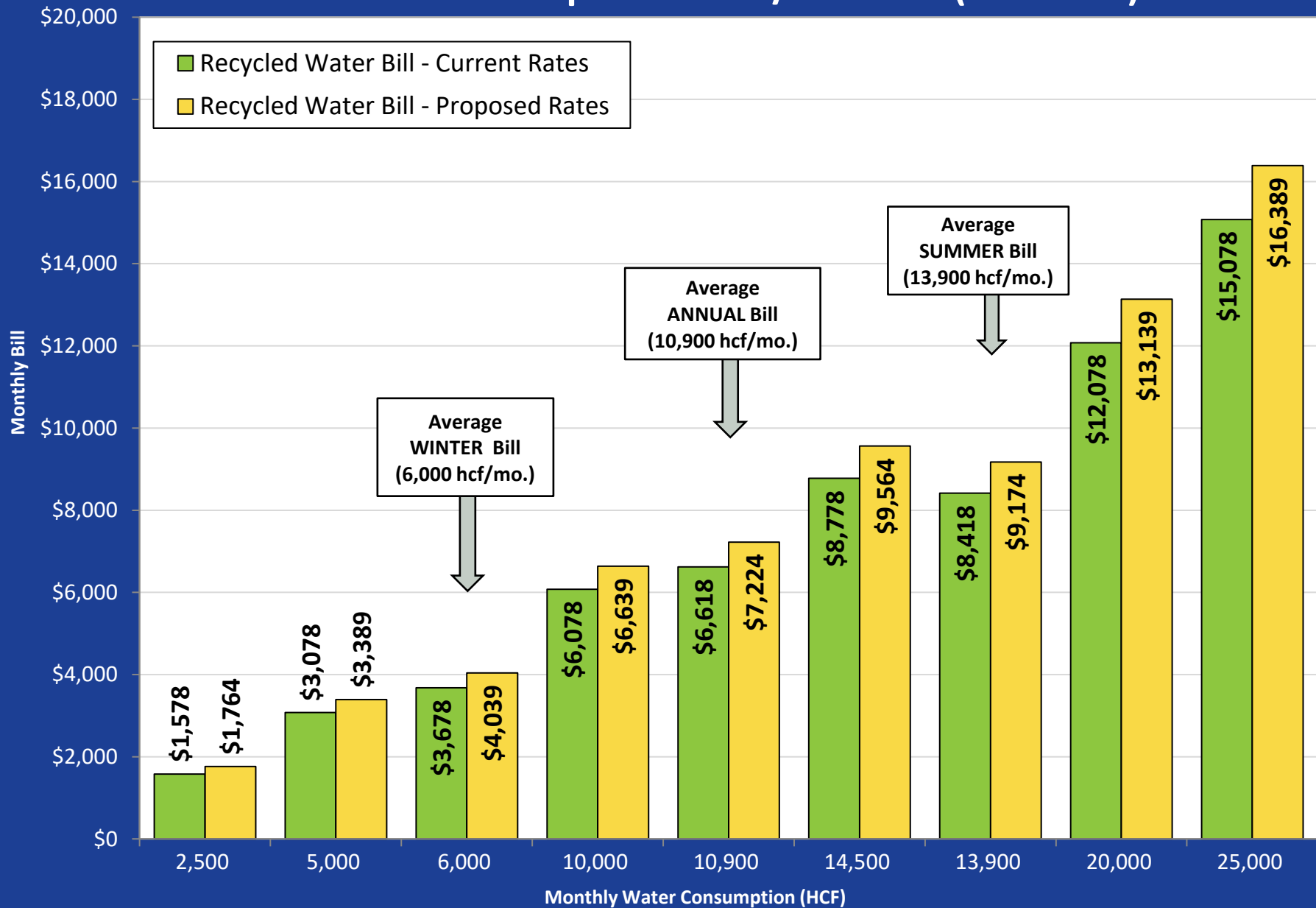
Commerical Water Bill Comparison

Current vs. Proposed 2023/24 Rates (2" Meter)



Recycled Water Bill Comparison

Current vs. Proposed 2023/24 Rates (6" Meter)



Appendix C - Detailed Wastewater Rate Study Tables & Figures

DESERT WATER AGENCY
WASTEWATER RATE STUDY
Financial Plan and Reserve Projections

Financial Plan & Reserve Summary

TABLE 1 : FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY ¹	Actuals	Actuals	Budget	5-Year Rate Adoption Period					Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
Sources of Sewer Funds													
<u>Wastewater Rate Revenue:</u>													
Wastewater Rate Revenue Under Current Rates	\$ 1,156,899	\$ 1,150,064	\$ 1,215,600	\$ 1,228,432	\$ 1,241,263	\$ 1,254,095	\$ 1,266,927	\$ 1,279,759	\$ 1,292,590	\$ 1,305,422	\$ 1,318,257	\$ 1,331,092	\$ 1,343,927
Pass Through Payment to Other Agencies	\$ (872,325)	\$ (860,473)	\$ (938,400)	\$ (948,306)	\$ (958,211)	\$ (968,117)	\$ (978,022)	\$ (987,928)	\$ (997,834)	\$ (1,007,739)	\$ (1,017,648)	\$ (1,027,556)	\$ (1,037,464)
Subtotal: Rate Revenue (DWA portion)	\$ 284,574	\$ 289,591	\$ 277,200	\$ 280,126	\$ 283,052	\$ 285,978	\$ 288,904	\$ 291,830	\$ 294,757	\$ 297,683	\$ 300,609	\$ 303,536	\$ 306,463
<u>Other Operating Revenue:</u>													
Charges and Fees	\$ 37,233	\$ 1,949	\$ 27,480	\$ 27,770	\$ 28,060	\$ 28,350	\$ 28,640	\$ 28,930	\$ 29,220	\$ 29,511	\$ 29,801	\$ 30,091	\$ 30,381
Customer w/o Inspect Labor	1,820	-	2,400	2,425	2,451	2,476	2,501	2,527	2,552	2,577	2,603	2,628	2,653
Contributed Revenue	138,485	169,050	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Other Operating Revenue	\$ 177,538	\$ 170,999	\$ 29,880	\$ 30,195	\$ 30,511	\$ 30,826	\$ 31,142	\$ 31,457	\$ 31,772	\$ 32,088	\$ 32,403	\$ 32,719	\$ 33,034
<u>Non-Operating Revenue</u>													
Interest - Investments	\$ 9,050	\$ 25,465	\$ 10,800	\$ 26,531	\$ 26,342	\$ 26,156	\$ 25,977	\$ 25,807	\$ 25,649	\$ 25,514	\$ 25,409	\$ 25,338	\$ 25,307
Unrealized Gain/Loss Invst	138	(22,052)	-	-	-	-	-	-	-	-	-	-	-
Prior Year Revenues	404	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non-Operating Rate Revenue	\$ 9,591	\$ 3,413	\$ 10,800	\$ 26,531	\$ 26,342	\$ 26,156	\$ 25,977	\$ 25,807	\$ 25,649	\$ 25,514	\$ 25,409	\$ 25,338	\$ 25,307
Revenue from Rate Increases	-	-	-	13,446	27,825	43,189	59,593	77,094	96,498	117,213	139,314	162,881	187,997
Total: Sources of Wastewater Funds	\$ 471,703	\$ 464,003	\$ 317,880	\$ 350,298	\$ 367,730	\$ 386,150	\$ 405,616	\$ 426,188	\$ 448,675	\$ 472,498	\$ 497,736	\$ 524,474	\$ 552,801
Uses of Wastewater Funds:													
<u>Operating Expenses:</u>													
Maintenance	\$ 137,992	\$ 121,021	\$ 260,400	\$ 272,899	\$ 285,998	\$ 299,726	\$ 314,113	\$ 329,191	\$ 344,992	\$ 361,551	\$ 378,906	\$ 397,093	\$ 416,154
General & Admin Expense	55,771	141,848	51,600	54,026	56,570	59,236	62,030	64,960	68,031	71,251	74,627	78,167	81,878
Non-Operating Expense	(124)	803	850	891	934	978	1,025	1,075	1,126	1,180	1,237	1,296	1,358
Subtotal: Operating Expenses	\$ 193,640	\$ 263,672	\$ 312,850	\$ 327,816	\$ 343,502	\$ 359,940	\$ 377,169	\$ 395,225	\$ 414,149	\$ 433,983	\$ 454,770	\$ 476,556	\$ 499,390
<u>Other Expenditures:</u>													
Existing Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
New Debt Service	-	-	-	-	-	-	-	-	-	-	-	-	-
Rate-Funded Capital Expenses	15,000	51,955	35,631	37,024	38,472	39,976	41,539	43,163	44,851	46,605	48,427	50,320	52,288
Subtotal: Other Expenditures	\$ 15,000	\$ 51,955	\$ 35,631	\$ 37,024	\$ 38,472	\$ 39,976	\$ 41,539	\$ 43,163	\$ 44,851	\$ 46,605	\$ 48,427	\$ 50,320	\$ 52,288
Total: Uses of Wastewater Funds	\$ 208,640	\$ 315,627	\$ 348,481	\$ 364,841	\$ 381,974	\$ 399,916	\$ 418,708	\$ 438,388	\$ 459,000	\$ 480,587	\$ 503,197	\$ 526,876	\$ 551,678
Annual Surplus/(Deficit)	\$ 263,063	\$ 148,376	\$ (30,601)	\$ (14,542)	\$ (14,244)	\$ (13,766)	\$ (13,092)	\$ (12,200)	\$ (10,325)	\$ (8,090)	\$ (5,461)	\$ (2,403)	\$ 1,123
Net Revenue Req't. (Total Uses less Non-Rate Rev.)	\$ 21,511	\$ 141,215	\$ 307,801	\$ 308,115	\$ 325,121	\$ 342,934	\$ 361,589	\$ 381,124	\$ 401,579	\$ 422,985	\$ 445,384	\$ 468,819	\$ 493,336
Total Rate Revenue After Rate Increases	\$ 284,574	\$ 289,591	\$ 277,200	\$ 293,572	\$ 310,877	\$ 329,167	\$ 348,497	\$ 368,924	\$ 391,254	\$ 414,895	\$ 439,923	\$ 466,417	\$ 494,460
Projected Annual Rate Revenue Adjustment	0.00%	0.00%	0.00%	4.80%	4.80%	4.80%	4.80%	4.80%	5.00%	5.00%	5.00%	5.00%	5.00%
Cumulative Increases	0.00%	0.00%	0.00%	4.80%	9.63%	15.10%	20.63%	26.42%	32.74%	39.38%	46.34%	53.66%	61.34%
Debt Coverage Ratio after Rate Increases	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

1. Revenue and expenses are actuals for FY 2020/21 and FY 2021/22, budget for FY 2022/23, and all other years are escalated based on the forecasting assumptions in Table 8. Source files: [2] 2021-06 - WW Revenue.PDF, [12d] 2021-06 - WW Expense.pdf, 2022-2023 BUDGETREV.xlsx, 2022-2023 BUDGETEXP - Augmented 8-2-2022.xlsx, & 2022-06- WF Revenue & Expense.PDF.

3	<-- Select Financial Plan Scenario Here												
Financial Plan Alternatives	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
1	Alternative 1 - 1% Annual Rate Increases	0.00%	0.00%	0.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
2	Alternative 2 - 3% Annual Rate Increases	0.00%	0.00%	0.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3	Alternative 3 - General Inflation Rate of 4.8%	0.00%	0.00%	0.00%	4.80%	4.80%	4.80%	4.80%	5.00%	5.00%	5.00%	5.00%	5.00%
4	Alternative 4 - No Rate Increases	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.00%	5.00%	5.00%	5.00%	5.00%

DESERT WATER AGENCY
WASTEWATER RATE STUDY
Financial Plan and Reserve Projections

Financial Plan & Reserve Summary

TABLE 2 : RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY ¹	Actuals	Actuals	Budget	5-Year Rate Adoption Period					Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
Unrestricted Reserves:													
Total Beginning Cash¹	\$ 1,836,523	\$ 1,958,863	\$ 2,071,419										
Unappropriated Reserve Fund (O&M / Capital Reserve Fund)²													
Beginning Reserve Balance	\$ 1,836,523	\$ 1,958,863	\$ 2,071,419	\$ 2,040,818	\$ 2,026,276	\$ 2,012,032	\$ 1,998,266	\$ 1,985,174	\$ 1,972,974	\$ 1,962,649	\$ 1,954,559	\$ 1,949,098	\$ 1,946,696
Plus: Net Cash Flow (After Rate Increases)	263,063	148,376	(30,601)	(14,542)	(14,244)	(13,766)	(13,092)	(12,200)	(10,325)	(8,090)	(5,461)	(2,403)	1,123
Plus: Transfer of Debt Reserve Surplus	-	-	-	-	-	-	-	-	-	-	-	-	-
Less: Transfer Out to Reserves for Replacements	-	-	-	-	-	-	-	-	-	-	-	-	-
Ending Operating Reserve Balance	\$ 2,099,587	\$ 2,107,239	\$ 2,040,818	\$ 2,026,276	\$ 2,012,032	\$ 1,998,266	\$ 1,985,174	\$ 1,972,974	\$ 1,962,649	\$ 1,954,559	\$ 1,949,098	\$ 1,946,696	\$ 1,947,819
Target Ending Balance (6-months of O&M + 3% of net assets)	\$ 533,820	\$ 557,836	\$ 570,425	\$ 565,908	\$ 563,751	\$ 560,970	\$ 559,584	\$ 558,613	\$ 558,075	\$ 558,991	\$ 560,385	\$ 563,278	\$ 566,695
Capital Reserve Fund													
Beginning Reserve Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: Grant Proceeds	-	-	-	-	-	-	-	-	-	-	-	-	-
Plus: Transfer of Operating Reserve Surplus	-	-	-	-	-	-	-	-	-	-	-	-	-
Less: Use of Reserves for Replacements	-	-	-	-	-	-	-	-	-	-	-	-	-
Ending Capital Expenditure Reserve Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Target Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Ending Balance	\$ 2,099,587	\$ 2,107,239	\$ 2,040,818	\$ 2,026,276	\$ 2,012,032	\$ 1,998,266	\$ 1,985,174	\$ 1,972,974	\$ 1,962,649	\$ 1,954,559	\$ 1,949,098	\$ 1,946,696	\$ 1,947,819
Minimum Target Ending Balance	\$ 533,820	\$ 557,836	\$ 570,425	\$ 565,908	\$ 563,751	\$ 560,970	\$ 559,584	\$ 558,613	\$ 558,075	\$ 558,991	\$ 560,385	\$ 563,278	\$ 566,695
Ending Surplus (Deficit) Compared to Targets	\$ 1,565,767	\$ 1,549,403	\$ 1,470,393	\$ 1,460,367	\$ 1,448,281	\$ 1,437,295	\$ 1,425,589	\$ 1,414,361	\$ 1,404,574	\$ 1,395,568	\$ 1,388,713	\$ 1,383,418	\$ 1,381,124
Days Cash on Hand	3,958	2,918	2,382	2,257	2,138	2,027	1,922	1,823	1,730	1,644	1,565	1,491	1,424
Annual Interest Earnings Rate⁴	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%

1. Beginning cash balances provided by the Agency. Source File: 2020-06 - WW Trial Balance.PDF and [5] 2021-06 - WW Trial Balance.PDF .

2. The Agency only maintains an Unappropriated Reserve Fund rather than separate operating and capital reserves.

3. The target ending balance for this reserve is set to 6 months, or 180 days, of annual operating expenditures plus 3% of net capital assets.

4. Historical interest earning rates are per the average annual yields for funds invested in LAIF (2018-2022). The source is the California State Treasurer's website: <https://www.treasurer.ca.gov/pmia-laif/historical/annual.asp> .

CHART 1

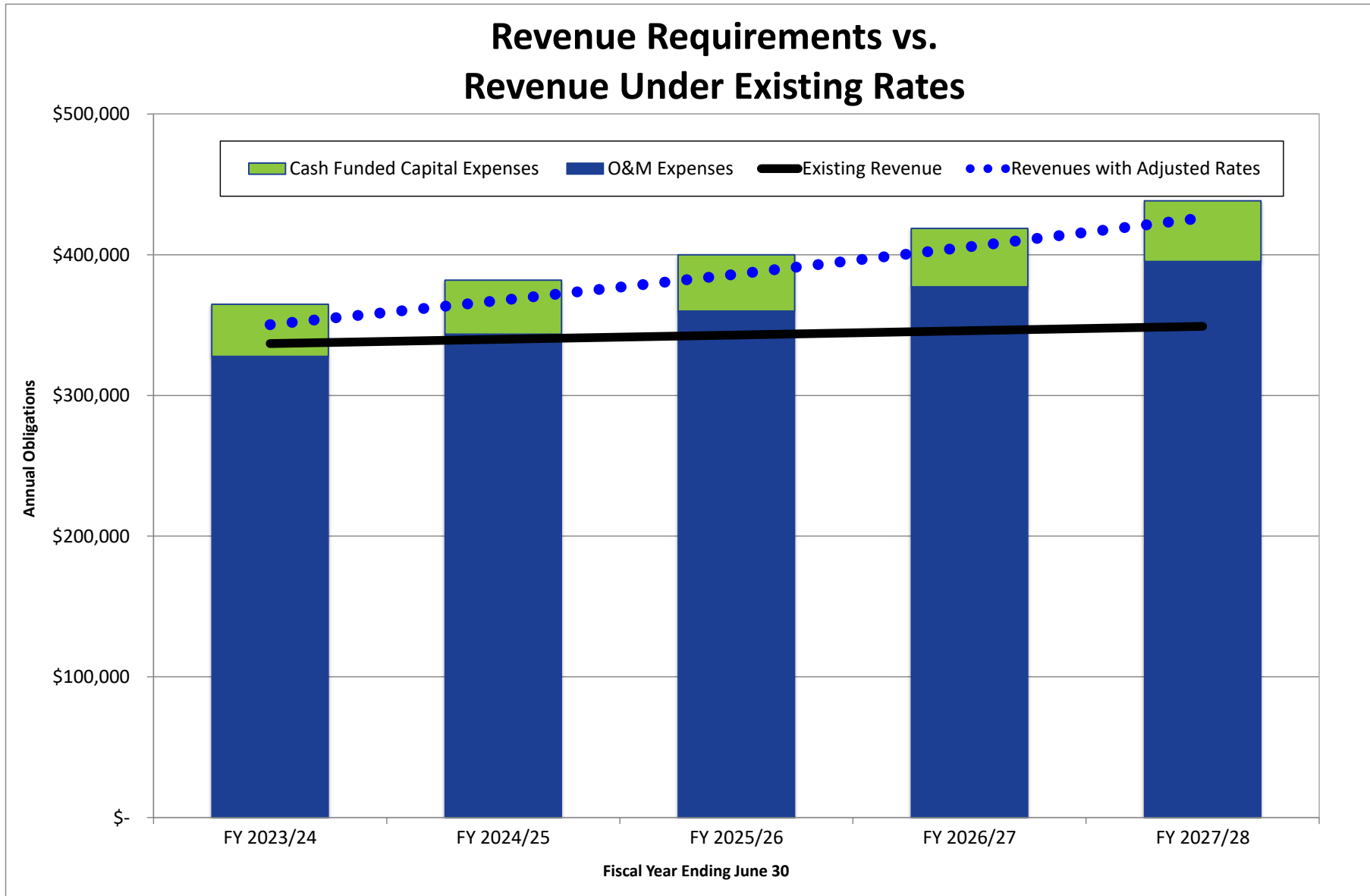


CHART 2

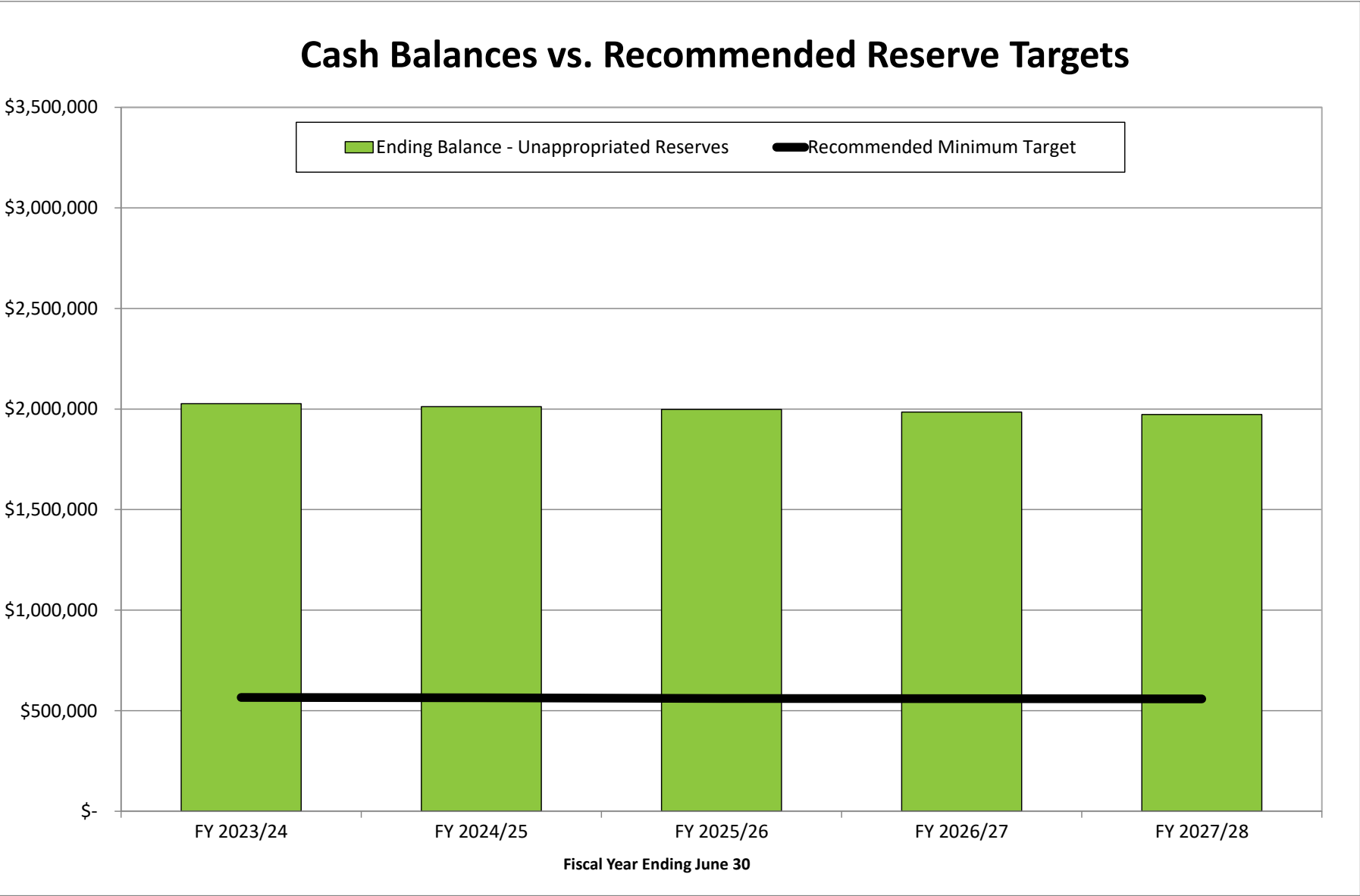


CHART 3

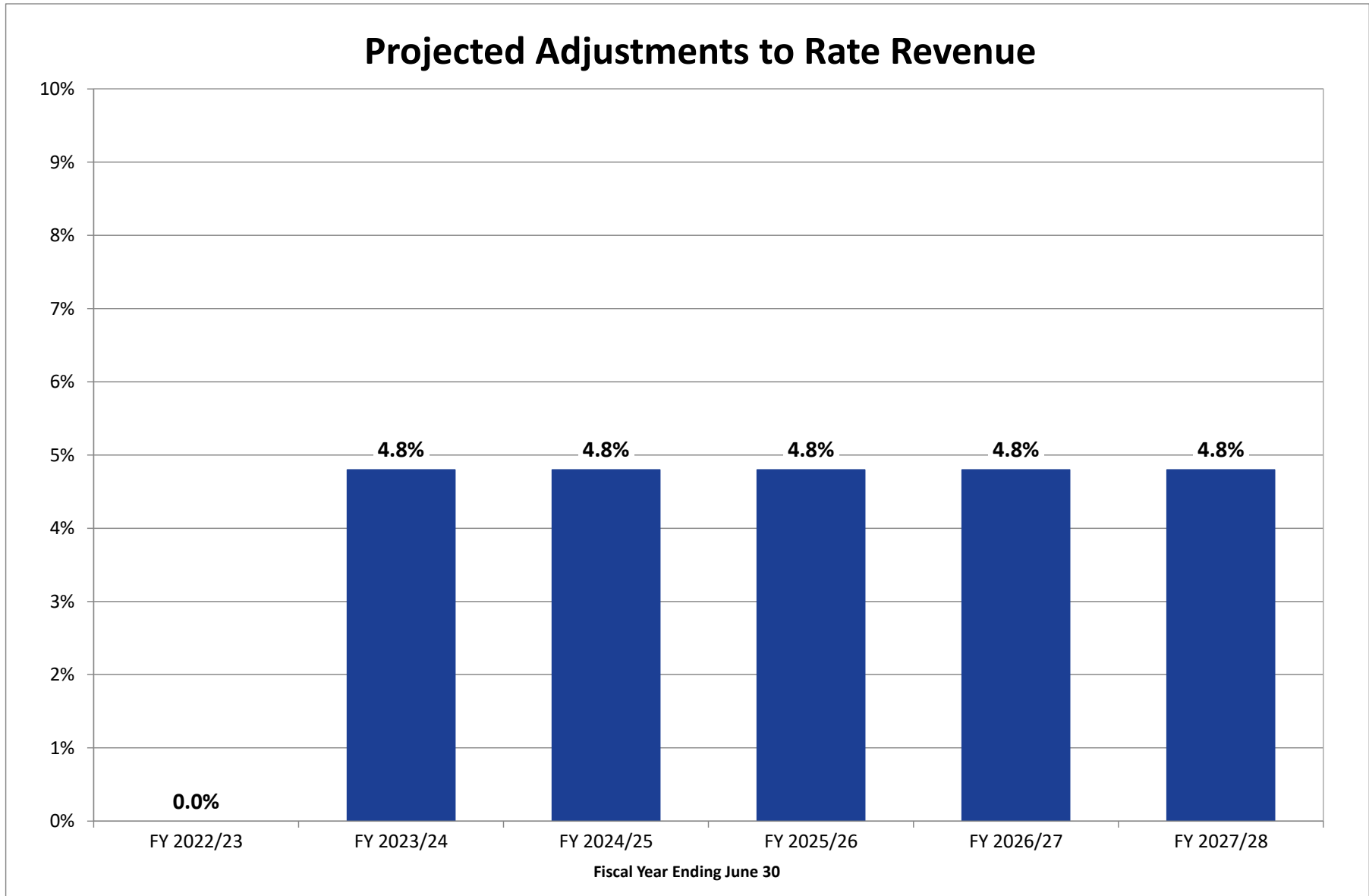


CHART 4

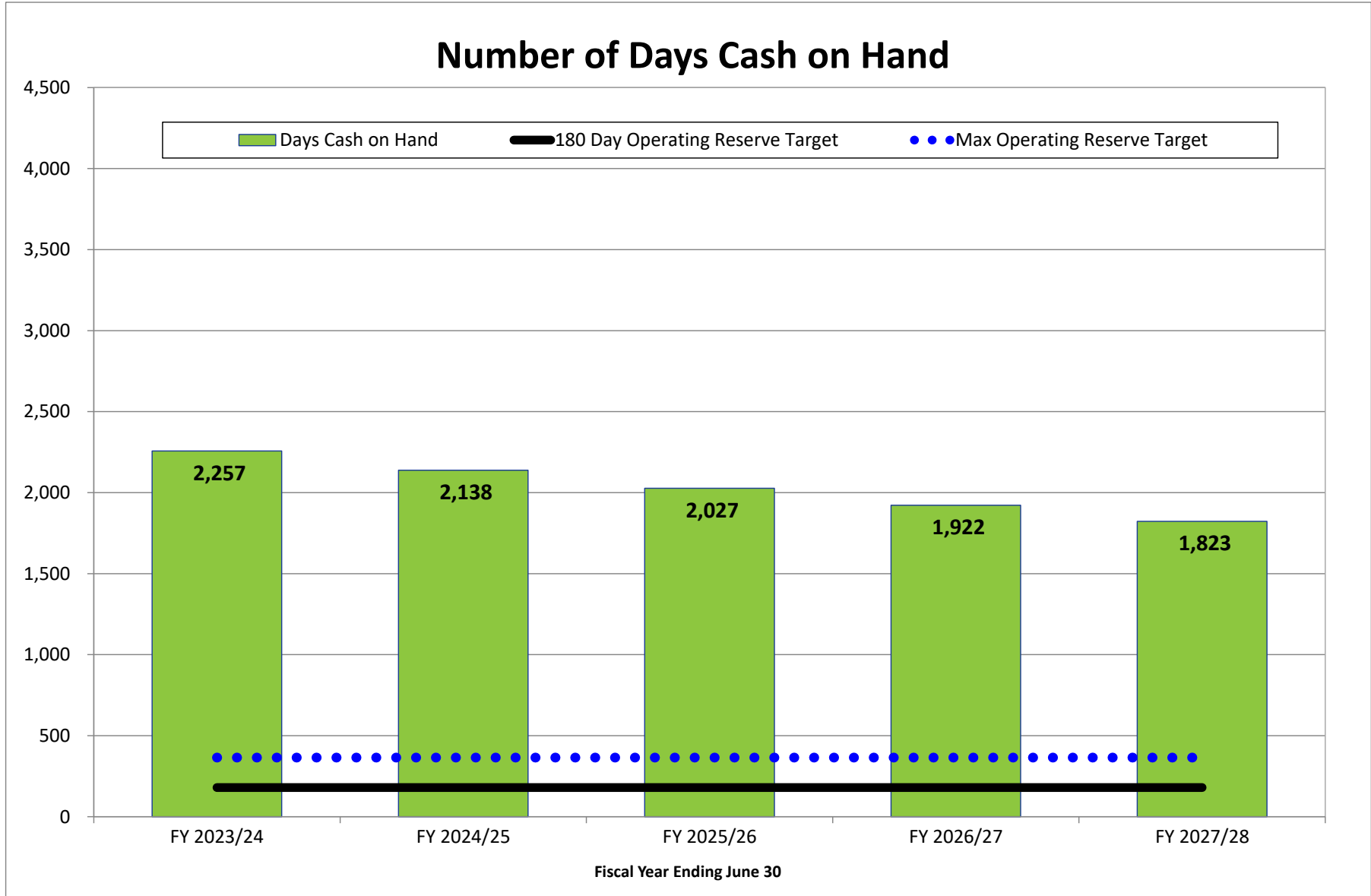


TABLE 3 : REVENUE FORECAST¹

Code	DESCRIPTION	Basis	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected				
			FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
Sources of Wastewater Funds															
41110	Wastewater Sales - Rate #1 (CCC)	1	\$ 526,604	\$ 532,707	\$ 574,800	\$ 580,868	\$ 586,935	\$ 593,003	\$ 599,070	\$ 605,138	\$ 611,205	\$ 617,273	\$ 623,342	\$ 629,411	\$ 635,480
41140	Wastewater Sales - Rate #2 (CCC)	1	451,648	453,213	480,000	485,067	490,134	495,200	500,267	505,334	510,401	515,468	520,536	525,604	530,672
41200	Wastewater Sales - Dream Homes (CPS)	1	178,648	164,145	160,800	162,497	164,195	165,892	167,590	169,287	170,984	172,682	174,379	176,077	177,775
Other Operating Revenues															
42310	Service Charges	1	-	-	-	-	-	-	-	-	-	-	-	-	-
42315	Capacity Charges - CAT City	1	35,963	1,249	26,400	26,679	26,957	27,236	27,515	27,793	28,072	28,351	28,629	28,908	29,187
42330	Revenue from Services Rendered	1	150	-	-	-	-	-	-	-	-	-	-	-	-
42335	Plan Check Fee	1	1,120	700	1,080	1,091	1,103	1,114	1,126	1,137	1,148	1,160	1,171	1,183	1,194
42350	Customer w/o Inspect Labor	1	1,820	-	2,400	2,425	2,451	2,476	2,501	2,527	2,552	2,577	2,603	2,628	2,653
42965	Contributed Revenue	1	138,485	169,050	-	-	-	-	-	-	-	-	-	-	-
Non-Operating Revenues															
49210	Interest - Investments	See FP	9,050	6,633	10,800	-	-	-	-	-	-	-	-	-	-
49550	Unrealized Gain/Loss Invst	8	138	(22,052)	-	-	-	-	-	-	-	-	-	-	-
49570	Prior Year Revenues	8	404	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL: SEWER REVENUE			\$ 1,344,028	\$ 1,305,644	\$ 1,256,280	\$ 1,258,627	\$ 1,271,774	\$ 1,284,921	\$ 1,298,068	\$ 1,311,216	\$ 1,324,363	\$ 1,337,510	\$ 1,350,660	\$ 1,363,811	\$ 1,376,961

TABLE 4 : SUMMARY OF REVENUES

Description	Basis	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected				
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
RATE REVENUE														
Sewer Rate Revenue		\$ 1,156,899	\$ 1,150,064	\$ 1,215,600	\$ 1,228,432	\$ 1,241,263	\$ 1,254,095	\$ 1,266,927	\$ 1,279,759	\$ 1,292,590	\$ 1,305,422	\$ 1,318,257	\$ 1,331,092	\$ 1,343,927
OTHER REVENUE:														
Other Fees		187,129	155,580	40,680	30,195	30,511	30,826	31,142	31,457	31,772	32,088	32,403	32,719	33,034
GRAND TOTAL: SEWER REVENUE		\$ 1,344,028	\$ 1,305,644	\$ 1,256,280	\$ 1,258,627	\$ 1,271,774	\$ 1,284,921	\$ 1,298,068	\$ 1,311,216	\$ 1,324,363	\$ 1,337,510	\$ 1,350,660	\$ 1,363,811	\$ 1,376,961

DESERT WATER AGENCY
WASTEWATER RATE STUDY
Operating Revenue and Expenses

Exhibit 1

TABLE 5 : OPERATING EXPENSE FORECAST¹

Code	DESCRIPTION	Basis	Actuals	Actuals ²	Budget	5-Year Rate Projected Period					Projected				
			FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
SEWER OPERATING FUND EXPENSES															
Maintenance															
50220	Maintenance of Pumps	2	\$ 35,758	\$ 8,994	\$ 2,400	\$ 2,515	\$ 2,636	\$ 2,762	\$ 2,895	\$ 3,034	\$ 3,180	\$ 3,332	\$ 3,492	\$ 3,660	\$ 3,836
50230	Maintenance of Mains - Cathedral City	2	21,479	26,427	100,800	105,638	110,709	116,023	121,592	127,429	133,545	139,955	146,673	153,714	161,092
50235	Maintenance of Mains - Dream Homes	2	-	14,148	16,800	17,606	18,452	19,337	20,265	21,238	22,258	23,326	24,446	25,619	26,849
50237	Maintenance of Mains - Cove @ PS	2	-	-	-	-	-	-	-	-	-	-	-	-	-
50240	Maintenance of Lift Stations	2	79,257	70,166	138,000	144,624	151,566	158,841	166,465	174,456	182,830	191,606	200,803	210,441	220,542
50250	Maintenance of Laterals - Cathedral City	2	1,499	162	1,200	1,258	1,318	1,381	1,448	1,517	1,590	1,666	1,746	1,830	1,918
50255	Maintenance of Laterals - Dream Homes	2	-	1,124	1,200	1,258	1,318	1,381	1,448	1,517	1,590	1,666	1,746	1,830	1,918
50257	Maintenance of Laterals - Cove @ PS	2	-	-	-	-	-	-	-	-	-	-	-	-	-
50260	Chemicals & Lab	2	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal - Maintenance			\$ 137,992	\$ 121,021	\$ 260,400	\$ 272,899	\$ 285,998	\$ 299,726	\$ 314,113	\$ 329,191	\$ 344,992	\$ 361,551	\$ 378,906	\$ 397,093	\$ 416,154
CVWD Fees & CPS Fees															
51110	CVWD Rate #1	1	\$ 401,847	\$ 405,267	\$ 446,400	\$ 451,112	\$ 455,824	\$ 460,536	\$ 465,249	\$ 469,961	\$ 474,673	\$ 479,385	\$ 484,098	\$ 488,812	\$ 493,525
51140	CVWD Rate #4	1	344,108	344,495	379,200	383,203	387,206	391,208	395,211	399,214	403,217	407,219	411,223	415,227	419,231
51200	CPS Rate - Dream Homes	1	126,370	110,711	112,800	113,991	115,181	116,372	117,563	118,754	119,944	121,135	122,326	123,517	124,708
51250	CPS Rate - Cove @ PS	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal - CVWD Fees & CPS Fees			\$ 872,325	\$ 860,473	\$ 938,400	\$ 948,306	\$ 958,211	\$ 968,117	\$ 978,022	\$ 987,928	\$ 997,834	\$ 1,007,739	\$ 1,017,648	\$ 1,027,556	\$ 1,037,464
General & Admin Expense															
56100	Administrative Salaries	3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56101	Administrative Management	3	-	-	-	-	-	-	-	-	-	-	-	-	-
56200	Office Supplies	2	415	448	1,200	1,258	1,318	1,381	1,448	1,517	1,590	1,666	1,746	1,830	1,918
56206	Convention / Seminars	2	-	-	-	-	-	-	-	-	-	-	-	-	-
56207	Membership / Subscription	2	-	-	-	-	-	-	-	-	-	-	-	-	-
56210	Legal	2	28,429	15,418	6,000	6,288	6,590	6,906	7,238	7,585	7,949	8,331	8,731	9,150	9,589
56220	Engineering	2	1,581	1,511	3,600	3,773	3,954	4,144	4,343	4,551	4,769	4,998	5,238	5,490	5,753
56230	Auditing	2	2,634	1,684	2,400	2,515	2,636	2,762	2,895	3,034	3,180	3,332	3,492	3,660	3,836
56240	Travel / Expenses	2	-	-	-	-	-	-	-	-	-	-	-	-	-
56270	Utilities	6	6,977	11,323	10,800	11,405	12,043	12,718	13,430	14,182	14,976	15,815	16,701	17,636	18,624
56300	Insurance	2	9,852	11,874	13,200	13,834	14,498	15,193	15,923	16,687	17,488	18,327	19,207	20,129	21,095
56421	Tuition & Schooling	2	-	-	-	-	-	-	-	-	-	-	-	-	-
56718	Programming	2	1,530	786	2,400	2,515	2,636	2,762	2,895	3,034	3,180	3,332	3,492	3,660	3,836
56730	Communications Equipment	2	-	-	-	-	-	-	-	-	-	-	-	-	-
56740	Miscellaneous Storeroom	2	-	-	-	-	-	-	-	-	-	-	-	-	-
56750	Transportation Equipment	5	2,853	4,656	6,000	6,180	6,365	6,556	6,753	6,956	7,164	7,379	7,601	7,829	8,063
56755	Gasoline	4	1,269	3,174	3,600	3,744	3,894	4,050	4,211	4,380	4,555	4,737	4,927	5,124	5,329
56760	Tools / Work Equip / Power Equipment	2	-	-	1,200	1,258	1,318	1,381	1,448	1,517	1,590	1,666	1,746	1,830	1,918
56761	Hand Tools	2	-	-	1,200	1,258	1,318	1,381	1,448	1,517	1,590	1,666	1,746	1,830	1,918
56860	Wastewater Management	2	232	-	-	-	-	-	-	-	-	-	-	-	-
56900	Regulatory Expense	2	-	90,974	-	-	-	-	-	-	-	-	-	-	-
Subtotal - General & Admin Expense			\$ 55,771	\$ 141,848	\$ 51,600	\$ 54,026	\$ 56,570	\$ 59,236	\$ 62,030	\$ 64,960	\$ 68,031	\$ 71,251	\$ 74,627	\$ 78,167	\$ 81,878
Sub-Total: Sewer Operating Expenses			\$ 1,066,088	\$ 1,123,342	\$ 1,250,400	\$ 1,275,231	\$ 1,300,779	\$ 1,327,079	\$ 1,354,166	\$ 1,382,079	\$ 1,410,857	\$ 1,440,542	\$ 1,471,180	\$ 1,502,815	\$ 1,535,495

DESERT WATER AGENCY
WASTEWATER RATE STUDY
Operating Revenue and Expenses

Exhibit 1

TABLE 6 : OPERATING EXPENSE FORECAST¹

Code	DESCRIPTION	Basis	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected				
			FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
SEWER OPERATING FUND EXPENSES, cont.															
Non-Operating Expense															
58100	Prior Year Expenses	8	\$ (922)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
58800	Sewer Assessment - Dream Homes	2	799	803	850	891	934	978	1,025	1,075	1,126	1,180	1,237	1,296	1,358
Sub-Total: Sewer Operating Expenses			\$ (124)	\$ 803	\$ 850	\$ 891	\$ 934	\$ 978	\$ 1,025	\$ 1,075	\$ 1,126	\$ 1,180	\$ 1,237	\$ 1,296	\$ 1,358
GRAND TOTAL: SEWER OPERATING EXPENSES			\$ 1,065,965	\$ 1,124,145	\$ 1,251,250	\$ 1,276,122	\$ 1,301,713	\$ 1,328,057	\$ 1,355,191	\$ 1,383,153	\$ 1,411,983	\$ 1,441,722	\$ 1,472,417	\$ 1,504,112	\$ 1,536,854

TABLE 7 : DEPRECIATION EXPENSE FORECAST (Excluded from the analysis)²

Code	DESCRIPTION	Basis	Actuals	Actuals	Budget	5-Year Rate Projected Period					Projected				
			FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
Other Operating Expense															
57100	Depreciation	2	\$ 567,427	\$ 570,970	\$ 572,400	\$ 599,875	\$ 628,669	\$ 658,845	\$ 690,470	\$ 723,612	\$ 758,346	\$ 794,746	\$ 832,894	\$ 872,873	\$ 914,771
Total: Annual Depreciation Expense			\$ 567,427	\$ 570,970	\$ 572,400	\$ 599,875	\$ 628,669	\$ 658,845	\$ 690,470	\$ 723,612	\$ 758,346	\$ 794,746	\$ 832,894	\$ 872,873	\$ 914,771

TABLE 8 : FORECASTING ASSUMPTIONS³

INFLATION FACTORS	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
Customer Growth ⁴	1	0.00%	0.00%	0.00%	1.06%	1.04%	1.03%	1.02%	1.01%	1.00%	0.99%	0.98%	0.97%	0.96%
General Cost Inflation ⁵	2	0.00%	0.00%	0.00%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%
Labor Cost Inflation ⁶	3	0.00%	0.00%	0.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Energy Cost Inflation ⁷	4	0.00%	0.00%	0.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Transportation ⁸	5	0.00%	0.00%	0.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Utilities ⁹	6	0.00%	0.00%	0.00%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%
Construction Cost Inflation ¹⁰	7	0.00%	0.00%	0.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
No Escalation	8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Revenue and expenses are actuals for FY 2020/21 and FY 2021/22, budget for FY 2022/23, and all other years are escalated based on the forecasting assumptions in Table 8. Source files: [2] 2021-06 - WW Revenue.PDF, [12d] 2021-06 - WW Expense.pdf , 2022-2023 BUDGETREV.xlsx , 2022-2023 BUDGETEXP - Augmented 8-2-2022.xlsx , & 2022-06- WF Revenue & Expense.PDF .

2. The following expense has been excluded from the analysis since it does not represent an actual cash expense.

3. Expenses are inflated each year by the following annual inflation factor categories.

4. Customer growth rate is based on Table 6.3 in the 2020 Coachella Valley Regional Urban Water Manage Plan and is estimated at 223 new connections per year. Source files: [13b] Urban Water Management Plan.pdf , page 136 & [9]_Water_Bills_2021.xlsx .

5. General cost inflation is based on the 5-year average annual change in the Consumer Price Index for all Urban Consumers in the Riverside-San Bernardino-Ontario, CA, CA area.

6. Labor cost inflation is based on the 5-year average annual change in the Quarterly Census of Employment and Wages for Riverside County, CA.

7. Energy cost inflation is based on the 5-year average annual change in the Consumer Price Index for all Urban Consumers. Source: <https://data.bls.gov> .

8. Transportation cost inflation is based on the 5-year average annual change in the Consumer Price Index for All Urban Consumers (US City Average). Source: <https://data.bls.gov> .

9. Utilities cost inflation is based on the 5-year average annual change in the Consumer Price Index - Average Price Data for Fuels and related products and power. This factor is used for utility costs other than electricity.

10. Construction cost Inflation is the 5-year average change in the Construction Cost Index for 2017-2022 (3.91%). Source: Engineering News Record website (<http://enr.construction.com>).

DESERT WATER AGENCY
WASTEWATER RATE STUDY
Capital Improvement Plan Expenditures

Exhibit 2

TABLE 9 : CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST	Actuals ¹	Actuals	Budget	5-Year Rate Adoption Period					Projected				
Funding Sources:	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Use of Capacity Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-	-
Use of SRF Loan Proceeds	-	-	-	-	-	-	-	-	-	-	-	-	-
Use of New Revenue Bond Proceeds	-	-	-	-	-	-	-	-	-	-	-	-	-
Use of Capital Expenditure Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-	-
Rate Revenue	15,000	51,955	35,631	37,024	38,472	39,976	41,539	43,163	44,851	46,605	48,427	50,320	52,288
Total Sources of Capital Funds	\$ 15,000	\$ 51,955	\$ 35,631	\$ 37,024	\$ 38,472	\$ 39,976	\$ 41,539	\$ 43,163	\$ 44,851	\$ 46,605	\$ 48,427	\$ 50,320	\$ 52,288
Uses of Capital Funds:													
Total Project Costs (Includes Exp. Related Projects)	\$ 15,000	\$ 51,955	\$ 35,631	\$ 37,024	\$ 38,472	\$ 39,976	\$ 41,539	\$ 43,163	\$ 44,851	\$ 46,605	\$ 48,427	\$ 50,320	\$ 52,288
Total Planned CIP for Rate Period (FY 2023/24 through FY 2027/28)										\$ 200,175			

CAPITAL IMPROVEMENT PROGRAM

TABLE 10 : CAPITAL IMPROVEMENT PROGRAM COSTS (in Current-Year Dollars)¹

CAPITAL IMPROVEMENT PROJECTS	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
ROUTINE PROJECTS													
Miscellaneous													
Contingency - Other	\$ 15,000	\$ 15,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cathedral Canyon Lift Station Generator - Augment	-	35,000	-	-	-	-	-	-	-	-	-	-	-
Future Projects²	-	-	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000
Total: CIP Program Costs (Current-Year Dollars)	\$ 15,000	\$ 50,000	\$ 33,000	\$ 33,000	\$ 33,000	\$ 33,000	\$ 33,000	\$ 33,000	\$ 33,000	\$ 33,000	\$ 33,000	\$ 33,000	\$ 33,000

TABLE 11 : CAPITAL IMPROVEMENT PROGRAM COSTS (in Future-Year Dollars)^{3,4}

CAPITAL IMPROVEMENT PROJECTS	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
ROUTINE PROJECTS													
Miscellaneous													
Contingency - Other	\$ 15,000	\$ 15,587	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cathedral Canyon Lift Station Generator - Augment	-	36,369	-	-	-	-	-	-	-	-	-	-	-
Future Projects²	-	-	35,631	37,024	38,472	39,976	41,539	43,163	44,851	46,605	48,427	50,320	52,288
Total: CIP Program Costs (Future-Year Dollars)	\$ 15,000	\$ 51,955	\$ 35,631	\$ 37,024	\$ 38,472	\$ 39,976	\$ 41,539	\$ 43,163	\$ 44,851	\$ 46,605	\$ 48,427	\$ 50,320	\$ 52,288

TABLE 12 : FORECASTING ASSUMPTIONS

Economic Variables	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
Annual Construction Cost Inflation, Per Engineering New	0.00%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%	3.91%
Cumulative Construction Cost Multiplier from FY	1.00	1.04	1.08	1.12	1.17	1.21	1.26	1.31	1.36	1.41	1.47	1.52	1.58

1. Capital project costs were provided by DWA staff. Source file: 20-21 & 21-22 Misc CIP not included in General Plan CIP.xlsx.

2. Future project costs beyond FY 2021/22 were calculated based on the average of the 2 years provided.

3. Future project costs are inflated by 3.91% per year. Source: Engineering News Record website (<http://enr.construction.com>).

4. For reference purposes, the annual Construction Cost Inflation percentage is the 5-year average change in the Construction Cost Index from 2017 to 2022 (3.91%). Source: Engineering News Record website (<http://enr.construction.com>).

TABLE 13 : EXISTING DEBT OBLIGATIONS

CURRENT DISTRICT DEBT OBLIGATIONS	Actuals	Budget	Budget	5-Year Rate Adoption Period					Projected				
Annual Repayment Schedules:	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33
SRF Loan/Revenue Bond													
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Coverage Requirement (\$-Amnt above annual payment)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Reserve Requirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TABLE 14 : EXISTING ANNUAL DEBT OBLIGATIONS TO BE SATISFIED BY SEWER RATES

Existing Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Existing Annual Coverage Requirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Existing Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

DESERT WATER AGENCY
WASTEWATER RATE STUDY
Projected Wastewater Rates Under Existing Rate Schedule

Exhibit 4

TABLE 15 : CURRENT WASTEWATER RATE SCHEDULE

Wastewater Rate Schedule ¹							
Customer Types	EDU Scale	CVWD Treatment - Cathedral City			City Treatment - Palm Oasis / Dream Homes Only		
		CVWD Charges per EDU ²	DWA Charges per EDU	Total Charges	City of Palm Springs Charges (per EDU)	DWA Charges (per EDU)	Total Charges
Single Family/Condo	1 EDU = 1 Unit	\$24.98	\$6.15	\$31.13	\$20.00	\$6.15	\$26.15
Mobile Home Park	1 EDU = 1 Space	\$24.98	\$6.15	\$31.13	\$20.00 + \$1.98/FU	\$6.15	\$28.13
Apartments	1 EDU = 1 Unit	\$24.98	\$6.15	\$31.13	\$20.00	\$6.15	\$26.15
Hotel/Motel	1/2 EDU = 1 Room	\$24.98	\$6.15	\$31.13	N/A	N/A	N/A
RV Park	1/2 EDU = 1 Space	\$24.98	\$6.15	\$31.13	N/A	N/A	N/A
Comm./Ind./ Inst.	V & F	\$24.98	\$6.15	\$31.13	\$1.98/FU (Min. \$20.00)	\$6.15	\$26.15 Min.
Schools and Colleges	Per Student & EDU	\$24.98	\$6.15	\$31.13	\$1.98/FU (Min. \$20.00)	\$6.15	\$26.15 Min.
All Other Schools	Per Student & EDU	\$24.98	\$6.15	\$31.13	N/A	N/A	N/A

1. These rates are effective as of January 1, 2022 and were provided by District staff. Source file: 01265 Establishing Rates Fees Charges for Sewer.pdf.

2. CVWD charges will increase to \$27.10 effective July 1, 2023.

**DESERT WATER AGENCY
WASTEWATER RATE STUDY
Cost of Service Analysis**

TABLE 16 : VOLUME ALLOCATION FACTOR

Development of the Volume Allocation Factor			
Customer Class	FY 2020/21 Annual Water Consumption (hcf) ¹	FY 2020/21 Volume (MGD)	Percent of Volume
Residential	467,196	0.96	74.7%
Condo	12,834	0.03	2.1%
Commercial	143,565	0.29	23.0%
Public Authority	1,887	0.00	0.3%
Total	625,482	1.28	100%

1. Consumption data provided by DWA staff. Source file: *Summary Tables_WW_FS.xlsx*.

TABLE 17 : CUSTOMER ALLOCATION FACTOR

Development of the Customer Allocation Factor				
Customer Class	Number of Accounts ¹	Percent of Total Accounts	Number of Equivalent Dwelling Units (EDUs) ²	Percent of Total Billing Units
Residential	1,724	76.9%	1,759	52.5%
Condo	299	13.3%	299	8.9%
Commercial	215	9.6%	1,214	36.3%
Public Authority	5	0.2%	76	2.3%
Total	2,243	100.0%	3,348	100.0%

1. Number of accounts and EDUs provided by DWA staff. Source file: *Summary Tables_WW_FS.xlsx*.

2. Per DWA's customer billing data; current EDU assignments per account.

TABLE 18 : REVENUE ALLOCATION FACTOR

Total Revenue by Customer Class		
Customer Class	Total Revenue FY 2020/21 ¹	% of Total Revenue
Residential	\$ 593,818	52.5%
Condo	101,816	9.0%
Commercial	416,804	36.8%
Public Authority	19,694	1.7%
Total	\$ 1,132,132	100.0%

1. Revenue data is based on the Desert Water Agency's billing data.

DESERT WATER AGENCY
WASTEWATER RATE STUDY
Cost of Service Analysis

TABLE 19 : ALLOCATION OF FY 2023/24 REVENUE REQUIREMENTS BY CUSTOMER CLASS

Customer Class	FY 2023/24 Total Revenue Requirement ^{1,2}	% of Total Revenue Requirement
Residential	\$ 154,249	52.5%
Condo	26,220	8.9%
Commercial	106,426	36.3%
Public Authority	6,678	2.3%
Total	\$ 293,572	100%

1. Revenue requirement for each customer class is determined by multiplying the total revenue requirement by the customer allocation factor (Percent of Total Billing Units) for each customer class.
2. Total revenue requirement is for DWA's collection system only; treatment is addressed separately.

TABLE 20 : DEVELOPMENT OF PROPOSED SEWER RATES FOR FY 2023/24

Customer Class	No. of EDUs	Total Revenue Requirement	Monthly Fixed Charge Per EDU
Residential	1,759	\$ 154,249	\$7.31
Condo	299	26,220	\$7.31
Commercial	1,214	106,426	\$7.31
Public Authority	76	6,678	\$7.31
Total	3,348	\$ 293,572	\$7.31

Customer Class	No. of EDUs	Total Revenue Requirement (\$/Yr.)	Monthly Fixed Charge Per EDU
Total 2017	3,242	\$ 208,553	\$5.36
Current Rate		\$ 296,799	\$6.15
Total 2023	3,348	\$ 293,572	\$7.31

TABLE 21 : PROPOSED FIVE-YEAR RATE SCHEDULE

Wastewater Rate Schedule	Current Rates	Proposed Rates				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
<i>Projected Increase in Rate Revenue per Financial Plan:</i>		4.80%	4.80%	4.80%	4.80%	4.80%
Fixed Monthly Service Charge Per EDU	\$6.15	\$7.31	\$7.66	\$8.03	\$8.41	\$8.81

TABLE 22 : REVENUE CHECK

Customer Class	No. of EDUs	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Residential	1,759	\$ 154,249	\$ 161,653	\$ 169,412	\$ 177,544	\$ 186,066
Condo	299	26,220	27,478	28,797	30,179	31,628
Commercial	1,214	106,426	111,534	116,888	122,498	128,378
Public Authority	76	6,678	6,998	7,334	7,686	8,055
Total	3,348	\$ 293,572	\$ 307,664	\$ 322,431	\$ 337,908	\$ 354,128
<i>Annual Revenue Requirement from Financial Plan</i>		<i>\$ 293,572</i>	<i>\$ 310,877</i>	<i>\$ 329,167</i>	<i>\$ 348,497</i>	<i>\$ 368,924</i>

**DESERT WATER AGENCY
WASTEWATER RATE STUDY
Sewer Rate Development**

TABLE 23 : PROPOSED RATES

Wastewater Rate Schedule ¹							
Customer Types	EDU Scale	CVWD Treatment - Cathedral City			City Treatment - Palm Oasis / Dream Homes Only		
		CVWD Charges per EDU	DWA Charges per EDU	Total Charges	City of Palm Springs Charges (per EDU)	DWA Charges (per EDU)	Total Charges
Single Family/Condo	1 EDU = 1 Unit	\$27.10	\$7.31	\$34.41	\$20.00	\$7.31	\$27.31
Mobile Home Park	1 EDU = 1 Space	\$27.10	\$7.31	\$34.41	\$20.00 + \$1.98/FU ²	\$7.31	\$29.29
Apartments	1 EDU = 1 Unit	\$27.10	\$7.31	\$34.41	\$20.00	\$7.31	\$27.31
Hotel/Motel	1/2 EDU = 1 Room	\$27.10	\$7.31	\$34.41	N/A	N/A	N/A
RV Park	1/2 EDU = 1 Space	\$27.10	\$7.31	\$34.41	N/A	N/A	N/A
Comm./Ind./ Inst.	V & F ²	\$27.10	\$7.31	\$34.41	\$1.98/FU (Min. \$20.00)	\$7.31	\$27.31 Min.
Schools and Colleges	Per Student & EDU	\$27.10	\$7.31	\$34.41	\$1.98/FU (Min. \$20.00)	\$7.31	\$27.31 Min.
All Other Schools	Per Student & EDU	\$27.10	\$7.31	\$34.41	N/A	N/A	N/A

1. Assumes new rates are implemented January 1, 2024.
2. "V & F" = Volumetric and Fixed and "FU" = Fixture Units.