

Public Hearing
June 29, 2023

*Trabuco Canyon Water District
2023 Cost-of-Service Study*



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Trabuco Canyon Water District – 2023 Cost-of-Service Study

TABLE OF CONTENTS

Executive Summary6

Water Utility12

 Financial Plan Overview – Water Utility.....16

 Proposed Financial Plan – Water Utility28

 Cost-of-Service Analysis – Water Utility33

 Rate Design – Water Utility40

 FY 2024 Cost-of-Service Rates – Water Utility.....48

Wastewater Utility49

 Financial Plan Overview - Wastewater Utility51

 Proposed Financial Plan – Wastewater Utility58

 Cost of Service Analysis – Wastewater Utility63

 Rate Design – Wastewater Utility67

Recycled Water74

 Financial Plan Overview – Recycled Water Utility76

 Proposed Financial Plan – Recycled Water Utility.....82

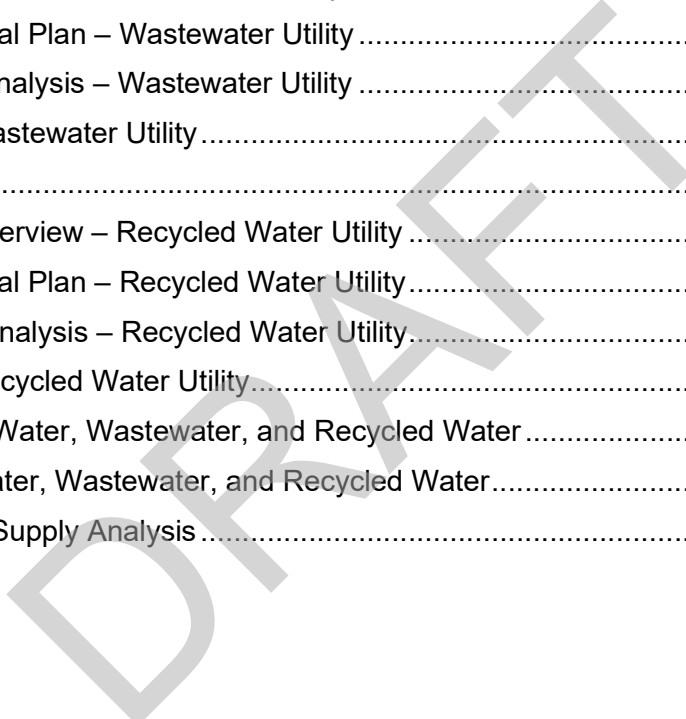
 Cost-of-Service Analysis – Recycled Water Utility.....86

 Rate Design – Recycled Water Utility.....87

Cost-Based Rates – Water, Wastewater, and Recycled Water89

Rate Schedules – Water, Wastewater, and Recycled Water.....90

Appendix A – Water Supply Analysis93



Trabuco Canyon Water District – 2023 Cost-of-Service Study

TABLES

Table 1: Proposed Monthly Water Fixed Charges	8
Table 2: Proposed Variable Water Rates.....	9
Table 3: Variable Pumping Water Rates.....	9
Table 4: Proposed Wastewater Rates	10
Table 5: Proposed Recycled Water Fixed Charges.....	11
Table 6: Proposed Recycled Water Variable Rates.....	11
Table 7: Potable Water Meters by Meter Size	13
Table 8: FY 2023 Monthly Base Fixed Charges	14
Table 9: FY 2023 Monthly WRES Fixed Charges.....	14
Table 10: FY 2023 Variable Water Rates	15
Table 11: FY 2023 Variable Water Pumping Rates	15
Table 12: Assumptions for Forecasting Revenues	17
Table 13: Accounts by Meter Size – FY 2024 through FY 2028.....	18
Table 14: Projected Consumption (HCF) – FY 2024 through FY 2028	18
Table 15: Projected Pumping Consumption (HCF) – FY 2024 through FY 2028	19
Table 16: Assumptions for Forecasting Expense Requirements	19
Table 17: Water Calculated Rate Revenues.....	20
Table 18: Water Projected Revenues	21
Table 19: Projected O&M Expenses	22
Table 20: Reserve Requirements and Targets	23
Table 21: Water Financial Plan at Existing Rates.....	25
Table 22: Water – Transfers and Reserve Activity at Existing Rates	26
Table 23: Proposed Water Financial Plan.....	29
Table 24: Water – Transfers and Reserves Activity through FY 2028.....	30
Table 25: Water Revenue Requirements.....	34
Table 26: Water Supply and Pumping Expense Allocation to Cost Components (%).....	36
Table 27: Water Supply and Pumping Expense Allocation to Cost Components (\$)	37
Table 28: O&M Expense Allocation to Cost Components (%).....	37
Table 29: O&M Expense Allocation to Cost Components (\$)	37
Table 30: Water Debt Allocation to Cost Components (%).....	38
Table 31: Water Debt Allocation to Cost Components (\$).....	38
Table 32: Other Funding to Cost Components (%).....	39
Table 33: Other Funding Allocation to Cost Components (\$).....	39
Table 34: FY 2024 Water Cost-of-Service Requirements by Cost Component.....	39
Table 35: Accounts and Meter Equivalents	41
Table 36: Projected Usage by Customer Class and Tier (HCF).....	41
Table 37: Projected Usage by Pumping Zone (HCF)	42
Table 38: FY 2024 Fixed Purchased Water Monthly Unit Rate	43
Table 39: FY 2024 Account Services Monthly Unit Rate	44
Table 40: FY 2024 Meter Capacity Monthly Unit Rate.....	44
Table 41: FY 2024 Water Supply Unit Rates per HCF	45
Table 42: FY 2024 Customer Class and Tier Water Supply Unit Rates per HCF	46
Table 43: FY 2024 Portola Hills Cost Unit Rate per HCF	46
Table 44: FY 2024 Delivery Cost Unit Rate per HCF	47
Table 45: FY 2024 Treatment Unit Rate per HCF	47
Table 46: FY 2024 Monthly Fixed Charges by Meter Size	48
Table 47: FY 2024 Variable Rates by Customer Class and Tier (HCF)	48
Table 48: Wastewater Billable Units by Customer Class.....	50
Table 49: Existing Wastewater Monthly Fixed Charges	50
Table 50: Wastewater Assumptions for Forecasting Revenues	51
Table 51: Wastewater Assumptions for Forecasting Expense Requirements.....	51

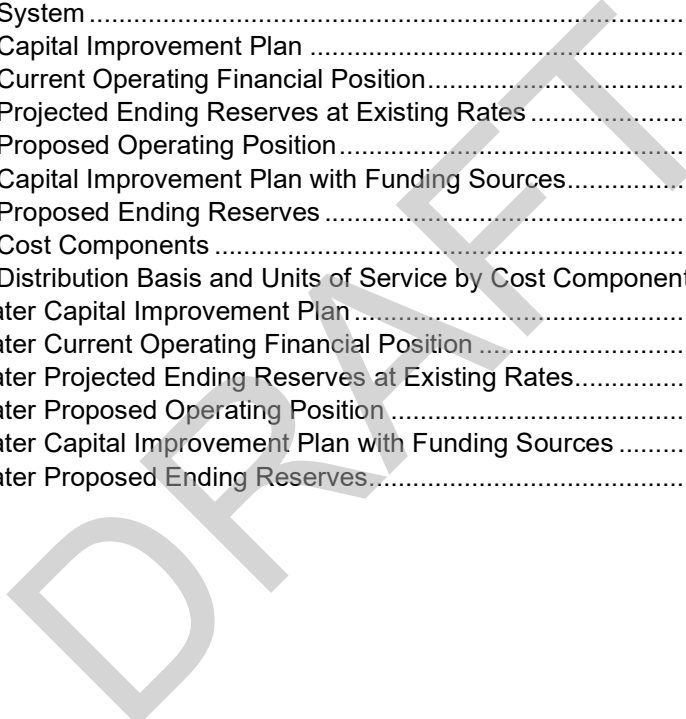
Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 52: Wastewater Calculated Rate Revenues	52
Table 53: Wastewater Projected Wastewater Revenues.....	52
Table 54: Wastewater Projected O&M Expenses	53
Table 55: Wastewater Reserve Requirements and Targets	54
Table 56: Wastewater Financial Plan at Existing Rates	55
Table 57: Wastewater – Transfers and Reserve Activity at Existing Rates	56
Table 58: Proposed Wastewater Financial Plan	59
Table 59: Wastewater – Undesignated Reserves Activity through FY 2028	60
Table 60: Wastewater Revenue Requirements	63
Table 61: Wastewater O&M Expense Allocation to Cost Components (%).....	65
Table 62: Wastewater O&M Expense Allocation to Cost Components (\$).....	65
Table 63: Wastewater Debt Allocation to Cost Components (%)	65
Table 64: Wastewater Debt Allocation to Cost Components (\$)	65
Table 65: Wastewater Other Funding to Cost Components (%).....	66
Table 66: Wastewater Other Funding to Cost Components (\$).....	66
Table 67: FY 2024 Wastewater Cost-of-Service Requirements by Cost Component	66
Table 68: Residential Projected Flows.....	67
Table 69: Non-Residential Projected Flows (HCF)	68
Table 70: Wastewater Units of Service	68
Table 71: FY 2024 Wastewater Account Services Monthly Unit Rate	69
Table 72: FY 2024 Wastewater Collection Allocation by Customer Class	70
Table 73: FY 2024 Wastewater COD Allocation by Customer Class	71
Table 74: FY 2024 Wastewater TSS Allocation by Customer Class	72
Table 75: FY 2024 Wastewater Total Revenue Requirement by Customer Class.....	72
Table 76: FY 2024 Residential Flat Monthly Charge	73
Table 77: FY 2024 Commercial Monthly Fixed Charge	73
Table 78: FY 2024 Commercial Variable Rates.....	73
Table 79: Recycled Water Accounts by Meter Size	74
Table 80: FY 2023 Recycled Water Monthly Base Fixed Charges	75
Table 81: FY 2023 Recycled Water Monthly WRES Fixed Charges	75
Table 82: FY 2023 Recycled Water Variable Rate	75
Table 83: Recycled Water Assumptions for Forecasting Revenues.....	76
Table 84: Recycled Water Assumptions for Forecasting Expenses	76
Table 85: Recycled Water Calculated Rate Revenues	77
Table 86: Recycled Water Projected Revenues	77
Table 87: Recycled Water Projected O&M Expenses	78
Table 88: Recycled Water Reserve Requirements and Targets	78
Table 89: Recycled Water Financial Plan at Existing Rates	79
Table 90: Recycled Water – Transfers and Reserve Activity at Existing Rates	80
Table 91: Recycled Water Proposed Financial Plan.....	82
Table 92: Recycled Water Transfers and Reserve Activity.....	83
Table 93: Recycled Water Revenue Requirements	86
Table 94: Proposed Recycled Water Monthly Meter Charges	87
Table 95: Proposed Recycled Water Variable Rates.....	88
Table 96: Proposed Water Monthly Fixed Charge (FY 2024 – FY 2028).....	90
Table 97: Proposed Water Variable Charge (FY 2024 – FY 2028)	90
Table 98: Proposed Water Variable Pumping Rates (FY 2024 – FY 2028)	91
Table 99: Proposed Wastewater Monthly Fixed Charge (FY 2024 – FY 2028)	91
Table 100: Proposed Recycled Water Monthly Fixed Charge (FY 2024 – FY 2028)	92
Table 101: Proposed Recycled Water Variable Rates (FY 2024 – FY 2028).....	92
Table 102: Water Supply Analysis	93
Table 103: Water Supply Analysis Summary.....	94

Trabuco Canyon Water District – 2023 Cost-of-Service Study

FIGURES

Figure 1: District Water System	12
Figure 2: Water Capital Improvement Plan	13
Figure 3: Financial Plan Key Elements	16
Figure 4: Water Utility Reserves	23
Figure 5: Current Operating Financial Position	27
Figure 6: Projected Ending Reserves at Existing Rates	27
Figure 7: Water – Proposed Operating Position	31
Figure 8: Water – Capital Improvement Plan with Funding Sources	31
Figure 9: Water – Proposed Ending Reserves	32
Figure 10: Cost-of-Service Process	33
Figure 11: Cost Components	35
Figure 12: Distribution Basis and Units of Service by Cost Component	43
Figure 13: Wastewater System	49
Figure 14: Wastewater Capital Improvement Plan	49
Figure 15: Wastewater Current Operating Financial Position	56
Figure 16: Wastewater Projected Ending Reserves at Existing Rates	57
Figure 17: Wastewater Proposed Operating Position	61
Figure 18: Wastewater Capital Improvement Plan with Funding Sources	61
Figure 19: Wastewater Proposed Ending Reserves	62
Figure 20: Wastewater Cost Components	64
Figure 21: Wastewater Distribution Basis and Units of Service by Cost Component	69
Figure 22: Recycled Water Capital Improvement Plan	74
Figure 23: Recycled Water Current Operating Financial Position	80
Figure 24: Recycled Water Projected Ending Reserves at Existing Rates	81
Figure 25: Recycled Water Proposed Operating Position	84
Figure 26: Recycled Water Capital Improvement Plan with Funding Sources	84
Figure 27: Recycled Water Proposed Ending Reserves	85



Executive Summary

The Trabuco Canyon Water District (District) is a local public agency that provides water, wastewater, and recycled water services to customers in portions of the cities of Rancho Santa Margarita, Mission Viejo, Lake Forest, and unincorporated Orange County. The District provides these services to its customers at cost and does not have shareholders or derive any profit. The District must collect sufficient revenues from its customers to pay the costs to (1) prudently operate and maintain each of its three enterprise systems or “utilities” - water, wastewater, and recycled water; (2) build, renew, replace, and upgrade its infrastructure, which includes pipelines, treatment plants, reservoirs, and pumps, as well as administration buildings and related facilities; and (3) ensure a prudent reserve of funds.

The District collects revenues primarily through user fees (rates and charges) that are designed to ensure that each customer pays their fair share of their total use of the District’s systems. This Cost-of-Service Study is intended to (1) establish the total projected cost for each system over a five-year period (the financial plan); (2) allocate those costs among customers in a way that ensures that each customer pays its fair share of those costs in compliance with California Constitution Article XIII D, section 6, also known as Proposition 218 (the rate structure).

The District’s most recent 5-year rate schedule was adopted in December 2020. Due to increases in capital expenses and the recent hyper-inflationary climate, the District determined that the financial plan needed to be updated to reflect increased costs, and that rate increases would be needed to replace the current noticed rates for Fiscal Year 2023-24 (FY 2024) and FY 2025. The District selected IB Consulting to conduct a comprehensive cost-of-service analysis to establish rates for the District’s three systems for the 5-year period from FY 2024 through FY 2028 (Rate Setting Period). That analysis is set forth below.

Water Utility Summary

Financial Plan

Updating the water utility’s long-term financial plan and performing a comprehensive cost-of-service analysis is a prudent business practice to ensure that the District can fully fund its revenue needs through FY 2028 and beyond. In reviewing and updating water rates, the first step is to thoroughly check the financial health of the District’s water utility. Based on a financial review of the water utility at current rates and noticed rates through FY 2025, the District is projected to end FY 2024 with an operating deficit of \$833k, which will grow to approximately \$1.48M by FY 2028. Separate from operating expenses, the water utility also has significant capital projects over the next five years totaling \$13.2M, which includes a transmission pipeline upsizing (\$2.5M) and a new reservoir at Harris Grade (\$5.9M). The District has an existing loan with almost \$3M of available funding remaining to support the planned capital projects, with the balance of funding coming from reserves. However, without increases to rates, reserves would be depleted by FY 2026. The proposed financial plan generates an additional \$21.3M in rate revenue, phased in over the Rate Setting Period. In addition, a new debt issuance is proposed to occur in FY 2024 that will convert the District’s existing short-term credit line into long-term debt over a 30-year amortization schedule, and will provide additional proceeds of \$3M to cover the capital expenses projected for FY 2025 and a portion of FY 2026 capital projects. The new debt issue and related proceeds will allow rate revenue to increase more slowly over time and fund capital on a Pay-As-You-Go (PAYGO) basis by FY 2027.

Trabuco Canyon Water District – 2023 Cost-of-Service Study

The total proposed debt issue, covering all three utilities, is expected to equal \$18M, with \$10M for the water utility (\$7M of short-term debt refinanced and \$3M in new money), \$7M for the wastewater utility (\$2.5M of short-term debt refinanced and \$4.5M in new money), and \$1M for the recycled water utility (\$500k of short-term debt refinanced and \$500k in new money). The debt financing assumes a 30-year term at a 5% annual interest rate, with a 10% debt reserve requirement and 2% in cost of issuance. As such, to generate \$10M in proceeds, the total debt amount is estimated at \$11.4M.

Rate Structure

The District's water rate structure has both fixed and variable components. The fixed component includes a base fixed charge and a separate Water Reliability and Emergency Storage (WRES) fixed charge. Both fixed charges vary by meter size and are charged to all customers, except that customers in the area known as Portola Hills no longer pay the WRES (the Portola Hills area was only obligated to pay the WRES fixed charge through FY 2018 for that area's share of certain applicable project costs).

Variable rates differ by customer class due to variations in their use of the system and therefore the costs to serve those customer classes. Single-Family customers are currently subject to a four-tiered rate structure, charged in Hundred Cubic Feet¹ (HCF) increments. All other customer classes pay their proportionate share of costs through uniform rates per HCF. The District also has variable pumping rates for certain areas of the District that require booster pumps (and hence additional energy costs) to cover the cost of conveying water up to the higher elevations.

The detailed cost-of-service analysis within this report includes adjustments to the existing rate structure. The WRES will sunset after FY 2023 as the remaining facilities associated with the WRES-dedicated funding are part of this rate cycle's capital improvement plan. However, fixed charges will continue to fund a portion of capital needs and will be adjusted upward to recover approximately 40% of total rate revenue to ensure revenue stability. Single-Family tiers will reduce from four tiers to a three-tiered rate structure reflecting water usage characteristics throughout the year (Tier 1 = winter average, Tier 2 = summer average, and Tier 3 = greater than Tier 2). The differentials between the proposed tiered rates have been adjusted and solely reflect the differences in water supply costs as allocated among the tiers. A detailed analysis of the District's water supplies was conducted to determine the variable unit cost of water supply. The District's four water supplies include water from the Baker Water Treatment Plant (operated by Irvine Ranch Water District or IRWD), Dimension Water Treatment Plant (owned and operated by the District), imported treated water from IRWD (IRWD – Treated) and imported treated water from Santa Margarita Water District (SMWD – Treated).

The total projected water demand within each tier is served by first allocating the lowest cost water supplies among all Single-Family customers up to the winter average consumption volume, representing average indoor water use among all Single-Family customers. Each successively more expensive source of water is then allocated among all Single-Family customers up to the summer average consumption (representing average indoor + outdoor water use among all Single-Family customers), and then up to the most expensive source of water. In some cases, multiple water supplies are needed to serve the total demand within each tier and a weighted unit rate is derived.

Multi-Family customers will adjust to a 2-tiered rate structure based on usage characteristics (Tier 1 = winter average and Tier 2 = usage above Tier 1). This rate structure reflects the assumption that multi-family customers have minimal irrigation water uses. Due to the broad spectrum of land uses within the Commercial category, the Commercial rate structure will maintain a uniform rate to ensure equity between accounts within the customer class and a blended water supply unit rate is applied to ensure Commercial customers are paying their proportionate share of costs. The Portola Hills uniform rate has been adjusted to account for

¹ 1 HCF = 748 gallons

Trabuco Canyon Water District – 2023 Cost-of-Service Study

operational costs of the District to distribute water to Portola Hills, in line with all other customers, but this area only receives water from Irvine Ranch Water District (IRWD) and is not subject to treatment-related costs from the Dimension water treatment plant. The District’s variable pumping rates have been recalibrated based on the most recent known current energy costs, except for the Portola Hills pumping charge, which has been eliminated and incorporated into a fully loaded water supply unit rate.

If customers as a whole were able to limit their water use levels, then the District would not need to purchase more expensive sources of supply. Allocating water costs to customer classes, including to residential tiers ensures that the burden of the District’s costs to buy more expensive water supplies are borne by those creating the demand, and avoids lower-volume users from subsidizing higher-volume users.

By adopting the proposed financial plan and approving rates through FY 2028, the water utility will generate positive net income above operating expenses, cover its system reinvestments and exceed its minimum reserve requirement by FY 2028.

The proposed rates have been incorporated into a Proposition 218 Notice and mailed to each customer. A Public Hearing is scheduled for June 29, 2023, on the proposed rates identified in Table 1 through Table 3. If there is no majority protest, and the Board of Directors approves this Cost-of-Service study and the proposed rates, then the proposed rates for FY 2024 will go into effect on July 1, 2023, with subsequent adjustments occurring each July 1st thereafter.

Table 1: Proposed Monthly Water Fixed Charges

Potable Fixed Meter Charges (\$/Month)						
Meter Size	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	
5/8"	\$ 46.84	\$ 55.28	\$ 65.24	\$ 71.77	\$ 78.95	
3/4"	46.84	55.28	65.24	71.77	78.95	
1"	94.93	112.02	132.19	145.41	159.96	
1 1/2"	175.08	206.60	243.79	268.17	294.99	
2"	271.26	320.09	377.71	415.49	457.04	
3"	575.83	679.48	801.79	881.97	970.17	
4"	1,024.67	1,209.12	1,426.77	1,569.45	1,726.40	
6"	2,098.68	2,476.45	2,922.22	3,214.45	3,535.90	

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 2: Proposed Variable Water Rates

Potable Variable Rates (\$/HCF)						
Customer Class	Tier Definitions (HCF)	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Single-Family						
Tier 1	0 - 13	\$ 4.40	\$ 5.20	\$ 6.14	\$ 6.76	\$ 7.44
Tier 2	14 - 21	5.12	6.05	7.14	7.86	8.65
Tier 3	>21	5.64	6.66	7.86	8.65	9.52
Multi-Family						
Tier 1	0 - 6	\$ 4.62	\$ 5.46	\$ 6.45	\$ 7.10	\$ 7.81
Tier 2	>6	5.64	6.66	7.86	8.65	9.52
Commercial		\$ 4.73	\$ 5.59	\$ 6.60	\$ 7.26	\$ 7.99
Irrigation		\$ 4.73	\$ 5.59	\$ 6.60	\$ 7.26	\$ 7.99
Agricultural		\$ 4.73	\$ 5.59	\$ 6.60	\$ 7.26	\$ 7.99
Portola Hills		\$ 5.25	\$ 6.20	\$ 7.32	\$ 8.06	\$ 8.87

Table 3: Variable Pumping Water Rates

Pumping Variable Rates (\$/HCF)					
Pumping Zone	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Zone 1 - Base	\$ -	\$ -	\$ -	\$ -	\$ -
Zone 2 - Topanga / Saddlecrest	0.53	0.63	0.75	0.83	0.92
Zone 3 - Canyon Creek	0.94	1.11	1.31	1.45	1.60
Zone 4 - Falcon	1.44	1.70	2.01	2.22	2.45
Zone 5 - Joplin	0.14	0.17	0.21	0.24	0.27

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Wastewater Utility Summary

Based on a financial review of the wastewater utility at current rates and approved rates through FY 2025, the District will cover operating expenses and generate positive net income for each fiscal year over the Financial Plan Period. However, net annual operating income alone cannot cover the capital spending needs for system reinvestment. Therefore, additional rate revenue is needed to fund system reinvestment and build up reserves to satisfy the utility’s minimum reserve requirements. The proposed financial plan and recommended adjustments would generate an additional \$5.285M over the Rate Setting Period, and the proposed FY 2024 debt issuance would provide \$4.5M in new money to fund capital costs in FY 2024 and FY 2025. The proposed financial plan would leverage debt to fund capital in the short-term, while rate revenue increases through a phase-in approach to cover the capital spending needs on a PAYGO by FY 2026.

The District's existing wastewater rate structure consists of flat monthly fixed charges to residential customers for each dwelling unit that vary between Single-Family and Multi-Family. Commercial customers are charged a monthly fixed charge and variable rates based on the level of strength concentration generated by the type of commercial use. Variable rates are categorized between three Low, Medium, and High.

The proposed wastewater rates derived within this report include a restructuring of wastewater rates. All residential customers will be charged the same monthly rate as the residential density factors in the area reflect 2.75 people per household (pph), based on population statistics from the E-5 Table of the Department of Finance and the multi-family complex within the District’s service area does not have any age restrictions limiting the household size. Residential rates are currently noticed and collected on a monthly basis but will transition to recovery on the Property Tax Bill. The Residential charges herein will still be derived as a monthly charge for comparison to existing rates. Within the Proposition 218 Notice, residential charges will show the month charge as well as the annual amount levied and collected on the Property Tax Bill. Commercial customers will continue to be a monthly fixed charge and variable rates that vary between Low, Medium, and High. However, the current monthly fixed charge to Commercial is low (\$5.69 per month) and will be recalibrated to generate slightly more fixed revenue. The recommended wastewater rates are included within the Proposition 218 Notice, and a Public Hearing is scheduled for June 29, 2023, on the proposed rates identified in Table 4. If there's not a majority protest, proposed rates for FY 2024 will go into effect on July 1, 2023, with subsequent adjustments occurring each July 1st thereafter.

Table 4: Proposed Wastewater Rates

Flat Charges (\$/Month)						
Customer Class	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	
Residential	\$ 45.92	\$ 53.27	\$ 61.80	\$ 69.22	\$ 77.53	
Commercial	\$ 12.58	\$ 14.60	\$ 16.94	\$ 18.98	\$ 21.26	

Variable Rates (\$/HCF)						
Customer Class	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	
Commercial						
Low	\$ 4.78	\$ 5.55	\$ 6.44	\$ 7.22	\$ 8.09	
Medium	8.00	9.28	10.77	12.07	13.52	
High	12.36	14.34	16.64	18.64	20.88	

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Recycled Water Utility

Based on a financial review of the recycled water utility at current rates and approved rates through FY 2025, the recycled water utility generates sufficient revenue to cover operating expenses and \$1.2M in net income over the Rate Setting Period, but the capital improvement plan for recycled water over the same period exceeds \$2.5M with an additional \$1.7M in capital projects the following year (FY 2029) related to the Dove Dam Outlet Replacement. With these critical capital needs, rate increases are needed to cover the system reinvestment and build up reserve to satisfy minimum reserve requirements. The proposed financial plan and recommended adjustments would generate \$4.1M in additional revenue over the Rate Setting Period and \$500k in debt proceeds from the proposed FY 2024 debt issuance. Collectively, the increased rate revenue and debt-financing would cover the utility’s revenue requirements and build up reserves to the ideal target by FY 2028 in anticipation of drawing it down for the Dove Dam project.

The District's recycled water rates include the same fixed charges as potable rates and a uniform variable rate. The proposed recycled water rates will continue to be pegged to the proposed potable meter charges, equal to 55% of potable meter charges and variable rates will remain as a uniform rate applied to all recycled water customers. The recommended recycled water rates are included within the Proposition 218 Notice, and a Public Hearing is scheduled for June 29, 2023, on the proposed rates identified in Table 5 and Table 6. If there is no majority protest, then the Board may adopt the proposed rates for FY 2024, which will go into effect on July 1, 2023, with subsequent adjustments occurring each July 1st thereafter.

Table 5: Proposed Recycled Water Fixed Charges

Recycled Fixed Meter Charges (\$/Month)					
Meter Size	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
5/8"	\$ 25.76	\$ 30.40	\$ 35.88	\$ 39.47	\$ 43.42
3/4"	25.76	30.40	35.88	39.47	43.42
1"	52.21	61.61	72.70	79.98	87.98
1 1/2"	96.29	113.63	134.08	147.49	162.24
2"	149.19	176.05	207.74	228.52	251.37
3"	316.71	373.71	440.98	485.08	533.59
4"	563.57	665.02	784.72	863.20	949.52
6"	1,154.27	1,362.05	1,607.22	1,767.95	1,944.75
8"	2,476.75	2,922.57	3,448.63	3,793.50	4,172.85
10"	3,711.06	4,379.05	5,167.28	5,684.01	6,252.42

Table 6: Proposed Recycled Water Variable Rates

Proposed Recycled Variable Rates (\$/HCF)					
Variable Rates	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Recycled	\$4.08	\$4.90	\$5.89	\$6.81	\$7.49

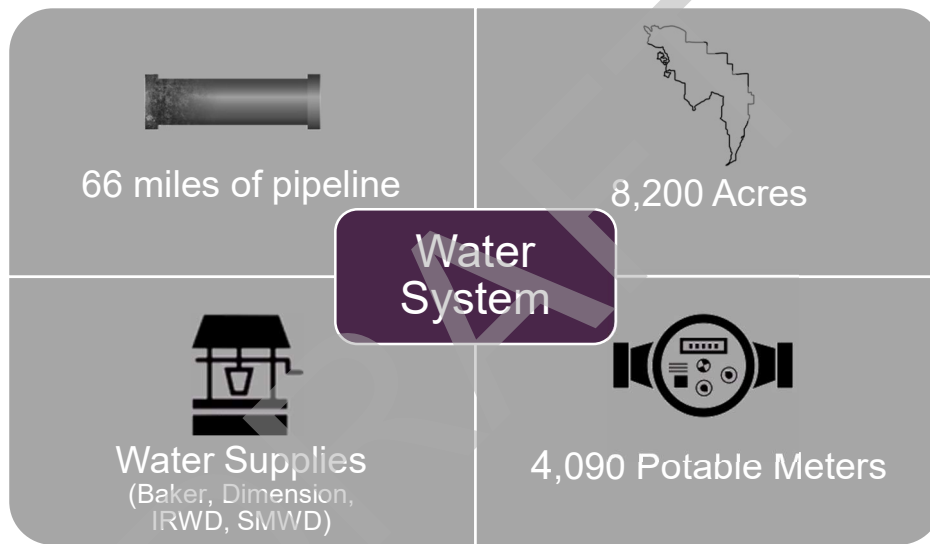
Trabuco Canyon Water District – 2023 Cost-of-Service Study

Water Utility

Water System

The District encompasses an area of approximately 8,200 acres in the southeastern portion of Orange County at the foothills of the Santa Ana Mountains and its service area includes communities within the City of Rancho Santa Margarita, City of Lake Forest, City of Mission Viejo, Trabuco Canyon and other areas of unincorporated Orange County. The District is a regional partner in the Baker Water Treatment Plant and operates the Dimension Water Treatment Plant. The District water facilities also include two wells, nine pump stations, eight treated water storage reservoirs and 66 miles of water distribution pipelines with approximately 4,090 service connections (excluding temporary construction meters).

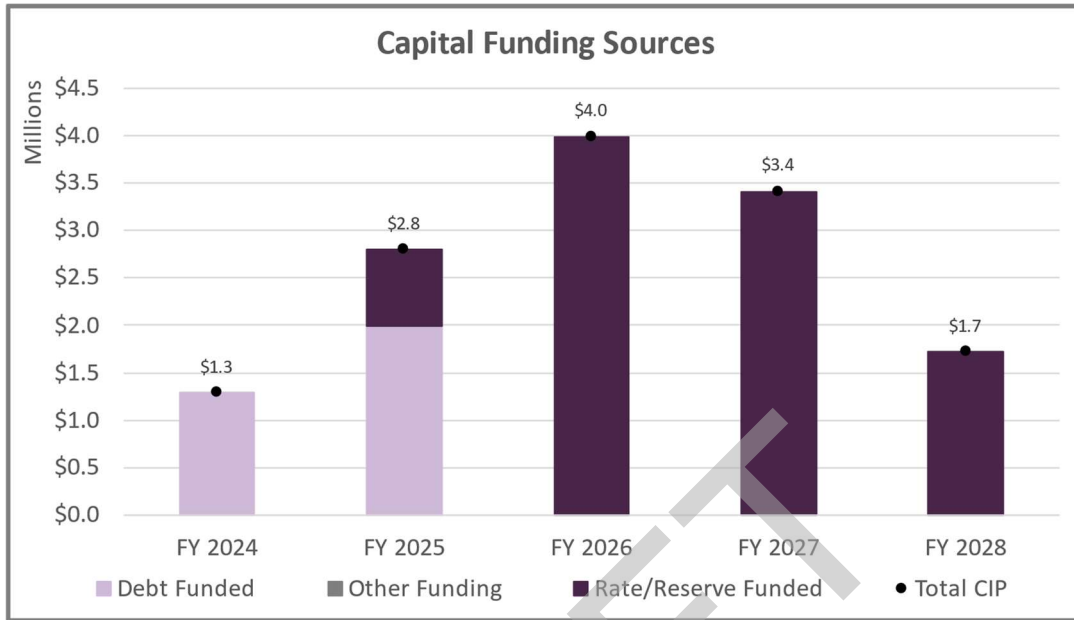
Figure 1: District Water System



The District recently completed a new asset management plan that identified capital project needs of \$30M over the next ten years. Through the District's review of the asset management plan and prioritizing projects between critical, less critical, and non-critical improvements, a final proposed Capital Improvement Plan (CIP) for this study was provided requiring \$13.2M in capital spending over the Rate Setting Period. Figure 2 shows the District's CIP through FY 2028 with current funding sources.

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Figure 2: Water Capital Improvement Plan



Customers

The District serves 4,090 water meters, with over 80% of accounts classified as residential. Table 7 provides a summary of meters by meter size.

Table 7: Water Meters by Meter Size

Meter Size	Single-Family	Multi-Family	Commercial	Irrigation	Agricultural	Portola Hills	Total
5/8"	2,143	0	17	1	0	463	2,624
3/4"	795	0	7	0	1	68	871
1"	359	18	15	1	1	0	394
1 1/2"	19	13	7	4	1	0	44
2"	45	0	30	70	0	0	145
3"	1	0	1	5	0	0	7
4"	0	0	1	0	2	0	3
6"	0	0	2	0	0	0	2
Total	3,362	31	80	81	5	531	4,090

As previously mentioned, the existing rate structure consists of a base monthly fixed meter charge, a WRES fixed charge for capital spending, and variable rates that vary by customer class, with Single-Family subject to a four-tiered rate structure. Current monthly fixed charges are identified in Table 8 and Table 9, followed by variable rates shown in Table 10 and Table 11.

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 8: FY 2023 Monthly Base Fixed Water Charges

Base Fixed Meter Charges (\$/Month)	
Meter Size	Existing
5/8"	\$ 21.04
3/4"	21.04
1"	30.70
1 1/2"	54.85
2"	83.81
3"	175.57
4"	310.77
6"	779.18

Table 9: FY 2023 Monthly WRES Fixed Water Charges

WRES Fixed Meter Charges (\$/Month)	
Meter Size	Existing
5/8"	\$ 16.04
3/4"	16.04
1"	25.25
1 1/2"	38.48
2"	51.30
3"	76.95
4"	102.60
6"	153.90

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 10: FY 2023 Variable Water Rates

Potable Variable Rates (\$/HCF)	
Customer Class	Existing
Single-Family	
Tier 1	\$ 2.92
Tier 2	3.72
Tier 3	7.06
Tier 4	9.16
Multi-Family	\$ 3.43
Commercial	\$ 3.76
Irrigation	\$ 4.86
Agricultural	\$ 6.17
Portola Hills	\$ 2.56

Table 11: FY 2023 Variable Water Pumping Rates

Pumping Variable Rates (\$/HCF)	
Pumping Zone	Existing
Zone 1 - Base	\$ -
Zone 2 - Topanga / Saddlecrest	0.99
Zone 3 - Canyon Creek	4.36
Zone 4 - Falcon	2.08
Zone 5 - Joplin	1.69
Zone 6 - Portola Hills	0.35

Financial Plan Overview – Water Utility

Financial Planning

Financial planning incorporates numerous considerations, including projecting revenues and forecasting expected costs using various inflationary adjustments. Utilities also need to account for changes in water demand driven by variations in weather, changes to water supplies and water availability, state mandates, growth, and economic factors. In addition, system maintenance and reinvestment, reserves, and debt service requirements all influence the revenues needed in future years. Therefore, a comprehensive financial plan reviews the following:

- 1) Historical water sales and consumption patterns to determine an appropriate usage level for projecting future water demands.
- 2) Operational costs that may change over the planning period because of inflation, unique circumstances of the agency, new expenditures added to meet strategic goals, state mandates, or changes in operations.
- 3) Multi-year system improvement needs, and scheduling based on priority. This review also considers available funding sources to complete projects such as PAYGO, grants, loans, and debt financing.
- 4) Reserve funding to meet adopted reserve policies. The goal is to generate adequate cash on hand to mitigate financial risks related to operating cashflow needs, unexpected increases in expenses, shortages in system reinvestment, and mitigating potential system failures.

Figure 3 illustrates the key elements when developing a long-term financial plan.

Figure 3: Financial Plan Key Elements



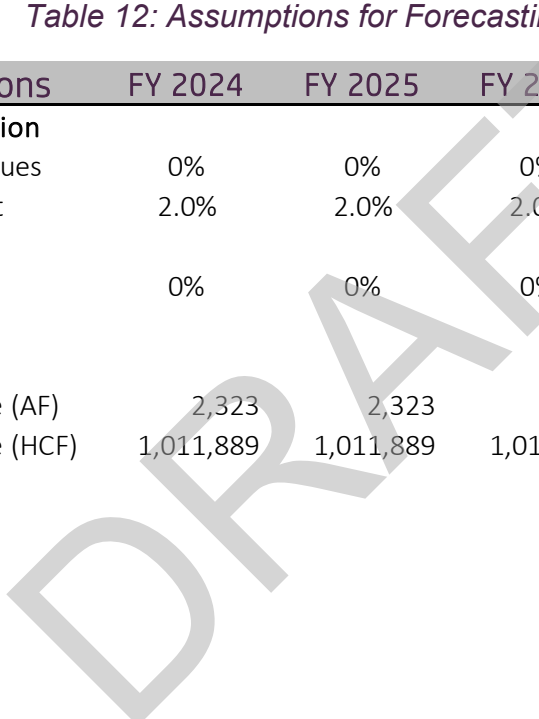
Trabuco Canyon Water District – 2023 Cost-of-Service Study

Financial Planning Assumptions

Developing a long-term financial plan requires an understanding of the District’s financial position by evaluating existing revenue streams, ongoing expenses, how those expenses will change over time, existing debt requirements, and reserve policies. With these considerations, certain assumptions are required for projecting revenues, expenses, and expected ending fund balances. Through discussions with staff and their understanding of historical budget data and future obligations, Table 12 identifies assumptions used for forecasting revenues. Table 13 provides details on the number of accounts by meter size and Table 14 identifies projected usage by customer class and tier. For forecasting revenues, our analysis assumes no growth in accounts as a conservative assumption so projected revenues do not rely on growth to occur. In addition, water sales assume a slight reduction to 2,323 AF for FY 2024 and beyond. Table 15 identifies the amount of projected usage through each elevation zone.

Table 12: Assumptions for Forecasting Revenues

Key Assumptions	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Revenue Escalation					
Non-Rate Revenues	0%	0%	0%	0%	0%
Reserve Interest	2.0%	2.0%	2.0%	2.0%	2.0%
Account Growth	0%	0%	0%	0%	0%
Water Sales					
Customer Usage (AF)	2,323	2,323	2,323	2,323	2,323
Customer Usage (HCF)	1,011,889	1,011,889	1,011,889	1,011,889	1,011,889



Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 13: Accounts by Meter Size – FY 2024 through FY 2028

Customer Accounts	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
All Potable Meters					
Meter Size					
5/8"	2,624	2,624	2,624	2,624	2,624
3/4"	871	871	871	871	871
1"	394	394	394	394	394
1 1/2"	44	44	44	44	44
2"	145	145	145	145	145
3"	7	7	7	7	7
4"	3	3	3	3	3
6"	2	2	2	2	2
Total All Potable Meters	4,090	4,090	4,090	4,090	4,090

Table 14: Projected Consumption (HCF) – FY 2024 through FY 2028

Consumption by Customer Class	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Single-Family					
Tier 1	297,504	297,504	297,504	297,504	297,504
Tier 2	229,662	229,662	229,662	229,662	229,662
Tier 3	95,704	95,704	95,704	95,704	95,704
Tier 4	40,603	40,603	40,603	40,603	40,603
Subtotal Single-Family Consumption (HCF)	663,473	663,473	663,473	663,473	663,473
Multi-Family	12,075	12,075	12,075	12,075	12,075
Commercial	34,008	34,008	34,008	34,008	34,008
Irrigation	143,718	143,718	143,718	143,718	143,718
Agricultural	95,593	95,593	95,593	95,593	95,593
Portola Hills	63,022	63,022	63,022	63,022	63,022
Total Potable Consumption (HCF)	1,011,889	1,011,889	1,011,889	1,011,889	1,011,889

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 15: Projected Pumping Consumption (HCF) – FY 2024 through FY 2028

Potable Consumption by Pumping Zone	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Pumping Zone					
Zone 1 - Base	932,738	932,738	932,738	932,738	932,738
Zone 2 - Topanga / Saddlecrest	8,282	8,282	8,282	8,282	8,282
Zone 3 - Canyon Creek	2,179	2,179	2,179	2,179	2,179
Zone 4 - Falcon	2,632	2,632	2,632	2,632	2,632
Zone 5 - Joplin	3,036	3,036	3,036	3,036	3,036
Zone 6 - Portola Hills	63,022	63,022	63,022	63,022	63,022
Total Potable Consumption by Pumping Zone (HCF)	1,011,889	1,011,889	1,011,889	1,011,889	1,011,889

Table 16 identifies assumptions used for forecasting increases in expenses over the Rate Setting Period. Purchased water costs are held constant and any increases will be captured through the pass-through provisions of Government Code section 53756.

Table 16: Assumptions for Forecasting Expense Requirements²

Key Assumptions	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Expenditure Escalation					
Benefits	7.00%	7.00%	7.00%	7.00%	7.00%
Capital Construction	6.63%	3.93%	3.93%	3.93%	3.93%
Energy Costs	8.00%	8.00%	5.00%	5.00%	5.00%
Fuel	20.00%	20.00%	5.00%	5.00%	5.00%
General Costs	6.20%	3.95%	3.95%	3.95%	3.95%
Retirement	5.00%	5.00%	5.00%	5.00%	5.00%
Salaries	5.00%	5.00%	5.00%	5.00%	5.00%
Water Purchases	Pass-Through	Pass-Through	Pass-Through	Pass-Through	Pass-Through

Current Financial Position

Revenues

Based on the forecasting assumptions, fixed revenues were calculated using account data by meter size (Table 13) and existing fixed charges (Table 8 and Table 9³). Variable revenues were calculated using existing variable rates (Table 10 and Table 11) and projected total water sales by customer class (Table 14) and projected usage by pumping zone (Table 15). Table 17 shows the calculated rate revenues through the Rate Setting Period. Table 18 summarizes calculated rate revenues from Table 17 and other operating and non-rate revenues available through the Rate Setting Period with projections rounded to the nearest thousands.

² Capital Construction inflation and General Costs for FY 2024 were increased to 6.63% and 6.2%, respectively, to account for recent increases due to inflation. Outer years reduce to 3.93% and 3.95%, reflecting the 5-year average of the Engineering News-Record – Construction Cost index and the Los Angeles Area Consumer Price Index, respectively.

³ Portola Hills customers do not get charged the WRES fixed charge.

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 17: Water Calculated Rate Revenues

Potable Fixed Revenues	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Meter Flat Rates					
Single-Family	\$ 933,912	\$ 933,912	\$ 933,912	\$ 933,912	\$ 933,912
Multi-Family	15,188	15,188	15,188	15,188	15,188
Commercial	70,901	70,901	70,901	70,901	70,901
Irrigation	84,188	84,188	84,188	84,188	84,188
Agricultural	8,738	8,738	8,738	8,738	8,738
Portola Hills	134,067	134,067	134,067	134,067	134,067
Total Meter Flat Rates	\$ 1,246,993	\$ 1,246,993	\$ 1,246,993	\$ 1,246,993	\$ 1,246,993
WRES Fees					
Single-Family	\$ 711,682	\$ 711,682	\$ 711,682	\$ 711,682	\$ 711,682
Multi-Family	11,457	11,457	11,457	11,457	11,457
Commercial	36,713	36,713	36,713	36,713	36,713
Irrigation	50,052	50,052	50,052	50,052	50,052
Agricultural	3,420	3,420	3,420	3,420	3,420
Portola Hills	0	0	0	0	0
Total WRES Fees	\$ 813,323	\$ 813,323	\$ 813,323	\$ 813,323	\$ 813,323
Variable Revenues	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Single-Family					
Tier 1	\$ 868,712	\$ 868,712	\$ 868,712	\$ 868,712	\$ 868,712
Tier 2	854,343	854,343	854,343	854,343	854,343
Tier 3	675,670	675,670	675,670	675,670	675,670
Tier 4	371,923	371,923	371,923	371,923	371,923
Single-Family Variable Revenue	\$ 2,770,648	\$ 2,770,648	\$ 2,770,648	\$ 2,770,648	\$ 2,770,648
Multi-Family	\$ 41,417	\$ 41,417	\$ 41,417	\$ 41,417	\$ 41,417
Commercial	\$ 127,870	\$ 127,870	\$ 127,870	\$ 127,870	\$ 127,870
Irrigation	\$ 698,469	\$ 698,469	\$ 698,469	\$ 698,469	\$ 698,469
Agricultural	\$ 589,809	\$ 589,809	\$ 589,809	\$ 589,809	\$ 589,809
Portola Hills	\$ 161,462	\$ 161,462	\$ 161,462	\$ 161,462	\$ 161,462
Total Potable Variable Rate Revenue	\$ 4,389,676	\$ 4,389,676	\$ 4,389,676	\$ 4,389,676	\$ 4,389,676
Pumping - Variable					
Zone 1 - Base	\$ -	\$ -	\$ -	\$ -	\$ -
Zone 2 - Topanga / Saddlecrest	8,199	8,199	8,199	8,199	8,199
Zone 3 - Canyon Creek	9,500	9,500	9,500	9,500	9,500
Zone 4 - Falcon	5,475	5,475	5,475	5,475	5,475
Zone 5 - Joplin	5,131	5,131	5,131	5,131	5,131
Zone 6 - Portola Hills	22,058	22,058	22,058	22,058	22,058
Total Variable Pumping Revenue	\$ 50,363	\$ 50,363	\$ 50,363	\$ 50,363	\$ 50,363
Total Rate Revenue	\$ 6,541,772	\$ 6,541,772	\$ 6,541,772	\$ 6,541,772	\$ 6,541,772

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 18: Water Projected Revenues

Revenue Summary	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Rate Revenues					
Fixed Revenue	\$ 1,247,000	\$ 1,247,000	\$ 1,247,000	\$ 1,247,000	\$ 1,247,000
Variable Revenue	4,440,000	4,440,000	4,440,000	4,440,000	4,440,000
WRES Revenue	813,000	813,000	813,000	813,000	813,000
Subtotal Rate Revenues	\$ 6,500,000	\$ 6,500,000	\$ 6,500,000	\$ 6,500,000	\$ 6,500,000
Operating Revenues					
Backflow/Fireflow Test	\$ 11,000	\$ 11,000	\$ 11,000	\$ 11,000	\$ 11,000
Late Charges	143,000	143,000	143,000	143,000	143,000
New Account Fee	2,000	2,000	2,000	2,000	2,000
Standby Charges	46,000	46,000	46,000	46,000	46,000
BTP Water Sales	717,000	717,000	717,000	717,000	717,000
BTP Sales - O&M	225,000	225,000	225,000	225,000	225,000
BTP Sales - Capital	167,000	167,000	167,000	167,000	167,000
Subtotal Operating Revenues	\$ 1,311,000	\$ 1,311,000	\$ 1,311,000	\$ 1,311,000	\$ 1,311,000
Non-Operating Revenues					
Uncollectable Accounts	(26,000)	(26,000)	(26,000)	(26,000)	(26,000)
Property Taxes	1,070,000	1,070,000	1,070,000	1,070,000	1,070,000
Other Non-Operating Revenue	59,000	59,000	59,000	59,000	59,000
Interest Revenue	0	0	25,000	16,000	0
Subtotal Non-Operating Revenues	\$ 1,103,000	\$ 1,103,000	\$ 1,128,000	\$ 1,119,000	\$ 1,103,000
Total Revenues	\$ 8,914,000	\$ 8,914,000	\$ 8,939,000	\$ 8,930,000	\$ 8,914,000

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Trabuco Canyon Water District – 2023 Cost-of-Service Study

Expenses

The FY 2023 budget was used as the baseline expenses of the utility and adjusted in subsequent years based on the escalation factors shown in Table 16. Table 19 provides projected Operational & Maintenance (O&M) costs through the Rate Setting Period, with future projections (except for debt) rounded to the nearest thousands. Each O&M expense category includes detailed line-item expenditures that were discussed with staff to determine the appropriate escalation factor for forecasting how costs will increase over time. The projected price of purchased water for FY 2024 is held constant for all years because any increase will be captured through the pass-through provisions of Government Code section 53756 and will be identified within the Proposition 218 notice.

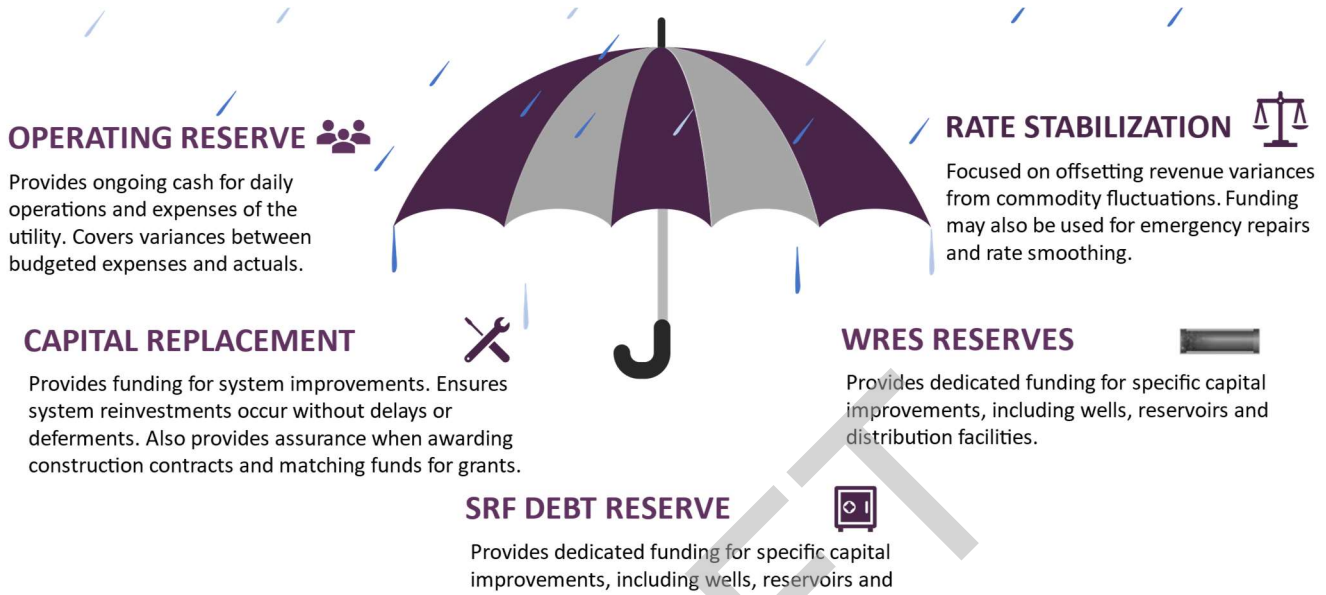
Table 19: Projected O&M Expenses

O&M Expenses	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Water Supply Costs					
Fixed Purchased Water Costs					
MWDOC	\$ 281,000	\$ 281,000	\$ 281,000	\$ 281,000	\$ 281,000
SMWD	16,000	16,000	16,000	16,000	16,000
IRWD	320,000	320,000	320,000	320,000	320,000
Portola Hills	44,000	44,000	44,000	44,000	44,000
Subtotal Fixed Purchased Water Costs	\$ 661,000	\$ 661,000	\$ 661,000	\$ 661,000	\$ 661,000
Variable Purchased Water Costs					
TCWD					
Baker (BTP)	320,000	320,000	320,000	320,000	320,000
SMWD - Treated	32,000	32,000	32,000	32,000	32,000
IRWD - Treated	805,000	805,000	805,000	805,000	805,000
Dimension (DWTP)	1,168,000	1,168,000	1,168,000	1,168,000	1,168,000
Portola Hills	202,000	202,000	202,000	202,000	202,000
Water Sales - BTP	742,000	742,000	742,000	742,000	742,000
Subtotal Variable Purchased Water Cos	\$ 3,269,000	\$ 3,269,000	\$ 3,269,000	\$ 3,269,000	\$ 3,269,000
Pumping Costs					
T&D - Electricity	\$ 264,000	\$ 285,000	\$ 299,000	\$ 314,000	\$ 330,000
Subtotal Pumping Costs	\$ 264,000	\$ 285,000	\$ 299,000	\$ 314,000	\$ 330,000
Water Supply Costs	\$ 4,194,000	\$ 4,215,000	\$ 4,229,000	\$ 4,244,000	\$ 4,260,000
Operating Expenses					
General and Administrative	\$ 1,279,000	\$ 1,338,000	\$ 1,400,000	\$ 1,464,000	\$ 1,531,000
Salaries & Benefits	2,878,000	3,036,000	3,203,000	3,379,000	3,565,000
Transmission & Distribution	438,000	465,000	484,000	504,000	524,000
Treatment	284,000	303,000	317,000	331,000	347,000
CalPERS & OPEB	169,000	163,000	152,000	140,000	125,000
Subtotal Operating Expenses	\$ 5,048,000	\$ 5,305,000	\$ 5,556,000	\$ 5,818,000	\$ 6,092,000
Debt Service					
SRF Loan	\$ 230,382	\$ 230,380	\$ 230,380	\$ 230,381	\$ 230,382
Refinancing/Proposed New Debt	397,727	517,455	517,455	517,455	517,455
Subtotal Debt Service	\$ 628,109	\$ 747,835	\$ 747,835	\$ 747,836	\$ 747,837
Total Expenses	\$ 9,870,109	\$ 10,267,835	\$ 10,532,835	\$ 10,809,836	\$ 11,099,837

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Reserves

Figure 4: Water Utility Reserves



Established reserves include Operating, Capital Replacement, Rate Stabilization, SFR Debt, and WRES. These reserves help mitigate risks to the utility by ensuring sufficient cash is on hand for daily operations, cover funding for annual system improvements, and secure outstanding debt obligations. In addition, these reserves help smooth rates and mitigate rate spikes due to emergencies or above-average system costs. The WRES Reserves will be closed, and remaining funds will be transferred to the Operating Reserve because the remaining facilities associated with the WRES dedicated funding are part of this rate cycle’s CIP. Table 20 summarizes the minimum reserve requirements and ideal targets of each reserve.

Table 20: Reserve Requirements and Targets

Reserve	Minimum Requirement	Reserve Target
Unrestricted		
Operating	90 days of operating expenses	180 days of operating expenses
Capital Replacement	Annual CIP costs based on 5-year average	2 years of CIP costs based on 5-year average
Rate Stabilization	10% of operating revenue	N/A
Restricted		
WRES	N/A	N/A
SFR Debt	Annual debt payment	N/A

The reserve balance as of July 1, 2022, equaled approximately \$4.0M, excluding the debt reserve.

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Financial Outlook at Existing Rates

Calculating revenue using existing rates and projecting expenses helps determine the current financial health of the utility. Revenues from current rates and the noticed rates through FY 2025 will not cover operating expenses. In addition, capital spending towards repair & replacement would require the use of reserves as the primary funding source once the remaining debt proceeds are expended, which is not sustainable. Table 21 forecasts existing revenues and expenses through the Rate Setting Period. Table 22 identifies reserve transfers and reserve activity, with projected FY 2024 starting reserve balances shown for each reserve.

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Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 21: Water Financial Plan at Existing Rates

Revenue		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Rate Revenues						
Fixed Revenue		\$ 1,247,000	\$ 1,247,000	\$ 1,247,000	\$ 1,247,000	\$ 1,247,000
Variable Revenue	Table 18	4,440,000	4,440,000	4,440,000	4,440,000	4,440,000
WRES Revenue		813,000	813,000	813,000	813,000	813,000
Total Rate Revenues		\$ 6,500,000	\$ 6,500,000	\$ 6,500,000	\$ 6,500,000	\$ 6,500,000
Operating Revenues						
Backflow/Fireflow Test		\$ 11,000	\$ 11,000	\$ 11,000	\$ 11,000	\$ 11,000
Late Charges		143,000	143,000	143,000	143,000	143,000
New Account Fee		2,000	2,000	2,000	2,000	2,000
Standby Charges	Table 18	46,000	46,000	46,000	46,000	46,000
BTP Water Sales		717,000	717,000	717,000	717,000	717,000
BTP Sales - O&M		225,000	225,000	225,000	225,000	225,000
BTP Sales - Capital		167,000	167,000	167,000	167,000	167,000
Subtotal Operating Revenues		\$ 1,311,000	\$ 1,311,000	\$ 1,311,000	\$ 1,311,000	\$ 1,311,000
Non-Operating Revenues						
Supplemental Water DIF		\$ -	\$ -	\$ -	\$ -	\$ -
Uncollectable Accounts	Table 18	(26,000)	(26,000)	(26,000)	(26,000)	(26,000)
Property Taxes		1,070,000	1,070,000	1,070,000	1,070,000	1,070,000
Other Non-Operating Revenue		59,000	59,000	59,000	59,000	59,000
Subtotal Non-Operating Revenues		\$ 1,103,000	\$ 1,103,000	\$ 1,103,000	\$ 1,103,000	\$ 1,103,000
Total Revenues		\$ 8,914,000	\$ 8,914,000	\$ 8,914,000	\$ 8,914,000	\$ 8,914,000
O&M Expenses						
Water Supply Costs						
Fixed Purchased Water Costs						
MWDOC		\$ 281,000	\$ 281,000	\$ 281,000	\$ 281,000	\$ 281,000
SMWD	Table 19	16,000	16,000	16,000	16,000	16,000
IRWD		320,000	320,000	320,000	320,000	320,000
Portola Hills		44,000	44,000	44,000	44,000	44,000
Subtotal Fixed Purchased Water Costs		\$ 661,000	\$ 661,000	\$ 661,000	\$ 661,000	\$ 661,000
Variable Purchased Water Costs						
TCWD						
Baker (BTP)		320,000	320,000	320,000	320,000	320,000
SMWD - Treated		32,000	32,000	32,000	32,000	32,000
IRWD - Treated	Table 19	805,000	805,000	805,000	805,000	805,000
Dimension (DWTP)		1,168,000	1,168,000	1,168,000	1,168,000	1,168,000
Portola Hills		202,000	202,000	202,000	202,000	202,000
Water Sales - BTP		742,000	742,000	742,000	742,000	742,000
Subtotal Variable Purchased Water Costs		\$ 3,269,000	\$ 3,269,000	\$ 3,269,000	\$ 3,269,000	\$ 3,269,000
Pumping Costs						
T&D - Electricity	Table 19	\$ 264,000	\$ 285,000	\$ 299,000	\$ 314,000	\$ 330,000
Subtotal Pumping Costs		\$ 264,000	\$ 285,000	\$ 299,000	\$ 314,000	\$ 330,000
Water Supply Costs		\$ 4,194,000	\$ 4,215,000	\$ 4,229,000	\$ 4,244,000	\$ 4,260,000
Operating Expenses						
General and Administrative		\$ 1,279,000	\$ 1,338,000	\$ 1,400,000	\$ 1,464,000	\$ 1,531,000
Salaries & Benefits		2,878,000	3,036,000	3,203,000	3,379,000	3,565,000
Transmission & Distribution	Table 19	438,000	465,000	484,000	504,000	524,000
Treatment		284,000	303,000	317,000	331,000	347,000
CalPERS & OPEB		169,000	163,000	152,000	140,000	125,000
Subtotal Operating Expenses		\$ 5,048,000	\$ 5,305,000	\$ 5,556,000	\$ 5,818,000	\$ 6,092,000
Debt Service						
SRF Loan		\$ 230,382	\$ 230,380	\$ 230,380	\$ 230,381	\$ 230,382
Credit Line	Table 19	101,500	50,750	-	-	-
Refinancing/Proposed New Debt		397,727	517,455	517,455	517,455	517,455
Subtotal Debt Service		\$ 729,609	\$ 798,585	\$ 747,835	\$ 747,836	\$ 747,837
Total Expenses		\$ 9,971,609	\$ 10,318,585	\$ 10,532,835	\$ 10,809,836	\$ 11,099,837
Net Cashflow		\$ (1,057,609)	\$ (1,404,585)	\$ (1,618,835)	\$ (1,895,836)	\$ (2,185,837)

Trabuco Canyon Water District – 2023 Cost-of-Service Study

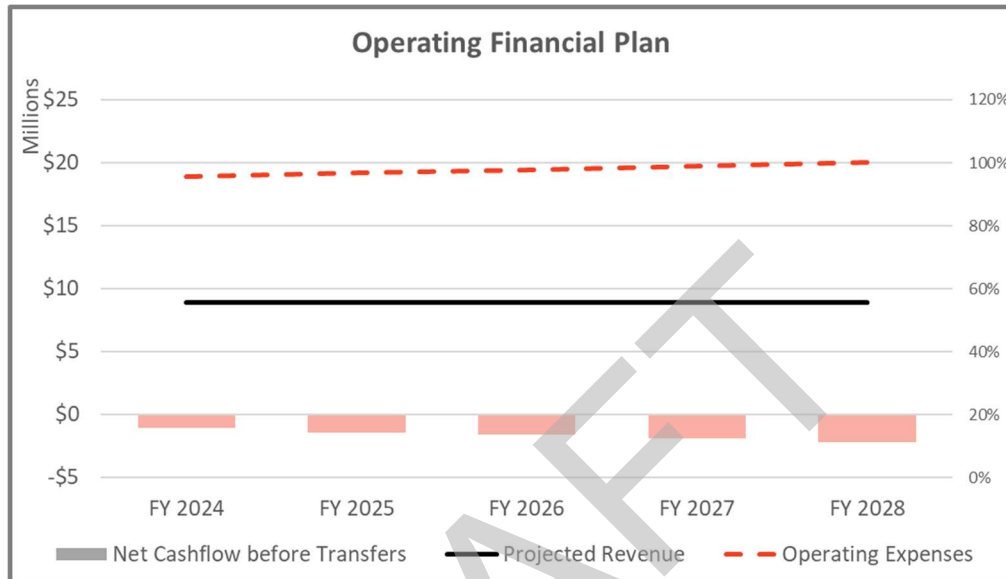
Table 22: Water – Transfers and Reserve Activity at Existing Rates

Transfers	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Net Cashflow	\$ (1,057,609)	\$ (1,404,585)	\$ (1,618,835)	\$ (1,895,836)	\$ (2,185,837)
Transfers to Reserves					
Water Storage DIF	\$0	\$0	\$1,051,427	\$0	\$0
WRES - Wells	1,629,973	0	0	0	0
WRES - Res/DIST	2,676,069	0	0	0	0
Subtotal Transfers to Reserves	\$4,306,041	\$0	\$1,051,427	\$0	\$0
Net Cashflow (after Transfers)	\$ 3,248,432	\$ (1,404,585)	\$ (567,408)	\$ (1,895,836)	\$ (2,185,837)
Operating Reserve	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	\$ (1,936,270)	\$ 1,312,161	\$ (92,423)	\$ (659,831)	\$ (2,555,667)
Transfers (Net Cashflow)	3,248,432	(1,404,585)	(567,408)	(1,895,836)	(2,185,837)
Transfers from/(to) Capital Reserve	-	-	-	-	-
Ending Balance	\$ 1,312,161	\$ (92,423)	\$ (659,831)	\$ (2,555,667)	\$ (4,741,503)
Capital Reserve	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	\$ 328,403	\$ 2,010,989	\$ (786,870)	\$ (4,775,416)	\$ (8,184,555)
Plus:					
Use of Existing Debt Proceeds	2,947,600	-	-	-	-
Less:					
CIP	(1,288,176)	(2,797,858)	(3,988,546)	(3,409,139)	(1,717,060)
Transfers from/(to) Water Rate Stabilization	-	-	-	-	-
Subtotal Capital Reserve	\$ 1,987,826	\$ (786,870)	\$ (4,775,416)	\$ (8,184,555)	\$ (9,901,615)
Interest Earnings	23,162	-	-	-	-
Ending Balance	\$ 2,010,989	\$ (786,870)	\$ (4,775,416)	\$ (8,184,555)	\$ (9,901,615)
Water Rate Stabilization Reserve	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	\$ -	\$ -	\$ -	\$ -	\$ -
Transfers from/(to) Capital Reserve	-	-	-	-	-
Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ -
Ending Unrestricted Reserves Balance	\$ 3,323,150	\$ (879,293)	\$ (5,435,247)	\$ (10,740,222)	\$ (14,643,118)
Restricted Reserves					
Water Storage DIF	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	\$ 1,051,427	\$ 1,051,427	\$ 1,051,427	\$ -	\$ -
Direct Transfer	-	-	(1,051,427)	-	-
Ending Balance	\$ 1,051,427	\$ 1,051,427	\$ -	\$ -	\$ -
WRES - Wells	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	\$ 1,629,973	\$ -	\$ -	\$ -	\$ -
Direct Transfer	(1,629,973)	-	-	-	-
Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ -
WRES - Res/Dist	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	\$ 2,676,069	\$ -	\$ -	\$ -	\$ -
Direct Transfer	(2,676,069)	-	-	-	-
Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ -
SRF Loan	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	\$ 236,996	\$ 236,996	\$ 236,996	\$ 236,996	\$ 236,996
Direct Transfer	-	-	-	-	-
Subtotal SRF Loan	\$ 236,996	\$ 236,996	\$ 236,996	\$ 236,996	\$ 236,996
Release of Final Debt Payment	-	-	-	-	-
Ending Balance	\$236,996	\$236,996	\$236,996	\$236,996	\$236,996

Trabuco Canyon Water District – 2023 Cost-of-Service Study

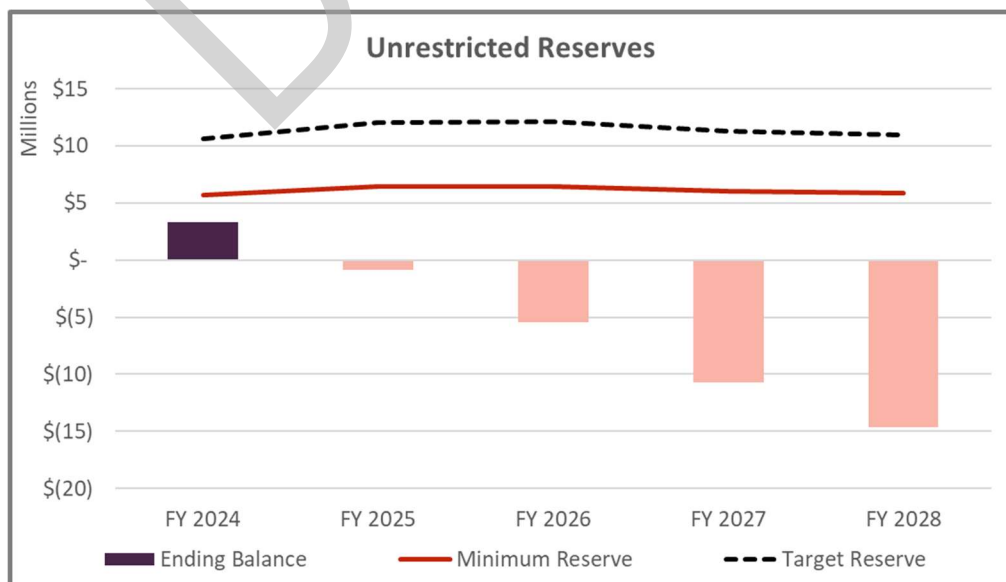
Figure 5 illustrates the operating position of the utility, where O&M expenses are identified with the dashed red trendline, and the horizontal black trendline shows total revenues at existing rates. The bars represent the net operating income, with grey bars reflecting positive net income for capital spending and reserve funding and red bars reflecting an operating deficit absorbed by reserves.

Figure 5: Current Operating Financial Position



With capital spending of \$13.2M over the Rate Setting Period, as shown in Figure 2, reserves would be depleted and there would be no capital funding available by FY 2025. Figure 6 reflects the projected ending balances of undesignated reserves after funding operating and capital projects. Undesignated reserves include Operating, Replacement, Rate Stabilization, and the release of WRES reserves.

Figure 6: Projected Ending Reserves at Existing Rates



Proposed Financial Plan – Water Utility

From our review of the utility's financial outlook at existing rates, a proposed financial plan is developed to fund the multi-year revenue requirements. The proposed financial plan generates approximately \$24.2M in additional revenue over the Rate Setting Period. The additional revenue generates positive net operating income each year to go towards capital spending and satisfy reserve requirements. Table 23 forecasts projected revenues, **with annual revenue adjustments**, and expenses through FY 2028, including \$10M in proposed debt that converts the existing short-term debt of \$7M to long-term debt plus an additional \$3M in new proceeds. Table 24 identifies the projected FY 2024 total starting reserve balances, activity within each reserve (including net income transfer from Table 23, transfers between reserves, use of capacity fees, and annual CIP), and projected ending balances for each fiscal year of the Rate Setting Period.

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Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 23: Proposed Water Financial Plan

Revenue			FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Rate Revenues							
Fixed Revenue			\$ 1,247,000	\$ 1,247,000	\$ 1,247,000	\$ 1,247,000	\$ 1,247,000
Variable Revenue	Table 18		4,440,000	4,440,000	4,440,000	4,440,000	4,440,000
WRES Revenue			813,000	813,000	813,000	813,000	813,000
Total Rate Revenues			\$ 6,500,000	\$ 6,500,000	\$ 6,500,000	\$ 6,500,000	\$ 6,500,000
Additional Revenue (from revenue adjustments):							
Fiscal Year	Revenue Adjustment	Effective Month					
FY 2024	22.0%	July	1,430,000	1,430,000	1,430,000	1,430,000	1,430,000
FY 2025	18.0%	July		1,427,000	1,427,000	1,427,000	1,427,000
FY 2026	18.0%	July			1,684,000	1,684,000	1,684,000
FY 2027	10.0%	July				1,104,000	1,104,000
FY 2028	10.0%	July					1,214,000
Total Additional Revenue			\$ 1,430,000	\$ 2,857,000	\$ 4,541,000	\$ 5,645,000	\$ 6,859,000
Projected Rate Revenues			\$ 7,930,000	\$ 9,357,000	\$ 11,041,000	\$ 12,145,000	\$ 13,359,000
Operating Revenues							
Backflow/Fireflow Test			\$ 11,000	\$ 11,000	\$ 11,000	\$ 11,000	\$ 11,000
Late Charges			143,000	143,000	143,000	143,000	143,000
New Account Fee			2,000	2,000	2,000	2,000	2,000
Standby Charges	Table 18		46,000	46,000	46,000	46,000	46,000
BTP Water Sales			717,000	717,000	717,000	717,000	717,000
BTP Sales - O&M			225,000	225,000	225,000	225,000	225,000
BTP Sales - Capital			167,000	167,000	167,000	167,000	167,000
Subtotal Operating Revenues			\$ 1,311,000	\$ 1,311,000	\$ 1,311,000	\$ 1,311,000	\$ 1,311,000
Non-Operating Revenues							
Supplemental Water DIF			\$ -	\$ -	\$ -	\$ -	\$ -
Uncollectable Accounts	Table 18		(26,000)	(26,000)	(26,000)	(26,000)	(26,000)
Property Taxes			1,070,000	1,070,000	1,070,000	1,070,000	1,070,000
Other Non-Operating Revenue			59,000	59,000	59,000	59,000	59,000
Subtotal Non-Operating Revenues			\$ 1,103,000	\$ 1,106,000	\$ 1,149,000	\$ 1,151,000	\$ 1,152,000
Total Revenues			\$10,344,000	\$11,774,000	\$ 13,501,000	\$ 14,607,000	\$ 15,822,000
O&M Expenses			FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Water Supply Costs							
Fixed Purchased Water Costs							
MWDOC			\$ 281,000	\$ 281,000	\$ 281,000	\$ 281,000	\$ 281,000
SMWD	Table 19		16,000	16,000	16,000	16,000	16,000
IRWD			320,000	320,000	320,000	320,000	320,000
Portola Hills			44,000	44,000	44,000	44,000	44,000
Subtotal Fixed Purchased Water Costs			\$ 661,000	\$ 661,000	\$ 661,000	\$ 661,000	\$ 661,000
Variable Purchased Water Costs							
TCWD							
Baker (BTP)			320,000	320,000	320,000	320,000	320,000
SMWD - Treated			32,000	32,000	32,000	32,000	32,000
IRWD - Treated	Table 19		805,000	805,000	805,000	805,000	805,000
Dimension (DWTP)			1,168,000	1,168,000	1,168,000	1,168,000	1,168,000
Portola Hills			202,000	202,000	202,000	202,000	202,000
Water Sales - BTP			742,000	742,000	742,000	742,000	742,000
Subtotal Variable Purchased Water Costs			\$ 3,269,000	\$ 3,269,000	\$ 3,269,000	\$ 3,269,000	\$ 3,269,000
Pumping Costs							
T&D - Electricity	Table 19		\$ 264,000	\$ 285,000	\$ 299,000	\$ 314,000	\$ 330,000
Subtotal Pumping Costs			\$ 264,000	\$ 285,000	\$ 299,000	\$ 314,000	\$ 330,000
Water Supply Costs			\$ 4,194,000	\$ 4,215,000	\$ 4,229,000	\$ 4,244,000	\$ 4,260,000
Operating Expenses							
General and Administrative			\$ 1,279,000	\$ 1,338,000	\$ 1,400,000	\$ 1,464,000	\$ 1,531,000
Salaries & Benefits			2,878,000	3,036,000	3,203,000	3,379,000	3,565,000
Transmission & Distribution	Table 19		438,000	465,000	484,000	504,000	524,000
Treatment			284,000	303,000	317,000	331,000	347,000
CalPERS & OPEB			169,000	163,000	152,000	140,000	125,000
Subtotal Operating Expenses			\$ 5,048,000	\$ 5,305,000	\$ 5,556,000	\$ 5,818,000	\$ 6,092,000
Debt Service							
SRF Loan			\$ 230,382	\$ 230,380	\$ 230,380	\$ 230,381	\$ 230,382
Credit Line	Table 19		101,500	50,750	-	-	-
Refinancing/Proposed New Debt			568,182	739,221	739,221	739,221	739,221
Subtotal Debt Service			\$ 900,064	\$ 1,020,351	\$ 969,601	\$ 969,602	\$ 969,603
Total Expenses			\$10,142,064	\$10,540,351	\$ 10,754,601	\$ 11,031,602	\$ 11,321,603
Net Cashflow			\$ 201,936	\$ 1,233,649	\$ 2,746,399	\$ 3,575,398	\$ 4,500,397

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 24: Water – Transfers and Reserves Activity through FY 2028

Transfers	Source	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Net Cashflow		\$ 201,936	\$ 1,233,649	\$ 2,746,399	\$ 3,575,398	\$ 4,500,397
Transfers to Reserves						
Water Storage DIF	(Dashboard)	\$0	\$0	\$1,051,427	\$0	\$0
WRES - Wells	(Dashboard)	1,629,973	0	0	0	0
WRES - Res/DIST	(Dashboard)	2,676,069	0	0	0	0
Subtotal Transfers to Reserves		\$4,306,041	\$0	\$1,051,427	\$0	\$0
Net Cashflow (after Transfers)		\$ 4,507,977	\$ 1,233,649	\$ 3,797,826	\$ 3,575,398	\$ 4,500,397
Operating Reserve	Source	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	(Input Tab)	\$ (1,936,270)	\$ 2,278,849	\$ 2,347,397	\$ 2,412,740	\$ 2,481,041
Transfers (Net Cashflow)	(Formula)	4,507,977	1,233,649	3,797,826	3,575,398	4,500,397
Transfers from/(to) Capita	(Formula)	(292,857)	(1,165,101)	(3,732,484)	(3,507,097)	(4,428,890)
Ending Balance		\$ 2,278,849	\$ 2,347,397	\$ 2,412,740	\$ 2,481,041	\$ 2,552,548
Capital Reserve	Source	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	(Input Tab)	\$ 328,403	\$ 5,336,399	\$ 3,794,043	\$ 3,611,300	\$ 3,782,463
Plus:						
Use of Existing Debt Proce	(Input Tab)	2,947,600	-	-	-	-
Less:						
CIP	(CIP Tab)	(1,288,176)	(2,797,858)	(3,988,546)	(3,409,139)	(1,717,060)
Transfers from/(to) Water	(Formula)	(372)	-	-	-	(1,454,218)
Subtotal Capital Reserve		\$ 5,280,312	\$ 3,703,642	\$ 3,537,980	\$ 3,709,258	\$ 5,040,076
Interest Earnings		56,087	90,400	73,320	73,206	88,225
Ending Balance		\$ 5,336,399	\$ 3,794,043	\$ 3,611,300	\$ 3,782,463	\$ 5,128,301
Water Rate Stabiliza	Source	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	(Input Tab)	\$ -	\$ 372	\$ 372	\$ 372	\$ 372
Transfers from/(to) Capita	(Formula)	372	-	-	-	1,454,218
Ending Balance		\$ 372	\$ 372	\$ 372	\$ 372	\$ 1,454,590
Ending Unrestricted Reserves Balance		\$ 7,615,620	\$ 6,141,812	\$ 6,024,412	\$ 6,263,876	\$ 9,135,439
Restricted Reserves						
Water Storage DIF	Source	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	(Input Tab)	\$ 1,051,427	\$ 1,051,427	\$ 1,051,427	\$ -	\$ -
Direct Transfer	(Dashboard)	-	-	(1,051,427)	-	-
Ending Balance		\$ 1,051,427	\$ 1,051,427	\$ -	\$ -	\$ -
WRES - Wells	Source	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	(Input Tab)	\$ 1,629,973	\$ -	\$ -	\$ -	\$ -
Direct Transfer	(Dashboard)	(1,629,973)	-	-	-	-
Ending Balance		\$ -	\$ -	\$ -	\$ -	\$ -
WRES - Res/Dist	Source	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	(Input Tab)	\$ 2,676,069	\$ -	\$ -	\$ -	\$ -
Direct Transfer	(Dashboard)	(2,676,069)	-	-	-	-
Ending Balance		\$ -	\$ -	\$ -	\$ -	\$ -
SRF Loan	Source	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	(Input Tab)	\$ 236,996	\$ 236,996	\$ 236,996	\$ 236,996	\$ 236,996
Direct Transfer	(Dashboard)	-	-	-	-	-
Subtotal SRF Loan		\$ 236,996	\$ 236,996	\$ 236,996	\$ 236,996	\$ 236,996
Release of Final Debt Payn	(Formula)	-	-	-	-	-
Ending Balance		\$236,996	\$236,996	\$236,996	\$236,996	\$236,996

Trabuco Canyon Water District – 2023 Cost-of-Service Study

The operating position based on the proposed financial plan is identified in Figure 7, including debt service coverage. Figure 8 and Figure 9 show the capital plan with funding sources and projected ending reserve balances, respectively.

Figure 7: Water – Proposed Operating Position

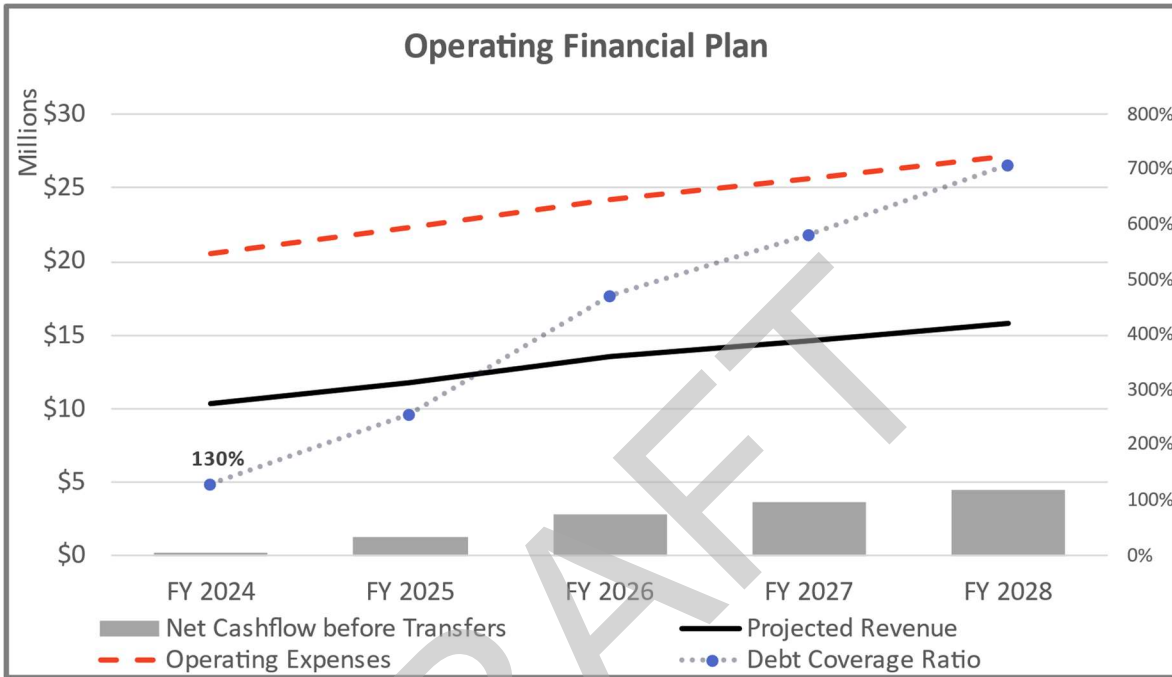
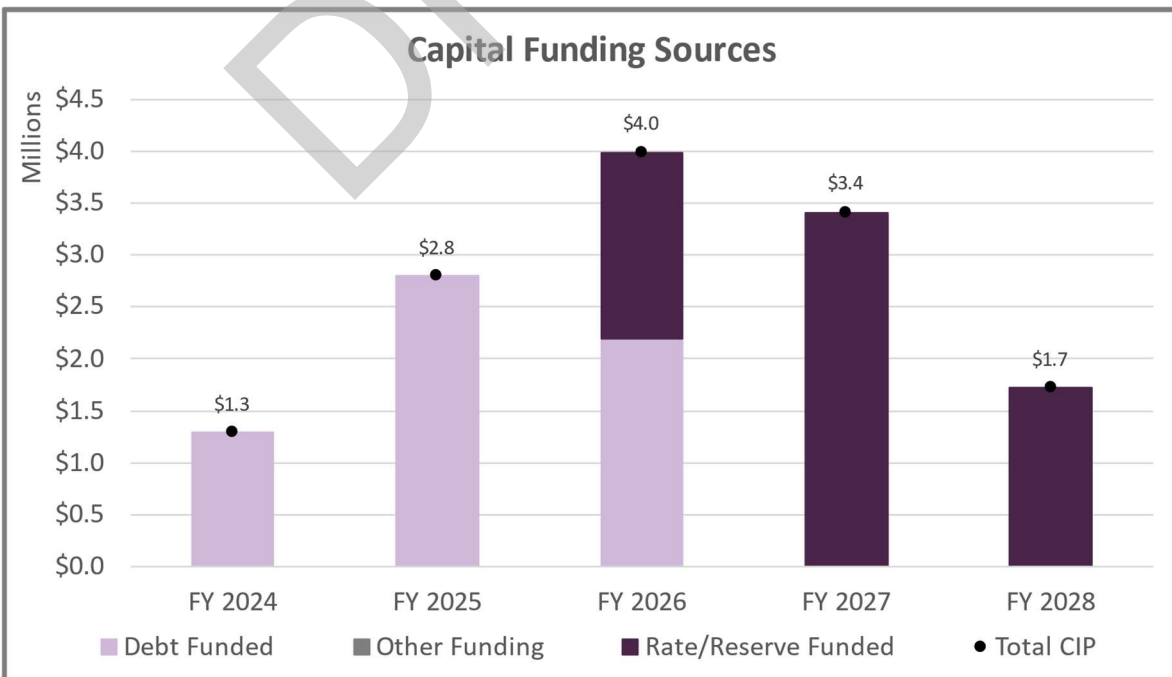
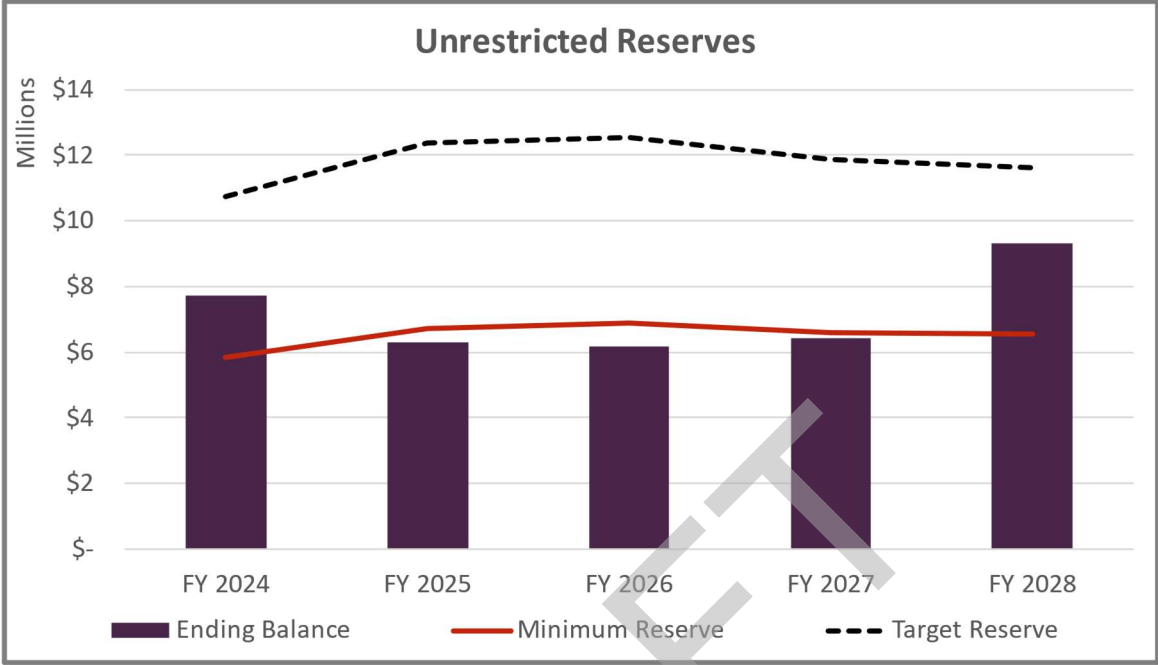


Figure 8: Water – Capital Improvement Plan with Funding Sources



Trabuco Canyon Water District – 2023 Cost-of-Service Study

Figure 9: Water – Proposed Ending Reserves



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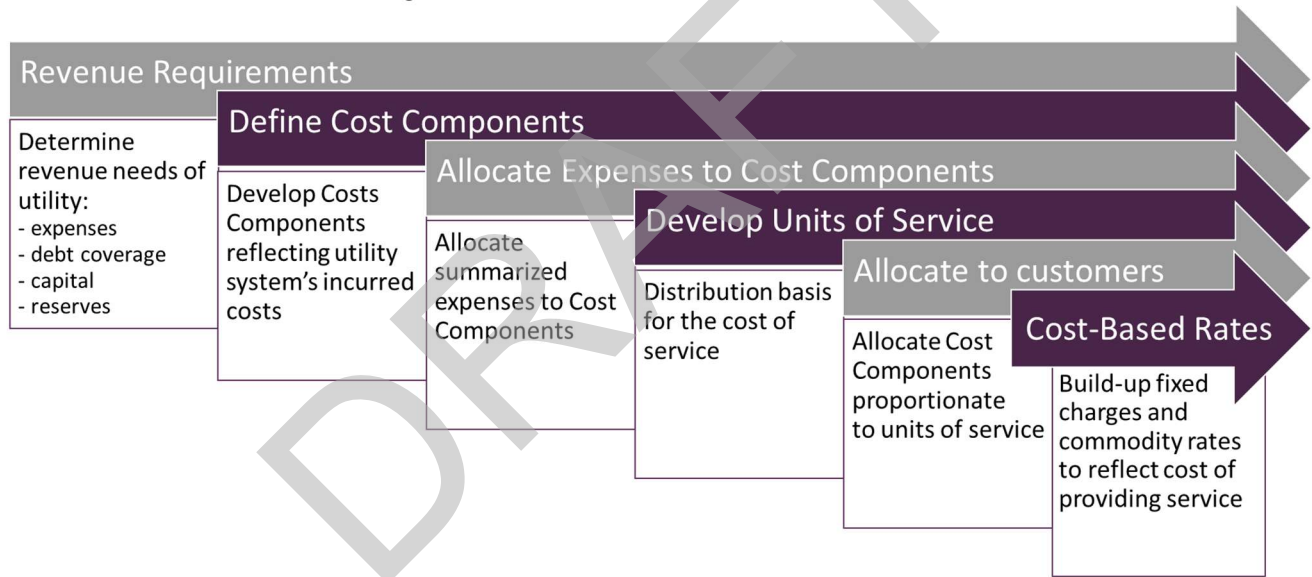
Cost-of-Service Analysis – Water Utility

Cost-of-Service Process

The next step in developing rates is to perform a cost-of-service analysis. This step develops proposed water rates that are cost-based and equitable. Meeting the requirements of Proposition 218 is of paramount importance in developing utility rates. Proposition 218 does not provide a particular methodology for establishing cost-based rates. This study and analysis herein, allocates costs proportionately to each parcel served by the District and derives water rates that adheres to the cost-of-service provisions of Proposition 218.

It is important to understand **how** costs are incurred to determine the most appropriate way to recover them. The following graphic summarizes the cost-of-service process. This process allocates costs incurred to customer classes and tiers based on their proportional share. As a result, the proposed rates are cost-based and reflect the costs incurred to deliver water service to all customers.

Figure 10: Cost-of-Service Process



Revenue Requirements

With FY 2024 as the first year of the proposed rate schedule, revenue requirements are determined for FY 2024 and used for the cost-of-service. Revenue requirements include O&M expenses, available offsets from other operating and non-operating revenues, annual net income, and any mid-year adjustments if rates are implemented after the start of the fiscal year. The proposed revenue adjustments and corresponding rates collectively accumulate the necessary funding over the Rate Setting Period to fund total revenue requirements, including capital, while meeting minimum reserve requirements by FY 2028. The results of the financial plan analysis are summarized in Table 25 and represent the revenue required from rates over the Rate Setting Period.

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 25: Water Revenue Requirements

Revenue Requirements	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
	Total	Total	Total	Total	Total
Water Supply Costs					
<i>Fixed Purchased Water Costs</i>					
MWDOC	\$ 281,000	\$ 281,000	\$ 281,000	\$ 281,000	\$ 281,000
SMWD	16,000	16,000	16,000	16,000	16,000
IRWD	320,000	320,000	320,000	320,000	320,000
Portola Hills	44,000	44,000	44,000	44,000	44,000
<i>Variable Purchased Water Costs</i>					
TCWD					
Baker (BTP)	320,000	320,000	320,000	320,000	320,000
SMWD - Treated	32,000	32,000	32,000	32,000	32,000
IRWD - Treated	805,000	805,000	805,000	805,000	805,000
Dimension (DWTP)	1,168,000	1,168,000	1,168,000	1,168,000	1,168,000
Portola Hills	202,000	202,000	202,000	202,000	202,000
Water Sales - BTP	742,000	742,000	742,000	742,000	742,000
<i>Pumping Costs</i>					
T&D - Electricity	264,000	285,000	299,000	314,000	330,000
Total Water Supply Costs	\$ 4,194,000	\$ 4,215,000	\$ 4,229,000	\$ 4,244,000	\$ 4,260,000
Operating Expenses					
General and Administrative	\$ 1,279,000	\$ 1,338,000	\$ 1,400,000	\$ 1,464,000	\$ 1,531,000
Salaries & Benefits	2,878,000	3,036,000	3,203,000	3,379,000	3,565,000
Transmission & Distribution	438,000	465,000	484,000	504,000	524,000
Treatment	284,000	303,000	317,000	331,000	347,000
CalPERS & OPEB	169,000	163,000	152,000	140,000	125,000
Total Operating Expenses	\$ 5,048,000	\$ 5,305,000	\$ 5,556,000	\$ 5,818,000	\$ 6,092,000
Debt Service					
SRF Loan	\$ 230,382	\$ 230,380	\$ 230,380	\$ 230,381	\$ 230,382
Credit Line	101,500	50,750	-	-	-
Refinancing/Proposed New Debt	568,182	739,221	739,221	739,221	739,221
Total Debt Service	\$ 900,064	\$ 1,020,351	\$ 969,601	\$ 969,602	\$ 969,603
Other Funding					
<i>Revenue Offsets</i>					
Operating Revenues	(202,000)	(202,000)	(202,000)	(202,000)	(202,000)
BTP Sales	(1,109,000)	(1,109,000)	(1,109,000)	(1,109,000)	(1,109,000)
Non-Operating Revenues	(1,103,000)	(1,106,000)	(1,149,000)	(1,151,000)	(1,152,000)
<i>Subtotal Revenue Offsets</i>	<i>\$ (2,414,000)</i>	<i>\$ (2,417,000)</i>	<i>\$ (2,460,000)</i>	<i>\$ (2,462,000)</i>	<i>\$ (2,463,000)</i>
<i>Adjustments</i>					
Reserve Funding	\$ 201,936	\$ 1,233,649	\$ 2,746,399	\$ 3,575,398	\$ 4,500,397
<i>Subtotal Adjustments</i>	<i>\$ 201,936</i>	<i>\$ 1,233,649</i>	<i>\$ 2,746,399</i>	<i>\$ 3,575,398</i>	<i>\$ 4,500,397</i>
Total Other Funding	\$ (2,212,064)	\$ (1,183,351)	\$ 286,399	\$ 1,113,398	\$ 2,037,397
Revenue Requirement from Rates	\$ 7,930,000	\$ 9,357,000	\$ 11,041,000	\$ 12,145,000	\$ 13,359,000

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Define Cost Components

The utility incurs costs to accommodate total water demand throughout the year, including water supply costs, treatment, operating expenses, and pumping to name a few. Therefore, to determine the most appropriate way to recover the utility's expenses, cost components are identified to allocate expenses based on how they are incurred. The cost components shown in Figure 11 reflect the cost components used for this study.

Figure 11: Cost Components



Fixed Purchased Water – Fixed monthly water supply costs incurred by the District from its water wholesalers.

Account Services – Fixed expenses that do not necessarily fluctuate based on usage or meter size.

Meter Capacity – O&M expenses, including an executive staff, legal, professional services, and a portion of capital and reserves.

Water Supplies – variable costs related to the District's four water supplies.

Portola Hills – A subsection of the District's service area that allows specific costs allocations to the area.

Delivery – Operating and capital expenses of the water system associated with conveying water to customers throughout the year. These costs tend to vary with the total water used.

Treatment – Treatment costs associated with water from the Dimension water treatment plant.

Pumping – Energy costs incurred to pump water to the five elevation zones.

Allocate Expenses to Cost Components

When allocating expenses to the defined costs components, it is important to have a sound basis as to why an expense was allocated to a certain fixed cost component versus a variable cost component or split between both fixed and variable. The distribution of expenses to the cost components should be straightforward to ensure the method of apportionment is **understandable** and easily **correlates to how expenses are incurred**. A description of each expense category is identified on the next page.

Trabuco Canyon Water District – 2023 Cost-of-Service Study

O&M Expense Categories:

Fixed Purchased Water Costs: Fixed charges from the various water supplies of the District that are incurred irrespective of water usage.

Variable Purchased Water Costs: Variable charges from the various water supplies of the District that vary with total water demand.

Pumping: Energy costs to pump water to higher elevations.

General and Administrative: Administrative expenses associated with the District as a whole, including office supplies, insurance, financial services, legal, professional services, and other miscellaneous expenses.

General and Administrative: Personnel costs of the District

Transmission & Distribution: Costs associated with the daily operation of the water system and related facilities, including capital outlay, lab testing, fuel, tools, and vehicles.

Treatment: Costs associated with the treatment of water from the District’s treatment plant, including energy, chemicals, and repairs & maintenance.

CalPERS & OPEB: Retirement related obligations of the District.

Table 26 summarizes the percent allocation of water supply costs to the water supply cost components. Table 27 reflects the dollars to each cost component based on the percent allocations in Table 26. All the fixed charges are allocated to the Fixed Purchased Water cost component and each variable water supply expense is allocated 100% to its respective water supply cost component to clearly identify the variable cost of each water supply and provide the ability to develop unit rates for each. Pumping costs is also included and allocated between Delivery and Pumping cost components. The amount of electricity costs to pump water to the surface level was allocated to Delivery (96%) with the remainder of 4% allocated to Pumping, which is the costs incurred to pump water to the higher elevations.

Table 26: Water Supply and Pumping Expense Allocation to Cost Components (%)

Water Supply Costs	Methodology / Allocation Basis	Fixed Purchased Water	Baker (BTP)	SMWD - Treated	IRWD - Treated	Dimension (DWTP)	Portola Hills	Delivery	Pumping	Total
<i>Fixed Purchased Water Costs</i>										
MWDOC	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
SMWD	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
IRWD	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Portola Hills	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
<i>Variable Purchased Water Costs</i>										
<i>TCWD</i>										
IRWD - Untreated	Specific	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Baker (BTP)	Specific	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
SMWD - Treated	Specific	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
IRWD - Treated	Specific	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100%
Dimension (DWTP)	Specific	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100%
Portola Hills	Specific	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100%
Water Sales - BTP	Specific	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100%
<i>Pumping Costs</i>										
T&D - Electricity	Specific	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	96.0%	4.0%	100%

Trabuco Canyon Water District – 2023 Cost-of-Service Rate Study

Table 27: Water Supply and Pumping Expense Allocation to Cost Components (\$)

Water Supply Costs	Methodology / Allocation Basis	Fixed Purchased Water	Baker (BTP)	SMWD - Treated	IRWD - Treated	Dimension (DWTP)	Portola Hills	Delivery	Pumping	Total
<i>Fixed Purchased Water Costs</i>										
MWDOC	Specific	\$ 281,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 281,000
SMWD	Specific	16,000	0	0	0	0	0	0	0	16,000
IRWD	Specific	320,000	0	0	0	0	0	0	0	320,000
Portola Hills	Specific	44,000	0	0	0	0	0	0	0	44,000
<i>Variable Purchased Water Costs</i>										
<i>TCWD</i>										
IRWD - Untreated	Specific	0	0	0	0	0	0	0	0	0
Baker (BTP)	Specific	0	320,000	0	0	0	0	0	0	320,000
SMWD - Treated	Specific	0	0	32,000	0	0	0	0	0	32,000
IRWD - Treated	Specific	0	0	0	805,000	0	0	0	0	805,000
Dimension (DWTP)	Specific	0	0	0	0	1,168,000	0	0	0	1,168,000
Portola Hills	Specific	0	0	0	0	0	202,000	0	0	202,000
Water Sales - BTP	Specific	0	0	0	0	0	0	742,000	0	742,000
<i>Pumping Costs</i>										
T&D - Electricity	Specific	0	0	0	0	0	0	253,445	10,555	264,000
Total Allocation (\$)		\$ 661,000	\$ 320,000	\$ 32,000	\$ 805,000	\$ 1,168,000	\$ 202,000	\$ 995,445	\$ 10,555	\$ 4,194,000

Table 28 summarizes the percent allocation of O&M revenue requirements to the cost components, and Table 29 uses the percent allocations in Table 28 to allocate expenses in dollars to each cost component. The General and Administrative expense is allocated 100% to the fixed cost components of Account Services and Meter Capacity, with the percentage of cost associated with legal and professional services assigned to Meter Capacity (40.7%), with the remaining 59.3% allocated to Account Services. Legal and Professional Services encompass matters of the entire system and therefore, assigned to Meter Capacity, which reflects the demand on the entire system. Salaries & Benefits were split between fixed and variable, with executive staff, such as the General Manager and the Assistance General Manager, assigned to Meter Capacity and the remainder of District staffing allocated to Delivery. Executive Staff accounts for 35% of total personnel costs and 65% includes staffing in the field.

Table 28: O&M Expense Allocation to Cost Components (%)

Operating Expenses	Methodology / Allocation Basis	Fixed Purchased Water	Account Services	Meter Capacity	Delivery	Treatment	Total
General and Administrative	Specific	0.0%	59.3%	40.7%	0.0%	0.0%	100%
Salaries & Benefits	Specific	0.0%	0.0%	35.0%	65.0%	0.0%	100%
Transmission & Distribution	Average Day	0.0%	0.0%	0.0%	100.0%	0.0%	100%
Treatment	Specific	0.0%	0.0%	0.0%	0.0%	100.0%	100%
CalPERS & OPEB	Specific	0.0%	100.0%	0.0%	0.0%	0.0%	100%

Table 29: O&M Expense Allocation to Cost Components (\$)

Operating Expenses	Methodology / Allocation Basis	Fixed Purchased Water	Account Services	Meter Capacity	Delivery	Treatment	Total
General and Administrative	Specific	\$ -	\$ 759,000	\$ 520,000	\$ -	\$ -	\$ 1,279,000
Salaries & Benefits	Specific	0	0	1,007,300	1,870,700	0	2,878,000
Transmission & Distribution	Average Day	0	0	0	438,000	0	438,000
Treatment	Specific	0	0	0	0	284,000	284,000
CalPERS & OPEB	Specific	0	169,000	0	0	0	169,000
Total Allocation (\$)		\$ -	\$ 928,000	\$ 1,527,300	\$ 2,308,700	\$ 284,000	\$ 5,048,000
O&M Allocation (%)		0.0%	18.4%	30.3%	45.7%	5.6%	100%

Trabuco Canyon Water District – 2023 Cost-of-Service Study

The District's debt was allocated to Meter Capacity because the debt is used for capital improvements of the water system, and Meter Capacity is a fixed cost recovery component that reflects the demand each meter places on the water system. Table 30 identifies the percent allocation of the debt expense to the cost components, and Table 31 reflects the debt expense in dollars.

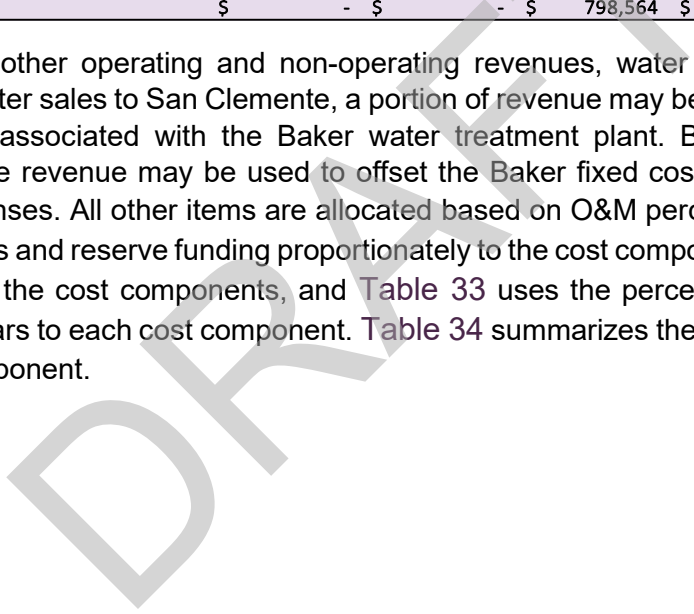
Table 30: Water Debt Allocation to Cost Components (%)

Debt Service	Methodology / Allocation Basis	Fixed Purchased Water	Account Services	Meter Capacity	Delivery	Treatment	Total
SRF Loan	Specific	0.0%	0.0%	100.0%	0.0%	0.0%	100%
Refinancing/Proposed New Debt	Specific	0.0%	0.0%	100.0%	0.0%	0.0%	100%

Table 31: Water Debt Allocation to Cost Components (\$)

Debt Service	Methodology / Allocation Basis	Fixed Purchased Water	Account Services	Meter Capacity	Delivery	Treatment	Total
SRF Loan	Specific	\$ -	\$ -	\$ 230,382	\$ -	\$ -	\$ 230,382
Refinancing/Proposed New Debt	Specific	0	0	568,182	0	0	568,182
Total Allocation (\$)		\$ -	\$ -	\$ 798,564	\$ -	\$ -	\$ 798,564

Other Funding includes other operating and non-operating revenues, water sales to San Clemente and Reserve Funding. For water sales to San Clemente, a portion of revenue may be used to offset the fixed costs incurred by the District associated with the Baker water treatment plant. Based on these water sales, approximately 33% of the revenue may be used to offset the Baker fixed costs and the remaining amount covers the variable expenses. All other items are allocated based on O&M percentages derived in Table 29 to allocate revenue offsets and reserve funding proportionately to the cost components. Table 32 summarizes the percent allocation to the cost components, and Table 33 uses the percent allocations in Table 32 to allocate expenses in dollars to each cost component. Table 34 summarizes the revenue requirement derived in Table 25 by cost component.



Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 32: Other Funding to Cost Components (%)

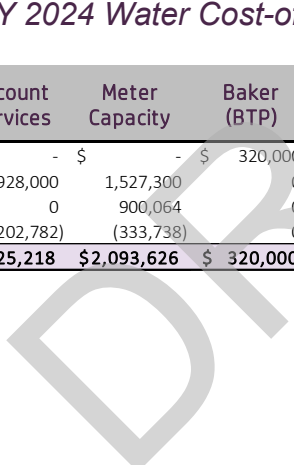
Other Funding	Methodology / Allocation Basis	Fixed Purchased Water	Account Services	Meter Capacity	Delivery	Treatment	Total
<i>Revenue Offsets</i>							
Operating Revenues	O&M Allocation	0.0%	18.4%	30.3%	45.7%	5.6%	100%
BTP Sales	Specific	33.1%	0.0%	0.0%	66.9%	0.0%	100%
Non-Operating Revenues	O&M Allocation	0.0%	18.4%	30.3%	45.7%	5.6%	100%
<i>Adjustments</i>							
Reserve Funding	O&M Allocation	0.0%	18.4%	30.3%	45.7%	5.6%	100%

Table 33: Other Funding Allocation to Cost Components (\$)

Other Funding	Methodology / Allocation Basis	Fixed Purchased Water	Account Services	Meter Capacity	Delivery	Treatment	Total
<i>Revenue Offsets</i>							
Operating Revenues	O&M Allocation	\$ -	\$ (37,135)	\$ (61,116)	\$ (92,385)	\$ (11,365)	\$ (202,000)
BTP Sales	Specific	(367,000)	0	0	(742,000)	0	(1,109,000)
Non-Operating Revenues	O&M Allocation	0	(202,770)	(333,719)	(504,456)	(62,055)	(1,103,000)
<i>Adjustments</i>							
Reserve Funding	O&M Allocation	0	55,782	91,806	138,776	17,071	303,436
Total Allocation (\$)		\$ (367,000)	\$ (184,123)	\$ (303,029)	\$ (1,200,065)	\$ (56,348)	\$ (2,110,564)

Table 34: FY 2024 Water Cost-of-Service Requirements by Cost Component

Revenue Requirement	Fixed Purchased Water	Account Services	Meter Capacity	Baker (BTP)	SMWD - Treated	IRWD - Treated	Dimension (DWTP)	Portola Hills	Delivery	Pumping	Total
Water Supply	\$ 661,000	\$ -	\$ -	\$ 320,000	\$ 32,000	\$ 805,000	\$ 1,168,000	\$ 202,000	\$ 995,445	\$ 10,555	\$ 4,194,000
Operating	0	928,000	1,527,300	0	0	0	0	0	2,308,700	0	5,048,000
Debt Service	0	0	900,064	0	0	0	0	0	0	0	900,064
Other Funding	(367,000)	(202,782)	(333,738)	0	0	0	0	0	(1,246,486)	0	(2,212,064)
COS Requirement	\$ 294,000	\$ 725,218	\$ 2,093,626	\$ 320,000	\$ 32,000	\$ 805,000	\$ 1,168,000	\$ 202,000	\$ 2,057,659	\$ 10,555	\$ 7,930,000



Rate Design – Water Utility

Develop Units of Service

Unit rates for each cost component are derived by spreading the corresponding revenue requirements over appropriate units of service (distribution basis). This approach provides a clear connection between costs incurred and the proportionate share attributable to each customer class, corresponding tier, and customer account. When designing rates, the most critical component is to connect costs to the proposed rates, resulting in a rate structure that is cost-based and in compliance with Proposition 218. The previous section summarized costs by expense category and then allocated to cost components based on how each cost is incurred. The next step in designing rates is to allocate each cost component to customers in relation to their use of the system and facilities. The method of apportionment considers each customer's share of system costs and is reflected by the units of service used to equitably distribute the cost components to each customer account. The distribution basis varies by cost component and includes total accounts, Meter Equivalents (MEs), which reflect demand placed on the system based on meter size, total water sales, and usage by tier. In Table 35 each meter size was assigned an equivalency factor using the flow characteristics of a 5/8" meter. The District's meter inventory was reviewed, and 3/4" meters were used in the past by a developer for 871 accounts, but it wasn't a requirement, and these accounts could've been served by a 5/8" meter. Therefore, historically, 3/4" meters have been assigned the same gallons per minute (gpm) as a 5/8". Based on the District's meter inventory, the safe maximum operating flow capacity for these meter types, as identified in the AWWA M1 Manual, 6th Edition, Table B-2, were used for determining meter equivalencies.

The safe maximum operating flow capacity for each meter was divided by the 5/8" meters' safe operating flow capacity of 20 gpm to determine the equivalent meter ratio. In other words, the calculations convert all larger sized meters to an equivalent number of 5/8" meters based on the safe operating flow capacity of 20 gpm. The Capacity Ratio represent the potential flow through each meter size compared to the flow through the base 5/8" meter to establish parity between meter sizes. Total MEs are determined by multiplying the number of meters by the Capacity Ratio and then multiplying the result by the billing periods in a year (12 billing periods)⁴. Table 35 summarizes the units of service related to Total Annual Bills and Annual MEs.

⁴ The District bills customers on a monthly basis; therefore, there are 12 billing periods during the fiscal year.

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 35: Accounts and Meter Equivalents

Meter Size	AWWA Capacity (gpm)	Capacity Ratio	Number of Accounts	Meter Equivalents
	[A]	[B] = A ÷ 20	[C]	[D] = B x C
5/8"	20	1.00	2,624	2,624
3/4"	20	1.00	871	871
1"	50	2.50	394	985
1 1/2"	100	5.00	44	220
2"	160	8.00	145	1,160
3"	350	17.50	7	123
4"	630	31.50	3	95
6"	1,300	65.00	2	130
Total			4,090	6,207
Annual Units (Total x 12 Bills)			49,080	74,484

Total usage by customer class and tier must be known to derive the units of service for allocating variable costs. Table 36 provides the projected usage for FY 2024 from Table 12, broken out by customer class and proposed tiers for Single-Family and Multi-Family.

Table 36: Projected Usage by Customer Class and Tier (HCF)

Customer Class & Tier	Tier Definitions (HCF)	Projected Usage (HCF)
Single-Family		
Tier 1	0 - 13	436,062
Tier 2	14 - 21	127,345
Tier 3	>21	100,066
Multi-Family		
Tier 1	0 - 6	10,829
Tier 2	>6	1,246
Commercial	Uniform	34,008
Irrigation	Uniform	143,718
Agricultural	Uniform	95,593
Portola Hills	Uniform	63,022
Total		1,011,889

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 37: Projected Usage by Pumping Zone (HCF)

Pump Zone	All Pumping Usage (HCF)
Zone 1 - Base	932,738
Zone 2 - Topanga / Saddlecrest	8,282
Zone 3 - Canyon Creek	2,179
Zone 4 - Falcon	2,632
Zone 5 - Joplin	3,036
Total	948,867

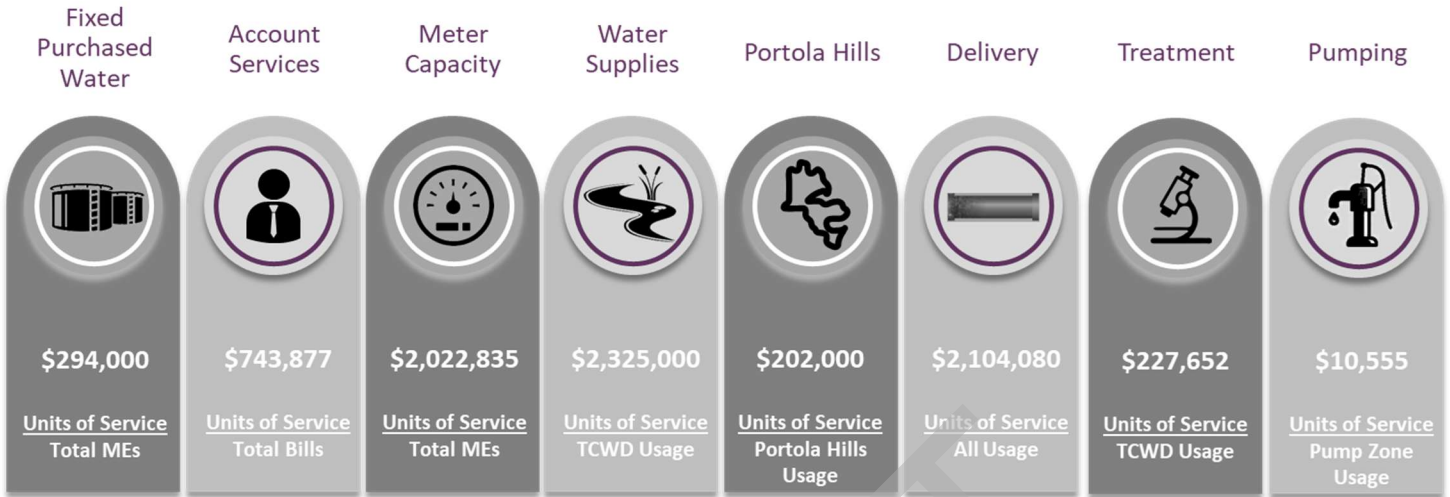
Table 36 identifies the tiered usage for Single-Family and Multi-Family based on the revised tiered allotments. The Tier 1 allotments for both residential customer classes are based on the lowest winter usage period, primarily comprised of indoor use, as outdoor watering needs are limited in the winter. Single-Family Residential Tier 1 equals 13 HCF per dwelling unit, and Multi-Family Residential equals 6 HCF per dwelling unit. Single-Family Residential also includes two additional tiers, with Tier 2 covering the maximum month (August) usage per dwelling unit equal to 21 HCF, and Tier 3 capturing all remaining usage over Tier 2.

Multi-Family only includes two tiers because multi-family units have limited outdoor needs. Therefore, a two-tiered rate structure is recommended and proposed as part of this study. The tiered usage characteristics will be used to further apportion the total variable costs allocated to each residential customer class to the corresponding tiers. Allocating variable costs to customer classes first, then to tiers, ensures each customer class is only recovering its proportionate share of costs. The proposed Commercial, Irrigation, Agricultural, and Portola Hills rate structure reflects a uniform rate that captures each customer class's proportional share of the revenue requirements over its corresponding usage. A uniform rate is recommended for Commercial to enhance equity between accounts within the customer class due to the broad spectrum of commercial uses that vary substantially with water needs that wouldn't fit into one tiered rate structure applied to all. Irrigation and Agricultural are also structured as uniform rates because the landscape areas and crop areas, respectively, would need to be known for structuring appropriate tiered rates. Lastly, Portola Hills is structured as a uniform a rate because they currently only receive one water supply source, and a tiered rate structure would not reflect different rates as each tier would reflect the same water supply.

With the units of service shown in Table 35, Table 36, and Table 38, we can select the appropriate distribution basis for each cost component. Figure 12 identifies the total revenue requirements by cost component from Table 34 and the corresponding units of service.

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Figure 12: Distribution Basis and Units of Service by Cost Component



Using the FY 2024 revenue requirements, the cost-of-service allocates expenses to customers based on the service demands that each place on the system (cost causation). This approach ensures that each customer proportionately shares in the financial obligation of the water utility. For the following unit rate computations for each cost component, unit rates were rounded up to the nearest penny.

Fixed Cost Recovery

Fixed Purchased Water

Fixed costs are incurred by the District from its various available water supplies regardless of total amount of water used. Therefore, these costs are spread based on meter size similar to how the costs are incurred by the District. The revenue requirement for Fixed Purchased Water is apportioned based on meter size as represented by total annual MEs (Table 35) in Table 39.

Table 38: FY 2024 Fixed Purchased Water Monthly Unit Rate

Fixed Purchased Water Component Unit Rate	
Revenue Requirement	\$ 294,000
÷ Total ME's	74,484
Monthly Unit Rate	\$3.95

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Account Services

Each customer incurs Account Services costs regardless of the type of land use, meter size, or total amount of water used. These costs should be spread equally across all accounts. This is achieved by using the distribution basis of Total Bills. Total Bills are determined by multiplying the total accounts by the number of billing periods over the fiscal year (12 billing periods). Therefore, the revenue requirement for Account Services is apportioned based on the Total Bills (Table 35) to determine the monthly unit cost-of-service shown in Table 39.

Table 39: FY 2024 Account Services Monthly Unit Rate

Account Services Component Unit Rate	
Revenue Requirement	\$ 725,218
÷ Total Bills	49,080
Monthly Unit Rate	\$14.78

Meter Capacity

The Meter Capacity Component includes operational costs, debt and a portion of system-wide operations capital and reserve funding. The revenue requirement for Meter Capacity is apportioned based on meter size. Larger sized meters can generate a greater demand on the system from the amount of potential water flow that may pass through the meter in gpm. The revenue requirement for Meter Capacity is apportioned to meter size as represented by total annual MEs as shown in Table 40.

Table 40: FY 2024 Meter Capacity Monthly Unit Rate

Meter Capacity Component Unit Rate	
Revenue Requirement	\$ 2,093,626
÷ Total ME's	74,484
Monthly Unit Rate	\$28.11

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Variable Cost Recovery

The remaining cost components are recovered through the variable rates. The proposed variable rate structure includes tiers for Single-Family Residential and Multi-Family Residential and a uniform rate for Non-Residential. Tiered rates differ solely by water supplies available to serve each tier, with the lowest water supply unit rate applied to tier 1 followed by more expensive water supplies as total water demand increases through the higher tiers. As part of this study, a detailed analysis was conducted to first separate fixed costs and variable costs of each water supply, and then a decoupling of variable costs between each water supply source to derive water supply unit rates. Through this approach, water supply variable costs were separated between Baker Treatment Plant (BTP), SMWD Treated, IRWD – Treated, and Dimension Treatment Plant (DWTP). The District’s water loss is 7.1%, which is caused by evaporation, exfiltration, and leaks/breaks in the distribution system. The water loss percentage was applied to the water production to derive the net amount of each water supply available to serve customer demands. Table 41 summarizes the unit rates for each water supply available to the District. Appendix A includes a detailed analysis of water supply costs.

Table 41: FY 2024 Water Supply Unit Rates per HCF

Water Supplies	Production/Purchases [A] = Acre Feet	Water Loss [B]	Net Water Supply [C] = A x (1-B)	Available Supply (AS) [D] = C x 435.6	Revenue Requirement [E]	Unit Rate [F] = E ÷ D
Baker (BTP)	368	7.1%	342	149,104	\$ 320,000	\$2.15
SMWD - Treated	26	7.1%	24	10,519	32,000	\$3.04
IRWD - Treated	591	7.1%	549	239,280	805,000	\$3.36
Dimension (DWTP)	1,359	7.1%	1,263	549,964	1,168,000	\$2.12
Total Water Supply	2,344		2,178	948,867	\$ 2,325,000	

Unit rates must be determined for each tier that corresponds to the water source serving the usage within each tier. Table 42 summarizes the amount of water - by source - used to serve total water demand in each tier and the corresponding unit rate rounded up to the nearest penny. Each customer class is allocated a proportionate share of each water supply (except Portola Hills which only receives water from IRWD as a pass through and is shown separately) based on percentage of total water sales. As such, irrespective of a customer class rate structure reflecting tiers or uniform rates, each customer class is receiving and paying its fair share of water supplies. As shown in Table 42, Dimension (DWTP) cannot cover the total demand in Tier 1 of Single-Family on its own and a portion of Baker (BTP) is required to meet the total demand in Single-Family Tier 1. Similarly, Single-Family Tier 2 requires Baker (BTP), all of SMWD – Treated, and a portion of IRWD – Treated to meet total demand. Single-Family Tier 3 uses IRWD – Treated as all other water supplies are no longer available. This approach is also applied to Multi-Family. For non-residential customer classes (Commercial, Irrigation, and Agricultural), all four water supplies are applied to each customer class based on their percentage of total water demand (Table 42 – Column B).

Trabuco Canyon Water District – 2023 Cost-of-Service Rate Study

Table 42: FY 2024 Customer Class and Tier Water Supply Unit Rates per HCF

Water Supply Allocation	Projected Usage (HCF) [A]	% Allocation [B] = A as %	Dimension (DWTP) [C] = AS x B	Baker (BTP) [D] = AS x B	SMWD - Treated [E] = AS x B	IRWD - Treated [F] = AS x B	Total Cost [G] = Sum Product (Unit Rate x Usage)	Unit rate [H] = G ÷ A
Available Supply (AS)			549,964	149,104	10,519	239,280		
Effective Unit Cost (\$/HCF)			\$2.12	\$2.15	\$3.04	\$3.36		
Single-Family								
Tier 1	436,062		384,550	51,512	-	-	\$ 927,250	\$2.13
Tier 2	127,345		-	52,745	7,355	67,244	361,802	\$2.85
Tier 3	100,066		-	-	-	100,066	336,649	\$3.37
Subtotal Single-Family	663,473	69.9%	384,550	104,258	7,355	167,311	1,625,702	
Multi-Family								
Tier 1	10,829		6,999	1,897	134	1,799	\$ 25,396	\$2.35
Tier 2	1,246		-	-	-	1,246	4,192	\$3.37
Subtotal Multi-Family	12,075	1.3%	6,999	1,897	134	3,045	29,587	
Commercial	34,008	3.6%	19,711	5,344	377	8,576	\$ 83,329	\$2.46
Irrigation	143,718	15.1%	83,299	22,584	1,593	36,242	\$ 352,151	\$2.46
Agricultural	95,593	10.1%	55,406	15,021	1,060	24,106	\$ 234,231	\$2.46
Total	948,867	100%	549,964	149,104	10,519	239,280	\$ 2,325,000	

Portola Hills

Based on the location of Portola Hills and connectivity to IRWD, this area of the District only receives water from IRWD as a fully-loaded pass through. Therefore, the Portola Hills cost component isolates water supply costs attributable to Portola Hills customers. The cost includes a 5% surcharge by IRWD for water loss and cost associated with pumping. The revenue requirement for Portola Hills is apportioned based on the projected total potable usage identified in Table 36 to determine the unit cost-of-service, as shown in Table 44.

Table 43: FY 2024 Portola Hills Cost Unit Rate per HCF

Portola Hills Component Unit Rate

Revenue Requirement	\$	202,000
÷ Portola Usage		63,022
Unit Rate		\$3.21

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Delivery

Delivery costs are incurred based on the total volume of water produced and delivered to customers throughout the year. Therefore, the revenue requirement for Delivery is apportioned based on the projected total potable usage identified in Table 36 to determine the unit cost-of-service, irrespective of tier, as shown in Table 44.

Table 44: FY 2024 Delivery Cost Unit Rate per HCF

Delivery Component Unit Rate		
Revenue Requirement	\$	2,057,659
÷ All Usage		1,011,889
Unit Rate		\$2.04

Treatment

Treatment costs of the District are associated with the operations of the Dimension water treatment plant. These costs are recovered over all water usage, except for Portola Hills as their primary water source is Irvine Ranch Water District. Therefore, the revenue requirement for Treatment is apportioned over projected total usage identified in Table 36, less Portola Hills (TCWD Usage) to determine the unit cost-of-service, as shown in Table 45.

Table 45: FY 2024 Treatment Unit Rate per HCF

Treatment Component Unit Rate		
Revenue Requirement	\$	221,942
÷ TCWD Usage		948,867
Unit Rate		\$0.23

Trabuco Canyon Water District – 2023 Cost-of-Service Study

FY 2024 Cost-of-Service Rates – Water Utility

Proposed FY 2024 Monthly Fixed Charges

Table 46 reflects the combined charges of the District's proposed fixed charge of Fixed Purchased Water, Account Services and Meter Capacity. Account Services are constant for all meter sizes. Fixed Purchased Water and Meter Capacity are multiplied by the corresponding Capacity Ratios of each meter size to derive the FY 2024 fixed charges.

Table 46: FY 2024 Monthly Fixed Charges by Meter Size

Meter Size	Capacity Ratio	TCWD Meters	Fixed Purchased Water	Account Services	Meter Capacity	FY 2024 Proposed Base Fixed Charge
	[A]		[B] = \$3.95 x A	[C] = \$15.16	[D] = 27.16 x A	[E] = B+C+D
5/8"	1.00	2,161	\$ 3.95	\$ 14.78	\$ 28.11	\$ 46.84
3/4"	1.00	803	3.95	14.78	28.11	46.84
1"	2.50	394	9.88	14.78	70.28	94.93
1 1/2"	5.00	44	19.75	14.78	140.55	175.08
2"	8.00	145	31.60	14.78	224.88	271.26
3"	17.50	7	69.13	14.78	491.93	575.83
4"	31.50	3	124.43	14.78	885.47	1,024.67
6"	65.00	2	256.75	14.78	1,827.15	2,098.68

Proposed FY 2024 Variable Rates

The proposed variable rates for FY 2024 are shown in Table 47 for each customer class and tier, reflecting the combined rate components of Water Supply, Portola Hills, Delivery and Treatment.

Table 47: FY 2024 Variable Rates by Customer Class and Tier (HCF)

Customer Class & Tier	Tier Definitions	Projected Usage	Water Supply	Portola Hills	Delivery	Treatment	FY 2024 Proposed Base Variable Rate
	(HCF)	(HCF)	[A]	[B]	[C]	[D]	[E] = A+B+C+D
Single-Family							
Tier 1	0 - 13	436,062	\$ 2.13	\$ -	\$ 2.04	\$ 0.23	\$ 4.40
Tier 2	14 - 21	127,345	2.85	-	2.04	0.23	5.12
Tier 3	>21	100,066	3.37	-	2.04	0.23	5.64
Multi-Family							
Tier 1	0 - 6	10,829	\$ 2.35	\$ -	\$ 2.04	\$ 0.23	\$ 4.62
Tier 2	>6	1,246	3.37	-	2.04	0.23	5.64
Commercial	Uniform	34,008	\$ 2.46	\$ -	\$ 2.04	\$ 0.23	\$ 4.73
Irrigation	Uniform	143,718	\$ 2.46	\$ -	\$ 2.04	\$ 0.23	\$ 4.73
Agricultural	Uniform	95,593	\$ 2.46	\$ -	\$ 2.04	\$ 0.23	\$ 4.73
Portola Hills	Uniform	63,022	\$ -	\$ 3.21	\$ 2.04	\$ -	\$ 5.25

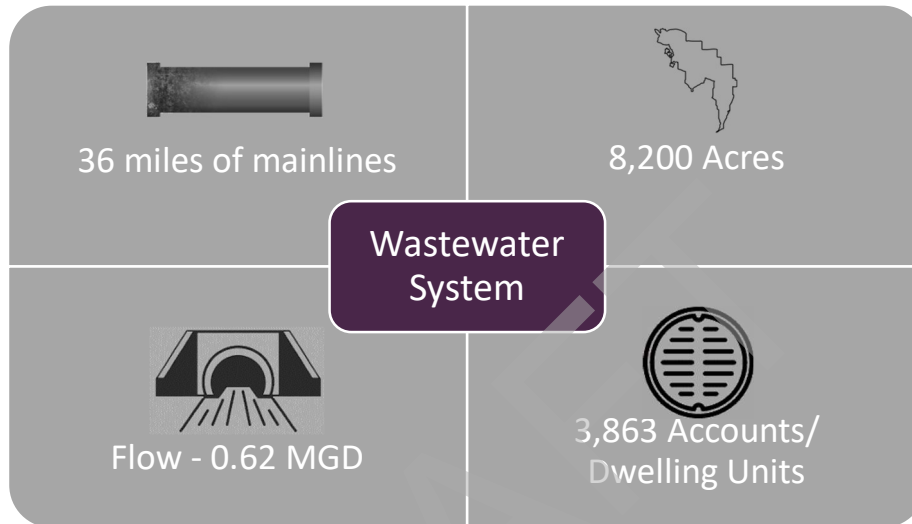
Trabuco Canyon Water District – 2023 Cost-of-Service Study

Wastewater Utility

Wastewater System

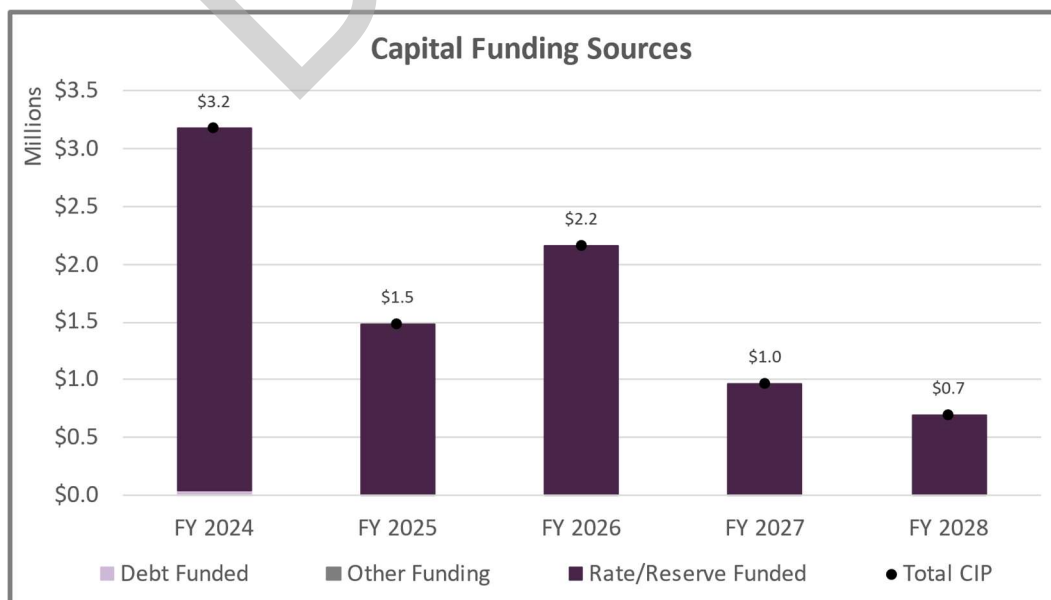
The District owns and operates gravity sewer pipelines and force mains, sewer lift stations, and pump stations and treats collected wastewater at its Robinson Wastewater Treatment Plant (WWTP) and Chiquita WWTP.

Figure 13: Wastewater System



The District recently completed asset management plan identified capital project needs of \$15M over the next ten years. Through the District's review of the asset management plan and prioritizing projects between critical, less critical, and non-critical improvements, a final proposed Capital Improvement Plan (CIP) for this study was provided requiring \$15M in capital spending over the next ten years, of which \$8.5M is needed during the Rate Setting Period. Figure 14 shows the District's CIP through FY 2028 with funding sources.

Figure 14: Wastewater Capital Improvement Plan



Trabuco Canyon Water District – 2023 Cost-of-Service Study

Customers

At the start of FY 2023, the District had 3,863 active billable units, which includes total residential dwelling units and commercial accounts. Table 48 provides a summary of billable units by customer class.

Table 48: Wastewater Billable Units by Customer Class

Customer Class	Accounts [A]	Billing Units [B]	Annual Billing Units [C] = B x 12
Residential	3,664	3,819	45,828
Commercial	44	44	528
Total	3,708	3,863	46,356

The current wastewater rate structure consists of monthly fixed charges charged against each billing unit, which includes accounts and additional dwelling units, and variable rates charged against commercial accounts. Variable rates are separated into three different categories of strength levels of discharge – Low, Medium, and High. Existing charges and rates are identified in Table 49.

Table 49: Existing Wastewater Monthly Fixed Charges

Flat Charges (\$/Month)	
Customer Class	Existing
Residential	\$ 39.56
Commercial	\$ 5.14

Variable Rates (\$/HCF)	
Customer Class	Existing
Commercial	
Low	\$ 5.69
Medium	7.21
High	9.44

Financial Plan Overview - Wastewater Utility

Financial Planning Assumptions

Developing a long-term financial plan requires understanding the utility's financial position by evaluating existing revenue streams, ongoing expenses, how those expenses will change over time, new strategic objectives, and reserve policies. These considerations require certain assumptions for projecting revenues, expenses, and expected ending fund balances. Table 50 identifies assumptions used for forecasting revenues, and Table 51 identifies assumptions used for forecasting increases in expenses through the Rate Setting Period.

Table 50: Wastewater Assumptions for Forecasting Revenues

Key Assumptions	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Revenue Escalation					
Non-Rate Revenues	0%	0%	0%	0%	0%
Reserve Interest	2.0%	2.0%	2.0%	2.0%	2.0%
Account Growth	0%	0%	0%	0%	0%
Billing Units	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Single-Family	3,633	3,633	3,633	3,633	3,633
Multi-Family	186	186	186	186	186
Commercial	44	44	44	44	44
Total Billing Units	3,863	3,863	3,863	3,863	3,863
Billed Flow by Customer Class	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Commercial					
Low	7,784	7,784	7,784	7,784	7,784
Medium	5,752	5,752	5,752	5,752	5,752
High	1,615	1,615	1,615	1,615	1,615
Total Billed Flow (HCF)	15,151	15,151	15,151	15,151	15,151

Table 51: Wastewater Assumptions for Forecasting Expense Requirements⁵

Key Assumptions	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Expenditure Escalation					
Benefits	7.00%	7.00%	7.00%	7.00%	7.00%
Capital Construction	6.63%	3.93%	3.93%	3.93%	3.93%
Energy Costs	8.00%	8.00%	5.00%	5.00%	5.00%
Fuel	20.00%	20.00%	5.00%	5.00%	5.00%
General Costs	6.20%	3.95%	3.95%	3.95%	3.95%
Non-Inflated	0.00%	0.00%	0.00%	0.00%	0.00%
Retirement	5.00%	5.00%	5.00%	5.00%	5.00%
Salaries	5.00%	5.00%	5.00%	5.00%	5.00%

⁵ Capital Construction inflation and General Costs for FY 2024 and FY 2025 were increased to 6.6% and 6.2%, respectively to account for recent annual increase due to inflation. Outer years reduce to 3.93% and 3.95%, reflecting the 5-year average of the Engineer's News Record – CCI index and the LA Consumer Price Index, respectively.

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Current Financial Position

Revenues

Based on the forecasting assumptions, revenues were calculated using billable units (Table 48) and existing wastewater rates (Table 49). Table 52 shows the calculated revenues for FY 2024 through the Rate Setting Period. Table 53 summarizes calculated rate revenues (rounded to thousands) and other non-rate revenues available through the Rate Setting Period.

Table 52: Wastewater Calculated Rate Revenues

Fixed Revenues	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Base Fixed Charge					
Single-Family	\$ 1,724,658	\$ 1,724,658	\$ 1,724,658	\$ 1,724,658	\$ 1,724,658
Multi-Family	79,169	79,169	79,169	79,169	79,169
Commercial	2,714	2,714	2,714	2,714	2,714
Total Base Fixed Charge	\$ 1,806,541	\$ 1,806,541	\$ 1,806,541	\$ 1,806,541	\$ 1,806,541
Variable Revenues	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Commercial					
Low	\$ 44,291	\$ 44,291	\$ 44,291	\$ 44,291	\$ 44,291
Medium	41,472	41,472	41,472	41,472	41,472
High	15,246	15,246	15,246	15,246	15,246
Total Non-Potable Variable Rate Revenue	\$ 101,008	\$ 101,008	\$ 101,008	\$ 101,008	\$ 101,008
Total Rate Revenue	\$ 1,907,549	\$ 1,907,549	\$ 1,907,549	\$ 1,907,549	\$ 1,907,549

Table 53: Wastewater Projected Wastewater Revenues

Revenue Summary	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Rate Revenues					
Residential	\$ 1,804,000	\$ 1,804,000	\$ 1,804,000	\$ 1,804,000	\$ 1,804,000
Commercial	104,000	104,000	104,000	104,000	104,000
Subtotal Rate Revenues	\$ 1,908,000	\$ 1,908,000	\$ 1,908,000	\$ 1,908,000	\$ 1,908,000
Operating Revenues					
Late Charges	\$ 39,000	\$ 39,000	\$ 39,000	\$ 39,000	\$ 39,000
New Account Fee	2,000	2,000	2,000	2,000	2,000
Wastewater Discharge Permit	1,000	1,000	1,000	1,000	1,000
Sewer Contracts	53,000	53,000	53,000	53,000	53,000
Chiquita/El Toro Fixed Cost	64,000	64,000	64,000	64,000	64,000
ETRLS (SMWD)	92,000	92,000	92,000	92,000	92,000
Subtotal Operating Revenues	\$ 251,000	\$ 251,000	\$ 251,000	\$ 251,000	\$ 251,000
Non-Operating Revenues					
Uncollectable Accounts	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)
Property Taxes	780,000	790,000	800,000	810,000	820,000
Other Non-Operating Revenue	16,000	16,000	16,000	16,000	16,000
Interest Revenue	14,000	12,000	12,000	13,000	13,000
Subtotal Non-Operating Revenues	\$ 809,000	\$ 817,000	\$ 827,000	\$ 838,000	\$ 848,000
Total Revenues	\$ 2,968,000	\$ 2,976,000	\$ 2,986,000	\$ 2,997,000	\$ 3,007,000

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Expenses

The FY 2023 budget was used as the utility's baseline expenses and adjusted over the Rate Setting Period based on the escalation factors shown in Table 51. Table 54 provides projected O&M expenses through the Rate Setting Period (rounded to thousands). Each expense category includes detailed line-item expenditures that were discussed with staff to determine the appropriate escalation factor to use for forecasting how costs will increase over time.

Table 54: Wastewater Projected O&M Expenses

O&M Expenses	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Operating Expenses					
General and Administrative	563,000	589,000	616,000	645,000	675,000
Salaries & Benefits	1,242,000	1,310,000	1,382,000	1,459,000	1,539,000
Treatment	539,000	573,000	598,000	624,000	652,000
CalPERS & OPEB	74,000	71,000	66,000	61,000	55,000
Subtotal Operating Expenses	\$2,418,000	\$2,543,000	\$2,662,000	\$2,789,000	\$2,921,000
Debt Service					
Credit Line	\$ -	\$ -	\$ -	\$ -	\$ -
Refinancing/New Proposed Debt	184,805	184,805	184,805	184,805	184,805
Subtotal Debt Service	\$ 184,805	\$ 184,805	\$ 184,805	\$ 184,805	\$ 184,805
Total Expenses	\$2,602,805	\$2,727,805	\$2,846,805	\$2,973,805	\$3,105,805

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Trabuco Canyon Water District – 2023 Cost-of-Service Study

Reserves

The wastewater utility reserves include Operating, Replacement and Emergency. Similar to the water utility, these reserves help mitigate risks to the utility by ensuring sufficient cash is on hand for daily operations and to fund annual system improvements, including unforeseen system failures. Table 55 summarizes the minimum reserve requirements and the ideal funding targets of each reserve.

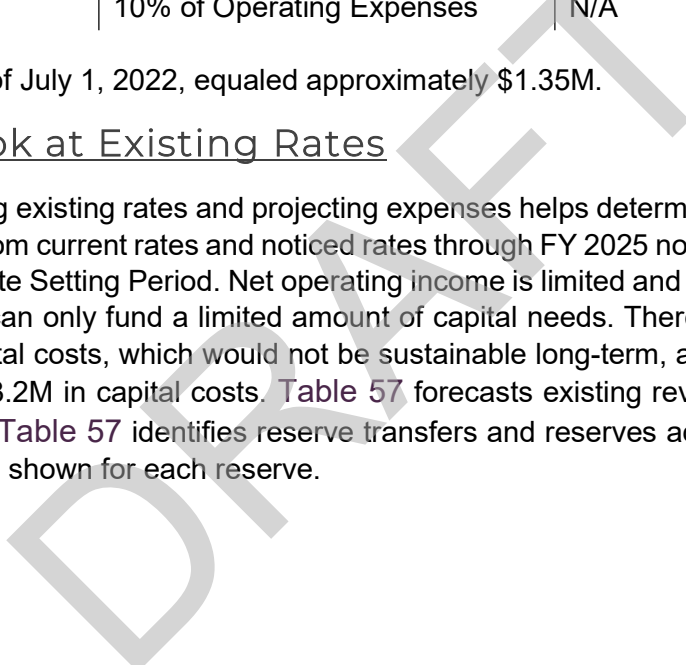
Table 55: Wastewater Reserve Requirements and Targets

Reserve	Minimum Requirement	Reserve Target
Operating	90 days of operating expenses	120 days of operating expenses
Capital Replacement	Annual CIP costs based on 5-year average	2 years of CIP costs based on 5-year average
Rate Stabilization	10% of Operating Expenses	N/A

The reserve balance as of July 1, 2022, equaled approximately \$1.35M.

Financial Outlook at Existing Rates

Calculating revenue using existing rates and projecting expenses helps determine the current financial health of the utility. Revenues from current rates and noticed rates through FY 2025 noticed rates will cover operating expenses through the Rate Setting Period. Net operating income is limited and reduces annually as projected expenses increase and can only fund a limited amount of capital needs. Therefore, reserves would need to cover the remaining capital costs, which would not be sustainable long-term, as reserves would be depleted in FY 2024 due to the \$3.2M in capital costs. Table 57 forecasts existing revenues and expenses through the Rate Setting Period. Table 57 identifies reserve transfers and reserves activity, with projected FY 2024 starting reserve balances shown for each reserve.



Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 56: Wastewater Financial Plan at Existing Rates

Revenue		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Rate Revenues						
Residential	Table 53	\$ 1,804,000	\$ 1,804,000	\$ 1,804,000	\$ 1,804,000	\$ 1,804,000
Commercial		104,000	104,000	104,000	104,000	104,000
Total Rate Revenues		\$ 1,908,000	\$ 1,908,000	\$ 1,908,000	\$ 1,908,000	\$ 1,908,000
Projected Rate Revenues		\$ 1,908,000	\$ 1,908,000	\$ 1,908,000	\$ 1,908,000	\$ 1,908,000
Operating Revenues						
Late Charges		\$ 39,000	\$ 39,000	\$ 39,000	\$ 39,000	\$ 39,000
New Account Fee		2,000	2,000	2,000	2,000	2,000
Wastewater Discharge Permit	Table 53	1,000	1,000	1,000	1,000	1,000
Sewer Contracts		53,000	53,000	53,000	53,000	53,000
Chiquita/El Toro Fixed Cost		64,000	64,000	64,000	64,000	64,000
ETRLS (SMWD)		92,000	92,000	92,000	92,000	92,000
Subtotal Operating Revenues		\$ 251,000	\$ 251,000	\$ 251,000	\$ 251,000	\$ 251,000
Non-Operating Revenues						
Uncollectable Accounts		\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)
Property Taxes	Table 53	780,000	790,000	800,000	810,000	820,000
Other Non-Operating Revenue		16,000	16,000	16,000	16,000	16,000
Interest Revenue		14,000	12,000	12,000	13,000	13,000
Subtotal Non-Operating Revenues		\$ 809,000	\$ 817,000	\$ 827,000	\$ 838,000	\$ 848,000
Total Revenues		\$ 2,968,000	\$ 2,976,000	\$ 2,986,000	\$ 2,997,000	\$ 3,007,000
O&M Expenses						
Operating Expenses						
General and Administrative		563,000	589,000	616,000	645,000	675,000
Salaries & Benefits	Table 54	1,242,000	1,310,000	1,382,000	1,459,000	1,539,000
Treatment		539,000	573,000	598,000	624,000	652,000
CalPERS & OPEB		74,000	71,000	66,000	61,000	55,000
Subtotal Operating Expenses		\$ 2,418,000	\$ 2,543,000	\$ 2,662,000	\$ 2,789,000	\$ 2,921,000
Debt Service						
Credit Line	Table 54	\$ 36,250	\$ 18,125	\$ -	\$ -	\$ -
Refinancing/New Proposed Debt		184,805	184,805	184,805	184,805	184,805
Subtotal Debt Service		\$ 221,055	\$ 202,930	\$ 184,805	\$ 184,805	\$ 184,805
Total Expenses		\$ 2,639,055	\$ 2,745,930	\$ 2,846,805	\$ 2,973,805	\$ 3,105,805
Net Cashflow		\$ 328,945	\$ 230,070	\$ 139,195	\$ 23,195	\$ (98,805)

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 57: Wastewater – Transfers and Reserve Activity at Existing Rates

Operating/Working Capital	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	\$ 566,384	\$ 596,219	\$ 627,041	\$ 656,384	\$ 679,578
Transfers (Net Cashflow)	328,945	230,070	139,195	23,195	(98,805)
Transfers from/(to) Capital Reserve	(299,109)	(199,248)	(109,852)	0	0
Ending Balance	\$ 596,219	\$ 627,041	\$ 656,384	\$ 679,578	\$ 580,773

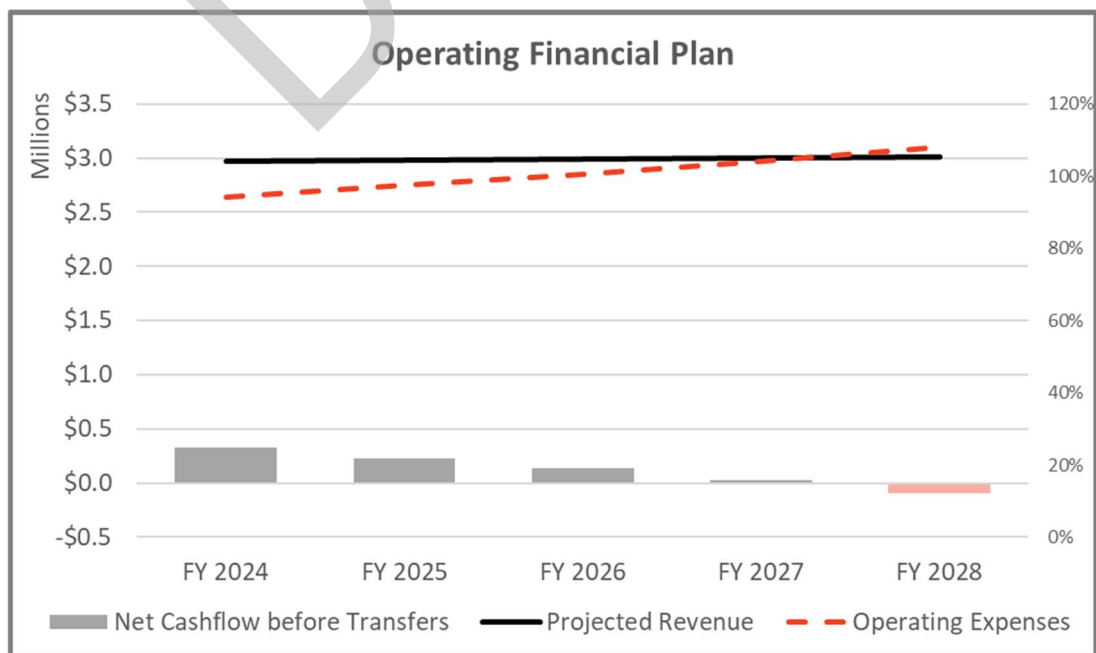
Capital Reserve	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	\$ 1,472,018	\$ (1,406,662)	\$ (2,690,309)	\$ (4,742,213)	\$ (5,712,473)
<u>Plus:</u>					
Transfers from/(to) Operating/Working Capital	299,109	199,248	109,852	0	0
<u>Less:</u>					
CIP	(3,177,790)	(1,482,895)	(2,161,756)	(970,260)	(693,336)
Transfers from/(to) Sewer Rate Stabilization Reserve	-	-	-	-	-
Subtotal Capital Reserve	\$ (1,406,662)	\$ (2,690,309)	\$ (4,742,213)	\$ (5,712,473)	\$ (6,405,808)
Interest Earnings	0	0	0	0	0
Ending Balance	\$ (1,406,662)	\$ (2,690,309)	\$ (4,742,213)	\$ (5,712,473)	\$ (6,405,808)

Sewer Rate Stabilization Reserve	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	\$ -	\$ -	\$ -	\$ -	\$ -
Transfers from/(to) Capital Reserve	-	-	-	-	-
Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ -

Ending Unrestricted Reserve Balance	\$ (810,443)	\$ (2,063,268)	\$ (4,085,829)	\$ (5,032,895)	\$ (5,825,035)
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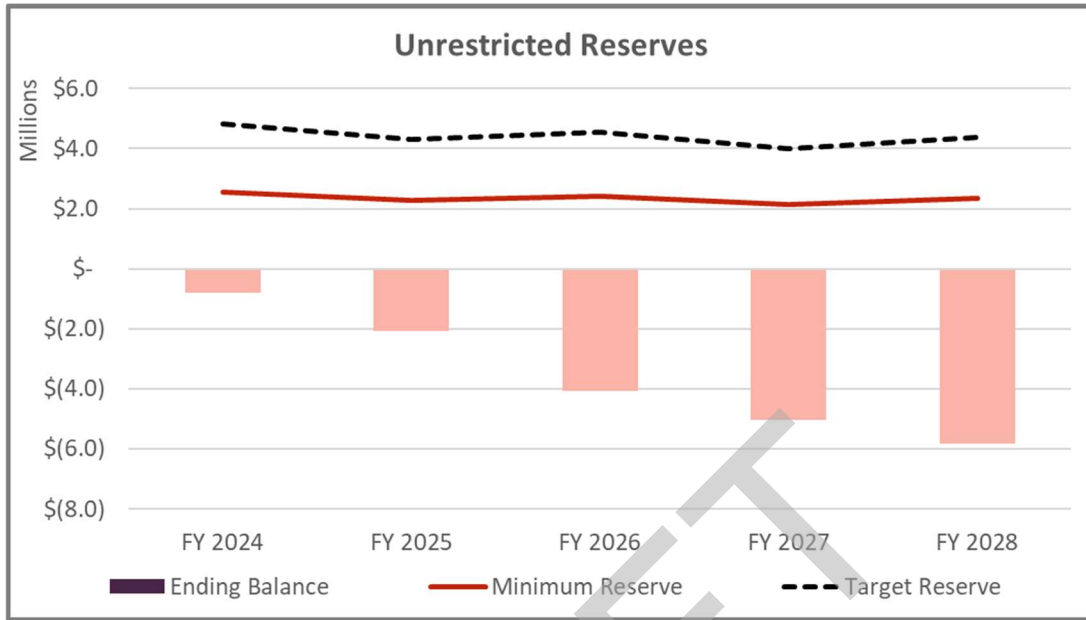
Figure 15 illustrates the operating position of the utility, where O&M expenses are identified with the dashed red trendline, and the horizontal black trendline shows total revenues at existing rates. The bars represent the amount of net operating income available. Figure 16 reflects the projected ending balances of unrestricted reserves after funding operating and capital projects through the Rate Setting Period. Unrestricted reserves include the Operating, Capital Replacement, and Rate Stabilization reserves.

Figure 15: Wastewater Current Operating Financial Position



Trabuco Canyon Water District – 2023 Cost-of-Service Study

Figure 16: Wastewater Projected Ending Reserves at Existing Rates



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Proposed Financial Plan – Wastewater Utility

From the financial outlook at existing rates, a proposed financial plan can be developed to adequately fund the multi-year revenue requirements, while meeting reserve requirements. The proposed financial plan generates approximately \$5.285M in additional revenue over the Rate Setting Period. The additional revenue generates positive net operating income each year to go towards capital spending and satisfy reserve requirements. Table 23 forecasts projected revenues, **with annual revenue adjustments**, and expenses through FY 2028, including \$7M in proposed debt that converts the existing short-term debt of \$2.5M to long-term debt plus an additional \$4.5M in new proceeds. Table 24 identifies the projected FY 2024 total starting reserve balances, activity within each reserve (including net income transfer from Table 23, transfers between reserves, and annual CIP), and projected ending balances for each fiscal year of the Rate Setting Period.

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Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 58: Proposed Wastewater Financial Plan

Revenue			FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Rate Revenues							
Residential	Table 53		\$ 1,804,000	\$ 1,804,000	\$ 1,804,000	\$ 1,804,000	\$ 1,804,000
Commercial			104,000	104,000	104,000	104,000	104,000
Total Rate Revenues			\$ 1,908,000	\$ 1,908,000	\$ 1,908,000	\$ 1,908,000	\$ 1,908,000
Additional Revenue (from revenue adjustments):							
Fiscal Year	Revenue Adjustment	Effective Month					
FY 2024	16.0%	July	305,000	305,000	305,000	305,000	305,000
FY 2025	16.0%	July		354,000	354,000	354,000	354,000
FY 2026	16.0%	July			410,000	410,000	410,000
FY 2027	12.0%	July				357,000	357,000
FY 2028	12.0%	July					400,000
Total Additional Revenue			\$ 305,000	\$ 659,000	\$ 1,069,000	\$ 1,426,000	\$ 1,826,000
Projected Rate Revenues			\$ 2,213,000	\$ 2,567,000	\$ 2,977,000	\$ 3,334,000	\$ 3,734,000
Operating Revenues							
Late Charges	Table 53		\$ 39,000	\$ 39,000	\$ 39,000	\$ 39,000	\$ 39,000
New Account Fee			2,000	2,000	2,000	2,000	2,000
Wastewater Discharge Permit			1,000	1,000	1,000	1,000	1,000
Sewer Contracts			53,000	53,000	53,000	53,000	53,000
Chiquita/El Toro Fixed Cost			64,000	64,000	64,000	64,000	64,000
ETRLS (SMWD)			92,000	92,000	92,000	92,000	92,000
Subtotal Operating Revenues			\$ 251,000	\$ 251,000	\$ 251,000	\$ 251,000	\$ 251,000
Non-Operating Revenues							
Uncollectable Accounts	Table 53		\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)
Property Taxes			780,000	790,000	800,000	810,000	820,000
Other Non-Operating Revenue			16,000	16,000	16,000	16,000	16,000
Interest Revenue			14,000	12,000	12,000	13,000	13,000
Subtotal Non-Operating Revenues			\$ 809,000	\$ 817,000	\$ 827,000	\$ 838,000	\$ 848,000
Total Revenues			\$ 3,273,000	\$ 3,635,000	\$ 4,055,000	\$ 4,423,000	\$ 4,833,000
O&M Expenses							
Operating Expenses							
General and Administrative	Table 54		563,000	589,000	616,000	645,000	675,000
Salaries & Benefits			1,242,000	1,310,000	1,382,000	1,459,000	1,539,000
Treatment			539,000	573,000	598,000	624,000	652,000
CalPERS & OPEB			74,000	71,000	66,000	61,000	55,000
Subtotal Operating Expenses			\$ 2,418,000	\$ 2,543,000	\$ 2,662,000	\$ 2,789,000	\$ 2,921,000
Debt Service							
Credit Line	Table 54		\$ 36,250	\$ 18,125	\$ -	\$ -	\$ -
Refinancing/New Proposed Debt			517,455	517,455	517,455	517,455	517,455
Subtotal Debt Service			\$ 553,705	\$ 535,580	\$ 517,455	\$ 517,455	\$ 517,455
Total Expenses			\$ 2,971,705	\$ 3,078,580	\$ 3,179,455	\$ 3,306,455	\$ 3,438,455
Net Cashflow			\$ 301,295	\$ 556,420	\$ 875,545	\$ 1,116,545	\$ 1,394,545

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 59: Wastewater – Undesignated Reserves Activity through FY 2028

Operating/Working Capital	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	\$ 566,384	\$ 596,219	\$ 627,041	\$ 656,384	\$ 687,699
Transfers (Net Cashflow)	301,295	556,420	875,545	1,116,545	1,394,545
Transfers from/(to) Capital Reserve	(271,460)	(525,598)	(846,203)	(1,085,230)	(1,361,997)
Ending Balance	\$ 596,219	\$ 627,041	\$ 656,384	\$ 687,699	\$ 720,247
Capital Reserve	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	\$ 1,472,018	\$ 3,111,065	\$ 2,206,417	\$ 921,837	\$ 1,056,394
<u>Plus:</u>					
Transfers from/(to) Operating/Working Capital	271,460	525,598	846,203	1,085,230	1,361,997
<u>Less:</u>					
CIP	(3,177,790)	(1,482,895)	(2,161,756)	(970,260)	(693,336)
Transfers from/(to) Sewer Rate Stabilization Reserve	-	-	-	-	(403,479)
Subtotal Capital Reserve	\$ 3,065,688	\$ 2,153,769	\$ 890,865	\$ 1,036,808	\$ 1,321,577
Interest Earnings	45,377	52,648	30,973	19,586	23,780
Ending Balance	\$ 3,111,065	\$ 2,206,417	\$ 921,837	\$ 1,056,394	\$ 1,345,356
Sewer Rate Stabilization Reserve	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Beginning Balance	\$ -	\$ -	\$ -	\$ -	\$ -
Transfers from/(to) Capital Reserve	-	-	-	-	403,479
Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ 403,479
Ending Unrestricted Reserves Balance	\$ 3,707,284	\$ 2,833,458	\$ 1,578,221	\$ 1,744,093	\$ 2,469,082

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Trabuco Canyon Water District – 2023 Cost-of-Service Study

The operating position based on the proposed financial plan is identified in Figure 17, including debt service coverage. Figure 18 shows the capital plan with funding sources. Figure 19 identifies the ending undesignated reserve balances after funding capital expenses.

Figure 17: Wastewater Proposed Operating Position

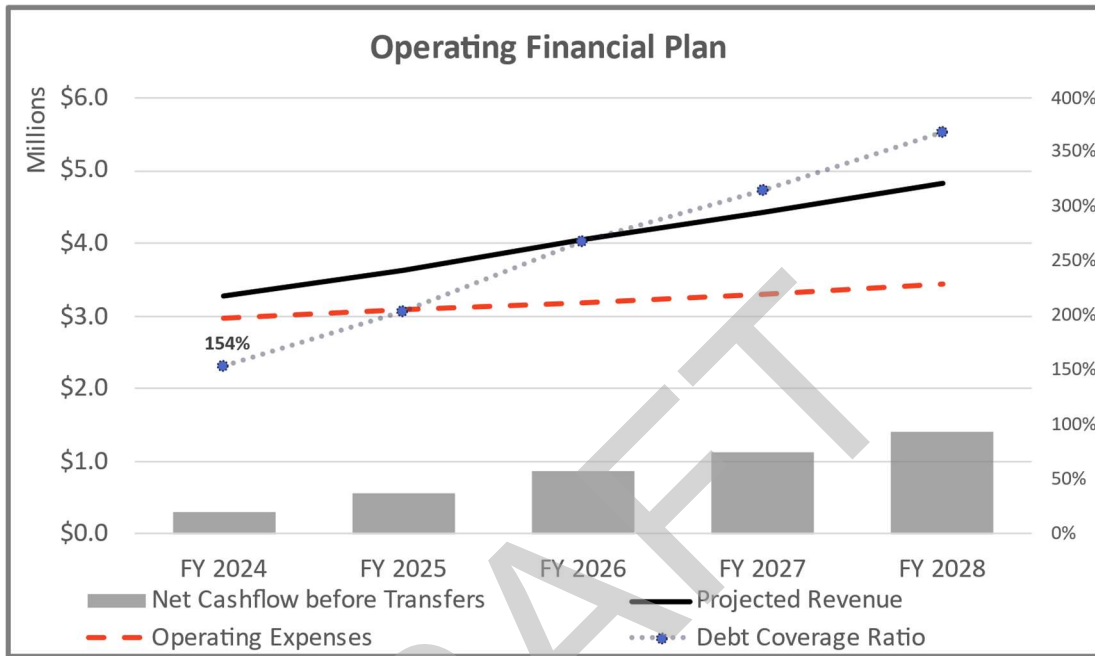
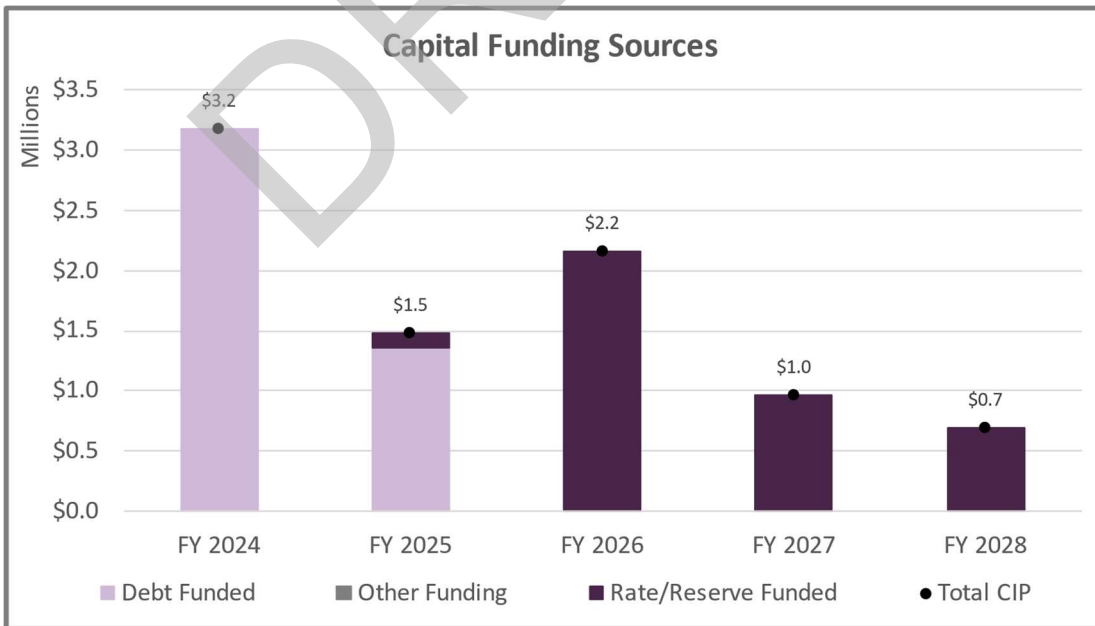
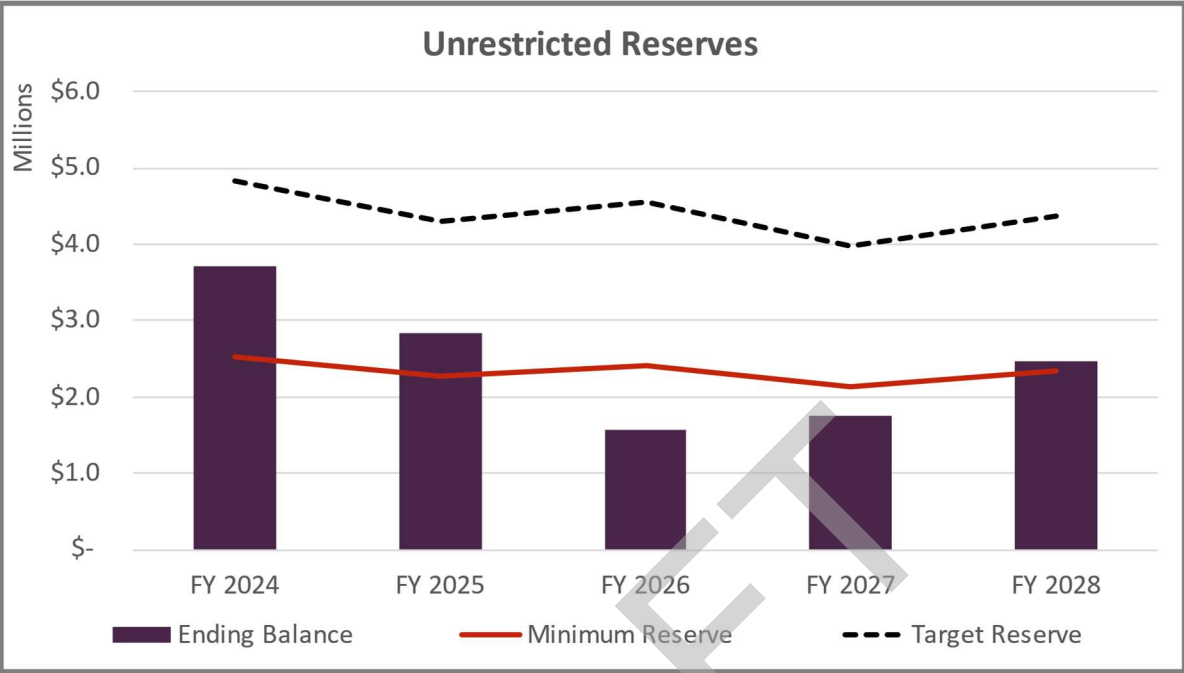


Figure 18: Wastewater Capital Improvement Plan with Funding Sources



Trabuco Canyon Water District – 2023 Cost-of-Service Study

Figure 19: Wastewater Proposed Ending Reserves



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Trabuco Canyon Water District – 2023 Cost-of-Service Study

Cost of Service Analysis – Wastewater Utility

Cost of Service Process

The next step in developing wastewater rates is to perform a cost-of-service analysis. Through this process, costs incurred are allocated to customer classes based on their proportional share. As a result, proposed rates are cost-based and reflect the costs incurred to provide service to customers.

Revenue Requirements

FY 2024 revenue requirements were used for the cost-of-service analysis. Revenue requirements include O&M expenses, treatment expenses, available revenue offsets, non-rate revenues, and reserve funding. The proposed revenue adjustments and corresponding rates accumulate the necessary funding over the Rate Setting Period to fund O&M, capital projects, and meet minimum reserve requirements. The results of the financial plan analysis are summarized in Table 60 and represent the revenue required from rates over the Rate Setting Period.

Table 60: Wastewater Revenue Requirements

	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Revenue Requirements	Total	Total	Total	Total	Total
Operating Expenses					
General and Administrative	\$ 563,000	\$ 589,000	\$ 616,000	\$ 645,000	\$ 675,000
Salaries & Benefits	1,242,000	1,310,000	1,382,000	1,459,000	1,539,000
Treatment	539,000	573,000	598,000	624,000	652,000
CalPERS & OPEB	74,000	71,000	66,000	61,000	55,000
Total Operating Expenses	\$ 2,418,000	\$ 2,543,000	\$ 2,662,000	\$ 2,789,000	\$ 2,921,000
Debt Service					
Credit Line	\$ 36,250	\$ 18,125	\$ -	\$ -	\$ -
Refinancing/New Proposed Debt	517,455	517,455	517,455	517,455	517,455
Total Debt Service	\$ 553,705	\$ 535,580	\$ 517,455	\$ 517,455	\$ 517,455
Other Funding					
Revenue Offsets					
Operating Revenues	\$ (251,000)	\$ (251,000)	\$ (251,000)	\$ (251,000)	\$ (251,000)
Non-Operating Revenues	(809,000)	(817,000)	(827,000)	(838,000)	(848,000)
Total Revenue Offsets	\$ (1,060,000)	\$ (1,068,000)	\$ (1,078,000)	\$ (1,089,000)	\$ (1,099,000)
Adjustments					
Reserve Funding	\$ 301,295	\$ 556,420	\$ 875,545	\$ 1,116,545	\$ 1,394,545
Total Adjustments	\$ 301,295	\$ 556,420	\$ 875,545	\$ 1,116,545	\$ 1,394,545
Subtotal Other Funding	\$ (758,705)	\$ (511,580)	\$ (202,455)	\$ 27,545	\$ 295,545
Revenue Requirement from Rates	\$2,213,000	\$2,567,000	\$2,977,000	\$3,334,000	\$3,734,000

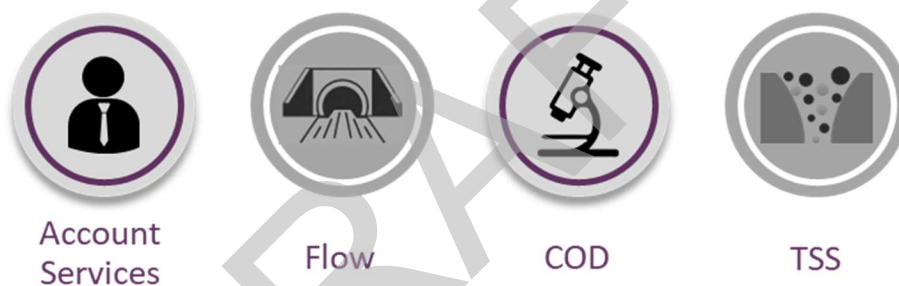
Trabuco Canyon Water District – 2023 Cost-of-Service Rate Study

Define Cost Components

The District's wastewater cost-of-service requirements were allocated to cost components and then to customer classes to develop cost-based rates in compliance with Proposition 218. The utility incurs costs to accommodate the total flow demand generated by different customer classes. Therefore, to determine the most appropriate way to recover the utility's expenses, cost components are identified and used to allocate expenses based on how they are incurred. Through our review of the revenue requirements and understanding of the wastewater system, the cost-of-service allocation documented in this report is based on total billing units (accounts plus additional dwelling units), flow (volume influent in HCF), and the strength characteristics of each customer class.

Strength loading factors for chemical oxygen demand (COD) and total suspended solids (TSS) are based on the Los Angeles County Sanitation District (LACSD) 2007 update. The LACSD's 2007 update reflects a substantial dataset of the most up-to-date discharge characteristics for various commercial uses, which typically would not vary by geographical location. The cost components shown in Figure 20 are used within the cost-of-service to allocate costs to customer classes in relation to the demand that each place on the system.

Figure 20: Wastewater Cost Components



Account Services – Fixed expenses related to the collection system and treatment plants that do not necessarily fluctuate based on flow. Administration, utility billing services, and overhead costs are incurred based on having an account. In addition, a portion of maintenance is recovered as part of Account Services.

Flow – Expenses associated with the collection system and volume of flow treated at the WWTPs.

COD – Expenses associated with treating microbial and organic compounds at the WWTP.

TSS – Expenses associated with treating TSS at the WWTP.

Allocate Expenses to Cost Components

When allocating expenses to the defined cost components, it is important to have a sound basis as to why an expense was allocated to a certain fixed cost component versus a variable cost component or split between both fixed and variable. The distribution of expenses to the cost components should be straightforward to ensure the method of apportionment is **understandable** and easily **correlates to how expenses are incurred**. A description of each expense category is identified below.

Table 61 summarizes the percent allocation of Operating expenses to the cost components with Account Services as a fixed component and Flow, COD, and TSS as variable cost components. General and Administration and CalPERS & OPEB were allocated to the cost component of Account Services. Salaries & Benefits and Treatment expense categories are associated with the daily operating costs of the treatment plants and allocated to Flow, COD and TSS based on the District's review of its treatment plant processes

Trabuco Canyon Water District – 2023 Cost-of-Service Study

and how costs are incurred at the plants in treated influent, equal to 20% Flow, 40% COD and 40% TSS. Table 62 uses the percent allocations in Table 61 to allocate expenses in dollars to each cost component.

Table 61: Wastewater O&M Expense Allocation to Cost Components (%)

Operating Expenses	Methodology / Allocation Basis	Account Services	Flow	COD	TSS	Total
General and Administrative	Specific	100.0%	0.0%	0.0%	0.0%	100.0%
Salaries & Benefits	Treatment	0.0%	20.0%	40.0%	40.0%	100.0%
Treatment	Treatment	0.0%	20.0%	40.0%	40.0%	100.0%
CalPERS & OPEB	Specific	100.0%	0.0%	0.0%	0.0%	100.0%

Table 62: Wastewater O&M Expense Allocation to Cost Components (\$)

Operating Expenses	Methodology / Allocation Basis	Account Services	Flow	COD	TSS	Total
General and Administrative	Specific	\$ 563,000	\$ -	\$ -	\$ -	\$ 563,000
Salaries & Benefits	Treatment	-	248,400	496,800	496,800	1,242,000
Treatment	Treatment	-	107,800	215,600	215,600	539,000
CalPERS & OPEB	Specific	74,000	-	-	-	74,000
Total Allocation (\$)		\$ 637,000	\$ 356,200	\$ 712,400	\$ 712,400	\$ 2,418,000
O&M Allocation (%)		26.3%	14.7%	29.5%	29.5%	100.0%

The District's debt was allocated based on O&M percentages derived in Table 62 to equitable charge commercial customers their proportionate share of debt based on their percentage of total flow and strength, instead of solely based on percentage of accounts. Table 30 identifies the percent allocation of the debt expense to the cost components, and Table 31 reflects the debt expense in dollars.

Table 63: Wastewater Debt Allocation to Cost Components (%)

Debt Service	Methodology / Allocation Basis	Account Services	Flow	COD	TSS	Total
Credit Line	O&M Allocation	26.3%	14.7%	29.5%	29.5%	100.0%
Refinancing/New Proposed Debt	O&M Allocation	26.3%	14.7%	29.5%	29.5%	100.0%

Table 64: Wastewater Debt Allocation to Cost Components (\$)

Debt Service	Methodology / Allocation Basis	Account Services	Flow	COD	TSS	Total
Credit Line	O&M Allocation	\$ 9,550	\$ 5,340	\$ 10,680	\$ 10,680	\$ 36,250
Refinancing/New Proposed Debt	O&M Allocation	136,319	76,227	152,454	152,454	517,455
Total Allocation (\$)		\$ 145,868	\$ 81,567	\$ 163,134	\$ 163,134	\$ 553,705

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Other Funding includes other operating revenue, non-operating revenue, and reserve funding. All line items under "Other Funding" are allocated based on O&M percentages derived in Table 62 to allocate each line item to the cost components proportionately. Table 65 summarizes the percent allocation to the cost components, and Table 66 uses the percent allocations in Table 65 to allocate expenses in dollars to each cost component. Table 67 summarizes the FY 2024 revenue requirement derived in Table 60 by cost component

Table 65: Wastewater Other Funding to Cost Components (%)

Other Funding	Methodology / Allocation Basis	Account Services	Flow	COD	TSS	Total
<i>Revenue Offsets</i>						
Operating Revenues	O&M Allocation	26.3%	14.7%	29.5%	29.5%	100.0%
Non-Operating Revenues	O&M Allocation	26.3%	14.7%	29.5%	29.5%	100.0%
<i>Adjustments</i>						
Reserve Funding	O&M Allocation	26.3%	14.7%	29.5%	29.5%	100.0%
Adjustment for Mid-Year Increase	O&M Allocation	26.3%	14.7%	29.5%	29.5%	100.0%

Table 66: Wastewater Other Funding to Cost Components (\$)

Other Funding	Methodology / Allocation Basis	Account Services	Flow	COD	TSS	Total
<i>Revenue Offsets</i>						
Operating Revenues	O&M Allocation	\$ (66,124)	\$ (36,975)	\$ (73,951)	\$ (73,951)	\$ (251,000)
Non-Operating Revenues	O&M Allocation	(213,124)	(119,175)	(238,351)	(238,351)	(809,000)
<i>Adjustments</i>						
Reserve Funding	O&M Allocation	79,374	44,384	88,769	88,769	301,295
Total Allocation (\$)		\$ (199,874)	\$ (111,766)	\$ (223,532)	\$ (223,532)	\$ (758,705)

Table 67: FY 2024 Wastewater Cost-of-Service Requirements by Cost Component

Revenue Requirement	Account Services	Flow	COD	TSS	Total
Operating	\$ 637,000	\$ 356,200	\$ 712,400	\$ 712,400	\$ 2,418,000
Debt Service	145,868	81,567	163,134	163,134	553,705
Other Funding	(199,874)	(111,766)	(223,532)	(223,532)	(758,705)
COS Requirement	\$ 582,995	\$ 326,001	\$ 652,002	\$ 652,002	\$ 2,213,000

Rate Design – Wastewater Utility

Develop Units of Service

Residential customer flows were projected using expected indoor use based on a gallons per capita per day (gpcd) and people per household (pph) basis. Residential pph was based on the Department of Finance E-5 report for 2022, reflecting 2.75 pph, which is the weighted average based on population of Lake Forest, Mission Viejo, and Rancho Santa Margarita. Residential projected flows were based on 55 gpcd for indoor use with a 95% return factor ($55 \text{ gpcd} \times 0.95 = 52.3 \text{ gpcd}$). The 5% reduction accounts for indoor water use that does not return to the collection system (i.e., does not go down the drain). The annual residential flow reflects the product of Net Flow GPCD, total residential billing units, and 365 days. The result is then converted to HCF for a total annual projected residential flow of 268,201 HCF, as shown in Table 68.

Table 68: Residential Projected Flows

Residential Flow Projections	Assumptions
Gallons per capita per day (GPCD)	55.0
Projected indoor return factor	95%
Net Flow GPCD	52.3
× People per household (Residential)	2.75
× Number of Residential accounts	3,819
Projected Residential Flow	549,665 GPD
Annual Residential Flow (× 365)	200,627,556
Converted to HCF (÷ 748.05)	268,201

Commercial customer flows were determined by estimating flow return factors for the Commercial customer class. To determine the appropriate flow return factor, we used the amount of total influent conveyed in FY 2022 to the District wastewater treatment plants of Robinson WWTP and Chiquita WWTP. The total treated influent is reduced by percentage of infiltration/inflow (known as I/I, which is a measure of the amount of water that enters the collection system that is not sewage, such as stormwater or groundwater that infiltrates into the collection system), equal to 7%, and less the projected residential flow derived in Table 68. The remainder is the estimated amount generated by Commercial customers. Table 69 provides the calculations used to derive the amount of projected flow expected to be generated by Commercial customers.

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 69: Non-Residential Projected Flows (HCF)

Flow Assumptions (HCF)		FY 2022
Total Treated Flow		302,506
Less: Inflow and Infiltration (I&I)	7.0%	(21,175)
Flow from Customers		281,330
Less Projected Residential Flow		268,201
Projected Non-Residential Flows		13,130

Customer Class	Water Usage [A]	Flow Return [B]	Projected Flow [C] = A x B
Commercial	15,151	86.7%	13,130

Applying a return factor of 86.7% against Commercial water usage generates a calculated flow of 13,130 HCF, which is in-line with what is expected when compared to the amount of projected treated flow from Commercial.

Unit rates for the cost components are derived by identifying the units of service for each cost component (distribution basis). The distribution basis varies by cost component and includes billable units (total accounts/dwelling units) and projected flow, weighted COD, and weighted TSS. Table 70 summarizes the units of service for each cost component. Strength concentrations are weighted by total flow in Million Gallons (MG) to develop COD units of service (Weighted COD) and TSS units of service (Weighted TSS).

Table 70: Wastewater Units of Service

Annual Fixed Units of Service

Customer Class	Accounts [A]	Billing Units [B]	Annual Billing Units [C] = B x 12
Residential	3,664	3,819	45,828
Commercial	44	44	528
Total	3,708	3,863	46,356

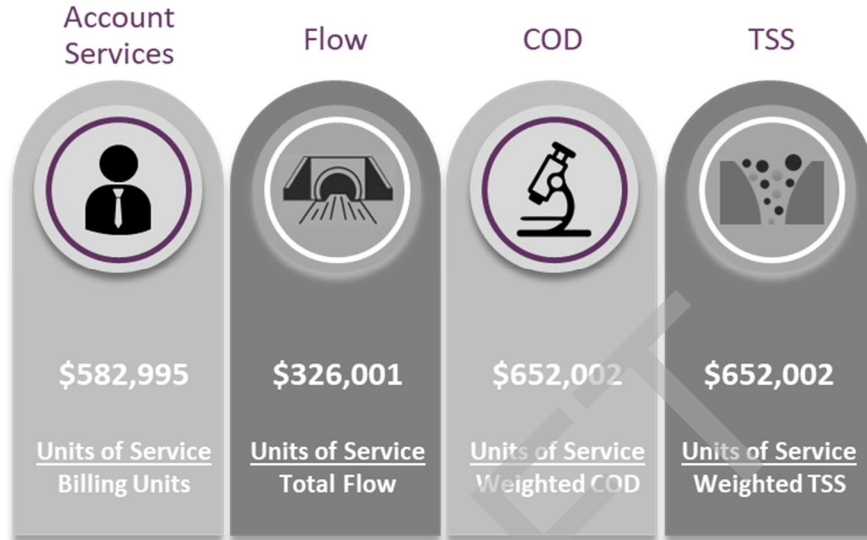
Annual Variable Units of Service

Customer Class	Commercial Water Usage (HCF) [A]	Return Factor [B]	Projected Flow (HCF) [C] = (A x B)	Conversion Factor (HCF to MG) [D]	COD (ppm) [E]	TSS (ppm) [F]	Weighted COD [G] = (C x D x E)	Weighted TSS [H] = (C x D x F)
Residential			268,201	0.075%	562	272	112,805	54,553
Commercial								
Low	7,784	86.7%	6,746	0.075%	515	271	2,597	1,370
Medium	5,752	86.7%	4,985	0.075%	1,106	431	4,124	1,609
High	1,615	86.7%	1,400	0.075%	1,798	699	1,883	732
Total	15,151		281,331				121,410	58,264

Trabuco Canyon Water District – 2023 Cost-of-Service Rate Study

With the units of service shown in Table 70, the distribution basis can be identified for each cost component. The total revenue requirements by cost component from Table 67 is shown in Figure 21 with the corresponding units of service.

Figure 21: Wastewater Distribution Basis and Units of Service by Cost Component



Allocate to Customer Class

Using the FY 2024 revenue requirements, the cost-of-service allocates expenses to customer classes based on the service demands that each place on the system (cost causation). Using this approach provides a clear connection between costs incurred and the proportionate share attributable to each customer class. When designing rates, the most critical component is to connect costs to the proposed rates, resulting in a cost-based rate structure in compliance with Proposition 218. In the previous section, costs were summarized by expense category and allocated to cost components based on how each cost is incurred. The next step in designing rates is to allocate each cost component to customers in relation to their use of the system and facilities. This ensures that each customer proportionately shares in the financial obligation of the wastewater utility. For the following unit rate computations, unit rates were rounded up to the nearest penny.

Fixed Cost Recovery

Account Services

Account Services costs are spread equally across all billable units over 12 months. Therefore, the revenue requirement for Account Services is apportioned based on the annual billing units to determine the monthly unit cost-of-service shown in Table 71.

Table 71: FY 2024 Wastewater Account Services Monthly Unit Rate

Account Services Component - Unit Rate	
Revenue Requirement	\$ 582,995
÷ Annual Billing Units	46,356
Monthly Unit Rate	\$12.58

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Variable Cost Recovery

Flow

Flow is a function of total volume of influent conveyed through the collection system and pumped through the treatment plants. Therefore, the revenue requirement for Flow is apportioned to each customer class based on their percentage of the total projected flow, as summarized in Table 72.

Table 72: FY 2024 Wastewater Collection Allocation by Customer Class

Flow Charge Component - Unit Rate	
Revenue Requirement (RR)	\$ 326,001
÷ Projected Flow (HCF)	281,331
Monthly Unit Rate	\$1.16

Customer Class	Projected Flow (HCF) [A]	% Allocation [B] = A as a %	Revenue Requirement [C] = RR x B
Residential	268,201	95.3%	\$ 310,786
Commercial			
Low	6,746	2.4%	7,817
Medium	4,985	1.8%	5,776
High	1,400	0.5%	1,622
Total	281,331	100%	\$ 326,001

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Trabuco Canyon Water District – 2023 Cost-of-Service Study

COD

COD costs relate to the treatment process of breaking down organic material in wastewater. Higher COD strengths require increased costs and longer periods of treatment time to dilute the high levels of COD prior to discharging effluent into waterways. Therefore, the revenue requirement for COD is apportioned based on Weighted COD for each customer class, as shown in Table 73.

Table 73: FY 2024 Wastewater COD Allocation by Customer Class

COD Charge Component - Unit Rate	
Revenue Requirement (RR)	\$ 652,002
÷ Weighted COD	121,410
Monthly Unit Rate	\$5.38

Customer Class	Weighted COD [A]	% Allocation [B] = A as a %	Revenue Requirement [C] = RR x B
Residential	112,805	92.9%	\$ 605,794
Commercial			
Low	2,597	2.1%	13,949
Medium	4,124	3.4%	22,149
High	1,883	1.6%	10,110
Total	121,410	100%	\$ 652,002

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Trabuco Canyon Water District – 2023 Cost-of-Service Study

TSS

TSS costs relate to the treatment process of removing solids from wastewater through settling, screening, and filtering. Higher TSS strengths require increased costs and additional filtration to treat and remove the high levels of TSS prior to discharging effluent into waterways. Therefore, the revenue requirement for TSS is apportioned based on Weighted TSS for each customer class, as shown in Table 74.

Table 74: FY 2024 Wastewater TSS Allocation by Customer Class

TSS Charge Component - Unit Rate	
Revenue Requirement (RR) \$	652,002
÷ Weighted TSS	58,264
Monthly Unit Rate	\$11.20

Customer Class	Weighted TSS [A]	% Allocation [B] = A as a %	Revenue Requirement [C] = RR x B
Residential	54,553	93.6%	\$ 610,483
Commercial			
Low	1,370	2.4%	15,329
Medium	1,609	2.8%	18,000
High	732	1.3%	8,189
Total	58,264	100%	\$ 652,002

Collectively, the total allocation of costs associated with Account Services, Flow, COS and TSS (Total Revenue Requirement) derives the cost of providing service to each customer class. Table 75 summarizes the combined revenue requirement by customer class.

Table 75: FY 2024 Wastewater Total Revenue Requirement by Customer Class

Customer Class	Account Services	Flow	COD	TSS	Allocated Revenue Requirements
Residential	\$ 576,354	\$ 310,786	\$ 605,794	\$ 610,483	\$ 2,103,418
Commercial	6,640	-	-	-	6,640
Low		7,817	13,949	15,329	37,095
Medium		5,776	22,149	18,000	45,926
High		1,622	10,110	8,189	19,921
Total	\$ 582,995	\$ 326,001	\$ 652,002	\$ 652,002	\$ 2,213,000

The revenue requirements for residential customers are noticed as flat monthly charges as residential flows are relatively constant throughout the year and will be collected on the property tax bill. Table 76 derives the monthly flat charges for Residential customers.

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 76: FY 2024 Residential Flat Monthly Charge

Customer Class	Account Services	Flow	COD	TSS	Total Monthly Flat Charge
Residential					
Revenue Requirement	\$ 576,354	\$ 310,786	\$ 605,794	\$ 610,483	
÷ Units of Service	45,828	45,828	45,828	45,828	
Unit Rate	\$12.58	\$6.79	\$13.22	\$13.33	\$45.92

For Commercial customer classes, each account is charged a monthly fixed amount for Account Services and commodity rates that vary between the categories of Low, Medium, and High. Variable rates are derived for the variable components of Flow, COD, and TSS by dividing the total allocated cost by total water usage as wastewater flows are not metered. Table 77 and Table 78 derives the monthly fixed charges and variable rates for Commercial, respectively.

Table 77: FY 2024 Commercial Monthly Fixed Charge

Customer Class	Annual Billing Units	Account Services	Total Monthly Fixed Charge
	[A]	[B]	[C] = B ÷ A
Commercial	528	\$ 6,640	\$12.58

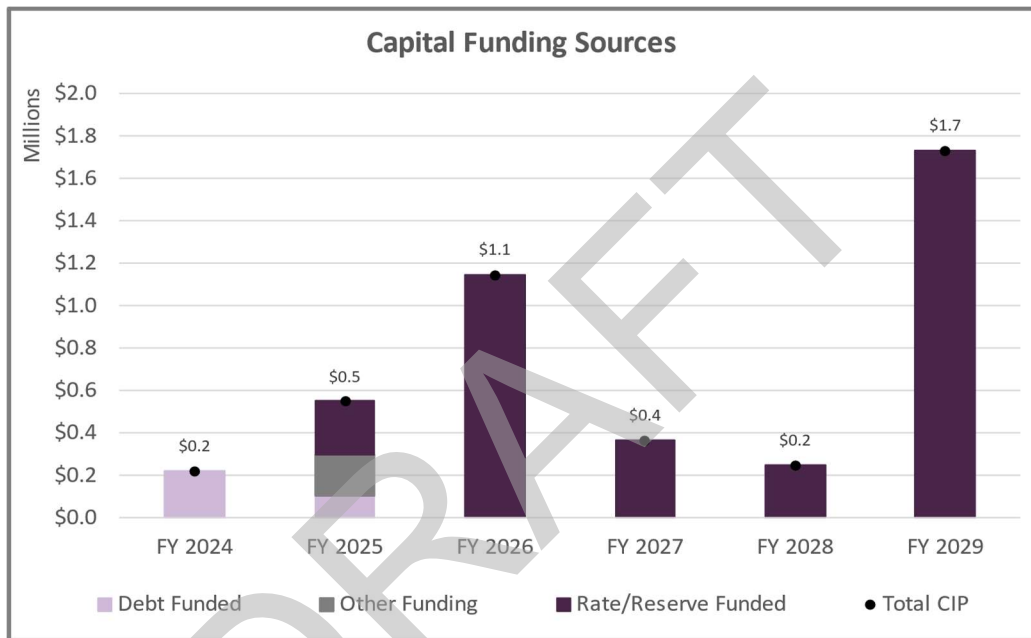
Table 78: FY 2024 Commercial Variable Rates

Customer Class	Commercial Water Usage (HCF)	Flow	COD	TSS	Flow	COD	TSS	Total Variable Rates
	[A]	[B]	[C]	[D]	[E] = B ÷ A	[F] = C ÷ A	[G] = D ÷ A	[H] = E + F + G
Commercial								
Low	7,784	\$ 7,817	\$ 13,949	\$ 15,329	\$ 1.01	\$ 1.80	\$ 1.97	\$4.78
Medium	5,752	5,776	22,149	18,000	1.01	3.86	3.13	\$8.00
High	1,615	1,622	10,110	8,189	1.01	6.27	5.08	\$12.36

Recycled Water

The wastewater system produces approximately 800 AF of recycled water annually. The District has major repair and replacement projects over the next six years, including Booster Station Improvements, Dove Creek Pump Station Improvement and the Dove Lake Dam Outlet Works Replacement planned in FY 2029. With the significant Dove Dam replacement project occurring outside the Rate Setting Period, the financial plan tables and related charts extend through FY 2029 (Financial Plan Period). Figure 22 shows the District’s CIP through the Financial Plan Period.

Figure 22: Recycled Water Capital Improvement Plan



Customers

As of July 1, 2022, the District serves a total of 28 recycled water accounts as shown in Table 79 by meter size.

Table 79: Recycled Water Accounts by Meter Size

Meter Size	Number of Accounts
1 1/2"	4
2"	17
3"	3
4"	2
10"	2
Total	28

Trabuco Canyon Water District – 2023 Cost-of-Service Rate Study

The current recycled water rate structure is charged the same monthly base and WRES fixed charges as potable customers and a uniform variable rate. Existing meter charges and variable rate are identified in Table 80 through Table 82.

Table 80: FY 2023 Recycled Water Monthly Base Fixed Charges

Base Fixed Meter Charges (\$/Month)	
Meter Size	Existing
5/8"	\$ 21.04
3/4"	21.04
1"	30.70
1 1/2"	54.85
2"	83.81
3"	175.57
4"	310.77
6"	779.18

Table 81: FY 2023 Recycled Water Monthly WRES Fixed Charges

WRES Fixed Meter Charges (\$/Month)	
Meter Size	Existing
5/8"	\$ 16.04
3/4"	16.04
1"	25.25
1 1/2"	38.48
2"	51.30
3"	76.95
4"	102.60
6"	153.90

Table 82: FY 2023 Recycled Water Variable Rate

Recycled Variable Rates (\$/HCF)	
Customer Class	Existing
Recycled	3.47

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Financial Plan Overview – Recycled Water Utility

Financial Planning Assumptions

Similar to the other utilities, certain assumptions are required for projecting revenues, expenses, and expected ending fund balances for the recycled water utility. Table 83 identifies assumptions used for forecasting revenues. Table 84 identifies assumptions used for forecasting increases in expenses through the Financial Plan Period.

Table 83: Recycled Water Assumptions for Forecasting Revenues

Key Assumptions	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Revenue Escalation						
Non-Rate Revenues	0%	0%	0%	0%	0%	0%
Reserve Interest	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Account Growth	0%	0%	0%	0%	0%	0%
All Non-Potable Meters						
Meter Size						
1 1/2"	4	4	4	4	4	4
2"	17	17	17	17	17	17
3"	3	3	3	3	3	3
4"	2	2	2	2	2	2
10"	2	2	2	2	2	2
Total All Non-Potable Meters	28	28	28	28	28	28
Total Non-Potable Consumption (HCF)	306,630	306,630	306,630	306,630	306,630	306,630

Table 84: Recycled Water Assumptions for Forecasting Expenses⁶

Key Assumptions	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Expenditure Escalation						
Benefits	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
Capital Construction	6.6%	3.9%	3.9%	3.9%	3.9%	3.9%
Energy Costs	8.0%	8.0%	5.0%	5.0%	5.0%	5.0%
Fuel	20.0%	20.0%	5.0%	5.0%	5.0%	5.0%
General Costs	6.2%	4.0%	4.0%	4.0%	4.0%	4.0%
Non-Inflated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Retirement	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Salaries	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Water Purchases (Fixed)	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Water Purchases SMWD - Recycled	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%

⁶ Capital Construction inflation and General Costs for FY 2024 were increased to 6.63% and 6.2%, respectively, to account for recent increases due to inflation. Outer years reduce to 3.93% and 3.95%, reflecting the 5-year average of the Engineer's News Record – CCI index and the LA Consumer Price Index, respectively.

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Current Financial Position

Revenues

Based on the forecasting assumptions, revenues were calculated using existing fixed charges (Table 80 and Table 81), multiplied by meters by size and variable rates (Table 83) multiplied by recycled water usage. Table 85 shows the calculated revenues through the Financial Plan Period. Table 86 provides a summary of calculated rate revenues and other non-rate revenues available through the Financial Plan Period (rounded to thousands).

Table 85: Recycled Water Calculated Rate Revenues

Calculated Recycled Revenue	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Rate Revenues						
Fixed Revenue	\$ 82,342	\$ 82,342	\$ 82,342	\$ 82,342	\$ 82,342	\$ 82,342
Variable Revenue	1,064,006	1,064,006	1,064,006	1,064,006	1,064,006	1,064,006
WRES Revenue	20,145	20,145	20,145	20,145	20,145	20,145
Total Rate Revenues	\$ 1,166,493	\$ 1,166,493	\$ 1,166,493	\$ 1,166,493	\$ 1,166,493	\$ 1,166,493

Table 86: Recycled Water Projected Revenues

Revenue Summary	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Rate Revenues						
Fixed Revenue	\$ 82,000	\$ 82,000	\$ 82,000	\$ 82,000	\$ 82,000	\$ 82,000
Variable Revenue	1,064,000	1,064,000	1,064,000	1,064,000	1,064,000	1,064,000
WRES Revenue	20,000	20,000	20,000	20,000	20,000	20,000
Subtotal Rate Revenues	\$ 1,166,000	\$ 1,166,000	\$ 1,166,000	\$ 1,166,000	\$ 1,166,000	\$ 1,166,000
Operating Revenues						
Late Charges	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
Subtotal Operating Revenues	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
Non-Operating Revenues						
Other Non-Operating Revenue	1,000	1,000	1,000	1,000	1,000	1,000
Interest Revenue	-	-	-	4,000	6,000	6,000
Property Tax	290,000	280,000	270,000	260,000	250,000	250,000
Subtotal Non-Operating Revenues	\$ 291,000	\$ 281,000	\$ 271,000	\$ 265,000	\$ 257,000	\$ 257,000
Total Revenues	\$ 1,460,000	\$ 1,450,000	\$ 1,440,000	\$ 1,434,000	\$ 1,426,000	\$ 1,426,000

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Expenses

The FY 2023 budget was used as the utility's baseline expenses and adjusted in subsequent years based on the escalation factors shown in Table 84. Table 87 provides projected O&M expenses through the Financial Plan Period (rounded to thousands). Each expense category includes detailed line-item expenditures that were discussed with staff to determine the appropriate escalation factor to use for forecasting how costs will increase over time.

Table 87: Recycled Water Projected O&M Expenses

O&M Expenses	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Operating Expenses						
Source of Supply	\$ 64,000	\$ 67,000	\$ 70,000	\$ 73,000	\$ 77,000	\$ 80,000
General and Administrative	115,000	120,000	125,000	131,000	137,000	143,000
Salaries & Benefits	316,000	333,000	352,000	372,000	392,000	414,000
Transmission & Distribution	459,000	491,000	514,000	538,000	563,000	589,000
CalPERS & OPEB	17,000	16,000	15,000	14,000	13,000	13,000
Other Expenses	69,000	72,000	75,000	78,000	81,000	84,000
Subtotal Operating Expenses	\$ 1,040,000	\$ 1,099,000	\$ 1,151,000	\$ 1,206,000	\$ 1,263,000	\$ 1,323,000
Debt Service						
Refinancing/New Proposed Debt	36,961	36,961	36,961	36,961	36,961	36,961
Subtotal Debt Service	\$ 36,961	\$ 36,961	\$ 36,961	\$ 36,961	\$ 36,961	\$ 36,961
Total Expenses	\$ 1,076,961	\$ 1,135,961	\$ 1,187,961	\$ 1,242,961	\$ 1,299,961	\$ 1,359,961

Reserves

For financial planning, similar reserve targets for water and wastewater were used, except for the rehabilitation fund. The rehabilitation target was set at a rolling 5-year average of upcoming capital due to the increase in capital spending planned. These reserves help mitigate risks to the utility by ensuring sufficient cash is on hand for daily operations and to fund annual system improvements. These reserves help smooth rates and mitigate rate spikes due to emergencies or above-average system costs. Table 88 summarizes the recommended minimum reserve requirements and the ideal funding targets of each reserve.

Table 88: Recycled Water Reserve Requirements and Targets

Reserve	Minimum Requirement	Reserve Target
Operating	90 days of operating expenses	180 days of operating expenses
Capital Replacement	Annual CIP costs based on 5-year average	2 years of CIP costs based on 5-year average
Rate Stabilization	20% of operating revenues	N/A

The reserve balance as of July 1, 2022, reflected a deficit of approximately (\$908k).

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Financial Outlook at Existing Rates

Calculating revenue using existing rates and projecting expenses helps determine the current financial health of the utility. Revenues from existing rates are sufficient to fund O&M through the Financial Plan Period. However, only a portion of the system rehabilitation needs can be funded with projected net operating income resulting in a growing deficit shown as a negative reserve ending balance. Without rate increases, there would not be available funding for capital spending. Table 89 forecasts existing revenues and expenses through the Financial Plan Period. Table 90 identifies reserve transfers and reserves activity, with projected FY 2024 starting reserve balances shown for each reserve.

Table 89: Recycled Water Financial Plan at Existing Rates

Revenue		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Rate Revenues							
Fixed Revenue		\$ 82,000	\$ 82,000	\$ 82,000	\$ 82,000	\$ 82,000	\$ 82,000
Variable Revenue	Table 86	1,064,000	1,064,000	1,064,000	1,064,000	1,064,000	1,064,000
WRES Revenue		20,000	20,000	20,000	20,000	20,000	20,000
Total Rate Revenues		\$ 1,166,000	\$ 1,166,000	\$ 1,166,000	\$ 1,166,000	\$ 1,166,000	\$ 1,166,000
Operating Revenues							
Late Charges	Table 86	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
Subtotal Operating Revenues		\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
Non-Operating Revenues							
Other Non-Operating Revenue		\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
Property Tax	Table 86	290,000	280,000	270,000	260,000	250,000	250,000
Subtotal Non-Operating Revenues		\$ 291,000	\$ 281,000	\$ 271,000	\$ 265,000	\$ 257,000	\$ 257,000
Total Revenues		\$ 1,460,000	\$ 1,450,000	\$ 1,440,000	\$ 1,434,000	\$ 1,426,000	\$ 1,426,000
O&M Expenses							
Operating Expenses							
Source of Supply		\$ 64,000	\$ 67,000	\$ 70,000	\$ 73,000	\$ 77,000	\$ 80,000
General and Administrative		115,000	120,000	125,000	131,000	137,000	143,000
Salaries & Benefits	Table 87	316,000	333,000	352,000	372,000	392,000	414,000
Transmission & Distribution		459,000	491,000	514,000	538,000	563,000	589,000
CalPERS & OPEB		17,000	16,000	15,000	14,000	13,000	13,000
Other Expenses		69,000	72,000	75,000	78,000	81,000	84,000
Subtotal Operating Expenses		\$ 1,040,000	\$ 1,099,000	\$ 1,151,000	\$ 1,206,000	\$ 1,263,000	\$ 1,323,000
Debt Service							
Credit Line		\$ 7,250	\$ 3,625	\$ -	\$ -	\$ -	\$ -
Refinancing/New Proposed Debt	Table 87	\$ 36,961	\$ 36,961	\$ 36,961	\$ 36,961	\$ 36,961	\$ 36,961
Subtotal Debt Service		\$ 44,211	\$ 40,586	\$ 36,961	\$ 36,961	\$ 36,961	\$ 36,961
Total Expenses		\$ 1,084,211	\$ 1,139,586	\$ 1,187,961	\$ 1,242,961	\$ 1,299,961	\$ 1,359,961
Net Cashflow		\$ 375,789	\$ 310,414	\$ 252,039	\$ 191,039	\$ 126,039	\$ 66,039

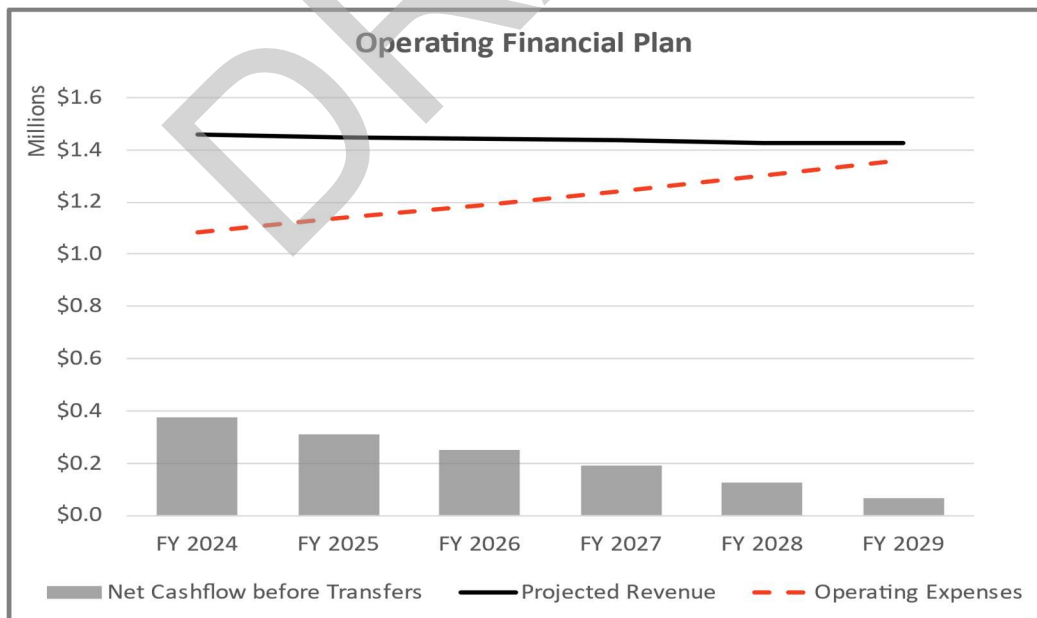
Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 90: Recycled Water – Transfers and Reserve Activity at Existing Rates

Operating/Working Capital	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Beginning Balance	\$ (542,569)	\$ (166,780)	\$ 143,634	\$ 283,808	\$ 297,370	\$ 311,425
Transfers (Net Cashflow)	375,789	310,414	252,039	191,039	126,039	66,039
Transfers from/(to) Capital Reserve	-	-	(111,865)	(177,477)	(111,984)	(51,244)
Ending Balance	\$ (166,780)	\$ 143,634	\$ 283,808	\$ 297,370	\$ 311,425	\$ 326,219
Capital Reserve	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Beginning Balance	\$ (221,206)	\$ (221,206)	\$ (475,246)	\$ (1,507,215)	\$ (1,696,653)	\$ (1,833,509)
<u>Plus:</u>						
Transfers from/(to) Operating/Working Capital	-	-	111,865	177,477	111,984	51,244
Grant Revenue	-	194,750	-	-	-	-
Use of Existing Debt Proceeds	220,347	100,353	-	-	-	-
<u>Less:</u>						
CIP	(220,347)	(549,143)	(1,143,834)	(366,915)	(248,840)	(1,733,318)
Transfers from/(to) Recycled Water Rate Stabilization Reserve	-	-	-	-	-	-
Subtotal Capital Reserve	\$ (221,206)	\$ (475,246)	\$ (1,507,215)	\$ (1,696,653)	\$ (1,833,509)	\$ (3,515,582)
Interest Earnings	-	-	-	-	-	-
Ending Balance	\$ (221,206)	\$ (475,246)	\$ (1,507,215)	\$ (1,696,653)	\$ (1,833,509)	\$ (3,515,582)
Recycled Water Rate Stabilization Reserve	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Beginning Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Transfers from/(to) Capital Reserve	-	-	-	-	-	-
Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Ending Unrestricted Reserves Balance	\$ (387,986)	\$ (331,612)	\$ (1,223,407)	\$ (1,399,283)	\$ (1,522,084)	\$ (3,189,363)

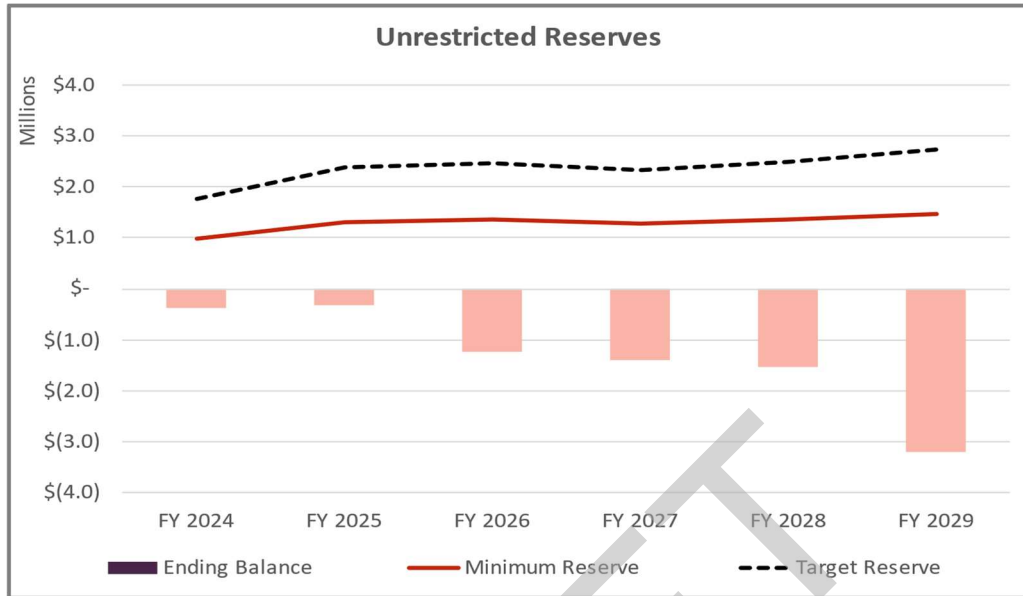
Figure 23 illustrates the operating position of the utility, where O&M expenses are identified with the dashed red trendline, and total revenues at existing rates are shown by the horizontal black trendline. The bars represent the amount of net operating income available. Figure 24 reflects the projected ending balances of reserves after operating, and capital projects are funded through the Financial Plan Period.

Figure 23: Recycled Water Current Operating Financial Position



Trabuco Canyon Water District – 2023 Cost-of-Service Study

Figure 24: Recycled Water Projected Ending Reserves at Existing Rates



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Trabuco Canyon Water District – 2023 Cost-of-Service Study

Proposed Financial Plan – Recycled Water Utility

From the financial outlook at existing rates, a proposed financial plan can be developed to adequately fund the multi-year revenue requirements while meeting reserve requirements. Based on funding the capital plan and ensuring reserves meet minimum targets over the Rate Setting Period, Table 91 forecasts projected revenues and expenses over the Financial Plan Period.

Table 91: Recycled Water Proposed Financial Plan

Revenue		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Rate Revenues							
Fixed Revenue		\$ 82,000	\$ 82,000	\$ 82,000	\$ 82,000	\$ 82,000	\$ 82,000
Variable Revenue	Table 86	1,064,000	1,064,000	1,064,000	1,064,000	1,064,000	1,064,000
WRES Revenue		20,000	20,000	20,000	20,000	20,000	20,000
Total Rate Revenues		\$ 1,166,000	\$ 1,166,000	\$ 1,166,000	\$ 1,166,000	\$ 1,166,000	\$ 1,166,000
Additional Revenue (from revenue adjustments):							
Fiscal Year	Revenue Adjustment	Effective Month					
FY 2024	20.0%	July	233,000	233,000	233,000	233,000	233,000
FY 2025	20.0%	July		279,000	279,000	279,000	279,000
FY 2026	20.0%	July			335,000	335,000	335,000
FY 2027	15.0%	July				301,000	301,000
FY 2028	10.0%	July					231,000
FY 2029	0.0%	July					-
Total Additional Revenue		\$ 233,000	\$ 512,000	\$ 847,000	\$ 1,148,000	\$ 1,379,000	\$ 1,379,000
Projected Rate Revenues		\$ 1,399,000	\$ 1,678,000	\$ 2,013,000	\$ 2,314,000	\$ 2,545,000	\$ 2,545,000
Operating Revenues							
Late Charges	Table 86	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
Subtotal Operating Revenues		\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
Non-Operating Revenues							
Other Non-Operating Revenue	Table 86	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
Property Tax		290,000	280,000	270,000	260,000	250,000	250,000
Subtotal Non-Operating Revenues		\$ 291,000	\$ 281,000	\$ 274,000	\$ 267,000	\$ 257,000	\$ 267,000
Total Revenues		\$ 1,693,000	\$ 1,962,000	\$ 2,290,000	\$ 2,584,000	\$ 2,805,000	\$ 2,815,000
O&M Expenses							
Operating Expenses							
Source of Supply		\$ 64,000	\$ 67,000	\$ 70,000	\$ 73,000	\$ 77,000	\$ 80,000
General and Administrative		115,000	120,000	125,000	131,000	137,000	143,000
Salaries & Benefits	Table 87	316,000	333,000	352,000	372,000	392,000	414,000
Transmission & Distribution		459,000	491,000	514,000	538,000	563,000	589,000
CalPERS & OPEB		17,000	16,000	15,000	14,000	13,000	13,000
Other Expenses		69,000	72,000	75,000	78,000	81,000	84,000
Subtotal Operating Expenses		\$ 1,040,000	\$ 1,099,000	\$ 1,151,000	\$ 1,206,000	\$ 1,263,000	\$ 1,323,000
Debt Service							
Credit Line	Table 87	\$ 7,250	\$ 3,625	\$ -	\$ -	\$ -	\$ -
Refinancing/New Proposed Debt		73,922	73,922	73,922	73,922	73,922	73,922
Subtotal Debt Service		\$ 81,172	\$ 77,547	\$ 73,922	\$ 73,922	\$ 73,922	\$ 73,922
Total Expenses		\$ 1,121,172	\$ 1,176,547	\$ 1,224,922	\$ 1,279,922	\$ 1,336,922	\$ 1,396,922
Net Cashflow		\$ 571,828	\$ 785,453	\$ 1,065,078	\$ 1,304,078	\$ 1,468,078	\$ 1,418,078

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 92: Recycled Water Transfers and Reserve Activity

Operating/Working Capital	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Beginning Balance	\$ (542,569)	\$ 29,259	\$ 270,986	\$ 283,808	\$ 297,370	\$ 311,425
Transfers (Net Cashflow)	571,828	785,453	1,065,078	1,304,078	1,468,078	1,418,078
Transfers from/(to) Capital Reserve	-	(543,726)	(1,052,256)	(1,290,516)	(1,454,023)	(1,403,283)
Ending Balance	\$ 29,259	\$ 270,986	\$ 283,808	\$ 297,370	\$ 311,425	\$ 326,219
Capital Reserve	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Beginning Balance	\$ (221,206)	\$ 279,370	\$ 577,540	\$ 496,597	\$ 1,439,366	\$ 1,662,101
<u>Plus:</u>						
Transfers from/(to) Operating/Working Capital	-	543,726	1,052,256	1,290,516	1,454,023	1,403,283
Grant Revenue	-	194,750	-	-	-	-
Use of Existing Debt Proceeds	220,347	100,353	-	-	-	-
<u>Less:</u>						
CIP	(220,347)	(549,143)	(1,143,834)	(366,915)	(248,840)	(1,733,318)
Transfers from/(to) Recycled Water Rate Stabilization Reserve	-	-	-	-	(1,013,155)	-
Subtotal Capital Reserve	\$ 278,794	\$ 569,055	\$ 485,962	\$ 1,420,198	\$ 1,631,394	\$ 1,332,067
Interest Earnings	576	8,484	10,635	19,168	30,708	29,942
Ending Balance	\$ 279,370	\$ 577,540	\$ 496,597	\$ 1,439,366	\$ 1,662,101	\$ 1,362,009
Recycled Water Rate Stabilization Reserve	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Beginning Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,013,155
Transfers from/(to) Capital Reserve	-	-	-	-	1,013,155	-
Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ 1,013,155	\$ 1,013,155
Ending Unrestricted Reserves Balance	\$ 308,629	\$ 848,526	\$ 780,405	\$ 1,736,736	\$ 2,986,681	\$ 2,701,383

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Trabuco Canyon Water District – 2023 Cost-of-Service Study

Figure 25 identifies the operating position based on the proposed financial plan, and Figure 26 show the capital plan with funding sources. Figure 27 identifies the ending reserve balances.

Figure 25: Recycled Water Proposed Operating Position

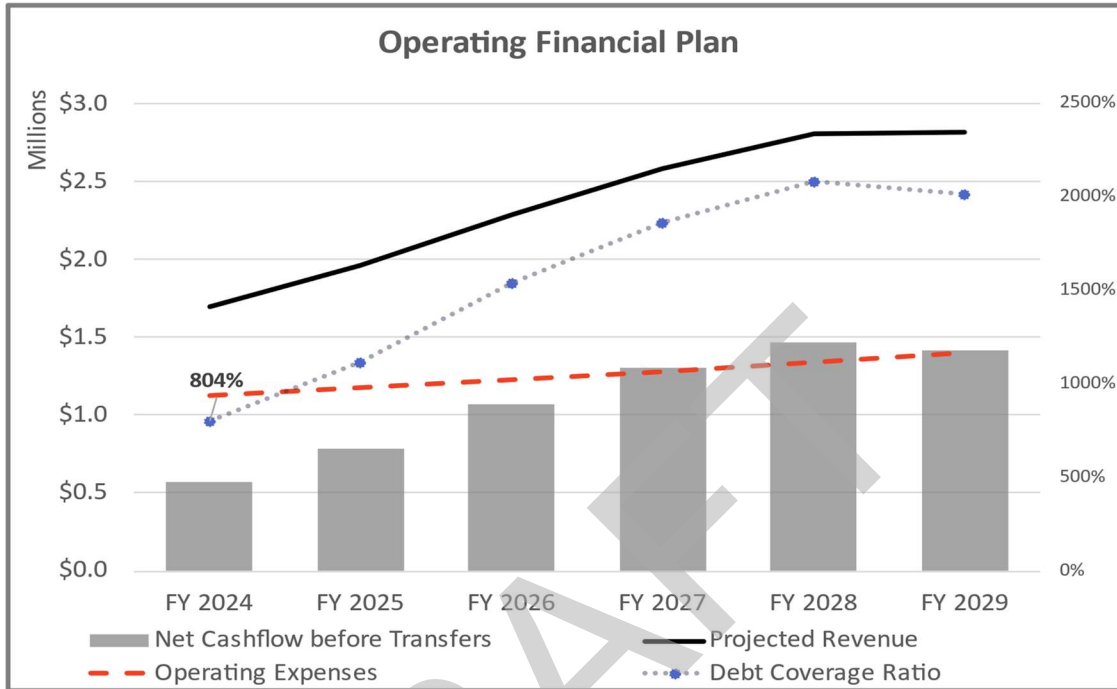
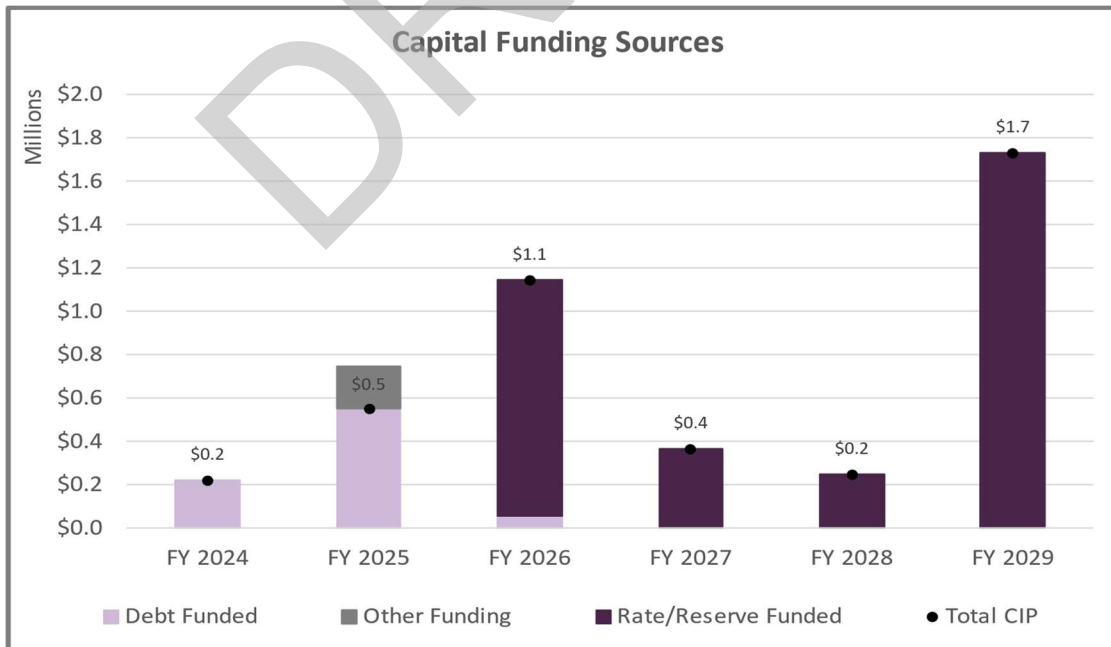
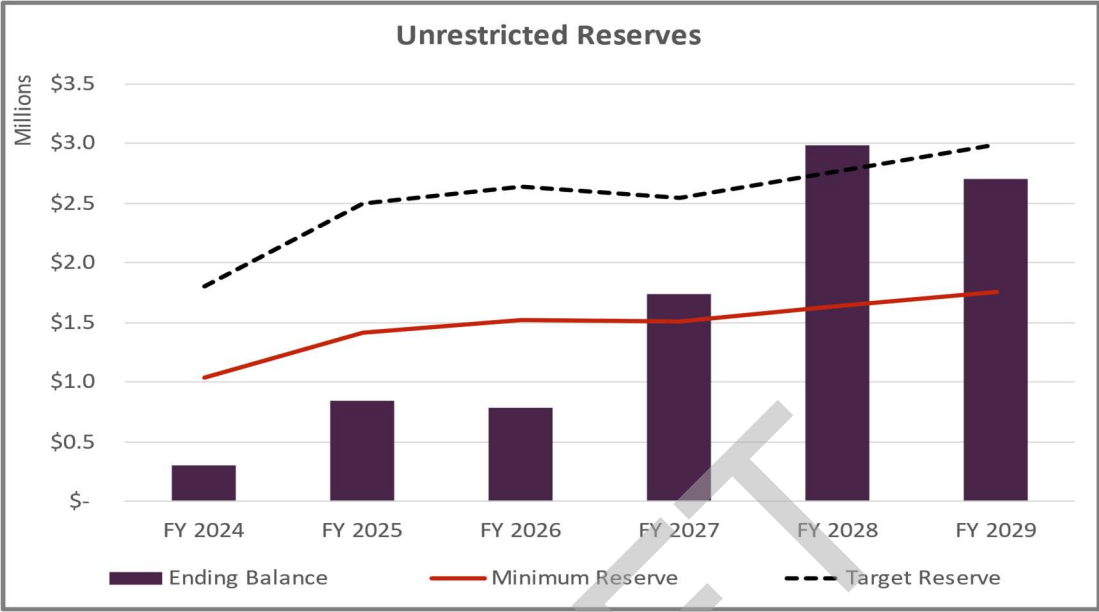


Figure 26: Recycled Water Capital Improvement Plan with Funding Sources



Trabuco Canyon Water District – 2023 Cost-of-Service Study

Figure 27: Recycled Water Proposed Ending Reserves



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Trabuco Canyon Water District – 2023 Cost-of-Service Study

Cost-of-Service Analysis – Recycled Water Utility

Cost-of-Service Process

The next step in developing recycled water rates is to perform a cost-of-service analysis. Through this process, costs incurred are allocated to customers based on their proportional share. As a result, proposed rates are cost-based and reflect the costs incurred to provide service to customers.

Revenue Requirements

FY 2024 revenue requirements were used for the cost-of-service analysis. Revenue requirements include O&M expenses, treatment plant expenses, debt, revenue offsets, and reserve funding. The proposed revenue adjustments and corresponding rates accumulate the necessary funding over the Rate Setting Period to fund O&M, capital projects, and comply with minimum reserve requirements by FY 2027. The results of the financial plan analysis are summarized in Table 93 and represent the revenue required from rates over the Rate Setting Period.

Table 93: Recycled Water Revenue Requirements

	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Revenue Requirements	Total	Total	Total	Total	Total
Operating Expenses					
Source of Supply	\$ 64,000	\$ 67,000	\$ 70,000	\$ 73,000	\$ 77,000
General and Administrative	115,000	120,000	125,000	131,000	137,000
Salaries & Benefits	316,000	333,000	352,000	372,000	392,000
Transmission & Distribution	459,000	491,000	514,000	538,000	563,000
CalPERS & OPEB	17,000	16,000	15,000	14,000	13,000
Other Expenses	69,000	72,000	75,000	78,000	81,000
Total Operating Expenses	\$ 1,040,000	\$ 1,099,000	\$ 1,151,000	\$ 1,206,000	\$ 1,263,000
Debt Service					
Credit Line	\$ 7,250	\$ 3,625	\$ -	\$ -	\$ -
Refinancing/New Proposed Debt	73,922	73,922	73,922	73,922	73,922
Total Debt Service	\$ 81,172	\$ 77,547	\$ 73,922	\$ 73,922	\$ 73,922
Total Operating Expenditures	\$ 1,121,172	\$ 1,176,547	\$ 1,224,922	\$ 1,279,922	\$ 1,336,922
Revenue Offsets					
Operating Revenues	\$ (3,000)	\$ (3,000)	\$ (3,000)	\$ (3,000)	\$ (3,000)
Non-Operating Revenues	(291,000)	(281,000)	(274,000)	(267,000)	(257,000)
Total Revenue Offsets	\$ (294,000)	\$ (284,000)	\$ (277,000)	\$ (270,000)	\$ (260,000)
Adjustments					
Reserve Funding	\$ 571,828	\$ 785,453	\$ 1,065,078	\$ 1,304,078	\$ 1,468,078
Total Adjustments	\$ 571,828	\$ 785,453	\$ 1,065,078	\$ 1,304,078	\$ 1,468,078
Revenue Requirement from Rates	\$1,399,000	\$1,678,000	\$2,013,000	\$2,314,000	\$2,545,000

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Rate Design – Recycled Water Utility

Currently, recycled water fixed charges are set at 100% of potable fixed charges; however, given the proposed revenue adjustments within the water utility and the shift in fixed cost recovery from 31% up to approximately 40%, maintaining the 100% equivalency would cause recycled water variable rates to reduce substantially. Therefore, based on direction from District Staff, recycled water fixed charges will be set to 55% of potable, with the remaining multi-year revenue requirements recovered from variable rates. to cover the cost of providing service. Therefore, the amount of annual revenues generated by the meter rates for each fiscal year are determined and then used to derive variable rates for the Rate Setting Period.

Fixed Cost Recovery

Table 94 derives the recycled water monthly meter charges based on 55% potable meter charges over the Rate Setting Period and calculates total revenue generated by the proposed fixed charges based on the meter counts by size in Table 83.

Table 94: Proposed Recycled Water Monthly Meter Charges

Potable Fixed Meter Charges (\$/Month)					
Meter Size	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
5/8"	\$ 46.84	\$ 55.28	\$ 65.24	\$ 71.77	\$ 78.95
3/4"	46.84	55.28	65.24	71.77	78.95
1"	94.93	112.02	132.19	145.41	159.96
1 1/2"	175.08	206.60	243.79	268.17	294.99
2"	271.26	320.09	377.71	415.49	457.04
3"	575.83	679.48	801.79	881.97	970.17
4"	1024.67	1,209.12	1,426.77	1,569.45	1,726.40
6"	2098.68	2,476.45	2,922.22	3,214.45	3,535.90
8"	4503.18	5,313.76	6,270.24	6,897.27	7,587.00
10"	6747.38	7,961.91	9,395.06	10,334.57	11,368.03
% of Potable	55.0%	55.0%	55.0%	55.0%	55.0%
Recycled Fixed Meter Charges (\$/Month)					
Meter Size	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
5/8"	\$ 25.76	\$ 30.40	\$ 35.88	\$ 39.47	\$ 43.42
3/4"	25.76	30.40	35.88	39.47	43.42
1"	52.21	61.61	72.70	79.98	87.98
1 1/2"	96.29	113.63	134.08	147.49	162.24
2"	149.19	176.05	207.74	228.52	251.37
3"	316.71	373.71	440.98	485.08	533.59
4"	563.57	665.02	784.72	863.20	949.52
6"	1,154.27	1,362.05	1,607.22	1,767.95	1,944.75
8"	2,476.75	2,922.57	3,448.63	3,793.50	4,172.85
10"	3,711.06	4,379.05	5,167.28	5,684.01	6,252.42
Total	\$149,050	\$175,880	\$207,539	\$228,294	\$251,123

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Variable Cost Recovery

Table 95 derives the proposed variable rates by taking the total revenue requirement identified in Table 93 and reducing the amount by total fixed revenue calculated in Table 94. The net amount is divided by total recycled water sales to determine the recycled water variable rate for the Rate Setting Period.

Table 95: Proposed Recycled Water Variable Rates

Proposed Recycled Variable Rates (\$/HCF)					
Variable Rates	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Recycled Revenue Requirement	\$ 1,399,000	\$ 1,678,000	\$ 2,013,000	\$ 2,314,000	\$ 2,545,000
Less: Projected Revenue from Fixed	(149,050)	(175,880)	(207,539)	(228,294)	(251,123)
Variable Revenue Requirement	\$ 1,249,950	\$ 1,502,120	\$ 1,805,461	\$ 2,085,706	\$ 2,293,877
÷ Units of Service (Projected Non-Potable Usage)	306,630	306,630	306,630	306,630	306,630
Recycled	\$4.08	\$4.90	\$5.89	\$6.81	\$7.49

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Cost-Based Rates – Water, Wastewater, and Recycled Water

Cost-of-Service and Rate Summary

The comprehensive cost-of-service analysis and rate development meet the requirements of Proposition 218 and identify the cost components that make up the proposed water, wastewater, and recycled water fixed charges and variable rates. Proposition 218 requires the following conditions:

1. An agency cannot collect revenue beyond what is necessary to provide service.
The long-term financial plan identifies the District's revenue requirements for each utility, including operating expenses, capital improvement programs, debt, and reserves.
2. Revenues derived by the charge shall not be used for any other purpose other than that for which the charge was imposed.
The District's water, wastewater, and recycled water utilities are analyzed as separate business enterprises to track revenues and expenses and do not fund services other than those necessary for the provision of water, wastewater, and recycled water, respectively.
3. The amount of the fee may not exceed the proportional cost-of-service for the parcel.
The comprehensive cost-of-service analysis, updated fixed charges, and variable rates reflect each customer's fair share of water, wastewater, and recycled water costs, respectively. Through this updated analysis, each customer will pay the proportional cost of providing service to that parcel.
4. No charge may be imposed for a service unless that service is actually used or immediately available to the owner of a property.
Only properties that are actually receiving utility service or have service immediately available to them are required to pay the fixed and variable charges described in this study.
5. A written notice of the proposed charge shall be mailed to the record owner of each parcel at least 45 days prior to the public hearing.
Notices were mailed to each affected parcel owner on May 15, 2023 which is 45 days before the June 29, 2023, Public Hearing.

The proposed water, wastewater, and recycled water 5-year rate schedules (FY 2024 through FY 2028) are shown in the following section. If a majority protest does not occur by or at the June 29th Public Hearing, the District Board may adopt the rates with an effective date of July 1, 2023.

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Rate Schedules – Water, Wastewater, and Recycled Water

Water

Table 96 through Table 98 provide the five-year water rate schedule over the Rate Setting Period for monthly fixed charges, variable rates, and variable pumping rates, respectively. For FY 2025 through FY 2028, the revenue adjustments are applied across the board to the cost-of-service rates derived for FY 2024 as account growth and usage characteristics are projected to remain constant for financial planning.

Table 96: Proposed Water Monthly Fixed Charge (FY 2024 – FY 2028)

Potable Fixed Meter Charges (\$/Month)						
Revenue Adjustment:	18%		18%		10%	10%
Meter Size	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	
5/8"	\$ 46.84	\$ 55.28	\$ 65.24	\$ 71.77	\$ 78.95	
3/4"	46.84	55.28	65.24	71.77	78.95	
1"	94.93	112.02	132.19	145.41	159.96	
1 1/2"	175.08	206.60	243.79	268.17	294.99	
2"	271.26	320.09	377.71	415.49	457.04	
3"	575.83	679.48	801.79	881.97	970.17	
4"	1,024.67	1,209.12	1,426.77	1,569.45	1,726.40	
6"	2,098.68	2,476.45	2,922.22	3,214.45	3,535.90	

Table 97: Proposed Water Variable Charge (FY 2024 – FY 2028)

Potable Variable Rates (\$/HCF)						
Revenue Adjustment:	18%		18%		10%	10%
Customer Class	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	
Single-Family						
Tier 1	\$ 4.40	\$ 5.20	\$ 6.14	\$ 6.76	\$ 7.44	
Tier 2	5.12	6.05	7.14	7.86	8.65	
Tier 3	5.64	6.66	7.86	8.65	9.52	
Multi-Family						
Tier 1	\$ 4.62	\$ 5.46	\$ 6.45	\$ 7.10	\$ 7.81	
Tier 2	5.64	6.66	7.86	8.65	9.52	
Commercial	\$ 4.73	\$ 5.59	\$ 6.60	\$ 7.26	\$ 7.99	
Irrigation	\$ 4.73	\$ 5.59	\$ 6.60	\$ 7.26	\$ 7.99	
Agricultural	\$ 4.73	\$ 5.59	\$ 6.60	\$ 7.26	\$ 7.99	
Portola Hills	\$ 5.25	\$ 6.20	\$ 7.32	\$ 8.06	\$ 8.87	

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 98: Proposed Water Variable Pumping Rates (FY 2024 – FY 2028)

Pumping Variable Rates (\$/HCF)					
Revenue Adjustment:		18%	18%	10%	10%
Pumping Zone	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Zone 1 - Base	\$ -	\$ -	\$ -	\$ -	\$ -
Zone 2 - Topanga / Saddlecrest	0.53	0.63	0.75	0.83	0.92
Zone 3 - Canyon Creek	0.94	1.11	1.31	1.45	1.60
Zone 4 - Falcon	1.44	1.70	2.01	2.22	2.45
Zone 5 - Joplin	0.14	0.17	0.21	0.24	0.27

Wastewater

Table 99 provides the five-year wastewater rate schedule over the Rate Setting Period for monthly fixed charges and variable rates. For FY 2025 through FY 2028, the revenue adjustments are applied across the board to the cost-of-service rates derived for FY 2024 as account growth and usage characteristics are projected to remain constant for financial planning.

Table 99: Proposed Wastewater Monthly Fixed Charge (FY 2024 – FY 2028)

Wastewater Rates					
Revenue Adjustment:		16.0%	16.0%	12.0%	12.0%
Flat Charges (\$/Month)					
Customer Class	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Residential	\$ 45.92	\$ 53.27	\$ 61.80	\$ 69.22	\$ 77.53
Commercial	\$ 12.58	\$ 14.60	\$ 16.94	\$ 18.98	\$ 21.26
Variable Rates (\$/HCF)					
Commercial					
Low	\$ 4.78	\$ 5.55	\$ 6.44	\$ 7.22	\$ 8.09
Medium	8.00	9.28	10.77	12.07	13.52
High	12.36	14.34	16.64	18.64	20.88

Trabuco Canyon Water District – 2023 Cost-of-Service Rate Study

Recycled Water

Table 100 and Table 101 provide the five-year recycled water fixed charges and variable rates over the Rate Setting Period, respectively. For FY 2025 through FY 2028, fixed charges are 55% of potable rates and the remaining revenue requirements for recycled water services are recovered from the variable rates.

Table 100: Proposed Recycled Water Monthly Fixed Charge (FY 2024 – FY 2028)

% of Potable	55.0%	55.0%	55.0%	55.0%	55.0%
Non-Potable Fixed Meter Charges (\$/Month)					
Meter Size	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
5/8"	\$ 25.45	\$ 30.03	\$ 35.44	\$ 38.98	\$ 42.88
3/4"	25.45	30.03	35.44	38.98	42.88
1"	51.11	60.32	71.18	78.30	86.14
1 1/2"	93.89	110.79	130.74	143.81	158.19
2"	145.22	171.36	202.21	222.44	244.68
3"	307.77	363.18	428.55	471.41	518.55
4"	547.32	645.84	762.09	838.30	922.14
6"	1,120.52	1,322.22	1,560.22	1,716.24	1,887.87
8"	2,403.81	2,836.50	3,347.07	3,681.78	4,049.96
10"	3,601.54	4,249.82	5,014.80	5,516.28	6,067.91
Total	\$144,784	\$170,846	\$201,600	\$221,760	\$243,937

Table 101: Proposed Recycled Water Variable Rates (FY 2024 – FY 2028)

Proposed Recycled Variable Rates (\$/HCF)					
Variable Rate Analysis	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Recycled Revenue Requirement	\$ 1,399,000	\$ 1,678,000	\$ 2,013,000	\$ 2,314,000	\$ 2,545,000
Less: Projected Revenue from Fixed	(144,784)	(170,846)	(201,600)	(221,760)	(243,937)
Variable Revenue Requirement	\$ 1,254,216	\$ 1,507,154	\$ 1,811,400	\$ 2,092,240	\$ 2,301,063
÷ Units of Service (Projected Non-Potable Usage)	306,630	306,630	306,630	306,630	306,630
Proposed Variable Rates	\$4.10	\$4.92	\$5.91	\$6.83	\$7.51

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Appendix A – Water Supply Analysis

Table 102: Water Supply Analysis

Key Inputs / Assumptions	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Water Loss	7.1%	7.1%	7.1%	7.1%	7.1%
Purchased Water Rates					
Variable Purchased Water Costs (\$/AF)					
Baker (BTP)					
Commodity Rate	\$ 858	\$ 858	\$ 858	\$ 858	\$ 858
SAC Operational Surcharge	0.97	0.97	0.97	0.97	0.97
SCP Operational Surcharge	8.14	8.14	8.14	8.14	8.14
SMWD - Treated					
Commodity Rate	\$ 1,209	\$ 1,209	\$ 1,209	\$ 1,209	\$ 1,209
SCP Operational Surcharge	8.14	8.14	8.14	8.14	8.14
IRWD - Treated					
Treated Commodity Rate	\$ 1,209	\$ 1,209	\$ 1,209	\$ 1,209	\$ 1,209
SCP Operational Surcharge	0.00	0.00	0.00	0.00	0.00
Pumping Surcharge	152	152	152	152	152
Dimension (DWTP)					
Untreated Commodity Rate	\$ 858	\$ 858	\$ 858	\$ 858	\$ 858
SAC Operational Surcharge	0.97	0.97	0.97	0.97	0.97
Portola Hills					
Commodity Rate	\$ 1,396	\$ 1,396	\$ 1,396	\$ 1,396	\$ 1,396
City of San Clemente					
BTP Commodity Rate	\$ 855	\$ 855	\$ 855	\$ 855	\$ 855
Fixed Purchased Water Costs					
MWDOC					
Capacity Charge - 1st Half (Jul - Dec)	\$ 28,796	\$ 28,796	\$ 28,796	\$ 28,796	\$ 28,796
Capacity Charge - 2nd Half (Jan - Jun)	28,796	28,796	28,796	28,796	28,796
Readiness to Serve	166,838	166,838	166,838	166,838	166,838
Annual Connection Fees	56,073	56,073	56,073	56,073	56,073
SMWD					
Chiquita Fixed O&M	12,191	12,191	12,191	12,191	12,191
Chiquita Variable O&M	2,952	2,952	2,952	2,952	2,952
IRWD					
BTP O&M	305,227	305,227	305,227	305,227	305,227
BTP Standby Charge	13,878	13,878	13,878	13,878	13,878
Portola Hills					
Fixed Charge	43,541	43,541	43,541	43,541	43,541
Subtotal Fixed Purchased Water Costs	\$ 658,291	\$ 658,291	\$ 658,291	\$ 658,291	\$ 658,291
Variable Purchased Water Costs					
Total Billings/Sales (AF)	2,323 AF	2,323 AF	2,323 AF	2,323 AF	2,323 AF
Portola Sales (AF)	145 AF	145 AF	145 AF	145 AF	145 AF
Sales less Portola	2,178 AF	2,178 AF	2,178 AF	2,178 AF	2,178 AF
Water Purchases (AF)					
TCWD Demand (AF) (including water loss)	2,344 AF	2,344 AF	2,344 AF	2,344 AF	2,344 AF
Baker (BTP)	368 AF	368 AF	368 AF	368 AF	368 AF
SMWD - Treated	26 AF	26 AF	26 AF	26 AF	26 AF
IRWD - Treated	591 AF	591 AF	591 AF	591 AF	591 AF
Dimension (DWTP)	1,359 AF	1,359 AF	1,359 AF	1,359 AF	1,359 AF
Portola Hills					
Water Sales - BTP	867 AF	867 AF	867 AF	867 AF	867 AF
Calculated Variable Purchased Water Costs					
TCWD					
Baker (BTP)	\$ 319,442	\$ 319,442	\$ 319,442	\$ 319,442	\$ 319,442
SMWD - Treated	31,633	31,633	31,633	31,633	31,633
IRWD - Treated	804,895	804,895	804,895	804,895	804,895
Dimension (DWTP)	1,167,189	1,167,189	1,167,189	1,167,189	1,167,189
Portola Hills					
Water Sales - BTP	741,392	741,392	741,392	741,392	741,392
Total Calculated Variable Purchased Water Costs	\$ 3,266,506	\$ 3,266,506	\$ 3,266,506	\$ 3,266,506	\$ 3,266,506
Pumping Costs					
T&D - Electricity	\$ 263,412	\$ 284,485	\$ 298,709	\$ 313,645	\$ 329,327
Subtotal Pumping Costs	\$ 263,412	\$ 284,485	\$ 298,709	\$ 313,645	\$ 329,327

Trabuco Canyon Water District – 2023 Cost-of-Service Study

Table 103: Water Supply Analysis Summary

Purchased Water Costs Summary	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Fixed Purchased Water Costs					
MWDOC	\$ 281,000	\$ 281,000	\$ 281,000	\$ 281,000	\$ 281,000
SMWD	16,000	16,000	16,000	16,000	16,000
IRWD	320,000	320,000	320,000	320,000	320,000
Portola Hills	44,000	44,000	44,000	44,000	44,000
Subtotal Fixed Purchased Water Costs	\$ 661,000	\$ 661,000	\$ 661,000	\$ 661,000	\$ 661,000
Variable Purchased Water Costs					
TCWD					
Baker (BTP)	\$ 320,000	\$ 320,000	\$ 320,000	\$ 320,000	\$ 320,000
SMWD - Treated	32,000	32,000	32,000	32,000	32,000
IRWD - Treated	805,000	805,000	805,000	805,000	805,000
Dimension (DWTP)	1,168,000	1,168,000	1,168,000	1,168,000	1,168,000
Portola Hills	202,000	202,000	202,000	202,000	202,000
Water Sales - BTP	742,000	742,000	742,000	742,000	742,000
Subtotal Variable Purchased Water Costs	\$ 3,269,000	\$ 3,269,000	\$ 3,269,000	\$ 3,269,000	\$ 3,269,000
Pumping Costs					
T&D - Electricity	\$ 264,000	\$ 285,000	\$ 299,000	\$ 314,000	\$ 330,000
Subtotal Pumping Costs	\$ 264,000	\$ 285,000	\$ 299,000	\$ 314,000	\$ 330,000
Total Water Supply Costs	\$ 4,194,000	\$ 4,215,000	\$ 4,229,000	\$ 4,244,000	\$ 4,260,000

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