Las Virgenes Municipal Water District

2020 Water, Recycled Water, and Sanitation Rate Study

Draft Report / November 25, 2020

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November 25, 2020

Donald Patterson
Director of Finance & Administration
Las Virgenes Municipal Water District
4232 Las Virgenes Rd.
Calabasas, CA 91302

Subject: 2020 Potable Water, Recycled Water, and Sanitation Rate Study Report

Dear Mr. Patterson,

Raftelis is pleased to provide this 2020 Potable Water, Recycled Water, and Sanitation Rate Study Report (Report) for Las Virgenes Municipal Water District (District).

The major objectives of the study include the following:

1. Develop financial plans for the Water, Recycled Water, and Sanitation Enterprises to ensure financial sufficiency, meet operation and maintenance (O&M) costs, and ensure sufficient funding for capital refurbishment and replacement (R&R) needs;
2. Conduct a cost-of-service analysis for the Potable Water and Recycled Water;
3. Develop fair and equitable 5-year potable water, recycled water, and sanitation rates to enhance revenue stability for recovering fixed costs while in compliance with Proposition 218 requirements.

This Report summarizes the key findings and recommendations related to the development of the financial plans for Potable Water, Recycled Water, and Sanitation Funds and the development of the associated potable water, recycled water, and sanitation rates.

It has been a pleasure working with you, and we thank you and the District staff for the support provided during the course of this study.

Sincerely,

Sanjay Gaur
Project Manager

Charles Diamond
Lead Analyst

Michael Hicks
Analyst

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1. Introduction

1.1. Background of the Study

Las Virgenes Municipal Water District (District) serves the cities of Agoura Hills, Calabasas, Hidden Hills, and Westlake Village as well as surrounding unincorporated areas of Western Los Angeles County. The District occupies 122 square miles and serves a population of approximately 75,000 people. The District provides potable water, recycled water, and sanitation services to its customers through three separate enterprise funds. Sanitation services are provided through a Joint Powers Authority (JPA) with Triunfo Water and Sanitation District which serves a portion of Eastern Ventura County.

The District is organized under the Municipal Water District Act of 1911 (California Water Code Section 71000). A five-member Board of Directors, each elected by geographic divisions, provides governance. Directors serve overlapping four-year terms, and every two years -- concurrent with the installation of the newly elected Board – they select Board officers. The Board also selects a local representative from the District to serve on the Board of Directors of the Metropolitan Water District of Southern California.

The District has several sources of drinking water but imports almost all of its supplies from the Metropolitan Water District of Southern California (MWD), one of the world's largest water wholesalers. Additionally, they receive some water from Ventura County and the City of Los Angeles. Most of the District's water originates in the Sierra Nevada Mountains, the water is then transported more than 400 miles through the State Water Project's California Aqueduct, entering the LVMWD service area at the east end of Calabasas. Water is then carried through the District through a system of more than 400 miles of water pipe. Customers are also located in 4 distinct elevation zones. Providing reliable water service to customers in elevated areas requires 25 storage tanks and 24 pump stations.

About 20% of the total water served to District customers is recycled water used to irrigate streetscapes, golf courses, school grounds, and other public and commercial landscapes. This recycled water is produced through extensive treatment of wastewater and is delivered through 66 miles of recycled water lines, three storage tanks, one reservoir, and four pumping stations.

The District provides sanitation services to most residents in its service area, with a system of 56 miles of trunk sewer lines and two lift stations which pump wastewater to the Tapia Water Reclamation Facility (TWRF), operated by The Las Virgenes - Triunfo Joint Powers Authority (JPA).

The major objectives of the study include the following:

1. Develop financial plans for the Potable Water, Recycled Water, and Sanitation Enterprises to ensure financial sufficiency, ability to fund operation and maintenance (O&M) needs necessary to ensure reliable service, and ensure sufficient funding for capital refurbishment and replacement (R&R) needs;
2. Conduct a cost-of-service analysis for the potable water and recycled water;
3. Develop fair and equitable 5-year potable water, recycled water, and sanitation rates in compliance with Proposition 218 requirements.

This Report summarizes the key findings and recommendations related to the development of the financial plans for Potable Water, Recycled Water, and Sanitation Funds and the development of the associated potable water, recycled water, and sanitation rates.

1.2. Legal Requirements and Rate Setting Methodology

1.2.1. LEGAL REQUIREMENTS

Proposition 218, reflected in the California Constitution as Article XIII D, was enacted in 1996 to ensure that rates and fees are reasonable and proportional to the cost of providing service. The principal requirements for fairness of the fees, as they relate to public water service, are as follows:

1. A property-related charge (such as water rates) imposed by a public agency on a parcel shall not exceed the costs required to provide the property-related service.
2. Revenues derived by the charge shall not be used for any purpose other than that for which the charge was imposed.
3. The amount of the charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel.
4. No charge may be imposed for a service unless that service is actually used or immediately available to the owner of property.
5. No fee or charge may be imposed for general governmental services including, but not limited to, police, fire, ambulance or library services, where the service is available to the public at large in substantially the same manner as it is to property owners.
6. 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, when the agency considers all written protests against the charge.

As stated in AWWA's *Principles of Water Rates, Fees, and Charges: Manual of Water Supply Practices M1*, 6th edition *(M1 Manual)*, "water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers." Proposition 218 requires that rates cannot be *arbitrary and capricious*, meaning that the rate-setting methodology must be sound and that there must be a nexus between the costs and the rates charged. This study follows industry standard rate setting methodologies set forth by the *M1 Manual*, adhering to Proposition 218 requirements by developing rates that do not exceed the proportionate cost of providing water services.

1.2.2. RATE SETTING METHODOLOGY

This report was prepared using the principles established by the American Water Works Association's "Principles of Water Rates, Fees, and Charges: Manual of Water Supply Practices M1" (the "M1 Manual") which establishes commonly accepted professional standards for cost of service studies. The M1 Manual general principles of rate structure design and the objectives of the Study are described below.

According to the M1 Manual, the first step in ratemaking analysis is to determine the adequate and appropriate funding of a utility. This is referred to as the "revenue requirements" analysis. This analysis considers the short-term and long-term service objectives of the utility over a given planning horizon, including capital facilities and system operations and maintenance, to determine the adequacy of a utility's existing rates to recover its costs. A number of factors may affect these projections, including the number of customers served, water-use trends, nonrecurring sales, weather, conservation, use restrictions, inflation, interest rates, wholesale contracts, capital finance needs, changes in tax laws, and other changes in operating and economic conditions.

After determining a utility's revenue requirements, a utility's next step is determining the cost of service. Utilizing a public agency's approved budget, financial reports, operating data, and capital improvement plans, a rate study generally categorizes (functionalizes) the costs (such as treatment, storage, and pumping), expenses, and assets of the utility system among major operating functions to determine the cost of service.

After the assets and the costs of operating those assets are properly categorized by function, the rate study allocates those "functionalized costs" to the various customer classes (e.g., single-family residential, multi-family residential and commercial) by determining the characteristics of those classes and the contribution of each to incurred costs based on service characteristics and demand patterns. Rate design is the final part of the M1 Manual's rate-making procedure and generally uses the revenue requirement and cost of service analysis to determine appropriate rates for each customer class.

2. General Assumptions

2.1. Inflation

The Study period is for Fiscal Years (FY) 2020 to FY 2025. For all cost of service analyses in this report, the cost of service year will be FY 2020 and rate setting year will be FY 2021. It is important to note that the district updates its rates in January of each year with the exception of 2021. Various types of assumptions and inputs were incorporated into the Study based on discussions with, and/or at the direction of, District staff. These include the projected number of accounts and annual growth rates in consumption for different customer classes, inflation factors, and other assumptions. The inflation factor assumptions are presented in **Table 2-1** below. The JPA Recycled Water Wholesale costs refers to the District's cost to purchase recycled water from the JPA after it is treated at the TWRF. The percentages are based on average historical increases and/or recent trends in price increases.

Table 2-1: Inflation Factor Assumptions

	2020	2021	2022	2023	2024	2025
G&A	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
Salary & Benefits	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%
Insurance	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Allocated Costs	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
Filter	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Chemical	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Electricity	3.5%	9.0%	5.0%	5.0%	5.0%	5.0%
Odor Control	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Water Supply Costs	5.7%	5.7%	5.7%	5.7%	5.7%	5.7%
Local SS Cost	5.7%	5.7%	5.7%	5.7%	5.7%	5.7%
JPA RW Wholesale Cost	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%
JPA Treatment Costs	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Construction	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%
Non-Escalation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

2.2. Projected Demand and Growth

Since the District is nearly built out, the rates do not include a component for expansion of service. Additionally, no account growth is assumed in this study. The cost of expansion to serve new customers is covered by capital facilities charges which are not the subject of this Study. **Table 2-2** shows the projected account growth for the study period.

Table 2-2: Projected Account Growth

Acct Growths	2020	2021	2022	2023	2024	2025
Potable Water	0%	0%	0%	0%	0%	0%
Recycled Water	0%	0%	0%	0%	0%	0%
Sanitation	0%	0%	0%	0%	0%	0%

The estimated percent changes in potable and recycled water demand for each year of the Study period is shown below in **Table 2-3** and are based on District staff projections. FY 2020 sales figures (18,280 AF for potable water and 4,117 AF for recycled water) were used to determine the anticipated demand for the rest of the study period. For the purposes of this Study, District Staff wanted to incorporate cutbacks in demand starting in FY 2023 for Potable and Recycled Water to reflect the trend of decreasing usage across all customer classes.

Table 2-3: Projected Water Demand Factor

	2020	2021	2022	2023	2024	2025
Potable Water Demand Assumptions						
Residential	0.0%	0.2%	0.0%	-2.6%	-2.2%	-2.3%
Multi Family	0.0%	0.2%	0.0%	-2.6%	-2.2%	-2.3%
Commercial	0.0%	0.2%	0.0%	-2.6%	-2.2%	-2.3%
Irrigation	0.0%	0.2%	0.0%	-2.6%	-2.2%	-2.3%
Recycled Water Demand Assumptions						
Las Virgenes Valley Zone	0.0%	0.0%	0.0%	-2.8%	-2.5%	-2.2%
Calabasas Zone	0.0%	0.0%	0.0%	-2.8%	-2.5%	-2.2%
Calabasas/MWD Zone	0.0%	0.0%	0.0%	-2.8%	-2.5%	-2.2%
Western Zone	0.0%	0.0%	0.0%	-2.8%	-2.5%	-2.2%

2.3. Reserve Policy

A reserve policy is a written document that provides a basis for the District to cope with unanticipated reductions in revenues, offset fluctuations in costs of providing services, and fiscal emergencies such as revenue shortfalls, asset failure, and natural disaster. It also provides guidelines for sound financial management with an overall long-range perspective to maintain financial solvency and to mitigate financial risks associated with revenue instability, volatile capital costs, and emergencies. It also sets funds aside for replacement of capital assets as they age and for new capital projects. Additionally, adopting and adhering to a sustainable reserve policy enhances financial management transparency and helps achieve or maintain a certain credit rating for future debt issues.

The appropriate amount of reserves and reserve types are determined by a variety of factors, such as the size of the operating budget, the amount of debt, the type of rate structure, frequency of customer billing, and risk of natural disaster. With this being said, most reserves tend to fall into the following categories: operations & maintenance (O&M) cash flow, rate stabilization, capital repair and replacement (R&R), and emergency.

Operating Reserves – The purpose of an O&M reserve is to provide working capital to support the operation, maintenance, and administration of the utility. From a risk management perspective, the O&M reserve supports the District's cash flow needs during normal operations and ensures that operations can continue should there be significant events that impact cash flows. As it is unlikely for a utility to precisely predict the revenues and revenue requirements for each billing period, a reserve set aside to hedge the risk of monthly negative cash positions is prudent financial planning. Another factor to consider when creating a cash flow reserve is the frequency of billing. A utility that bills once a month would require fewer minimum reserves than a utility that bills bi-monthly. The District has adopted a policy establishing an operating reserve of 25% of the current year operating budget.

Rate Stabilization– While it is not typical for utilities to have substantial rate increases in a short period of time, factors such as declining potable water sales and rapidly increasing potable water supply costs may result in large rate increases. In order to minimize rate shocks, the District has established a rate stabilization reserve to smooth rate increases through gradual increases in rates as opposed to abrupt and large rate increases. A rate stabilization reserve acts as a buffer to protect customers from experiencing large shifts in their bills. The District's rate structure is designed to minimize large fluctuations in revenue but incrementally increases the percentage of fixed costs recovered through its readiness-to-serve charge. The District has established an $8 million rate stabilization reserve.

Emergency – The purpose of an emergency fund is to allow the utility to provide uninterrupted service in light of a fiscal emergency, natural disaster, or facility failure. An emergency reserve decreases risk by recognizing the high capital costs of the facilities and setting aside adequate funds to restart the system after an unanticipated event or to replace an essential facility. Critical asset analysis completed by District staff provides the basis for the target level of emergency reserve. The emergency fund is 2.0% of the total value of capital assets.

Capital Replacement – Capital R&R reserves are used to fund future obligations that are necessary for maintaining a reliable infrastructure. Because water and sewer utilities are highly capital-intensive enterprises, it is important to accurately estimate long-term R&R costs and develop a reserve to fund the eventual replacement of the system and new capital projects. The capital replacement reserve is equal to the most recent three years of depreciation.

Raftelis reviewed the current reserve policies put in place by the District and, after discussions with District Staff, concluded that no changes to the policy needed to be made. **Table 2-4** below highlights each enterprise funds reserve policy and reserve target for FY 2021.

Table 2-4: Current Unrestricted Reserve Targets for FY 2021

Reserve Targets 2021	Water	Recycled	Sanitation
Operating Reserves			
25% of Operating budget	$10,040,521	$1,254,281	$3,401,496
Debt			
100% of Debt Service	$621,718	$0	$0
Capital Replacement			
100% of 3-yr Depreciation Expenses	$12,435,703	$494,406	$14,480,484
Emergency			
2% of Capital Asset Value	$4,586,326	$202,309	$3,922,099
Rate Stabilization			
	$8,000,000	$0	$0
Grand Total	**$35,684,268**	**$1,950,996**	**$21,804,079**

3. Potable Water Financial Plan

A review of a utility's revenue requirements is a key first step in the rate study process. The review involves an analysis of annual operating revenues under the status quo, operation and maintenance (O&M) expenses, and reserve requirements. This section of the report provides a discussion of the projected revenues, O&M expenses, other reserve funding and revenue adjustments, to ensure the fiscal sustainability and solvency of the Potable Water Fund. Numbers shown in all the tables of this section are rounded; therefore, hand calculations based on the displayed numbers, such as summing or multiplying, may not equal the exact results shown.

3.1. Revenues from Current Potable Water Rates

The current rates were last adjusted on January 1, 2020. The District's potable water service charges have three components: fixed readiness-to-serve charges, commodity charges, and elevation charges. Customers are grouped into one of the elevation zones, numbered one through four, which changes based on the District's cost to pump potable water to that zone.

The District bills monthly for all its services which include regular and temporary metered customers. **Table 3-1** & **Table 3-2** summarize the current RTS charges and **Table 3-3** & **Table 3-4** summarize the current commodity charges.

Table 3-1: Current Regular Monthly Readiness to Serve Charges

Monthly RTS Charge (Regular)	Current
3/4"	$33.72
3/4" x 1"	$33.72
1"	$54.97
1 1/2"	$108.07
2"	$171.80
2 1/2"	$373.61
3"	$373.61
4"	$671.00
6"	$1,701.28
8"	$2,975.84
10"	$4,462.83

Table 3-2: Current Temporary Monthly Readiness to Serve Charges

Monthly RTS Charge (Temporary)	Current
1"	$82.46
2 1/2" & 3"	$560.42
4"	$1,006.50
6"	$2,551.92
8"	$4,463.76
10"	$6,694.25

Table 3-3: Current Commodity Charges

Commodity Charges	Current
Single- / Multi-Family Residential	$/HCF
Tier 1	$2.85
Tier 2	$3.50
Tier 3	$4.20
Tier 4	$5.22
Commercial	
Tier 1	$2.85
Tier 2	$3.50
Tier 3	$4.20
Tier 4	$5.22
Irrigation	
Tier 1	$3.50
Tier 2	$4.20
Tier 3	$5.22
Temporary	
Zone 1	$7.83
Zone 2	$7.83
Zone 3	$7.83
Zone 4	$7.83

Table 3-4: Current Monthly Elevation Charges

Elevation Charges by Zone	Current
Elevation Surcharges (Regular)	$/HCF
Zone 1	$0.00
Zone 2	$0.52
Zone 3	$1.19
Zone 4	$1.82
Elevation Surcharges (Temporary)	
Zone 1	$0.00
Zone 2	$0.78
Zone 3	$1.79
Zone 4	$2.73

Table 3-5 and **Table 3-6** summarizes the projected number of accounts by meter size for the Study period. The existing number of accounts for FY 2020 was used to project the number of accounts through the remainder of the study period as the District is not expecting growth.

Table 3-5: Projected Potable Water Accounts

Meters Size	2020	2021	2022	2023	2024	2025
3/4"	478	478	478	478	478	478
3/4" x 1"	16,145	16,145	16,145	16,145	16,145	16,145
1"	2,217	2,217	2,217	2,217	2,217	2,217
1 1/2"	775	775	775	775	775	775
2"	745	745	745	745	745	745
3"	48	48	48	48	48	48
4"	26	26	26	26	26	26
6"	22	22	22	22	22	22
8"	4	4	4	4	4	4
10"	1	1	1	1	1	1
Total - Accounts	**20,461**	**20,461**	**20,461**	**20,461**	**20,461**	**20,461**

Table 3-6: Projected Temporary Potable Water Accounts

Meters Size	2020	2021	2022	2023	2024	2025
1”	4	4	4	4	4	4
2 1/2" & 3"	43	43	43	43	43	43
4"	-	-	-	-	-	-
6"	1	1	1	1	1	1
8"	-	-	-	-	-	-
10"	-	-	-	-	-	-
Total - Accounts	**48**	**48**	**48**	**48**	**48**	**48**

The projected potable water sales developed by District staff from **Table 3-7** were used to project potable water usage in each tier and were based on consumption data from FY 2020. District staff estimates that water usage will go down in the out years of the study starting in FY 2023 as mentioned in Section 2 **Table 2-3**, where Raftelis took the assumptions from District Staff into account and developed an estimate for the projected amount of usage for each year of the study period. Potable Water sales by Zone can be seen on **Table 3-8**. Note that Total usage is the same in both tables as the percentage reduction/increase from year to year is also used to adjust each zone.

Table 3-7: Projected Potable Water Sales

	2020	2021	2022	2023	2024	2025
Residential						
Tier 1	1,491,660	1,494,078	1,494,078	1,454,846	1,422,153	1,389,460
Tier 2	3,023,834	3,028,736	3,028,736	2,949,207	2,882,933	2,816,658
Tier 3	972,765	974,342	974,342	948,757	927,437	906,117
Tier 4	824,190	825,526	825,526	803,850	785,785	767,721
Total - Residential	**6,312,449**	**6,322,682**	**6,322,682**	**6,156,660**	**6,018,308**	**5,879,956**
Multi Family						
Tier 1	435,146	435,852	435,852	424,407	414,870	405,333

	2020	2021	2022	2023	2024	2025
Tier 2	54,247	54,335	54,335	52,908	51,719	50,530
Tier 3	42,066	42,134	42,134	41,028	40,106	39,184
Tier 4	23,341	23,379	23,379	22,765	22,254	21,742
Total - Multi	**554,800**	**555,700**	**555,700**	**541,108**	**528,948**	**516,788**
Commercial						
Tier 1	250,766	251,173	251,173	244,577	239,081	233,585
Tier 2	408,669	409,332	409,332	398,583	389,626	380,669
Tier 3	104,097	104,266	104,266	101,528	99,246	96,965
Tier 4	53,986	54,074	54,074	52,654	51,471	50,288
Total - Comm	**817,518**	**818,844**	**818,844**	**797,342**	**779,425**	**761,507**
Irrigation						
Tier 1	170,770	171,047	171,047	166,556	162,813	159,070
Tier 2	34,891	34,948	34,948	34,030	33,265	32,500
Tier 3	51,106	51,189	51,189	49,845	48,725	47,605
Total - Irr	**256,768**	**257,184**	**257,184**	**250,431**	**244,803**	**239,175**
Temporary						
Zone 1	628	629	629	613	599	585
Zone 2	7,650	7,663	7,663	7,462	7,294	7,126
Zone 3	67	67	67	65	64	62
Zone 4	-	-	-	-	-	-
Total - Temp	**8,346**	**8,359**	**8,359**	**8,140**	**7,957**	**7,774**
Total Usage	**7,949,881**	**7,962,768**	**7,962,768**	**7,753,680**	**7,579,440**	**7,405,200**
Total Usage (AF)	***18,250***	***18,280***	***18,280***	***17,800***	***17,400***	***17,000***
Total wo Temp (hcf)	***7,941,536***	***7,954,409***	***7,954,409***	***7,745,540***	***7,571,483***	***7,397,426***

Table 3-8: Potable Water Sales by Zone

Tiered Usage	2020	2021	2022	2023	2024	2025
Zone Usage Summary (excl Temp)						
Zone 1	4,698,384	4,706,000	4,706,000	4,582,429	4,479,453	4,376,477
Zone 2	2,695,797	2,700,167	2,700,167	2,629,266	2,570,181	2,511,096
Zone 3	458,770	459,514	459,514	447,448	437,393	427,338
Zone 4	88,584	88,728	88,728	86,398	84,457	82,515
Total Usage excl. Temporary (hcf)	**7,941,536**	**7,954,409**	**7,954,409**	**7,745,540**	**7,571,483**	**7,397,426**
Total Usage (AF)	***18,250***	***18,280***	***18,280***	***17,800***	***17,400***	***17,000***

Table 3-9 shows the projected revenues for the Study period under the existing rates. Since the District adjusts rates in January, the FY 2020 rates includes ½ year under the old rates (July 2019 through December 2019) and ½ year under the new rates (January 2020 through June 2020).

The commodity revenues shown for FY 2020 through FY 2025 are calculated by multiplying the projected usage by the January 2020 rate. For example, the commodity charge revenue from Tier 1 usage for FY 2021 can be calculated as follows:

$$Projected\ Tier\ 1\ Usage\ for\ FY\ 2021\ \times Tier\ 1\ Rate$$
$$1{,}494{,}078\ \times \$2.85\ = \$4{,}258{,}122$$

The same calculation is repeated for all tiers to determine the total commodity revenue for each year of the Study period.

Likewise, the same calculation is used to determine the elevation revenues except applied to an entire zone's usage. For example, the elevation charge revenue for zone 2 usage for FY 2021 can be calculated as follows:

$$Projected\ Zone\ 2\ Usage\ for\ FY\ 2021\ \times Zone\ 2\ Rate$$
$$2{,}700{,}167\ \times \$0.52\ = \$1{,}404{,}087$$

The same calculation is repeated for all zones to determine the total elevation revenue for each year of the Study period.

The readiness-to-serve (RTS) charge revenue is the fixed portion of the water service charge that increases with meter size. For example, the RTS charge revenue for all single-family homes with a 3/4" x 1" meter for FY 2021 is calculated as follows:

$$Fixed\ charge\ rate\ \times Number\ of\ Accounts\ \times 12\ months$$
$$\$33.72\ \times 16{,}145\ \times 12 = \$6{,}532{,}913$$

The same calculation is repeated for all meter sizes and then added together to determine the total RTS charge revenue. For FY 2021, the projected RTS charge revenue for all customers including temporary is $12,120,732.

Table 3-9: Projected Revenues from Current Potable Water Rates

Rate Revenue Summary	2020	2021	2022	2023	2024	2025
Monthly RTS Charge	$11,339,155	$12,120,732	$12,120,732	$12,120,732	$12,120,732	$12,120,732
Commodity Charges	$28,414,727	$28,938,319	$28,938,319	$28,178,450	$27,545,227	$26,912,003
Elevation Surcharges	$2,048,532	$2,118,490	$2,118,490	$2,062,862	$2,016,506	$1,970,149
Revenues from Current Rates	**$41,802,414**	**$43,177,541**	**$43,177,541**	**$42,362,045**	**$41,682,465**	**$41,002,885**

3.2. Miscellaneous Potable Water Revenues

In addition to revenue from rates, the Potable Water Fund also receives miscellaneous revenues from different sources such as interest earnings, property taxes, and other operating/non-operating sources. Total miscellaneous revenues for the Study period are shown in **Table 3-10**. The figures below are based on District staff projections for the Study period. Revenues are not inflated year to year.

Table 3-10: Projected Miscellaneous Potable Water Revenues

Revenue Summary	2020	2021	2022	2023	2024	2025
Temporary Meter Fees	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000
Late Pay and other Non-Operating	$536,000	$536,000	$536,000	$536,000	$536,000	$536,000
Water Usage - Accidents	$29,500	$29,500	$29,500	$29,500	$29,500	$29,500
PW Supplement to RW	$1,542,080	$2,099,432	$2,162,279	$2,286,177	$2,413,012	$2,547,665
Other Operating & Property Tax	$696,163	$696,163	$696,163	$706,605	$717,204	$727,962
Water Supply Pass-Through Revenue	$0	$1,197,993	$2,380,467	$3,007,291	$3,742,693	$4,487,361
Total	**$2,806,743**	**$4,562,088**	**$5,807,408**	**$6,568,573**	**$7,441,409**	**$8,331,488**

3.3. Potable Water O&M Expenses

3.3.1. WATER SUPPLY COSTS

Based on projections and inputs from District staff, the sources of water, per unit price, and expected purchase quantities from each source are shown in **Table 3-11** below. The total potable water supply costs at the bottom of the table are determined by multiplying the per unit costs for each source of potable water by the corresponding quantity purchased from that source and adding in the fixed costs associated with each source. Estimated budgeted sales figures were used for Ventura and Simi Valley Purchases for FY 2020 - FY 2025 and projected sales were used for MWD Purchased Water for FY 2020 - FY 2025. Please note that the pass through revenue and its calculation is shown at the bottom of **Table 3-11.** This revenue will be included in Raftelis' projections. Pass through revenues cover any increases in the rates for wholesale water.

Table 3-11: Projected Potable Water Supply Costs

Line	MWD Rates		2020	2021	2022	2023	2024	2025
			A	B	C	D	E	F
1	Tier 1 Supply Rate ($/AF)		$208	$218	$229	$241	$253	$265
2	Tier 2 Supply Rate ($/AF)		$295	$310	$325	$341	$359	$377
3	System Access Rate (SAR, $/AF)		$346	$363	$381	$401	$421	$442
4	Water Stewardship Rate ($/AF)		$65	$68	$72	$75	$79	$83
5	System Power Rate ($/AF)		$136	$143	$150	$157	$165	$174
6	Water Transfer/Delta Surcharge ($/AF)		$0	$0	$0	$0	$0	$0
7	Treatment Surcharge ($/AF)		$323	$339	$356	$374	$393	$412
8	Tier 1 Variable Rate		$1,078	$1,132	$1,188	$1,248	$1,310	$1,376
9	Tier 2 Variable Rate		$1,165	$1,223	$1,284	$1,349	$1,416	$1,487
10	Cap Reservation Charge (CRC, $/cfs)		$8,700	$9,135	$9,592	$10,071	$10,575	$11,104
11	RTS Revenues ($M, b)		$136	$143	$150	$157	$165	$174
12	LVMWD RTS Charges	*Projected by District*	$1,371,238	$1,439,800	$1,511,790	$1,587,379	$1,666,748	$1,750,086
13	MWD Tier 1 Limit		24,358 AF	24,358 AF	24,358 AF	24,358 AF	24,358 AF	24,358 AF
14	LVMWD Peak Demand for MWD CRC (cfs)		46	46	46	46	46	46
15	**Water Sales**		18,250 AF	18,280 AF	18,280 AF	17,800 AF	17,400 AF	17,000 AF
16	Water Loss		3.08%	3.08%	3.08%	3.08%	3.08%	3.08%
17	**Net Water Sales**	*Row 15 * Row 16*	***18,813 AF***	***18,843 AF***	***18,843 AF***	***18,348 AF***	***17,936 AF***	***17,524 AF***
18	**Water Purchase to make Non-Sales needs**							

Line	MWD Rates		2020	2021	2022	2023	2024	2025
			A	B	C	D	E	F
19	Recycled Water System Supplement	*Projected by District*	976 AF	985 AF	980 AF	980 AF	980 AF	980 AF
20	Plus Tank Inventories	*Projected by District*	0 AF	0 AF	0 AF	0 AF	0 AF	0 AF
21	Plus LV Reservoir Filling	*Projected by District*	1,290 AF	1,290 AF	1,290 AF	1,290 AF	1,290 AF	1,290 AF
22	Less LV Reservoir Draw	*Projected by District*	-199 AF	-199 AF	-199 AF	-199 AF	-199 AF	-199 AF
23	Less Non-MWD Purchase	*Projected by District*	-141 AF	-122 AF	-124 AF	-127 AF	-129 AF	-131 AF
24	Simi Valley	*Projected by District*	39 AF	39 AF	40 AF	41 AF	42 AF	42 AF
25	Ventura County	*Projected by District*	81 AF	83 AF	84 AF	86 AF	87 AF	89 AF
26	LADWP	*Projected by District*	21 AF	0 AF	0 AF	0 AF	0 AF	0 AF
27	**MWD Purchase**							
28	Tier 1	*Sum Row 17:23*	20,739 AF	20,797 AF	20,790 AF	20,293 AF	19,878 AF	19,463 AF
29	Tier 2		0 AF	0 AF	0 AF	0 AF	0 AF	0 AF
30	**MWD Water Supply Costs**							
31	Tier 1 Variable	*Row 8 * Row 28*	$22,356,360	$23,540,534	$24,708,866	$25,323,914	$26,046,690	$26,778,370
32	Tier 2 Variable		$0	$0	$0	$0	$0	$0
33	Capacity Reservation Charge		$399,330	$419,297	$440,261	$462,274	$485,388	$509,658
34	RTS	*Row 12*	$1,371,238	$1,439,800	$1,511,790	$1,587,379	$1,666,748	$1,750,086
35	Reservoir Filling		-$1,500,695	-$1,575,404	-$1,654,217	-$1,740,044	-$1,829,900	-$1,924,520
36	**Total MWD Purchased Water**	*Sum Row 31:35*	**$22,626,233**	**$23,824,226**	**$25,006,700**	**$25,633,524**	**$26,368,926**	**$27,113,594**
37	**Total Water Supply Costs**							
38	**Total MWD Purchased Water**		$22,626,233	$23,824,226	$25,006,700	$25,633,524	$26,368,926	$27,113,594
39	Simi Valley Purchase	*Projected by District*	$61,269	$62,910	$64,912	$68,612	$72,523	$76,657
40	Ventura Purchase	*Projected by District*	$308,388	$316,649	$326,726	$345,349	$365,034	$385,841
41	Draw From Reservoir	*Projected by District*	$854,100	$852,550	$926,640	$979,458	$1,035,288	$1,094,299
42	LVR Adjustment	*Projected by District*	$157,941	$169,613	$174,397	$184,338	$194,845	$205,951
43	**Total Water Supply Costs**		**$24,007,931**	**$25,225,948**	**$26,499,375**	**$27,211,281**	**$28,036,616**	**$28,876,342**
44	**(Pass Through Revenue)**	*(B…F)36 – A36*		$1,197,993	$2,380,467	$3,007,291	$3,742,693	$4,487,361

3.3.2. POTABLE WATER OPERATING EXPENSES

Using the District's FY 2020 budget values, inflation factors were assigned to each line item to determine future O&M costs for the Potable Water Fund. These inflation factors can be referenced in **Table 2-1**. **Table 3-12** summarizes budgeted and projected O&M expenses for the Potable Water Fund during the Study period. The Potable Water Supply Costs are taken from the calculated values in **Table 3-11** above. Other operating expenses include specialty expenses, public information, conservation, and conservation education (please refer to the District's budget document for descriptions of each expense item).

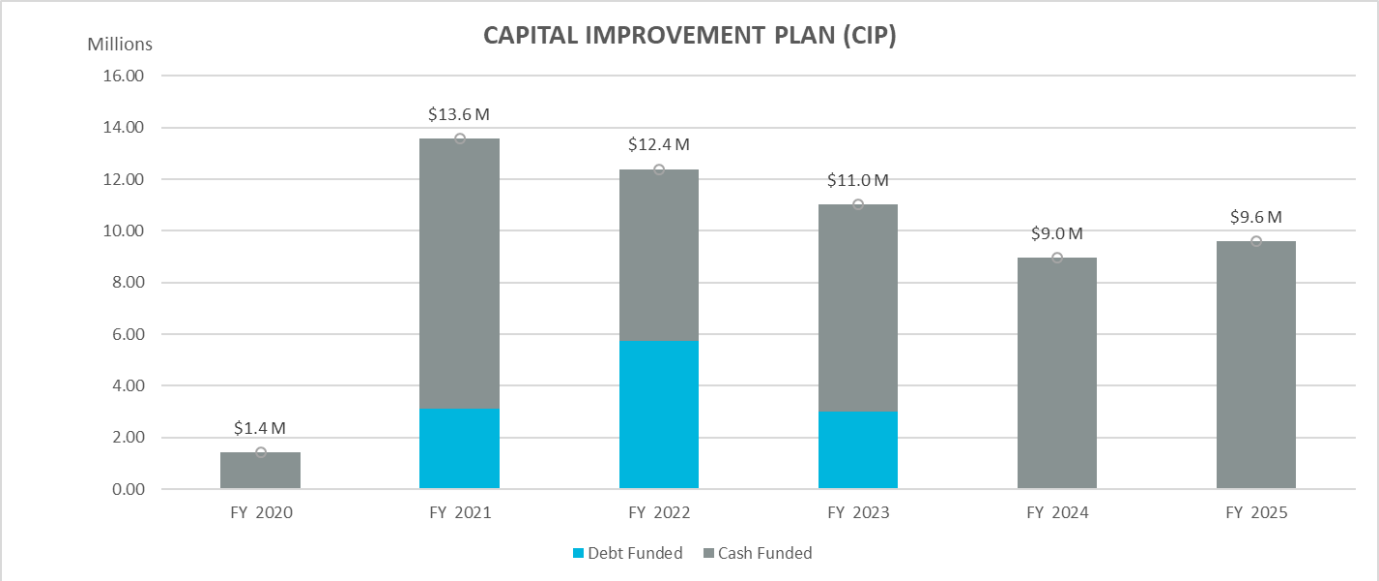
Table 3-12: Potable Water Operating Expenses Summary

Water O&M Summary	2020	2021	2022	2023	2024	2025
Source of Supply	$24,007,931	$25,225,948	$26,499,375	$27,211,281	$28,036,616	$28,876,342
Operating Expense	$2,312,802	$2,589,620	$2,661,620	$2,772,305	$2,887,719	$3,008,071
Maintenance Expense	$1,413,568	$1,406,430	$1,531,014	$1,585,917	$1,642,807	$1,701,756
Specialty Expenses	$441,803	$646,881	$677,995	$701,939	$726,737	$752,419
Public Information Expenses	$48,512	$245,745	$245,983	$253,854	$261,978	$270,361
Field Conservation Expenses	$416,349	$262,115	$262,206	$270,597	$279,256	$288,192
Community Conservation Education Expenses	$35,500	$18,000	$18,000	$18,576	$19,170	$19,784
Resource Conservation	$45,035	$164,639	$164,466	$169,729	$175,160	$180,765
Administrative Expenses	$8,649,634	$9,602,707	$9,514,718	$9,819,189	$10,133,403	$10,457,672
Grand Total	**$37,371,134**	**$40,162,084**	**$41,575,377**	**$42,803,387**	**$44,162,845**	**$45,555,361**

3.4. Projected Capital Improvement Projects

The District has programmed approximately $57M in capital expenditures during the Study period for the potable water enterprise, as shown in **Figure 3-1**. (A full list of projects and costs can be found in the Appendix.) The capital improvement project (CIP) costs for future years is determined by using the programmed/budgeted costs and inflating the value by the construction inflation factor shown in **Table 2-1**. The District plans to fund its CIP needs via 100 % pay-as-you-go (PAYGO) (grey) with a debt issuance for its Automatic Meter Reading (AMR) project (blue), as shown in **Figure 3-1**.

Figure 3-1: Projected Potable Water CIP and Funding Sources



3.5. Debt Service

The Potable Water Fund currently has issued debt to fund its AMR project as mentioned in the previous section. The AMR project will provide the District with communication technology that automatically collects water consumption and status data from water meters. The debt service cost for the project can be seen on **Table 3-13** below. The District does not have any other plans to issue any other debt for the Water Enterprise through FY 2025.

Table 3-13: Potable Water Debt Service Schedule

Debt Summary	2020	2021	2022	2023	2024	2025
AMR Project Debt Svc.	$0	$621,718	$1,173,669	$1,169,120	$1,169,230	$1,168,950
Other Debt service	$0	$0	$0	$0	$0	$0
Total Debt Service	$0	$621,718	$1,173,669	$1,169,120	$1,169,230	$1,168,950

3.6. Status Quo Potable Water Financial Plan

Figure 3-2 shows the revenue shortfalls that begin in FY 2021 and carry through each year of the study period. The dashed lines represent the projected revenues from current rates without any adjustment (gross increase in rate revenues). Note that the blue dashed line (Proposed) matches the red dashed line (Current) as no revenue adjustments are made in this scenario. It is important to note that the status quo plan includes pass through revenues as mentioned in section 3.3.1. The stacked bars represent the expenditures, such as debt service (grey), O&M expenses (blue), O&M water supply expenses (teal), and PAYGO CIP (yellow). The green bars below the axis signify that the collected revenues are insufficient for operating and capital costs in those years and require drawing on the current water fund reserve balances as can be seen in **Figure 3-3**. This makes clear that the current water revenues are insufficient to recover the costs to operate in all years. Additionally, the District is not able to meet its target reserves under the status quo; thus, certain revenue adjustments are required. The District must also meet the minimum coverage requirements on its outstanding debt to ensure that it meets the associated debt covenants. The required debt coverage ratio for the District is 1.1, which means that the District's net revenue must amount to at least 1.1 times annual debt service. Net revenues equal revenues less O&M expenses. Annual debt service includes annual principal and interest payments on all outstanding debt.

Figure 3-2: Status Quo Potable Water Financial Plan

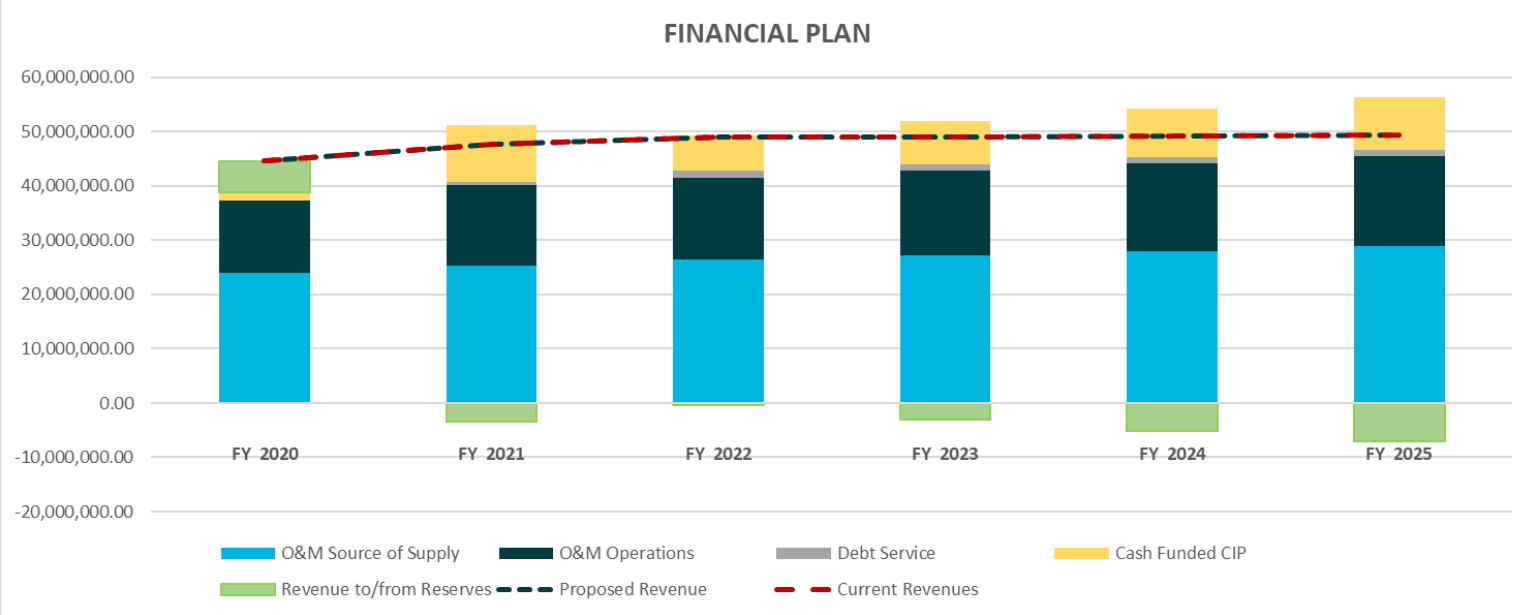


Figure 3-3 Status Quo Water Fund Ending Balances

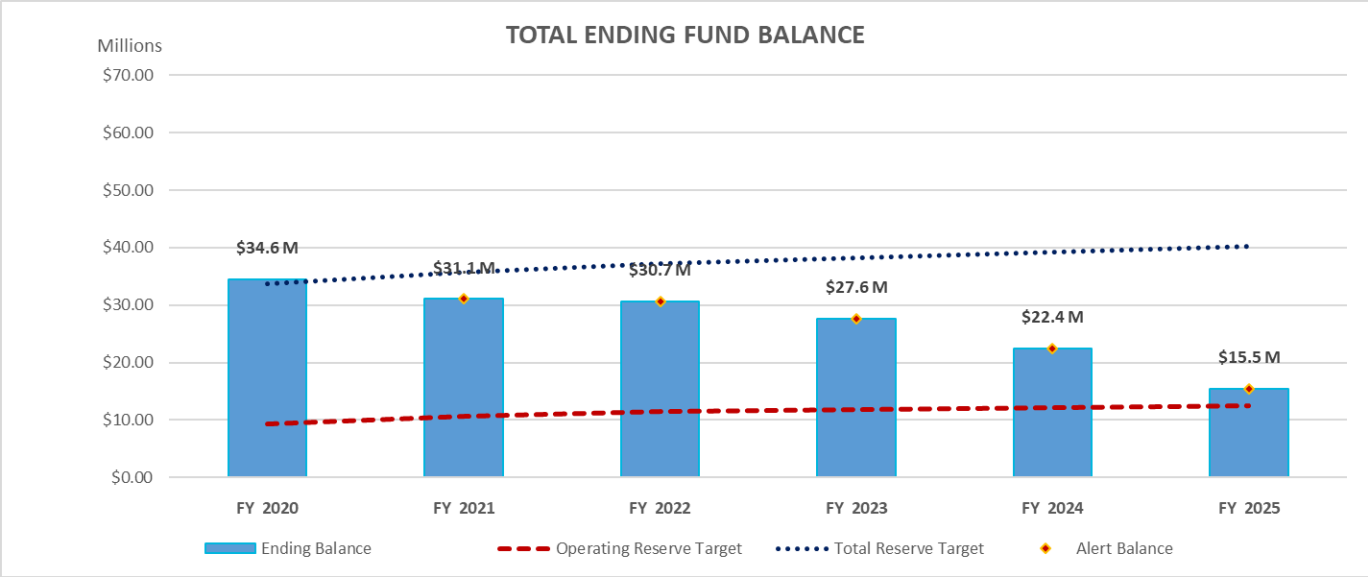


Table 3-14 displays the pro forma of the District's Potable Water Fund under current rates over the Study period. All projections shown in the table are based upon the District's current rate structure. The pro-forma incorporates the data shown in **Table 3-9** for revenues from current rates, **Table 3-11** for revenues from pass through, **Table 3-10** for miscellaneous revenues, **Table 3-11** for potable water supply costs, **Table 3-12** for O&M expenses and **Figure 3-1** for Capital Projects (see Appendix for more detail on project list).

Table 3-14: Potable Water Status Quo Financial Plan

Water Proforma	2020	2021	2022	2023	2024	2025
Revenue						
Revenue from Current Rates	$41,802,414	$43,177,541	$43,177,541	$42,362,045	$41,682,465	$41,002,885
Additional Revenue from Adjustments	$0	$0	$0	$0	$0	$0
Water Supply Pass-Through Revenue	$0	$1,197,993	$2,380,467	$3,007,291	$3,742,693	$4,487,361
Other Revenue	$2,806,743	$3,364,095	$3,426,941	$3,561,282	$3,698,716	$3,844,127
Total Revenue	**$44,609,157**	**$47,739,629**	**$48,984,949**	**$48,930,618**	**$49,123,874**	**$49,334,372**
O&M						
Source of Supply	$24,007,931	$25,225,948	$26,499,375	$27,211,281	$28,036,616	$28,876,342
All Other O&M	$13,363,203	$14,936,137	$15,076,002	$15,592,105	$16,126,230	$16,679,020
Total O&M	**$37,371,134**	**$40,162,084**	**$41,575,377**	**$42,803,387**	**$44,162,845**	**$45,555,361**
Net Operating Revenue (Excl. Debt)	**$7,238,023**	**$7,577,544**	**$7,409,573**	**$6,127,231**	**$4,961,029**	**$3,779,011**
Debt Service	**$0**	**$621,718**	**$1,173,669**	**$1,169,120**	**$1,169,230**	**$1,168,950**
Net Operating Revenue	**$7,238,023**	**$6,955,826**	**$6,235,904**	**$4,958,111**	**$3,791,799**	**$2,610,061**
CIP						
Debt Funded	$0	$3,127,025	$5,735,093	$3,015,009	$0	$0
Cash Funded	$1,415,242	$10,434,608	$6,657,354	$7,995,775	$8,966,294	$9,598,404
Total CIP	**$1,415,242**	**$13,561,633**	**$12,392,447**	**$11,010,784**	**$8,966,294**	**$9,598,404**
Net Cash Change	**$5,822,781**	**($3,478,782)**	**($421,451)**	**($3,037,664)**	**($5,174,495)**	**($6,988,343)**
Beginning Fund Balance	$28,732,447	$34,555,228	$31,076,446	$30,654,995	$27,617,331	$22,442,835
Ending Balance	$34,555,228	$31,076,446	$30,654,995	$27,617,331	$22,442,835	$15,454,493
TARGET RESERVE BALANCE	$33,749,558	$35,684,268	$37,227,868	$38,192,585	$39,219,658	$40,280,371
PROJECTED DEBT COVERAGE	#N/A	12.19	6.31	5.24	4.24	3.23

3.7. Proposed Potable Water Financial Plan

Raftelis developed a 5-year Financial Plan Model incorporating the known and projected cost increases for operating and capital expenditures. The results were presented and discussed with District Staff and the District Board. Raftelis devised several scenarios for the Board to review and the District deemed the scenario below the most appropriate as consistent annual increases will avoid even higher increases or "spikes" in future years. The proposed revenue adjustments for the water fund are shown below on **Table 3-15**. Note that this revenue adjustment is in addition to any adjustments that need to be made as a result of water supply pass though costs (increases in costs to purchase water from Metropolitan Water District).

Table 3-15: Potable Water Proposed Adjustments

2021	2022	2023	2024	2025
March	January	January	January	January
5.0%	5.0%	5.0%	5.0%	5.0%

The water financial plan with the proposed revenue adjustments is summarized in the following figures. In **Figure 3-4** the dashed red line represents projected revenues from current rates without any adjustment while the dashed blue line represents the projected revenues with the proposed revenue adjustments plus pass-through of water supply cost, shown in **Table 3-15**. The stacked bars represent the expenditures, such as debt service (grey), O&M expenses (blue), O&M water supply expenses (teal), and PAYGO CIP (yellow). The green bars above the axis in FY 2022 to FY 2025 signify that the collected revenues are sufficient for operating and capital costs, and that the water enterprise fund is able to build its reserves. **Figure 3-5** shows the forecasted water fund ending balances (blue bars) after incorporating the proposed revenue adjustments and projected expenses (shown in **Figure 3-4**), and the estimated water fund beginning balance as of FY 2020. The blue bar intersecting with the dotted blue line in FY 2025 indicates that the District will achieve its reserve target in FY 2025. **Table 3-16** numerically summarizes the financial plan under the proposed scenario; note that net cash flow is positive for all years of the study period except for FY 2021.

Figure 3-4: Proposed Potable Water Financial Plan

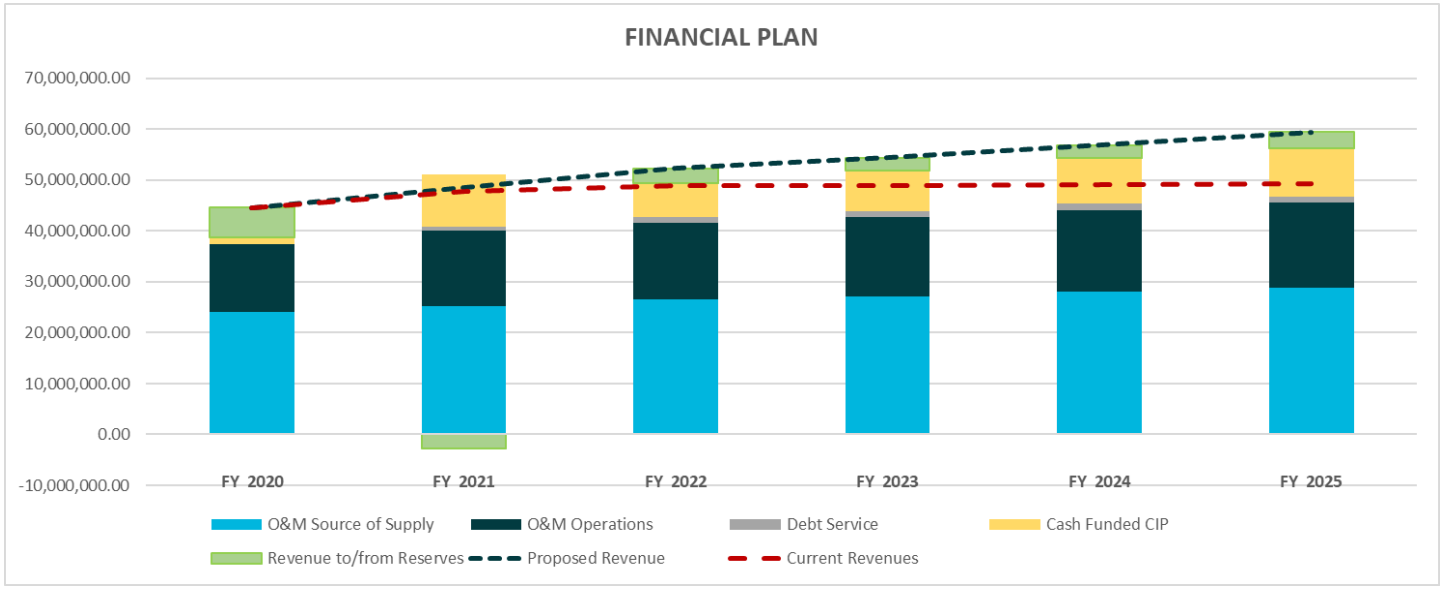


Figure 3-5: Projected Water Fund Ending Balances

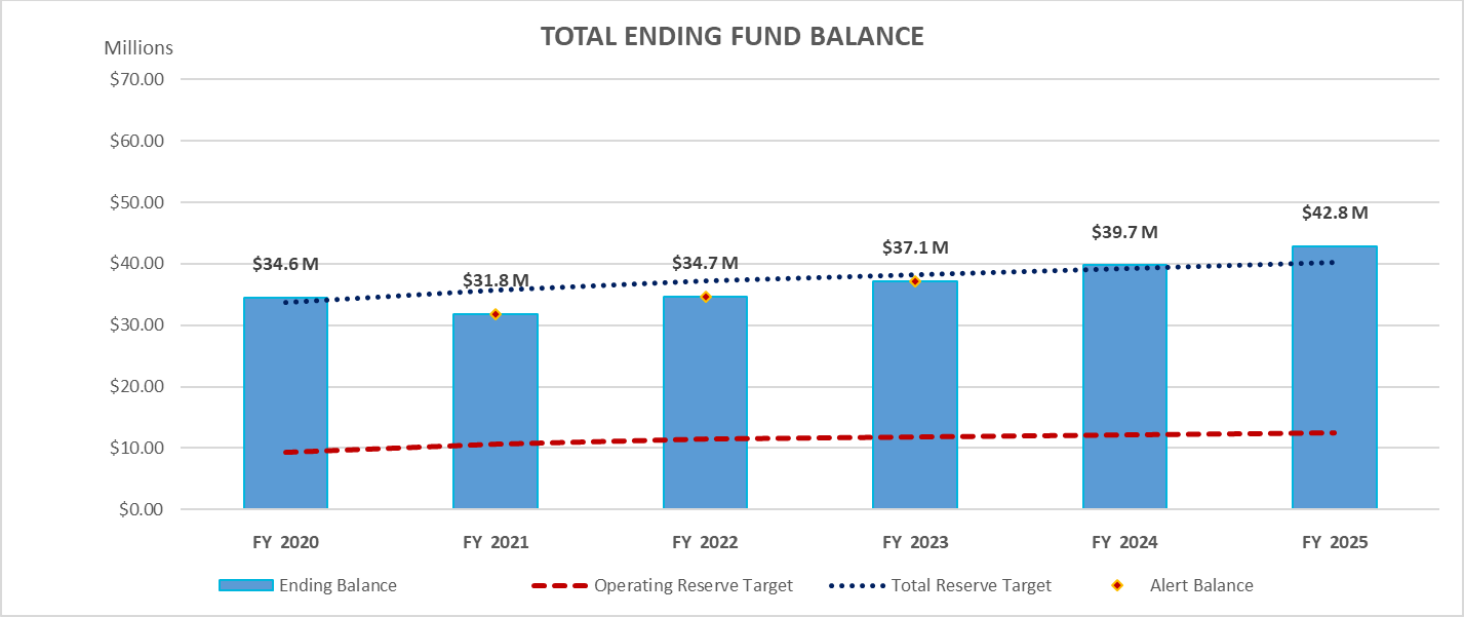


Table 3-16: Proposed Potable Water Financial Plan

Water Proforma	2020	2021	2022	2023	2024	2025
Revenue						
Revenue from Current Rates	$41,802,414	$43,177,541	$43,177,541	$42,362,045	$41,682,465	$41,002,885
Additional Revenue from Adjustments	$0	$719,626	$3,292,287	$5,509,713	$7,776,515	$10,082,359
Water Supply Pass-Through Revenue	$0	$1,197,993	$2,380,467	$3,007,291	$3,742,693	$4,487,361
Other Revenue	$2,806,743	$3,364,095	$3,426,941	$3,561,282	$3,698,716	$3,844,127
Total Revenue	**$44,609,157**	**$48,459,254**	**$52,277,237**	**$54,440,331**	**$56,900,389**	**$59,416,732**
O&M						
Source of Supply	$24,007,931	$25,225,948	$26,499,375	$27,211,281	$28,036,616	$28,876,342
All Other O&M	$13,363,203	$14,936,137	$15,076,002	$15,592,105	$16,126,230	$16,679,020
Total O&M	**$37,371,134**	**$40,162,084**	**$41,575,377**	**$42,803,387**	**$44,162,845**	**$45,555,361**
Net Operating Revenue (Excl. Debt)	$7,238,023	$8,297,170	$10,701,860	$11,636,944	$12,737,544	$13,861,370
Debt Service	$0	$621,718	$1,173,669	$1,169,120	$1,169,230	$1,168,950
Net Operating Revenue	**$7,238,023**	**$7,675,452**	**$9,528,191**	**$10,467,824**	**$11,568,314**	**$12,692,420**
CIP						
Debt Funded	$0	$3,127,025	$5,735,093	$3,015,009	$0	$0
Cash Funded	$1,415,242	$10,434,608	$6,657,354	$7,995,775	$8,966,294	$9,598,404
Total CIP	**$1,415,242**	**$13,561,633**	**$12,392,447**	**$11,010,784**	**$8,966,294**	**$9,598,404**
Net Cash Change	**$5,822,781**	**($2,759,156)**	**$2,870,837**	**$2,472,049**	**$2,602,020**	**$3,094,017**
Beginning Fund Balance	$28,732,447	$34,555,228	$31,796,071	$34,666,908	$37,138,957	$39,740,977
Ending Balance	$34,555,228	$31,796,071	$34,666,908	$37,138,957	$39,740,977	$42,834,994
TARGET RESERVE BALANCE	$33,749,558	$35,684,268	$37,227,868	$38,192,585	$39,219,658	$40,280,371
PROJECTED DEBT COVERAGE	#N/A	13.35	9.12	9.95	10.89	11.86

4. Sanitation Financial Plan

A review of a utility's revenue requirements is a key first step in the rate study process. The review involves an analysis of annual operating revenues under the status quo, O&M expenses, and reserve requirements. This section of the report provides a discussion of the projected revenues, O&M expenses, other reserve funding, and revenue adjustments estimated as required to ensure the fiscal sustainability and solvency of the Sanitation Fund. Numbers shown in all the tables of this section are rounded; therefore, hand calculations based on the displayed numbers, such as summing or multiplying, may not equal the exact results shown.

4.1. Revenues from Current Sanitation Rates

Table 4-1 show the current residential sanitation rates effective since January 1, 2020. Single Family Residential (SFR) charges are based on the indoor water budget which estimate sanitation flows generated by each service based on household size and 55 gallons per capita per day which is consistent with the water usage and indoor water budget the District currently has in place. Estimated sanitation flows for residential are based on the formula below.

$$\frac{30\ Days\ of\ service\ \times Household\ size\ \times 55\ Gallons\ per\ capita\ per\ day}{Gallons\ per\ hcf}$$

$$\frac{30\ Days\ of\ Service\ \times 3\ persons\ \times 55\ gallons\ per\ capita\ per\ day}{748\ gallons} = 6.62$$

Table 4-1: Current Residential Sanitation Rates

Flow hcf	Household Size	Current
2.2	1	$22.73
4.4	2	$38.04
6.6	3	$53.35
8.8	4	$68.66
11	5	$83.97
13.2	6+	$99.28

Table 4-2 shows the current commercial sanitation rates which consist of three components which are: account service charges, equivalent residential unit (ERU[1]) charges, variable charges by commercial class, and effluent strength for usage in excess of minimum ERU usage. The ERU charges for commercial customers recover the flow-based costs for 6.62 hcf, equivalent sanitation flows of a single residential unit in a 30-day billing period. Any flows beyond the 6.62 hcf/ERU are subject to the excess use charges.

[1] Equivalent Residential Unit - unit of measure used to equate non-residential wastewater flow to a specific number of single-family residences.

Table 4-2: Current Commercial Sanitation Rates

Commercial Charges	Current
Monthly Account Service Charge	
Class 1	$7.42
Class 2	$7.42
Class 3	$7.42
Class 4	$7.42
Commercial Monthly ERU Charges	
ERU Charges	
Class 1	$44.52
Class 2	$61.37
Class 3	$81.27
Class 4	$102.27
Excess ERU Charges	
Class 1	$6.75
Class 2	$9.30
Class 3	$12.31
Class 4	$15.49

Table 4-3 summarizes the projected number of accounts and ERU by customer class for the Study period. The existing number of accounts/ERUs for FY 2020 remain stable through all years of the study period as the District is not expecting any significant growth. Note that while there are 726 Commercial accounts for FY 2020, this translates to 4,408 ERUs based on actual usage and strength characteristics of each commercial account. The ERUs were provided by District staff for FY 2020.

Table 4-3: Projected Sanitation ERUs and Excess Usage Summary

Single Family Residential	2020	2021	2022	2023	2024	2025
Household Size (# of Accounts)						
1	1,493	1,493	1,493	1,493	1,493	1,493
2	3,035	3,035	3,035	3,035	3,035	3,035
3	4,595	4,595	4,595	4,595	4,595	4,595
4	2,796	2,796	2,796	2,796	2,796	2,796
5	1,208	1,208	1,208	1,208	1,208	1,208
6+	599	599	599	599	599	599
Subtotal - Single Family Residential	**13,726**	**13,726**	**13,726**	**13,726**	**13,726**	**13,726**
	0	0	0	0	0	0
Multi-Family Residential (MFR)	0	0	0	0	0	0
# of Residents	**18,804**	**18,804**	**18,804**	**18,804**	**18,804**	**18,804**
	0	0	0	0	0	0
Commercial	0	0	0	0	0	0
(# of Accounts)	0	0	0	0	0	0

Single Family Residential	2020	2021	2022	2023	2024	2025
Class 1	609	609	609	609	609	609
Class 2	97	97	97	97	97	97
Class 3	20	20	20	20	20	20
Class 4	0	0	0	0	0	0
Subtotal - Accounts	**726**	**726**	**726**	**726**	**726**	**726**
# of ERU	0	0	0	0	0	0
Class 1	3,281	3,281	3,281	3,281	3,281	3,281
Class 2	990	990	990	990	990	990
Class 3	137	137	137	137	137	137
Class 4	0	0	0	0	0	0
Subtotal - ERU	**4,408**	**4,408**	**4,408**	**4,408**	**4,408**	**4,408**
Excess Usage	0	0	0	0	0	0
Class 1	174,892	174,892	174,892	174,892	174,892	174,892
Class 2	115,218	115,218	115,218	115,218	115,218	115,218
Class 3	18,296	18,296	18,296	18,296	18,296	18,296
Class 4	0	0	0	0	0	0
Subtotal - Usage	**308,406**	**308,406**	**308,406**	**308,406**	**308,406**	**308,406**

Revenues from the current sanitation rates can be determined by multiplying the current rates by the ERUs for the given year. For example, the annual sanitation revenues for Multi-Family Residential (MFR) customers under current rates are calculated as a follow:

$$Household\ Size\ 1^{2} \times Number\ of\ projected\ MFR\ ERUs\ for\ 2021 \times 12\ months$$
$$\$22.73 \times 18{,}804 \times 12 = \$5{,}128{,}979$$

The same calculation is repeated for the other customer classes under their respective household sizes and for each commercial customer class. The total revenues from current sanitation rates are shown in **Table 4-4** below.

Table 4-4: Calculated Revenues from Current Sanitation Rates

Calculated Revenue from Current Rates	2020	2021	2022	2023	2024	2025
Single Family	**$8,878,118**	**$8,968,901**	**$8,968,901**	**$8,968,901**	**$8,968,901**	**$8,968,901**
Multi-Family	**$5,077,080**	**$5,128,979**	**$5,128,979**	**$5,128,979**	**$5,128,979**	**$5,128,979**
Commercial Charges						
Account Service Charges	$63,990	$64,643	$64,643	$64,643	$64,643	$64,643
Per ERU Charge	$2,589,699	$2,615,525	$2,615,525	$2,615,525	$2,615,525	$2,615,525
Variable Charges	$2,446,601	$2,477,271	$2,477,271	$2,477,271	$2,477,271	$2,477,271
Commercial Total	**$5,100,289**	**$5,157,439**	**$5,157,439**	**$5,157,439**	**$5,157,439**	**$5,157,439**
Grand Total	**$19,055,487**	**$19,255,318**	**$19,255,318**	**$19,255,318**	**$19,255,318**	**$19,255,318**

[2] Household Size of 1 represents Single ERU; LVMWD provided Data for total MFR ERUs in System

4.2. Sanitation Revenues

In addition to revenue from rates, the Sanitation Fund also receives revenues from different sources such as Late Payment Fees, District Fees and other operating/non-operating sources. Total revenues for the Study period are shown in **Table 4-5**. Miscellaneous revenues are projected based on District staff estimates. Note that Sanitation Service Fees is equal to the grand total of **Table 4-4.**

Table 4-5: Sanitation Revenue Summary

Revenue Summary	2020	2021	2022	2023	2024	2025
Late Payment Fees and other non-operating revenues	$335,000	$340,025	$345,125	$350,302	$355,557	$360,890
Sanitation Service Fees	$19,055,487	$19,255,318	$19,255,318	$19,255,318	$19,255,318	$19,255,318
Coring Fees	$295,000	$295,000	$295,000	$295,000	$295,000	$295,000
Consolidated Sewer District Fees	$215,000	$215,000	$215,000	$218,225	$221,498	$224,821
Total - Operating Revenue	**$19,900,487**	**$20,105,343**	**$20,110,444**	**$20,118,845**	**$20,127,373**	**$20,136,029**

4.3. Sanitation O&M Expenses

Using the District's FY 2020 budget values, inflation factors were assigned to each line item to determine future O&M costs for the Sanitation Fund. **Table 4-6** summarizes budgeted and projected O&M expenses for the Sanitation Fund during the Study period. Purchased Services expenses include the District's share of JPA net expenses and payments to the City of Los Angeles[3] for additional sanitation treatment services. O&M expenses include Operating and Maintenance expenses and Other Operating Expenses include Specialty Expenses. Please refer to the District budget document for descriptions of each expense item.

Table 4-6: Projected Sanitation O&M Expenses

O&M Summary	2020	2021	2022	2023	2024	2025
Purchased Services	$10,331,549	$11,363,900	$10,948,836	$11,278,364	$11,617,811	$11,967,477
Operating Expenses	$79,550	$101,800	$101,800	$105,738	$109,828	$114,078
Maintenance Expenses	$92,007	$151,938	$154,625	$160,172	$165,920	$171,875
Specialty Expenses	$0	$0	$0	$0	$0	$0
Administrative Expenses	$1,918,240	$1,988,344	$1,692,504	$1,746,664	$1,802,557	$1,860,239
Grand Total	**$12,421,346**	**$13,605,982**	**$12,897,765**	**$13,290,937**	**$13,696,117**	**$14,113,670**

4.4. Projected Capital Improvement Projects

Figure 4-1 shows the projected CIP spending over the study period, as provided by District staff. Capital project costs for FY 2021 and beyond are inflated by a factor of 3.8 % per year based on the District's recommendation. The District plans to fund the CIP costs with a mix of pay-as-you-go (PAYGO) and debt service as shown by the grey (Cash Funded) and blue (Debt Funded) bars in **Figure 4-1.** (A full list of projects and their costs can be found in the Appendix). The CIP costs for future years are determined by using the programmed/budgeted costs and inflating the value by the construction inflation factor. The District plans on issuing debt to fund the projected costs of the Pure Water Project which it plans to implement in FY 2022. The Pure Water Project will

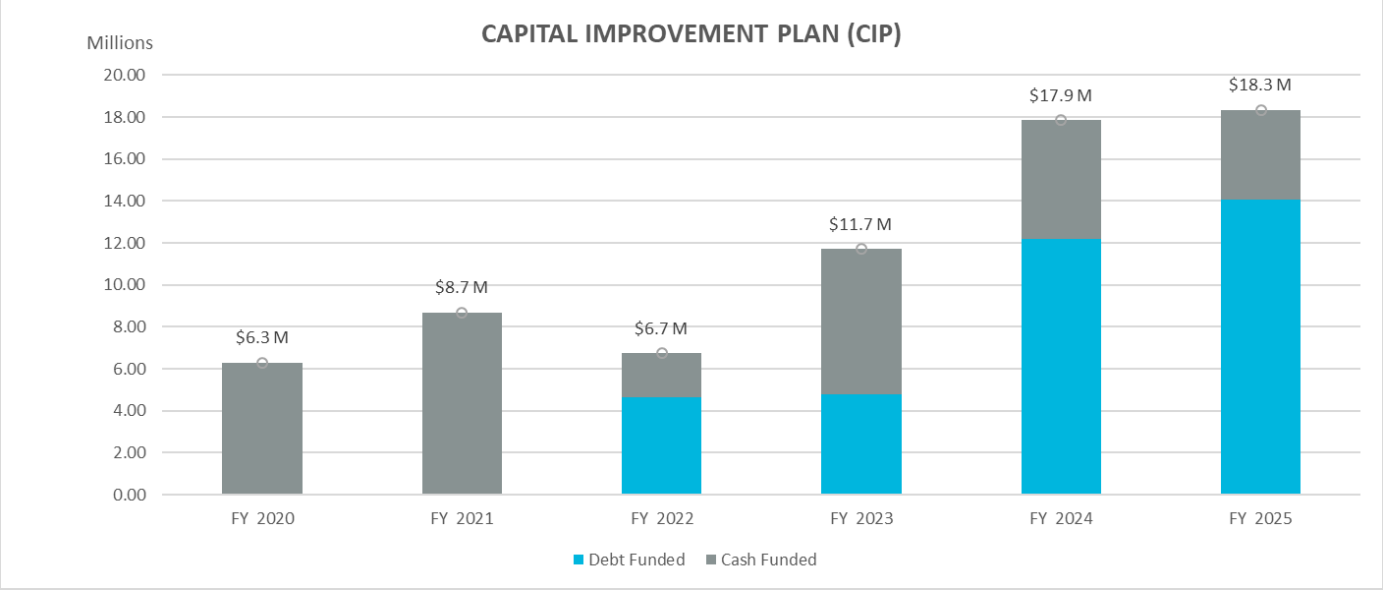
[3] Refer to official budget documentation for detail.

also be partially funded by the recycled water enterprise as the system benefits recycled water users. The percentage split of the project is seen in **Table 4-7** and was allocated with direction from District staff. The estimated split between recycled water and sanitation is based on the proportional share of benefit each system receives from the project.

Table 4-7: Pure Water Project Costs Split

Pure Water Project Split	2020	2021	2022	2023	2024	2025
Pure Water Project Costs (Total)	**$0**	**$4,942,000**	**$5,824,157**	**$5,998,882**	**$6,705,797**	**$15,034,620**
Pure Water Funded by Sanitation	0%	76%	76%	76%	76%	76%
Pure Water Funded by Recycled	0%	24%	24%	24%	24%	24%

Figure 4-1: Projected Sanitation CIP



4.5. Debt Service

The Sanitation Enterprise currently has no outstanding debt but, as mentioned in the previous section, the District plans on issuing debt to help fund the projected costs of the Pure Water Project. The assumed debt terms can be seen on **Table 4-8. Table 4-9** shows the projected cost to issue the debt and projected Annual Debt Service for each year that the debt is issued. **Table 4-10** shows the annual debt service payment for each year of the study period.

Table 4-8: Assumed Debt Terms

Proposed Debt Terms	2020	2021	2022	2023	2024	2025
Terms (Yrs)	30	30	30	30	30	30
Interest Rates	5%	5%	5%	5%	5%	5%
Issuance Costs	2%	2%	2%	2%	2%	2%

Table 4-9: Proposed Debt Issuance

Proposed Debt	2020	2021	2022	2023	2024	2025
Proposed Debt Issue	$0	$0	$4,716,658	$4,860,335	$12,445,792	$14,364,450
Issuance Costs	$0	$0	$94,333	$97,207	$248,916	$287,289
Net Debt Proceeds	$0	$0	$4,622,324	$4,763,128	$12,196,876	$14,077,161
Annual Debt Service for New Debt	$0	$0	$306,825	$316,172	$809,617	$934,428

Table 4-10: Total Proposed Debt Service

	2020	2021	2022	2023	2024	2025
Total Proposed Debt Service	$0	$0	$306,825	$622,997	$1,432,614	$2,367,042

4.6. Status Quo Potable Sanitation Financial Plan

Table 4-11 displays the proforma of the District's Sanitation Funds under current rates over the Study period. All projections shown in the table are based upon the District's current rate structure and do not include any rate adjustments. The proforma incorporates revenues from current rates (**Table 4-4**), miscellaneous revenues (**Table 4-5**), O&M expenses (**Table 4-6**), capital expenditures (**Figure 4-1**), and debt service (**Table 4-10**). The financial plan is visualized in **Figure 4-2**, the dashed red line represents projected revenues from current rates without any adjustment. Note that the blue dashed line (Proposed) matches the red dashed line (Current) as no revenue adjustments are made in this scenario. The stacked bars represent the expenditures, such as debt service (grey), O&M expenses (blue), O&M purchased services (teal), and PAYGO CIP (yellow). The green bars below the axis in FY 2023 to FY 2025 signify that the collected revenues are not enough to cover the District's expenses and must rely on reserves to fund its costs.

Under the "status quo" scenario, the District is unable to meet reserve requirements starting in FY 2023 as set in the Reserve Policy discussed in Section 3 and will begin drawing down on reserves starting that same year. Additionally, the cost of the Pure Water Project will add extra strain on the Sanitation Enterprise in the out years due to the high cost of the project**. Figure 4-3** shows the forecasted Sanitation Fund ending balances (blue) after incorporating the current revenues and expenses (shown in **Figure 4-2**) and the estimated beginning balance as of FY 2020. The dotted blue line in **Figure 4-3** is the recommended minimum target balance. The bars not intersecting with the dashed line shows that the Sanitation Enterprise does not meet its target balances and a downward trend in funds is inevitable if no revenue adjustments are made. Additionally, the required debt coverage ratio for the District is 1.1, which means that the District's net revenue must amount to at least 1.1 times annual debt service. Net revenues equal revenues less O&M expenses. Annual debt service includes annual principal and interest payments on all outstanding debt.

Figure 4-2: Status Quo Sanitation Financial Plan

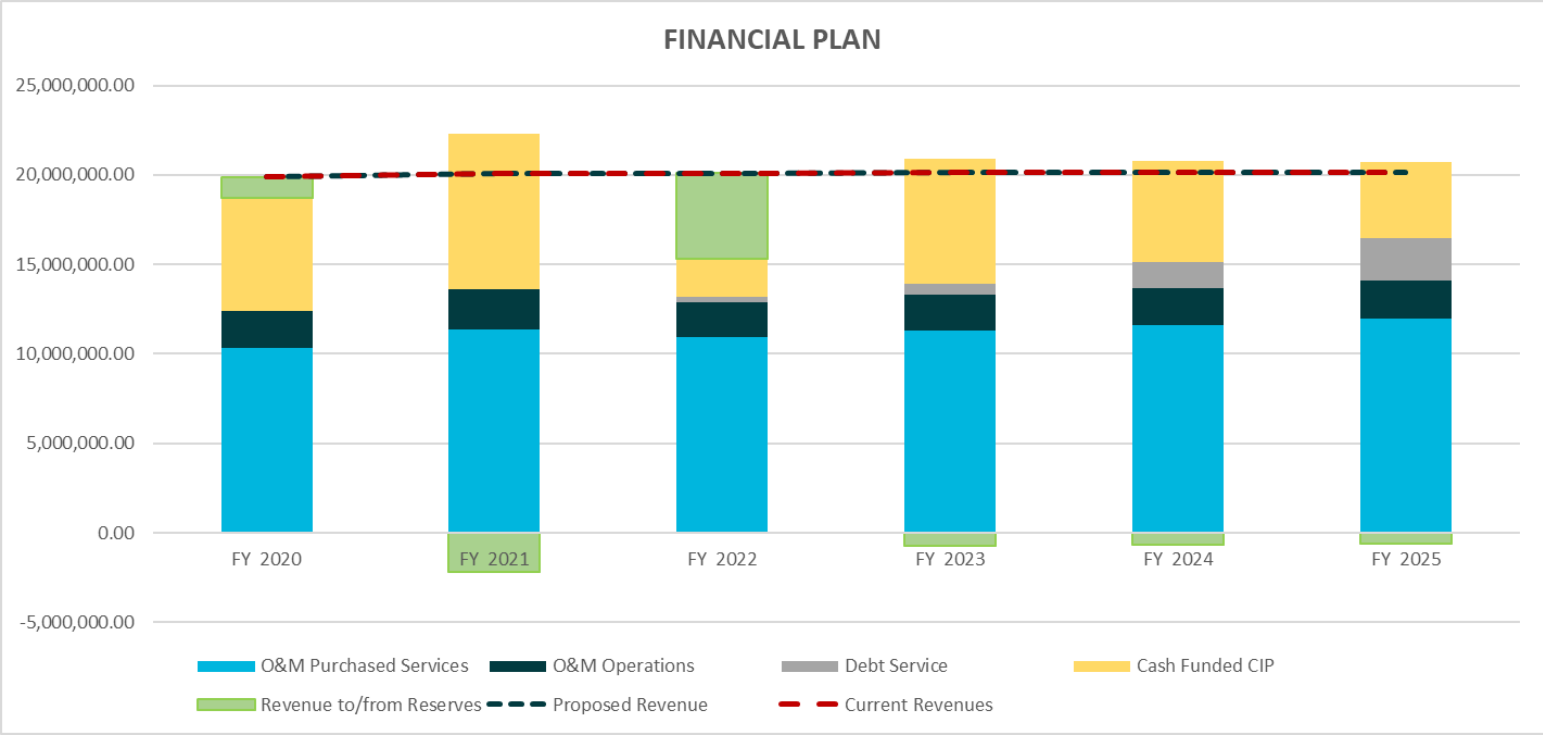


Figure 4-3: Projected Sanitation Fund Ending Balance – Status Quo

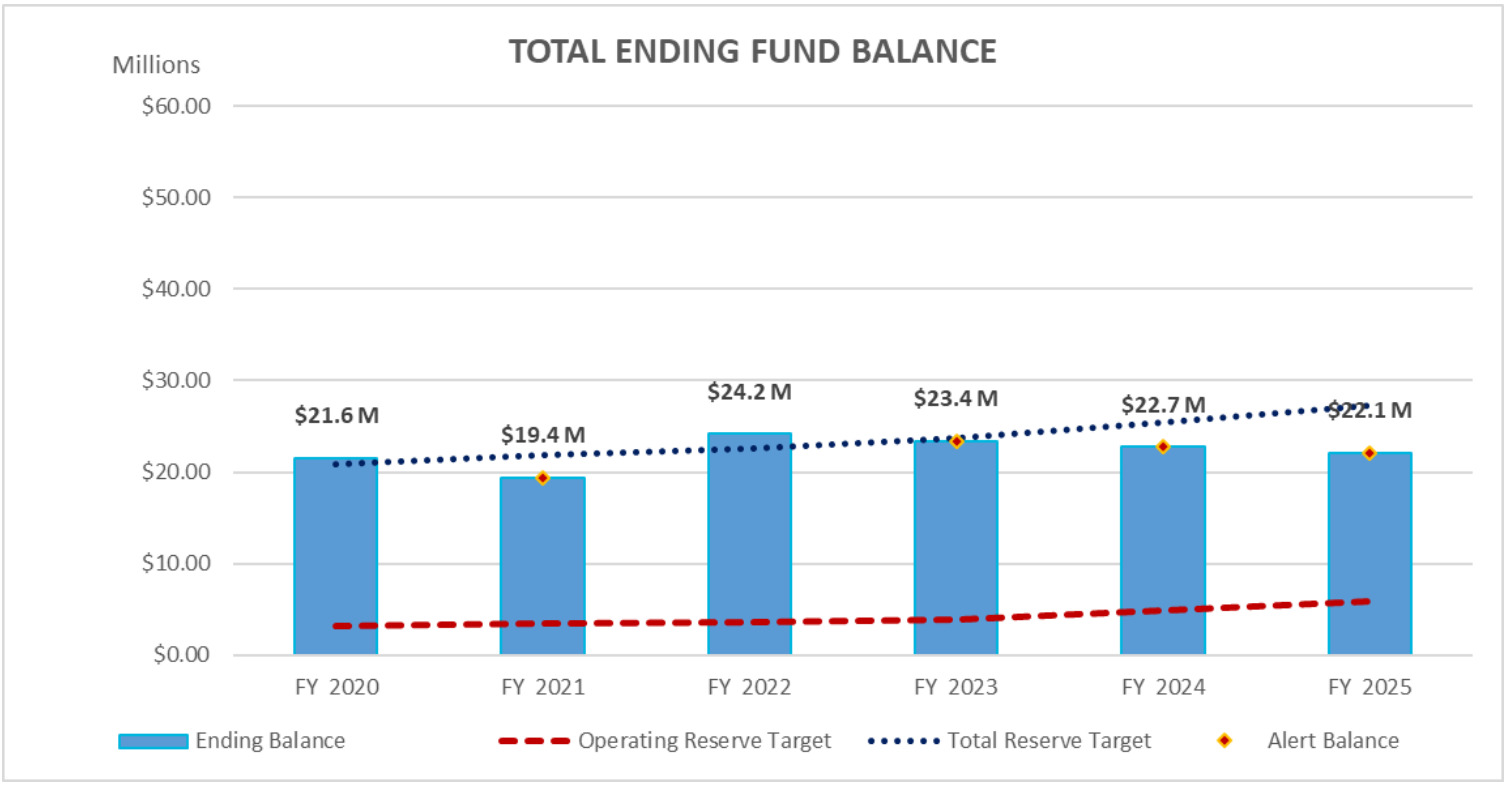


Table 4-11: Sanitation Status Quo Financial Plan

Sanitation Proforma	2020	2021	2022	2023	2024	2025
Revenue						
Revenue from Current Rates	$19,055,487	$19,255,318	$19,255,318	$19,255,318	$19,255,318	$19,255,318
Additional Revenue from Adjustments	$0	$0	$0	$0	$0	$0
Other Revenue	$845,000	$850,025	$855,125	$863,527	$872,055	$880,711
Total Revenue	**$19,900,487**	**$20,105,343**	**$20,110,444**	**$20,118,845**	**$20,127,373**	**$20,136,029**
O&M						
Purchased Services	$10,331,549	$11,363,900	$10,948,836	$11,278,364	$11,617,811	$11,967,477
All Other O&M	$2,089,797	$2,242,082	$1,948,929	$2,012,574	$2,078,305	$2,146,193
Total O&M	$12,421,346	$13,605,982	$12,897,765	$13,290,937	$13,696,117	$14,113,670
Net Operating Revenue (Excl. Debt)	**$7,479,141**	**$6,499,361**	**$7,212,679**	**$6,827,908**	**$6,431,257**	**$6,022,359**
Debt Service	$0	$0	$306,825	$622,997	$1,432,614	$2,367,042
Net Operating Revenue	**$7,479,141**	**$6,499,361**	**$6,905,853**	**$6,204,911**	**$4,998,643**	**$3,655,317**
CIP						
Debt Funded	$0	$0	$4,622,324	$4,763,128	$12,196,876	$14,077,161
Cash Funded	$6,293,359	$8,698,507	$2,122,144	$6,961,818	$5,666,233	$4,266,953
Total CIP	**$6,293,359**	**$8,698,507**	**$6,744,468**	**$11,724,946**	**$17,863,109**	**$18,344,114**
Net Cash Change	**$1,185,782**	**($2,199,146)**	**$4,783,709**	**($756,907)**	**($667,590)**	**($611,636)**
Beginning Fund Balance	$20,381,779	$21,567,561	$19,368,415	$24,152,124	$23,395,218	$22,727,627
ENDING FUND BALANCE	$21,567,561	$19,368,415	$24,152,124	$23,395,218	$22,727,627	$22,115,991
TARGET RESERVE BALANCE	$20,842,766	$21,804,079	$22,623,947	$23,754,387	$25,408,123	$27,217,620
PROJECTED DEBT COVERAGE	#N/A	#N/A	23.51	10.96	4.49	2.54

4.7. Proposed Sanitation Financial

Raftelis developed a 5-year Financial Plan Model incorporating the known and projected cost increases for operating and capital expenditures. The results were presented and discussed with District staff and the District Board. Raftelis devised several scenarios for the Board to review and the District deemed the scenario below the most appropriate and consistent annual increases will avoid even higher increases or "spikes" in future years. The District hopes to keep in line with its reserve target and build some reserves up as there are significant CIP expenditures for the Pure Water Project outside of this analysis's study period The proposed revenue adjustments for the sanitation fund are shown below on **Table 4-12**

Table 4-12: Sanitation Proposed Adjustments

2021	2022	2023	2024	2025
March	January	January	January	January
3.75%	3.75%	3.75%	3.75%	3.75%

The sanitation financial plan with the proposed revenue adjustments is summarized in the following figures. In **Figure 4-4**, the dashed red line represents projected revenues from current rates without any adjustment while the dashed blue line represents the projected revenues with the proposed revenue adjustments shown in **Table 4-12**. The stacked bars represent the expenditures, such as debt service (grey), O&M expenses (blue), O&M purchased services (teal), and PAYGO CIP (yellow). The green bars above the axis in FY 2022 to FY 2025 signify that the collected revenues are sufficient for operating and capital costs, and that the water enterprise fund is able to build reserves. **Figure 4-5** shows the forecasted sanitation fund ending balances (blue bars) after incorporating the revenues with proposed revenue adjustments and projected expenses (shown in **Figure 4-4**), and the estimated sanitation fund beginning balance as of FY 2020. The blue bar intersecting with the dotted blue line in FY 2022 indicates that the District will achieve its reserve target in FY 2022 which will allow the District to develop its reserves. **Table 4-13** numerically summarizes the financial plan under the proposed scenario; note that net cash flow is positive for all years of the study except for FY 2021.

Figure 4-4: Proposed Sanitation Financial Plan

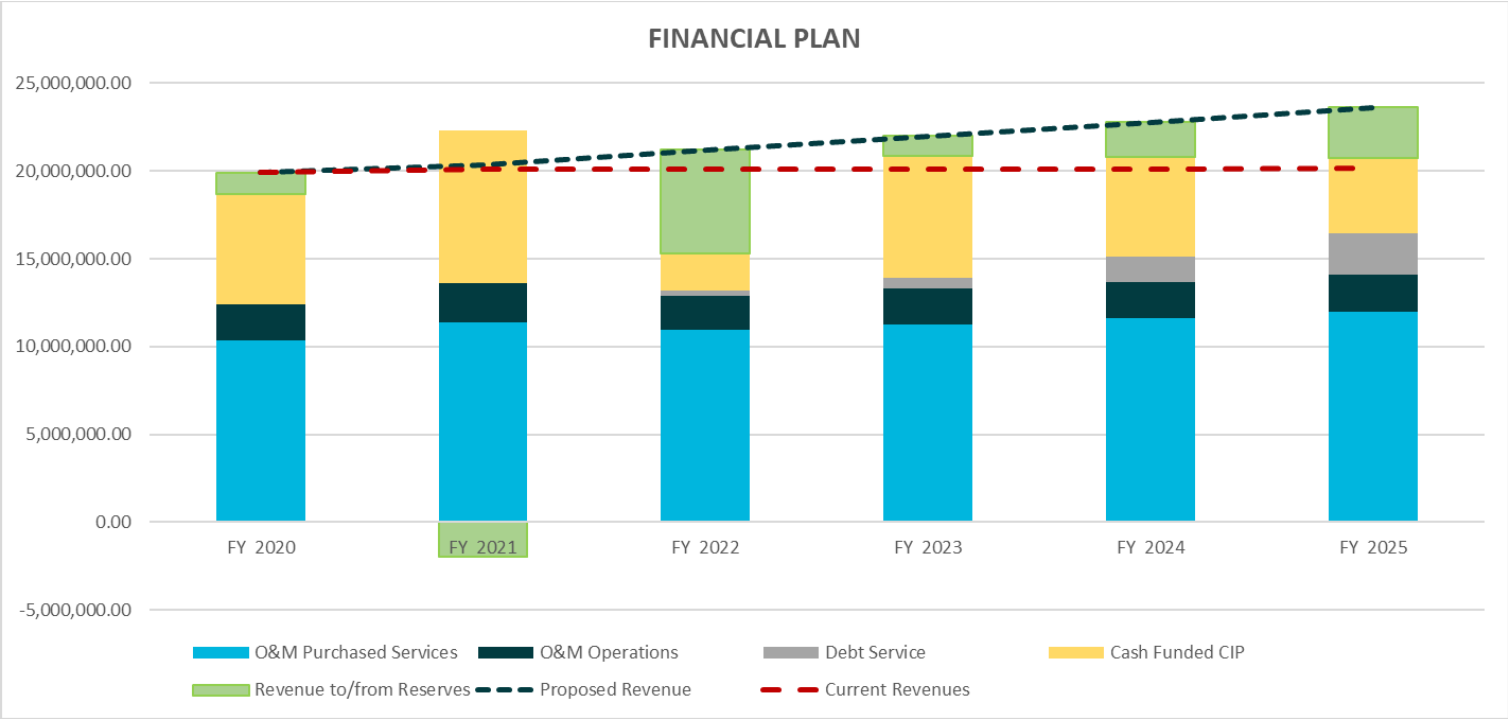


Figure 4-5: Projected Sanitation Fund Ending Balance - Proposed

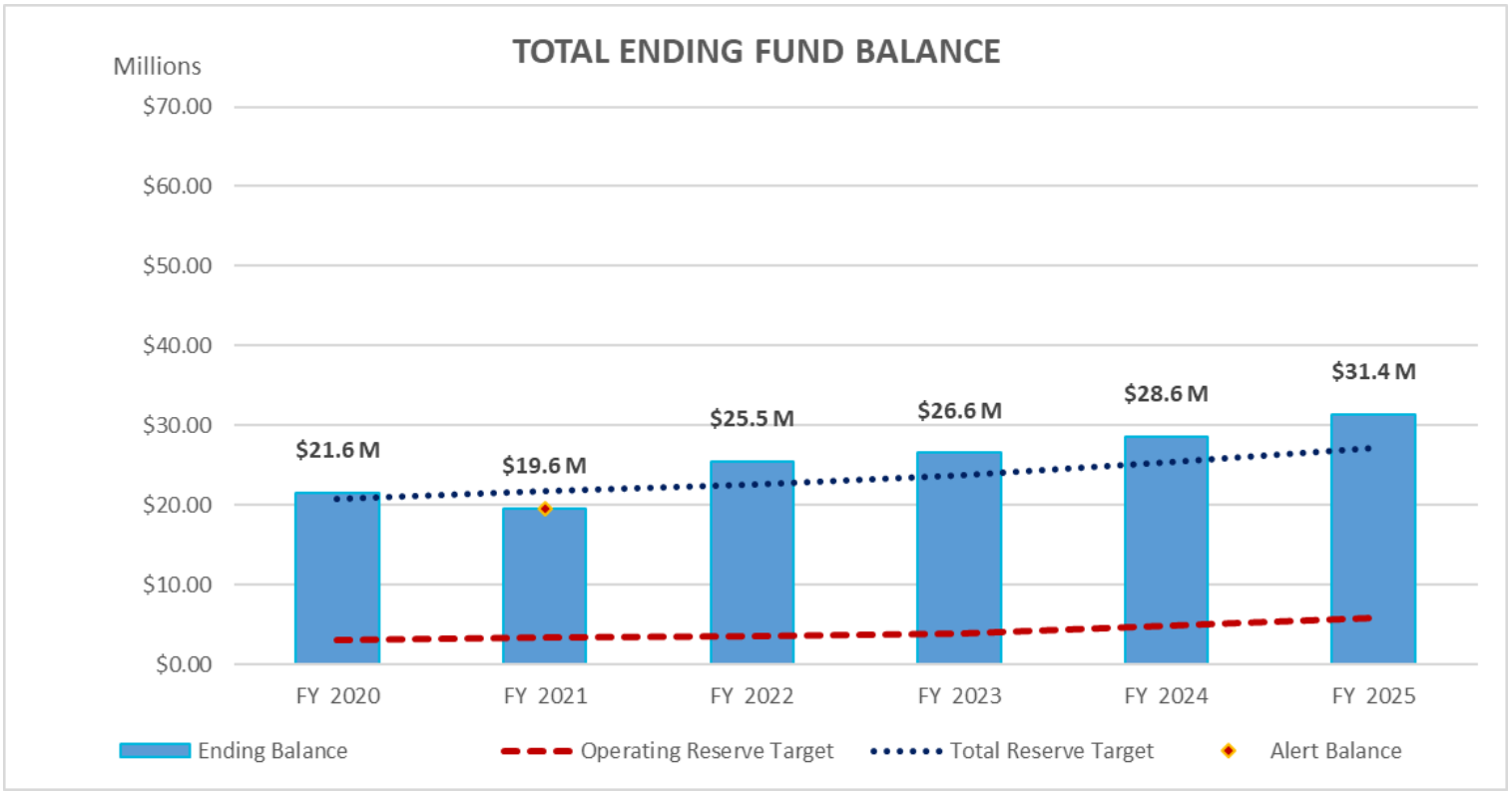


Table 4-13: Proposed Sanitation Financial Plan

Sanitation Proforma	2020	2021	2022	2023	2024	2025
Revenue						
Revenue from Current Rates	$19,055,487	$19,255,318	$19,255,318	$19,255,318	$19,255,318	$19,255,318
Additional Revenue from Adjustments	$0	$240,691	$1,096,651	$1,859,849	$2,651,668	$3,473,180
Other Revenue	$845,000	$850,025	$855,125	$863,527	$872,055	$880,711
Total Revenue	**$19,900,487**	**$20,346,035**	**$21,207,094**	**$21,978,695**	**$22,779,041**	**$23,609,209**
O&M						
Purchased Services	$10,331,549	$11,363,900	$10,948,836	$11,278,364	$11,617,811	$11,967,477
All Other O&M	$2,089,797	$2,242,082	$1,948,929	$2,012,574	$2,078,305	$2,146,193
Total O&M	$12,421,346	$13,605,982	$12,897,765	$13,290,937	$13,696,117	$14,113,670
Net Operating Revenue (Excl. Debt)	**$7,479,141**	**$6,740,052**	**$8,309,329**	**$8,687,757**	**$9,082,925**	**$9,495,539**
Debt Service	$0	$0	$306,825	$622,997	$1,432,614	$2,367,042
Net Operating Revenue	**$7,479,141**	**$6,740,052**	**$8,002,504**	**$8,064,760**	**$7,650,311**	**$7,128,498**
CIP						
Debt Funded	$0	$0	$4,622,324	$4,763,128	$12,196,876	$14,077,161
Cash Funded	$6,293,359	$8,698,507	$2,122,144	$6,961,818	$5,666,233	$4,266,953
Total CIP	**$6,293,359**	**$8,698,507**	**$6,744,468**	**$11,724,946**	**$17,863,109**	**$18,344,114**
Net Cash Change	**$1,185,782**	**($1,958,455)**	**$5,880,360**	**$1,102,943**	**$1,984,078**	**$2,861,544**
Beginning Fund Balance	$20,381,779	$21,567,561	$19,609,107	$25,489,466	$26,592,409	$28,576,487
ENDING FUND BALANCE	$21,567,561	$19,609,107	$25,489,466	$26,592,409	$28,576,487	$31,438,031
TARGET RESERVE BALANCE	$20,842,766	$21,804,079	$22,623,947	$23,754,387	$25,408,123	$27,217,620
PROJECTED DEBT COVERAGE	#N/A	#N/A	27.08	13.95	6.34	4.01

5. Recycled Water Financial Plan

A review of a utility's revenue requirements is a key first step in the rate study process. The review involves an analysis of annual operating revenues under the status quo, O&M expenses, transfers between funds, and reserve requirements. This section of the report provides a discussion of the projected revenues, O&M expenses, other reserve funding, and revenue adjustments estimated as required to ensure the fiscal sustainability and solvency of the Recycled Water Fund. Numbers shown in all the tables of this section are rounded; therefore, hand calculations based on the displayed numbers, such as summing or multiplying, may not equal the exact results shown.

5.1. Revenues from Current RW Rates

The District's Recycled Water enterprise provides service to four different geographic zones: the Las Virgenes Valley Zone, the Western Zone, the Calabasas MWD Zone and the Calabasas Zone.

The current rates were last adjusted on January 1, 2020. **Table 5-1** summarizes the current recycled water commodity charges and **Table 5-2** and **Table 5-3** summarize the current elevation charges for regular and temporary services. As part of previous studies' objectives, the recycled water fixed charges were set to match the fixed charges from the potable water fund. These are summarized again on **Table 5-4** and **Table 5-5**.

Table 5-1: Current RW Commodity Charges ($/HCF)

Commodity	Current
Tier 1	$1.16
Tier 2	$2.27
Tier 3	$3.13
Temporary	$4.70

Table 5-2: Current RW Elevation Charges ($/HCF)

Elevation (Regular)	Current
Las Virgenes Valley	$0.00
East/West Valley	$0.37

Table 5-3 Current RW Temporary Elevation Charges ($/HCF)

Elevation (Temporary)	Current
Las Virgenes Valley	$0.00
East/West Valley	$0.55

Table 5-4: Current RW Monthly Readiness to Serve Charges

Monthly RTS Charge (Regular)	Current
3/4"	$33.72
3/4" x 1"	$33.72
1"	$54.97
1 1/2"	$108.07
2"	$171.80
2 1/2"	$373.61
3"	$373.61
4"	$671.00
6"	$1,701.28
8"	$2,975.84
10"	$4,462.83

Table 5-5: Current Temporary RW Monthly Readiness to Serve Charges

Monthly RTS Charge (Temporary)	Current
1"	$82.46
2 1/2" & 3"	$560.42
4"	$1,006.50
6"	$2,551.92
8"	$4,463.76
10"	$6,694.25

Table 5-6 summarizes the projected number of accounts by meter size for the Study period. Similar to the Potable Water enterprise, the Recycled Water enterprise is not expecting growth in accounts, so the existing number of accounts for FY 2020 was used to project the number of accounts through the remainder of the study period as was also mentioned in **Table 2-2**.

Table 5-6: Projected Recycled Water Accounts

Accounts	2020	2021	2022	2023	2024	2025
Las Virgenes Valley Zone						
Meter Size						
3/4" x 1"	1	1	1	1	1	1
1 1/2"	1	1	1	1	1	1
2"	11	11	11	11	11	11
6"	2	2	2	2	2	2
Total Accounts - Las Virgenes Valley Zone	**15**	**15**	**15**	**15**	**15**	**15**
Calabasas Zone						
Meter Size						
1 1/2"	22	22	22	22	22	22
2"	8	8	8	8	8	8
3"	2	2	2	2	2	2
4"	2	2	2	2	2	2

Accounts	2020	2021	2022	2023	2024	2025
6"	2	2	2	2	2	2
Total Accounts - Calabasas Zone	**36**	**36**	**36**	**36**	**36**	**36**
Calabasas/MWD Zone						
Meter Size						
3/4" x 1"	1	1	1	1	1	1
1"	11	11	11	11	11	11
1 1/2"	65	65	65	65	65	65
2"	90	90	90	90	90	90
3"	1	1	1	1	1	1
Total Accounts - Calabasas/MWD Zone	**168**	**168**	**168**	**168**	**168**	**168**
Western Zone						
Meter Size						
3/4"	1	1	1	1	1	1
3/4" x 1"	9	9	9	9	9	9
1"	52	52	52	52	52	52
1 1/2"	119	119	119	119	119	119
2"	252	252	252	252	252	252
3"	3	3	3	3	3	3
4"	3	3	3	3	3	3
6"	2	2	2	2	2	2
10"	1	1	1	1	1	1
Total Accounts - Western Zone	**442**	**442**	**442**	**442**	**442**	**442**
Temporary - All Zones						
Meter Size						
2 1/2" & 3"	3	3	3	3	3	3
4"	1	1	1	1	1	1
Total Accounts - Temporary - All Zones	**4**	**4**	**4**	**4**	**4**	**4**

The projected recycled water sales shown on **Table 5-7** were used to project recycled water usage in each tier and were based on consumption data from FY 2020. Like potable water, District staff estimates that recycled water usage will go down in the out years of the study starting in FY 2023 due to conservation efforts. The change in Demand can be referenced on **Table 2-3.** Raftelis took the assumptions from District Staff into account and developed an estimate for the projected amount of usage for each year of the study period.

Table 5-7: Projected Recycled Water Sales

Usage	2020	2021	2022	2023	2024	2025
Las Virgenes Valley Zone						
Commodity Charges						
Tier 1	68,039	68,039	68,039	66,101	64,443	63,038
Tier 2	17,400	17,400	17,400	16,904	16,480	16,121
Tier 3	24,513	24,513	24,513	23,815	23,217	22,711
Total	**109,952**	**109,952**	**109,952**	**106,820**	**104,140**	**101,870**

Usage	2020	2021	2022	2023	2024	2025
Calabasas Zone						
Commodity Charges						
Tier 1	107,698	107,698	107,698	104,630	102,005	99,782
Tier 2	24,643	24,643	24,643	23,941	23,340	22,831
Tier 3	71,454	71,454	71,454	69,419	67,677	66,202
Total	**203,795**	**203,795**	**203,795**	**197,990**	**193,023**	**188,816**
Calabasas/MWD Zone						
Commodity Charges						
Tier 1	357,198	357,198	357,198	347,024	338,317	330,944
Tier 2	75,873	75,873	75,873	73,712	71,863	70,297
Tier 3	73,063	73,063	73,063	70,982	69,201	67,693
Total	**506,135**	**506,135**	**506,135**	**491,718**	**479,381**	**468,933**
Western Zone						
Commodity Charges						
Tier 1	645,495	645,495	645,495	627,109	611,375	598,050
Tier 2	141,821	141,821	141,821	137,781	134,324	131,397
Tier 3	181,983	181,983	181,983	176,799	172,364	168,607
Total	**969,299**	**969,299**	**969,299**	**941,690**	**918,063**	**898,054**
Temporary - All Zones						
Commodity Charges						
Las Virgenes Valley Zone	128	128	128	128	128	128
East/West Zone	4,176	4,176	4,176	4,176	4,176	4,176
Total Usage - Temporary - All Zones	4,304	4,304	4,304	4,304	4,304	4,304
Total (hcf)	**1,793,485**	**1,793,485**	**1,793,485**	**1,742,523**	**1,698,911**	**1,661,977**
Total (AF)	**4,117 AF**	**4,117 AF**	**4,117 AF**	**4,000 AF**	**3,900 AF**	**3,815 AF**

Table 5-8 shows the projected commodity revenues for the Study period under the existing rates. Since the District adjusts rates in January, the FY 2020 rates include ½ year under the old rates (July 2019 through December 2019) and ½ year under the new rates (January 2020 through June 2020). The commodity revenues shown for FY 2020 through FY 2025 are calculated by multiplying the projected usage by the January 2020 rate. For example, the commodity charge revenue from Tier 1 usage in the Las Virgenes Valley Zone for FY 2022 can be a calculated as follows:

$$Projected\ Tier\ 1\ Usage\ for\ FY\ 2022\ \times Tier\ 1\ Rate$$
$$68{,}039\ \times \$1.16\ = \$78{,}926$$

The same calculation is repeated for all tiers and zones to determine the total commodity revenue for each year of the Study period.

Likewise, the same calculation is used to determine the elevation revenues except applied to an entire zone's usage. For example, the elevation charge revenue for Calabasas Zone usage for FY 2022 can be calculated as follows:

$$Projected\ Calabasas\ Zone\ Usage\ for\ FY\ 2022\ \times Zone\ Rate$$
$$203{,}795\ \times \$0.37\ = \$75{,}404$$

The same calculation is repeated for all zones to determine the total elevation revenue for each year of the Study period.

The readiness-to-serve (RTS) charge revenue is the fixed portion of the water service charge that increases with meter size. For example, the RTS charge revenue for Calabasas Zone customers with a 2" meter for FY 2022 is calculated as follows:

$$Fixed\ charge\ rate\ \times Number\ of\ accounts\ \times 12\ months$$
$$\$171.80\ \times 8 \times 12 = \$16{,}493$$

The same calculation is repeated for all meter sizes and then added together to determine the total RTS charge revenue.

Table 5-8 shows the projected revenue for each zone after applying the calculations above and adding them all together.

Table 5-8: Projected Revenues from Current Recycled Water Rates

Calculated RW Sales Rev	2020	2021	2022	2023	2024	2025
RW Sales - LV Valley	$259,424	$260,959	$260,959	$255,401	$250,644	$246,615
RW Sales - Calabasas	$590,429	$590,849	$590,849	$577,179	$565,481	$555,574
RW Sales - Calabasas MWD	$1,270,904	$1,284,523	$1,284,523	$1,255,967	$1,231,530	$1,210,835
RW Sales - Western	$2,833,156	$2,897,297	$2,897,297	$2,840,359	$2,791,634	$2,750,370
Total	**$4,953,913**	**$5,033,628**	**$5,033,628**	**$4,928,906**	**$4,839,289**	**$4,763,394**

5.2. Miscellaneous RW Revenues

In addition to revenue from rates, the Recycled Water Fund also receives miscellaneous revenues from different sources such as interest earnings and other operating/non-operating sources. **Table 5-9** summarizes all revenue for the study period. Note that the RW sales revenue matches the revenue calculated in **Table 5-8**. The figures below are based on District staff projections for the Study period. No inflation is assumed for any of the miscellaneous revenues during the study period.

Table 5-9: Projected Potable Water Revenues

Revenue Summary	2020	2021	2022	2023	2024	2025
Temporary Meter Charge	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800
Temporary Meter Installation Fees	$100	$100	$100	$100	$100	$100
Late Payment Fees and other Non-Operating Revenues	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
Water Usage - Accidents	$100	$100	$100	$100	$100	$100
RW Sales - Calabasas	$590,429	$590,849	$590,849	$577,179	$565,481	$555,574
RW Sales - LV Valley	$259,424	$260,959	$260,959	$255,401	$250,644	$246,615
RW Sales - Calabasas MWD	$1,270,904	$1,284,523	$1,284,523	$1,255,967	$1,231,530	$1,210,835

Revenue Summary	2020	2021	2022	2023	2024	2025
RW Sales - Western	$2,833,156	$2,897,297	$2,897,297	$2,840,359	$2,791,634	$2,750,370
Other Income from Operations	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000
Grand Total	**$5,145,913**	**$5,225,628**	**$5,225,628**	**$5,120,906**	**$5,031,289**	**$4,955,394**

5.3. RW O&M Expenses

5.3.1. RECYCLED WATER SUPPLY COSTS

Based on projections and inputs from District staff, the respective sources of water per unit price, and expected purchase quantities are shown in **Table 5-10** below. The total water supply costs at the bottom of **Table 5-10** are determined by multiplying the per unit costs for each source of water by the corresponding quantity purchased from that source and adding in the fixed costs associated with each source. Estimated sales figures were used for FY 2020 and projected sales were used for FY 2021 and beyond.

Table 5-10: Projected Recycled Water Supply Costs

Recycled Water Source of Supply	2020	2021	2022	2023	2024	2025
RECYCLED WATER SUPPLY INFORMATION						
Recycled Sales	**4,117 AF**	**4,117 AF**	**4,117 AF**	**4,000 AF**	**3,900 AF**	**3,815 AF**
Recycled Water Loss	3.08%	3.08%	3.08%	3.08%	3.08%	3.08%
Quantity to be Purchased	**4,244 AF**	**4,244 AF**	**4,244 AF**	**4,123 AF**	**4,020 AF**	**3,933 AF**
JPA RWTR	3,268 AF	3,259 AF	3,264 AF	3,143 AF	3,040 AF	2,953 AF
From Potable Water Fund	976 AF	985 AF	980 AF	980 AF	980 AF	980 AF
JPA RWTR	$585 /AF	$597 /AF	$610 /AF	$623 /AF	$636 /AF	$649 /AF
From Potable Water Fund	$1,987 /AF	$2,131 /AF	$2,206 /AF	$2,333 /AF	$2,462 /AF	$2,600 /AF
Source of Supply						
Purchased Water - JPA RWTR	**$1,912,511**	**$1,947,296**	**$1,991,240**	**$1,957,941**	**$1,933,427**	**$1,917,282**
Purchased Water - Potable Suppl	**$1,938,826**	**$2,099,432**	**$2,162,279**	**$2,286,177**	**$2,413,012**	**$2,547,665**

5.3.2. RECYCLED WATER OPERATING EXPENSES

Using the District's FY 2020 budget values, inflation factors were assigned to each line item to determine future O&M costs for the Recycled Water Fund. These inflation factors can be found on **Table 2-1. Table 5-11** summarizes budgeted and projected O&M expenses for the Recycled Water Fund during the Study period. Note that the source of supply costs match those found in **Table 5-10** in all years except FY 2020 where Raftelis is using the District's estimated sales figures. Please refer to the District budget document for descriptions of each expense item.

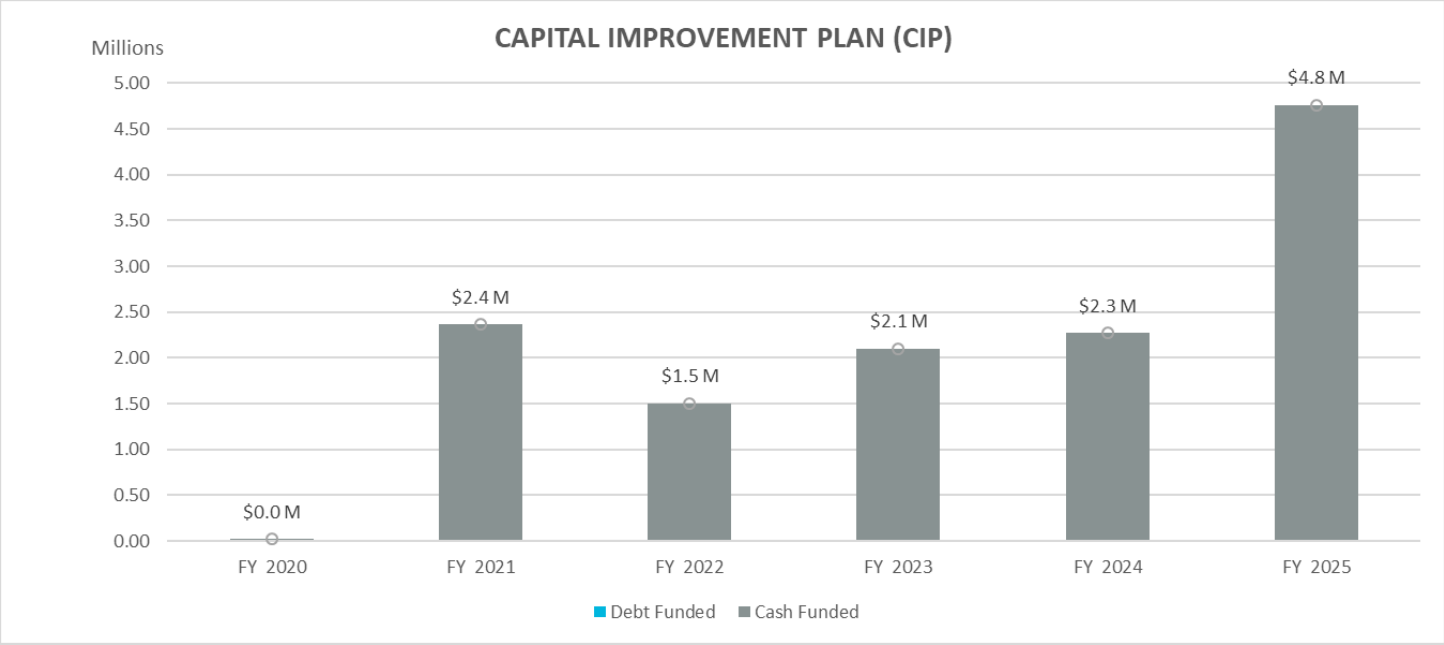
Table 5-11: Projected Recycled Water Operating Expenses

RW O&M Summary	2020	2021	2022	2023	2024	2025
Source of Supply	$3,424,698	$4,046,728	$4,153,518	$4,244,118	$4,346,439	$4,464,946
Operating Expenses	$149,912	$154,500	$156,500	$162,654	$169,051	$175,700
Maintenance Expenses	$7,933	$9,623	$4,223	$4,377	$4,537	$4,703
Resource Conservation	$4,070	$3,000	$3,000	$3,096	$3,195	$3,297
Administrative Expense	$1,098,588	$803,273	$807,197	$833,027	$859,684	$887,194
Grand Total	**$4,685,202**	**$5,017,125**	**$5,124,438**	**$5,247,272**	**$5,382,906**	**$5,535,841**

5.4. Projected Capital Improvement Projects

The District has programmed approximately $13M in capital expenditures during the Study period for the Recycled Water enterprise, as shown in **Figure 5-1**. (A full list of projects and costs can be found in the Appendix). The CIP costs for future years are determined by using the programmed/budgeted costs and inflating the value by the construction inflation factor shown in **Table 2-1**. The District plans to fund all the replacement CIP via 100 percent pay-as-you go (PAYGO). Additionally, the District intends to fund 24% of the Pure Water Project through the Recycled Water Enterprise based on the calculated benefit as a percentage to the respective systems. These costs are included in **Figure 5-1** below.

Figure 5-1: Projected Recycled Water Replacement CIP and Funding Sources



5.5. Debt Service

The Recycled Water Fund currently has no outstanding debt. The District does not plan to issue debt in the next five years.

5.6. Status Quo Potable RW Financial Plan

Figure 5-2 shows the revenue shortfalls that begin in FY 2021 and carry through each year of the study period. The dashed lines represent the projected revenues from current rates without any adjustment (gross increase in rate revenues). Note that the blue dashed line (Proposed) matches the red dashed line (Current) as no revenue adjustments are made in this scenario. The stacked bars represent the expenditures such as O&M expenses (blue), O&M supply expenses (teal), and PAYGO CIP (yellow). The green bars below the axis signify that the collected revenues are insufficient for operating and capital costs in those years and require drawing on the current fund reserve balances as can be seen in **Figure 5-3**. **Figure 5-3** also shows that the recycled water fund currently meets its target reserves; however, the reserves are depleted quickly as the Pure Water Project begins implementation. This makes clear that the current recycled revenues are insufficient and that certain revenue adjustments are required.

Figure 5-2: Status Quo Recycled Water Financial Plan

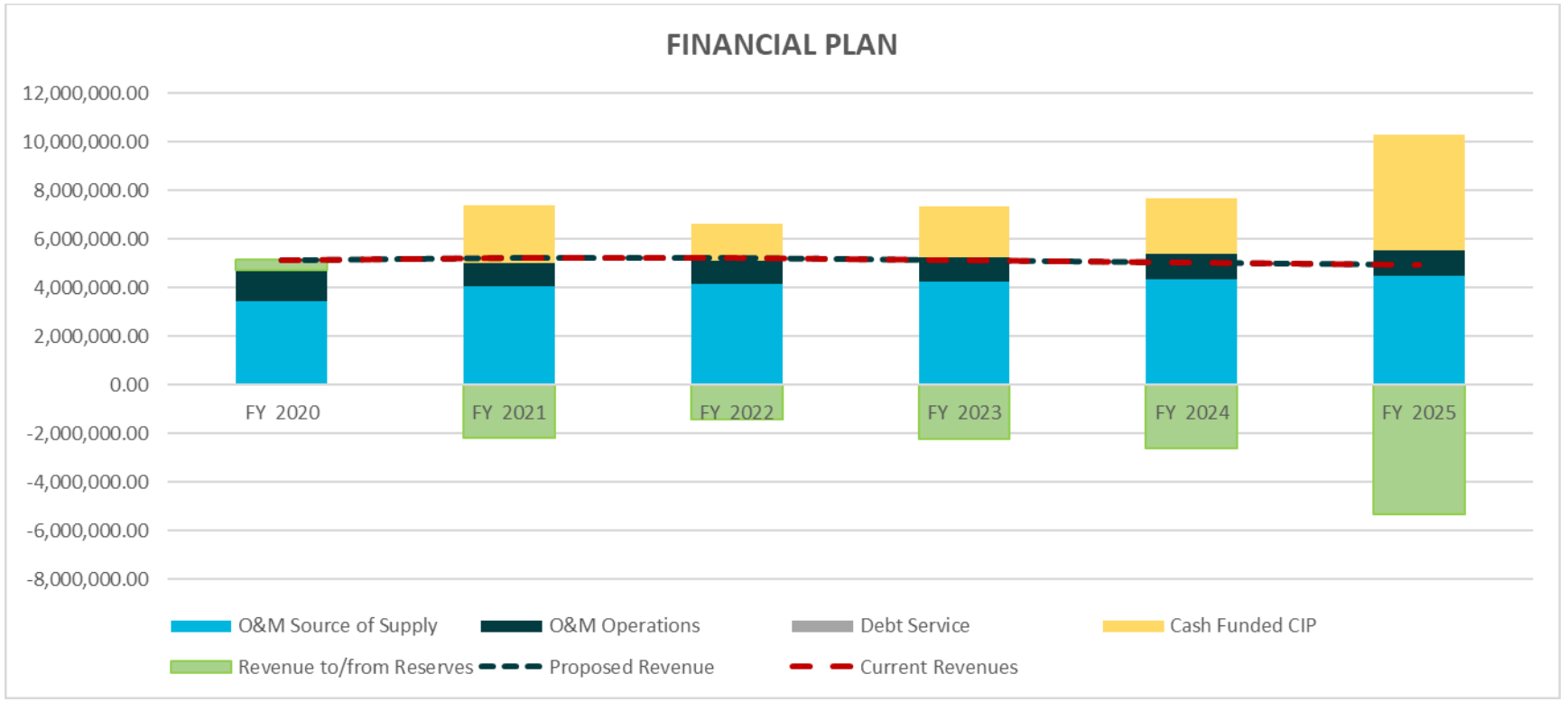


Figure 5-3: Status Quo Recycled Water Fund Ending Balances

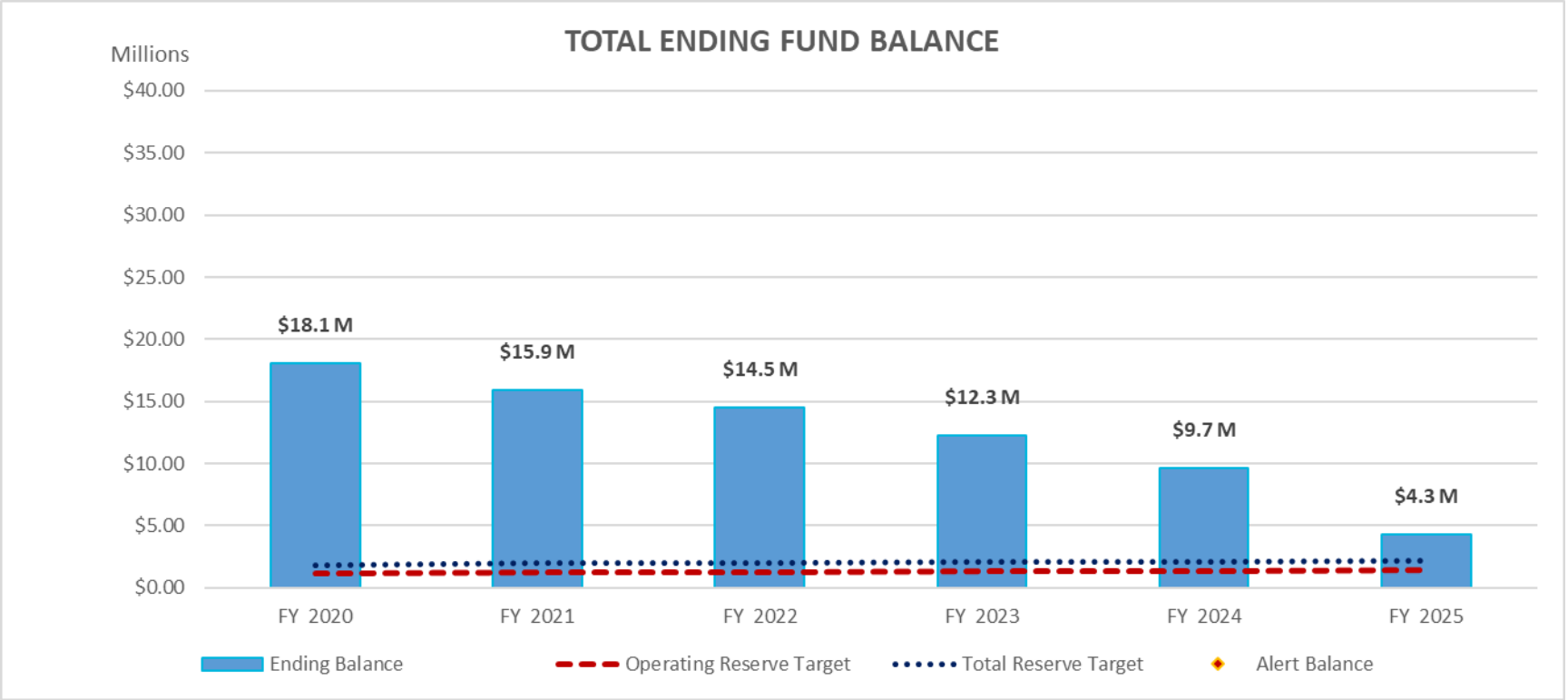


Table 5-12 displays the pro forma of the District's Potable Water Fund under current rates over the Study period. All projections shown in the table are based upon the District's current rate structure. The pro-forma incorporates the data shown in **Table 5-8** for revenues from current rates, **Table 5-9** for miscellaneous revenues, **Table 5-10** for recycled water supply costs, **Table 5-11** for O&M expenses and **Figure 5-1** for Capital Projects.

Table 5-12: Recycled Water Status Quo Financial Plan

	2020	2021	2022	2023	2024	2025
Revenue						
Revenue from Current Rates	$4,953,913	$5,033,628	$5,033,628	$4,928,906	$4,839,289	$4,763,394
Additional Revenue from Adjustments	$0	$0	$0	$0	$0	$0
Other Revenues	$192,000	$192,000	$192,000	$192,000	$192,000	$192,000
Total Operating Revenues	$5,145,913	$5,225,628	$5,225,628	$5,120,906	$5,031,289	$4,955,394
O&M						
Source of Supply	$3,424,698	$4,046,728	$4,153,518	$4,244,118	$4,346,439	$4,464,946
All Other O&M	$1,260,503	$970,396	$970,920	$1,003,154	$1,036,467	$1,070,894
Total Operating Expenses	$4,685,202	$5,017,125	$5,124,438	$5,247,272	$5,382,906	$5,535,841
Net Operating Revenue (Excl. Debt)	$460,711	$208,504	$101,190	($126,366)	($351,618)	($580,447)
Debt Service	$0	$0	$0	$0	$0	$0
Net Operating Revenue	$460,711	$208,504	$101,190	($126,366)	($351,618)	($580,447)
CIP	$0	$0	$0	$0	$0	$0
Debt Funded	$0	$0	$0	$0	$0	$0
Cash Funded	$23,889	$2,368,617	$1,504,598	$2,102,664	$2,273,726	$4,761,888
Total CIP	$0	$0	$0	$0	$0	$0
Net Cash Change	$436,822	($2,160,113)	($1,403,408)	($2,229,030)	($2,625,343)	($5,342,335)
Beginning Fund Balance	$17,641,609	$18,078,431	$15,918,318	$14,514,910	$12,285,880	$9,660,537
ENDING FUND BALANCE	$18,078,431	$15,918,318	$14,514,910	$12,285,880	$9,660,537	$4,318,202
TARGET RESERVE BALANCE	$1,842,832	$1,950,996	$2,003,951	$2,061,766	$2,123,797	$2,191,209
PROJECTED DEBT COVERAGE	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

5.7. Proposed RW Financial Plan

Raftelis developed a 5-year Financial Plan Model incorporating the known and projected cost increases for operating and capital expenditures. The results were presented and discussed with District Staff and the District Board. Raftelis devised several scenarios for the Board to review and the District deemed the scenario below the most appropriate as consistent annual increases will avoid even higher increases or "spikes" in future years. The District's goals are to keep up its reserve target and build its reserves as there are significant CIP expenditures for the Pure Water Project outside of this analysis's study period. The proposed revenue adjustments for the recycled water fund are shown below on **Table 5-13**.

Table 5-13: Recycled Water Proposed Adjustments

2021	2022	2023	2024	2025
March	January	January	January	January
8.0%	8.0%	8.0%	8.0%	8.0%

The recycled water financial plan with the proposed revenue adjustments is summarized in the following figures. In **Figure 5-4** the dashed red line represents projected revenues from current rates without any adjustment while the dashed blue line represents the projected revenues with the proposed revenue adjustments shown in **Table 5-13**. The stacked bars represent the expenditures, such as debt service (grey), O&M expenses (blue), O&M water supply expenses (teal), and PAYGO CIP (yellow). The green bars remain below the axis so the District will continue drawing on its reserves but will still be able to maintain its reserve targets. **Figure 5-5** shows the forecasted recycled water fund ending balances (blue bars) after incorporating the proposed revenue adjustments and projected expenses (shown in **Figure 5-4**) and the estimated water fund beginning balance as of FY 2020. The blue bar intersecting with the dotted blue line in every year of the study period indicates that the District will maintain its reserve target. **Table 5-14** numerically summarizes the financial plan under the proposed scenario.

Figure 5-4: Proposed Recycled Water Financial Plan

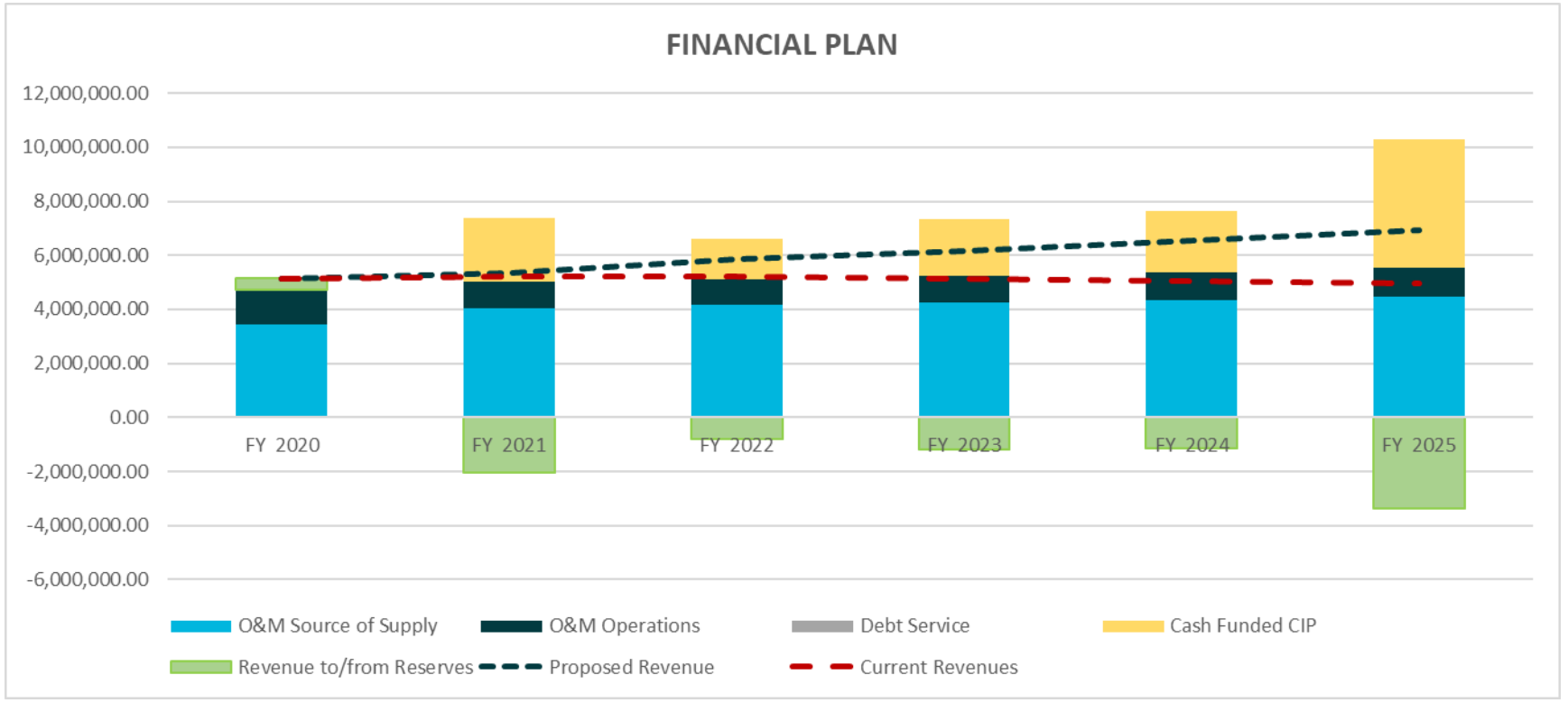


Figure 5-5: Proposed Recycled Water Fund Ending Balances

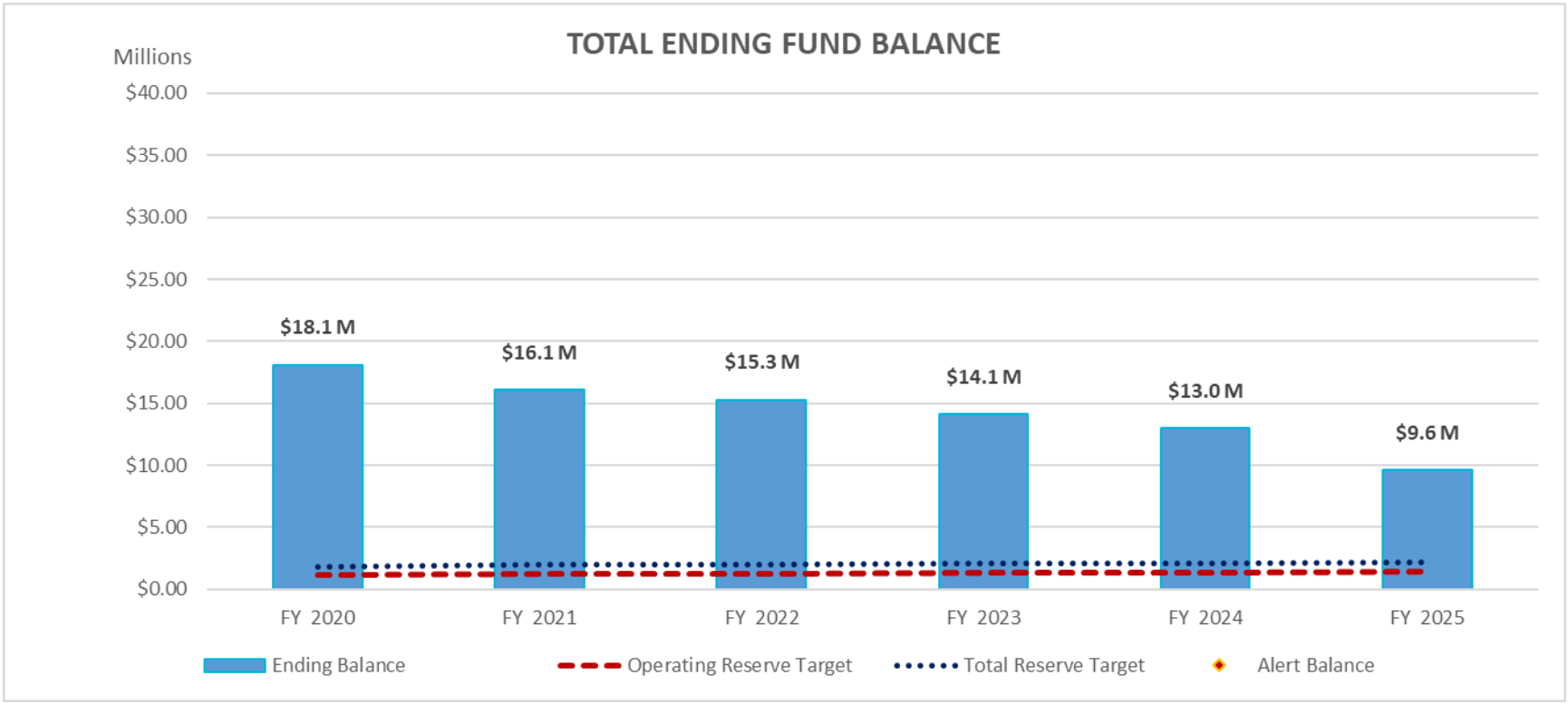


Table 5-14: Proposed Recycled Water Financial Plan

Recycled Water Proforma	2020	2021	2022	2023	2024	2025
Revenue						
Revenue from Current Rates	$4,953,913	$5,033,628	$5,033,628	$4,928,906	$4,839,289	$4,763,394
Additional Revenue from Adjustments	$0	$134,230	$620,143	$1,050,133	$1,500,666	$1,976,373
Other Revenues	$192,000	$192,000	$192,000	$192,000	$192,000	$192,000
Total Operating Revenues	**$5,145,913**	**$5,359,859**	**$5,845,771**	**$6,171,039**	**$6,531,954**	**$6,931,767**
O&M						
Source of Supply	$3,424,698	$4,046,728	$4,153,518	$4,244,118	$4,346,439	$4,464,946
All Other O&M	$1,260,503	$970,396	$970,920	$1,003,154	$1,036,467	$1,070,894
Total Operating Expenses	**$4,685,202**	**$5,017,125**	**$5,124,438**	**$5,247,272**	**$5,382,906**	**$5,535,841**
Net Operating Revenue (Excl. Debt)	**$460,711**	**$342,734**	**$721,333**	**$923,767**	**$1,149,048**	**$1,395,926**
Debt Service	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Net Operating Revenue	**$460,711**	**$342,734**	**$721,333**	**$923,767**	**$1,149,048**	**$1,395,926**
CIP						
Debt Funded	$0	$0	$0	$0	$0	$0
Cash Funded	$23,889	$2,368,617	$1,504,598	$2,102,664	$2,273,726	$4,761,888
Total CIP	$0	$0	$0	$0	$0	$0
Net Cash Change	**$436,822**	**($2,025,883)**	**($783,265)**	**($1,178,897)**	**($1,124,678)**	**($3,365,962)**
Beginning Fund Balance	$17,641,609	$18,078,431	$16,052,548	$15,269,283	$14,090,386	$12,965,709
ENDING FUND BALANCE	$18,078,431	$16,052,548	$15,269,283	$14,090,386	$12,965,709	$9,599,746
TARGET RESERVE BALANCE	$1,842,832	$1,950,996	$2,003,951	$2,061,766	$2,123,797	$2,191,209
PROJECTED DEBT COVERAGE	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

6. Water Cost of Service Analysis and Rate Design

6.1. Potable Water Cost of Service Analysis

Proposition 218 requires a nexus between the rates charged and the costs of providing service. Based on the proposed financial plan, the cost of service analysis translates this financial requirement into actual rates. The first step in the cost of service analysis is to determine how much revenue is required to be collected from rates. The methodology used is based upon the premise that the utility must generate annual revenues adequate to meet its estimated annual expenses. As part of the cost of service analysis, several adjustments are made to determine the annual revenues needed from rates. Revenues from sources other than potable water rates and charges (e.g. revenues from miscellaneous services) are deducted. The financial plan (from Section 4) shows the required revenue adjustment for 2020 effective in January 2020, or six months of revenues under new rates; however, the calculated revenue requirement shown in **Table 6-1** is annualized. Numbers shown in all of the tables of this section are rounded; therefore, hand calculations based on the displayed numbers, such as summing or multiplying, may not equal the exact results shown.

Table 6-1: Annualized Potable Water Revenue Requirement for FY 2020

A	B	C	D
Line	REVENUE REQUIREMENTS	2020	Notes
1	O&M Expenses	$37,371,134	*Table 3-12*
2	Debt Service	$0	*Table 3-13*
3	Rate Funded Replacement CIP	$1,415,242	*Figure 3-1*
4	Net Cash Change	$5,822,781	
5	Mid-Year Adjustment	$1,324,865	
6	**SUBTOTAL REVENUE REQUIREMENTS**	**$45,934,022**	
7			
8	***Less Non-Operating Revenues***		
11	Temporary Meter Fees	($3,000)	*Table 3-10*
12	Late Payment Fees and other Non-Operating Revenues	($536,000)	*Table 3-10*
13	Water Usage - Accidents	($29,500)	*Table 3-10*
14	PW Supplement to RW	($1,542,080)	*Table 3-10*
19	Other Income from Operations (Includes Property Tax)	($696,163)	*Table 3-10*
20	**SUBTOTAL NON-OPERATING REVENUE REQUIREMENTS**	**($2,806,743)**	
21			
22	**NET REVENUE REQUIREMENTS**	**$43,127,279**	

According to the M1 Manual, the costs incurred by a water utility are based upon the specific service requirements or cost drivers imposed on the system by its customers. Each of the various water utility facilities

are designed and sized to meet one or more of these cost drivers. The capital costs incurred in the construction/installation of these facilities, as well as the O&M expenses incurred in running the system, are linked to these service requirements. The principal service requirements that drive costs include the annual volume of water consumed, the peak water demands incurred, the number of customers in the system, and the number of fire services required to maintain adequate fire protection. Accordingly, these service requirements are the basis for the selection of the cost components used in the second step in the cost-of-service allocation process.

The American Water Works Association recommends two methods for classifying costs among various customers: (1) the Base-Extra Capacity method in which costs are allocated to the different customer categories proportionate to their use of the water system; and (2) the Commodity-Demand method in which costs are proportionately allocated to each customer category based on their peak demand. Although the two methods vary in the way in which costs are allocated, both result in rates designed to recover the reasonable cost of service during periods of both average and peak demands. This Study uses the Base-Extra Capacity method, which is widely used in the water industry to serve retail customers.

The second step in the cost of service analysis is to functionalize the revenue requirements into cost components. This analysis employs the "Base-Extra Capacity" method, under which water utility costs of service are assigned to basic functional cost components including:

- **Potable water supply costs** – the cost of procuring water to meet customer demands.
- **Base costs** — fixed costs incurred to meet average demand. Base costs include operations and maintenance and capital costs under average (base) demand conditions, a portion of operations and maintenance costs associated with storage, treatment, pumping and distributions facilities, and certain water capital cost investments.
- **Extra capacity or peaking costs** — fixed water system costs to meet maximum day and maximum hour, or peaking, demand. Extra capacity costs are associated with meeting water demands that exceed average (base) levels of use by system customers. These costs are incurred because of water use variations and peak demands of customers.
- **Conservation** — costs associated with conservation/efficiency programs
- **Meter Service** — costs of meter maintenance/repair and some capacity-related costs
- **Customer-service** — costs of meter reading, billing, and other customer services
- **Administration** — (e.g.: HR, IT, Facility Costs, Accounting, Governance)

Both base and peaking costs are considered fixed costs along with billing and customer service costs, fire protection and meter service costs. Customer costs are costs associated with serving customers, such as meter reading, billing, customer service, etc. Direct fire protection costs are related to the costs that apply solely to the fire protection function of the water system, both public and private, such as fire hydrants and related branch mains and valves, and the additional capacity required in the system to accommodate fire flow in case of an emergency.

Raftelis analyzed the previous study's peaking factor characteristics and discussed them with District staff who said that the peaking factors and their calculations are still up to date. **Table 6-2** below summarizes the peaking characteristics of the District's water system determined by the District's Water Master Plan. The following definitions are used to determine the water system peaking factors:

- **Average Daily Flow**– volume of water delivered to the system over the course of a year divided by 365 days.
- **Average Hourly Flow**– volume of water delivered to the system over the course of a year divided by 8,760 hours (hours in a year).
- **Peak Day Demand** – largest volume of water delivered to the system in a single day.
- **Peak Hour Demand** – maximum volume of water delivered to the system in a single hour.

The Max Day peaking factor[4] is calculated as follows:

$$\frac{\text{Peak Day Demand}}{\text{Average Daily Flow}} = 2.10$$

The Max Hour peaking factor[5] (Peak Hour Demand) is calculated as follows:

$$\frac{\text{Peak Hour Demand}}{\text{Average Hourly Flow}} = 2.50$$

These ratios will be used in the following sections to determine the appropriate percentage allocation of total O&M and capital costs towards peaking

Table 6-2: Potable Water System Peaking Factors

A	B	C
Line		Peaking Factors
1	Base	1.00
2	Max Day	2.10
3	Max Hour	2.50

Table 6-3 summarizes the allocation percentages for the peaking factors using the peaking factors found in **Table 6-2** Base represents average daily demand during the year, which has been normalized to a factor of 1.00 (Column B, Line 1).

The allocation bases (Columns C to E) are calculated using the equations outlined in this section. Columns are represented in these equations as letters and rows are represented as numbers. For example, Column D, Line 2 is shown as D2.

The Max Day allocations are calculated as follows:

- Base Delivery: B1 / B2 x 100% = C2
- Max Day: (B2 - B1) / B2 x 100% = D2

The Max Hour allocations are calculated as follows:

- Base Delivery: B1 / B3 x 100% = C3
- Max Day: (B2 - B1) / B3 x 100% = D3
- Max Hour: (B3 - B2) / B3 x 100% = E3

[4] Figure provided by District staff
[5] Figure provided by District staff

Table 6-3: Allocation of Extra Capacity to Cost Components

Line	Allocation Factor	Peaking Factor	Base	Max Day	Max Hour
No.	A	B	C	D	E
1	Base	1.00	100.0%		
2	Max Day	2.10	47.6%	52.4%	
3	Max Hour	2.50	40.0%	44.0%	16.0%

The revenue to be recovered from rates is allocated according to the categories listed below in **Table 6-4**. Note that the annualized revenue adjustment (shown in row 5 of **Table 6-1**) applies only to water system costs (Base Fixed, Peaking, B&CS and Meter). The water supply costs reflect the anticipated water costs for FY 2020.

For further detail please see Appendix, which shows the step-by-step allocations for each cost component. Note that the revenue required from rates (Column C Line 14 **Table 6-4**) is equal to the Net Revenue Requirement from **Table 6-1** Column C Line 22.

Table 6-4: Allocated Potable Water System Costs

A	B	C
Line	Cost Component	2020
1	Water Supply	$19,683,242
2	Power	$2,177,845
3	Base	$7,837,568
4	Max Day	$10,398,835
5	Max Hour	$1,941,756
6	Conservation	$731,260
7	Rev Offset	-$1,264,663
8	Fire	$0
9	Meters	$1,048,775
10	B&CS	$572,662
11	General	$0
12	**Total**	**$43,127,279**
13	Pass-through Rev	$0
14	**Revenue Required from Rates**	**$43,127,279**

According to the M1 Manual, the cost-of-service approach to setting water rates results in the proportionate distribution of costs to each customer or customer class based on the costs that each incurs. A dual set of fees—fixed and variable—is an extension of this cost causation theory. For example, a utility incurs some costs associated with serving customers irrespective of the amount or rate of water they use, such as billing and customer service costs. These types of costs are referred to as customer-related costs and typically are costs that would be recovered through a fixed charge. These costs are usually recovered on a per-customer basis or some

other non-consumptive basis. Regardless of the level of a customer's consumption, a customer will be charged this minimum amount in each bill.

Utilities invest in and continue to maintain facilities to provide capacity to meet all levels of desired consumption including the peak[6] demand plus fire protection, and these costs must be recovered regardless of the amount of water used during a given period. Thus, peaking costs along with base costs and fixed water system costs to meet average demand are generally considered as fixed water system costs. It is ideal that agencies recover 100 percent of their fixed costs through monthly base fees; however, this forgoes the affordability for essential use and heavily impacts efficient users. To balance between affordability and revenue stability, it is a common practice that a portion of the base costs and peaking costs are recovered in the monthly base fee along with customer-related costs and meter-related costs.

The most common method for levying base fees is by meter size. Meter size is a proxy for the potential demand that each customer places on the water system. The District's base meter is most commonly a ¾ by 1-inch meter. The ratio at which the meter charge increases is a function of the meter's safe operating capacity. For example, based on the AWWA meter capacity ratios, a customer that has a 2-inch meter has the capacity equivalency of 5.33 ¾-inch meters. (A 2-inch meter has a safe operating capacity of 160 gallons per minute (gpm) compared to a ¾-inch meter which has a safe operating capacity of 30 gpm, as listed in Table B-1 in the M1 Manual).

Billing and customer service costs related to meter reading, billing, and collections are distributed among customers based on the total number of bills rendered in a test year, which is FY 2020 for this Study. Meter service costs, costs related to maintenance and costs related to customer meters and services, are distributed to customers in proportion to estimated costs for meters and services installed. Capacity costs, costs related to capital and costs related to customer meters and services, are distributed in proportion to meter demand capacity as provided by the M1 Manual. According to the M1 Manual, distribution of meter service costs and capacity costs by equivalent meter and service ratios recognizes that meter and service costs vary, depending on considerations such as the size of service pipe, materials used, locations of meters and other local characteristics for various size meters as compared to 1-inch meters and services.

The components of water system costs (column C of **Table 6-4**) are recovered through either RTS charge revenues, commodity charge revenues, elevation charge revenues, or a combination of the three.

As shown in **Table 6-5** below, the entirety of the water supply is recovered from commodity charges (column C). On the other hand, meter costs and billing & customer service costs are entirely recovered from RTS charges (column D). Base and peaking costs are recovered from both RTS charges and commodity charges (columns C & D). Power costs are recovered from a combination of elevation charges and commodity charges (columns B & C).

[6] Peaking costs are the costs related to providing water during high-demand periods.

Table 6-5: Potable Water Revenue Requirements Allocated to Rate Components

	Revenue Requirement	2020 @ Proposed Rates	Elevation Charges	Commodity Charges	Readiness-to-serve Charges
Line	by Cost Categories	A	B	C	D
1	Water Supply	$19,683,242		$19,683,242	
2	Power	$2,177,845	$1,797,794	$380,051	
3	Base	$7,837,568		$3,762,032	$4,075,535
4	Max Day	$10,398,835		$4,991,441	$5,407,394
5	Max Hour	$1,941,756		$932,043	$1,009,713
6	Conservation	$731,260		$731,260	
7	Rev Offset	($1,264,663)		($1,264,663)	
8	Meters	$1,048,775			$1,048,775
9	B&CS	$572,662			$572,662
10	General	$0			
11	Total	**$43,127,279**	**$1,797,794**	**$29,215,406**	**$12,114,079**

Table 6-6 allocates the commodity charge revenue requirements of $29,215,406 (**Table 6-5** Column C Line 11) to the various commodity rate components: (1) Base Power, (2) Water Supply, (3) Delivery, (4) Peaking, (5) Conservation, and (6) Revenue Offset.

Table 6-6: Potable Water Commodity Revenue Requirements Allocated to Rate Components

Line	2020	Rev Req	Base Power	Supply	Delivery	Peaking	Conservation	Rev Offset
1	Supply	$19,683,242		$19,683,242				
2	Power	$380,051	$380,051					
3	Base	$3,762,032			$3,762,032			
4	Max Day	$4,991,441				$4,991,441		
5	Max Hour	$932,043				$932,043		
6	Conserv	$731,260					$731,260	
7	Rev Offset	($1,264,663)						($1,264,663)
8	**Total**	**$29,215,406**	**$380,051**	**$19,683,242**	**$3,762,032**	**$5,923,484**	**$731,260**	**($1,264,663)**

Table 6-7 allocates the RTS charge rate revenue of $12,114,079 (**Table 6-5** Column D Line 11) to the various RTS rate components: (1) Billings and Customer Service, (2) Meters and Capacity.

Table 6-7: Water RTS Revenue Requirements Allocated to Rate Components

Line	2020	Rev Req	Billing & Customer Service	Meters & Capacity
1	Base	$4,075,535		$4,075,535
2	Max Day	$5,407,394		$5,407,394
3	Max Hour	$1,009,713		$1,009,713
4	Meters	$1,048,775		$1,048,775
5	B&CS	$572,662	$572,662	
6	Total	**$12,114,079**	**$572,662**	**$11,541,417**

6.2. Potable Water Rate Calculations

6.2.1. READINESS TO SERVE (RTS) CHARGES

In order to create parity across the various meter sizes, each meter size is assigned a factor relative to a ¾" meter, which has a value of 1. According to the AWWA M1 Manual, a particular meter size's ratio of meter and capacity servicing costs relative to that of a ¾" meter is its "Equivalent Meter Units" (EMU). For example, as noted earlier, a 2-inch meter has 5.33 times the throughput capacity of a ¾" meter and, therefore, has a multiplication factor of 5.33 to determine its EMU to ¾" meter. The Meter & Capacity factor escalates as meter size increases because the District's cost to service a meter increases with its size. **Table 6-8** summarizes the EMUs for the regular services.

Table 6-8: Equivalent Meter Units (EMUs) for FY 2020 for Regular Services

Regular Services	Number of Accts	Meter & Capacity Factor	# of Bills per Year	Capacity EMUs per Year
	A	B	C = A x 12	D = B x C
3/4"	478	1.00	5,736	5,736
3/4" x 1"	16,145	1.00	193,740	193,740
1"	2,221	1.67	26,652	44,420
1 1/2"	775	3.33	9,300	31,000
2"	745	5.33	8,940	47,680
2 1/2"	-	11.67	-	-
3"	91	11.67	1,087	12,682
4"	26	21.00	312	6,552
6"	23	53.33	276	14,720
8"	4	93.33	48	4,480
10"	1	140.00	12	1,680
Total	**20,509**		**246,103**	**362,690**

RTS Charge components include two components: Billing & Customer Service, which is uniform for all accounts, and Meter Service and Capacity costs, which increase with meter capacity ratios. Since the cost of Billing & Customer Service does not fluctuate with usage, the unit cost is simply the line item's revenue requirement divided by the number of bills issued. Meter & Capacity costs do increase with capacity of usage for each meter size; therefore, the revenue requirement must be divided by the EMUs to determine the unit rate. The unit rate for each Regular Service RTS component for FY 2020, is shown in **Table 6-9**.

Table 6-9: Components for FY 2020 RTS Charge for Regular Services

	Rev Requirement	Units of Service	Unit Cost of Service
	A	B	A / B
Billing and Customer Service	$572,662	246,103	$2.33
Meters and Capacity	$11,541,417	362,690	$31.82

The cost of service RTS charges proposed for FY 2020 in
Table 6-10 are built from adding up the monthly service charge components – Billing & Customer Service and Meters & Capacity. As noted above, the customer service cost is the same for each account regardless of meter size. The capacity component of the monthly base fee is determined by multiplying the unit cost of $31.82

(found in **Table 6-9**) by the appropriate meter factor found in column B of **Table 6-8**. Adding these two components together yields the total cost of service monthly base fee for each meter size for FY 2020, as shown in
Table 6-10 below.

Table 6-10: Cost of Service Readiness-to-Serve Charges

Meter Size	Number of Accounts	Billing & CS	Capacity	Cost of Service RTS Charges
		A	B	C = A + B
3/4"	478	$2.33	$31.82	$34.15
3/4" x 1"	16,145	$2.33	$31.82	$34.15
1"	2,221	$2.33	$53.04	$55.36
1 1/2"	775	$2.33	$106.07	$108.40
2"	745	$2.33	$169.72	$172.04
2 1/2"	-	$2.33	$371.25	$373.58
3"	91	$2.33	$371.25	$373.58
4"	26	$2.33	$668.26	$670.58
6"	23	$2.33	$1,697.16	$1,699.49
8"	4	$2.33	$2,970.03	$2,972.36
10"	1	$2.33	$4,455.04	$4,457.38

One of the District's policy goals in the previous study was to enhance revenue stability by recovering 50 percent of the base and peaking costs through RTS charges along with the entirety of the Meters and Billing & Customer Service costs projected for the Study period. The District successfully completed this goal and Raftelis recommended that they increase their recovery to 52% to further enhance revenue stability for this study period. **Table 6-11** below shows the cost of service rates and the 5-year RTS charges. The proposed rates for FY 2021, the rate-setting year, is a result of the cost of service analysis developed during the study. Rates for all years on and beyond FY 2021 are adjusted based on the proposed revenue adjustment per year from **Table 3-15**. At the direction of District staff, Temporary Services are charged at the RTS rate with a 1.5 times adjustment factor.

Table 6-11: Proposed 5-Year Readiness-To-Serve Charges

Five-Year Rate Schedule	2020	2021	2022	2023	2024	2025
Monthly RTS	Revised COS	5.0%	5.0%	5.0%	5.0%	5.0%
3/4"	$34.15	$35.86	$37.66	$39.55	$41.53	$43.61
3/4" x 1"	$34.15	$35.86	$37.66	$39.55	$41.53	$43.61
1"	$55.37	$58.14	$61.05	$64.11	$67.32	$70.69
1 1/2"	$108.40	$113.82	$119.52	$125.50	$131.78	$138.37
2"	$172.05	$180.66	$189.70	$199.19	$209.15	$219.61
2 1/2"	$373.59	$392.27	$411.89	$432.49	$454.12	$476.83
3"	$373.59	$392.27	$411.89	$432.49	$454.12	$476.83
4"	$670.59	$704.12	$739.33	$776.30	$815.12	$855.88
6"	$1,699.49	$1,784.47	$1,873.70	$1,967.39	$2,065.76	$2,169.05
8"	$2,972.36	$3,120.98	$3,277.03	$3,440.89	$3,612.94	$3,793.59
10"	$4,457.38	$4,680.25	$4,914.27	$5,159.99	$5,417.99	$5,688.89

6.2.2. ELEVATION CHARGES

Elevation charges recover the costs associated with pumping water to the District's various geographic areas, or pumping zones. The per-unit cost to pump water to each zone changes along with the zone number. Since the costs to deliver water to these areas can vary widely, customers are charged only for the costs to deliver water to their specific zone. **Table 6-12** shows each zone's share of every cost component related to pumping. Energy costs are divided among the zones based on actual energy costs incurred by each zone. The pump stations and tanks costs are distributed by the number of pump stations and tanks serving each zone, respectively.

Table 6-12: Allocation Factors for Power Costs to Zones

	Zone 1	Zone 2	Zone 3	Zone 4
Energy Costs[7]	20%	55%	19%	6%
Pump Stations w/o Energy [8]	13%	65%	17%	4%
Tanks[9]	5%	62%	29%	5%
System Operations[10]	20%	55%	19%	6%

Using the percentages shown in **Table 6-12**, the total cost for each line item is distributed to each zone, as shown in **Table 6-13**. The total power costs for each zone (Row E) are then divided by the total potable water delivered to each zone (Row F) to develop the unit elevation cost (Row G).

Table 6-13: Power Costs Allocated to Zones

Elevation Surcharges Revenue Requirements		Zone 1	Zone 2	Zone 3	Zone 4
Energy Costs	**A**	$165,945	$443,232	$155,895	$44,928
Pump Stations w/o Energy	**B**	$74,367	$371,835	$99,156	$24,789
Tanks	**C**	$7,173	$93,247	$43,037	$7,173
System Operations	**D**	$132,565	$354,075	$124,537	$35,890
Total Elevation Rev Requirements	**E = A+B+C+D**	**$380,051**	**$1,262,389**	**$422,626**	**$112,780**
Water Flow Through Each Zone (hcf)[11]	**F**	7,949,881 hcf	2,911,312 hcf	458,837 hcf	88,584 hcf
Unit Elevation Cost	**G = E/F**	**$0.05 /hcf**	**$0.43 /hcf**	**$0.92 /hcf**	**$1.27 /hcf**

Potable water delivered to the District's higher zones must first be pumped through lower zones. For example, water being delivered to Zone 3 must first pass through Zones 1 and 2. A summary of water delivery for each zone is presented in the graphics below. It is important to note that a portion of Zone 3 customers flow includes domestic water customers who are served water purchased by the District from sources other than the Metropolitan Water District of Southern California.

[7] Based on average actual energy costs over two-year period, for FY 2019 and FY 2020. Figure provided by District staff.
[8] Based on number of pump stations in zone as a percentage of total pump stations.
[9] Based on number of tanks in zone as a percentage of total tanks.
[10] Base on average allocated energy, pump, and tanks costs
[11] Estimated using FY 2020 data provided by District staff for water flow through each zone. Zone 3 has to go through Zone 1 then zone 2. Zone 4 must go through Zone 1 then Zone 2.

Water delivery to Zone 3:

Water delivery to Zone 4:

Note that since all water usage must be pumped through Zone 1, the cost to pump through Zone 1 is recovered in the Base Power Unit rate which is covered in the commodity charge. **Table 6-14** summarizes the necessary adjustments to each zone's power costs to account for the zone-to-zone pumping.

Table 6-14: Elevation Charges and Base Power Rate Calculations

	2020	Zone 1	Zone 2	Zone 3	Zone 4
Unit Elevation Cost Before Adjustment		**$0.05**	**$0.43**	**$0.92**	**$1.27**
Elevation Rev Requirements Before Adjustment	**$2,177,845**[12]	**$380,051**	**$1,262,389**	**$422,626**	**$112,780**
Adjustments for Elevation Cost through Zone 2					
Units through zone 2 to zone 3[13]	$119,280		($51,722)	$51,722	$0
Units through zone 2 to zone 4[14]	$88,584		($38,412)	$0	$38,412
Adjusted Elevation Rev Requirements	$2,177,845	$380,051	$1,172,256	$474,347	$151,192
Units of Service		7,949,881 hcf	2,703,448 hcf	458,837 hcf	88,584 hcf
Adjusted Unit Elevation Cost		**$0.05 /hcf**	**$0.43 /hcf**	**$1.03 /hcf**	**$1.71 /hcf**

The cost of service elevation charges developed for each zone in **Table 6-14** are shown in the FY 2020 column for the 5-Year Proposed Elevation Charges listed in **Table 6-15** below. The elevation charges are increased each year of the Study period, per the proposed revenue adjustments found in **Table 3-15**.

[12] From **Table 6-5**
[13] Units based on District staff estimates
[14] Units based on District staff estimates

Table 6-15: Proposed 5-Year Elevation Charges

Five-Year Rate Schedule	2020	2021	2022	2023	2024	2025
Elevation Charges ($/HCF)	Revised COS	5.0%	5.0%	5.0%	5.0%	5.0%
Zone 1	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Zone 2	$0.44	$0.47	$0.50	$0.53	$0.56	$0.59
Zone 3	$1.04	$1.10	$1.16	$1.22	$1.29	$1.36
Zone 4	$1.71	$1.80	$1.89	$1.99	$2.09	$2.20

6.2.3. COMMODITY CHARGES

Raftelis first conducted a cost of service analysis in 2015 for the District and identified six different rate components for the potable water commodity rates. These components will continue to be used for this study and include Base Power, Water Supply, Delivery, Peaking, Conservation, and Revenue Offsets. Each of the rate components is described in **Table 6-16** below.

Table 6-16: Descriptions of Potable Water Volumetric Rate Components

Rate Components	Description
Base Power	To recover power costs to produce and deliver potable water to base zone
Water Supply	To recover potable water supply costs using the following supply allocation: 1. Blended MWD Tier 1 water and other local purchases to meet Tiers 1, 2 and 3 demand for regular services 2. MWD Tier 2 to meet highest tier demand and temporary services
Delivery	To recover remaining base water system costs (costs to meet average daily flow)
Peaking Costs	To recover remaining peak water system costs (costs to meet peak hour, peak day and peak season)
Conservation	To recover the District's conservation program costs from inefficient and excessive usage (Tiers 3 and 4)
Revenue Offsets	To provide affordability for essential usage, ad valorem property tax revenues are dedicated to offset essential and efficient use (Tiers 1 & 2) revenue requirements.

6.2.3.1. Commercial Water Tiers

Additionally, the District discussed with Raftelis that it would like to reevaluate its commercial rates. Raftelis analyzed the current commercial water budget and created several scenarios that were presented to District staff. District staff determined that changing the Commercial Water Budgets rolling average so that it is based on a 2-year rolling average as opposed to the 90% of the three-year average currently in place, and switching the commercial tiers so that they are based on 3 tiers rather than 4, was the most appropriate scenario.

The formulas below show how Las Virgenes will calculate a commercial customer's water budget. Note that Commercial accounts with less than two years of history will use what history is available and commercial accounts with no history will have a daily average (CWD) entered by the District and used in the calculation until there is history. Note that this formula is currently in place to calculate the commercial water budget.

Commercial daily average (hcf/day):

$$CWD = (sum\ of\ usage\ over\ billing\ periods)/(sum\ of\ days\ over\ billing\ period)$$

Commercial water budget (hcf):

$$CWB = (CWD + Ca) * M * Dc$$

Where:

- CWD = commercial water daily average (hcf)
- Dc = commercial drought factor (1, changeable)
- Ca = commercial adjustment (hcf/day)

Revising the structure to a 3-tier inclining structure is based on efficient, inefficient, and excessive usage. The efficient tier (Tier 1) will be the commercial customer's water budget. Tier 2, the inefficient tier, will be based on 150% of the commercial customers water budget, and the excessive Tier (Tier 3) will be any usage over Tier 2.

Table 6-17 below summarizes the change in commercial tier structure.

Table 6-17: Revised Commercial Tiers

Tier	Starting HCF (>)	Ending HCF (<=)
1	0	CWB
2	CWB	1.5 * CWB
3	1.5 * CWB	>1.5 * CWB

Taking these changes into account, Raftelis analyzed FY 2020 water consumption under the proposed rate structure in order to evaluate proposed commodity rates. **Table 6-18** below shows revised demand and compares it with current demand. Note that total demand remains the same for both columns as the usage was reallocated to the newly developed commercial tiers.

Table 6-18: Revised Potable Water Demand

Line	A	B	C
No	**Demand for Water Supply 2020**	**Current**	**Revised**
1	Tier 1	2,177,572	1,926,806
2	Tier 2	3,657,520	3,248,851
3	Tier 3	1,153,818	1,049,722
4	Tier 4	952,625	898,638
5	Temporary	8,346	8,346
6	Commercial Tier 1	N/A	673,345
7	Commercial Tier 2	N/A	75,069
8	Commercial Tier 3	N/A	69,105
9	Total	**7,949,881**	**7,949,881**

6.2.3.2. Water Supply

Due to the configuration of the District, water for certain areas is purchased from other agencies such as Ventura County. Blended water supply sources from these local purchases and MWD Tier 1 (shown in **Table 3-11**); are designated for regular usage in Tiers 1 through 3. As discussed, and agreed to by District staff, excessive use (Tier 4) should pay for the next available marginal water supply costs at the MWD Tier 2 unit cost to signal the

true value of water supplies. If a significant number of customers use water excessively, the District will need to acquire more expensive water from MWD Tier 2.

The unit rate for water supply is calculated to include 3.08% water loss and converted to per hcf (100 cubic feet or 748 gallons). The MWD Tier 2 unit cost is shown in row 9 of **Table 3-11** and the unit rate is calculated to include water loss and converted to hcf which is shown in
Table 6-19 below.

Table 6-19: Unit Cost for Potable Water Highest Tier

A	B	C
Unit Cost	**Unit Cost with Water Loss**	**Unit Cost per HCF**
Table 3-11	***A / (1-3.08%)***	***B / 435.6***
$1,165 /AF	$1,202 /AF	$2.76 /hcf

In order to calculate the blended unit rate for the water supply component for the lower tiers, Raftelis first calculated the proposed revenue generated for the Excessive Tier by taking Column C of
Table 6-19 and multiplying it by total Tier 4 usage (Column C **Table 6-18** row 4), Temporary Usage (Column C **Table 6-18** row 5), and Commercial Tier 3 usage (Column C **Table 6-18** row 8).

Table 6-20: Excessive Tier Revenue

	A	B	C	D
	Tier Source	**Usage**	**Unit Cost**	**Projected Revenue**
1	Tier 4	898,638	$2.76 /hcf	$2,479,759
2	Temporary	8,346	$2.76 /hcf	$23,029
3	Commercial Tier 3	69,105	$2.76 /hcf	$190,693
4	Total	**976,089**		**$2,693,481**

This revenue is then subtracted from the overall water supply revenue requirement found in **Table 6-5** Column C Line 1 and divided by the remaining usage (Row 9 **Table 6-18** less Column B Row 4
Table 6-20) as shown on **Table 6-21**.

Table 6-21: Blended Unit Rate Calculation

Line	Notes	Unit Cost Calculation
1	$19,683,242 – $2,693,481	$16,989,761
2	7,949,881 - 976,089	6,973,793
3	**Row 1 / Row 2**	**$2.44 /hcf**

Table 6-22 below summarizes the unit cost for water by Tier.

Table 6-22 Potable Water Supply Rate Component of Commodity Charges

2020 Water Supply Rate	Supply Sources	Unit Rate
Tier 1	Blended	$2.44 /hcf
Tier 2	Blended	$2.44 /hcf
Tier 3	Blended	$2.44 /hcf
Tier 4	MWD Tier 2	$2.76 /hcf
Temporary	MWD Tier 2	$2.76 /hcf
Commercial Tier 1	Blended	$2.44 /hcf
Commercial Tier 2	Blended	$2.44 /hcf
Commercial Tier 3	MWD Tier 2	$2.76 /hcf

The actual water supply rates for FY 2022 to FY 2025 will be calculated annually to reflect the actual water supply costs for that particular year. Calculating actual supply costs annually will allow the District to accurately pass-through wholesale water supply cost increases to retail customers.

6.2.3.3. Base Power and Delivery

As mentioned in Section 6.2.2 since all water usage must be pumped through Zone 1, the cost to pump through Zone 1 is recovered in the Base Power Unit rate which is the elevation revenue requirement generated for Zone 1 divided by all water usage. The calculation for the Base Power unit is shown below. Base power is applied to all tiers uniformly.

Table 6-23: Base Power Unit Rate Calculation

Base Power Unit Rate	
Base Power Revenue Requirement	$380,051
Units of Service	7,949,881 hcf
Base Power Unit Rate	**$0.05 /hcf**

Likewise, the delivery rate is calculated by taking the revenue required from the Base delivery component (**Table 6-5** row 3) and dividing it by total usage. The delivery component is applied uniformly to all tiers.

Table 6-24: Base Delivery Unit Rate Calculation

Base Delivery Calculation	
Base Delivery Revenue Requirement	$3,762,032
Units of Service	7,949,881 hcf
Base Delivery Unit Rate	**$0.47 /hcf**

6.2.3.4. Conservation

The conservation program costs (**Table 6-5** Row 6 Column C) are allocated to commercial and residential inefficient and excessive tiers. Excessive tiers are charged a higher portion of the conservation related costs as the District will implement messaging outreach programs that will target specific users who are typically above their water budget. In more extreme circumstances (i.e. continuous excessive usage), the District will conduct site visits to the users to encourage efficient water usage.

Additionally, the District will implement a commercial conservation program that hopes to encourage awareness of excessive usage to all commercial customers emphasizing awareness especially to users who are regularly above their commercial water budget. This program totals around $55,000 and is added on in addition to the conservation revenue requirements from **Table 6-5**. The costs for this program are uniformly added onto each of the three commercial tiers.

Table 6-25 & **Table 6-26** below shows the allocation of commercial conservation program costs. The split between tiers were discussed and agreed to with District staff based on the conservation outreach program targets. **Table 6-27** shows the final cost of service unit rate for the conservation component after adding together the unit rates for tables **Table 6-25** and **Table 6-26**. Numbers shown in the tables are rounded; therefore, hand calculations based on the displayed numbers, such as summing or multiplying, may not equal the exact results shown.

Table 6-25: Conservation Program Unit Rate

Tiers Allocation	Demand for Water Supply 2020	Accountable Usage	Rev Requirements	Unit Rate ($/hcf)
Tier 1	1,926,806	0%	$0	$0.00 /hcf
Tier 2	3,248,851	0%	$0	$0.00 /hcf
Tier 3	1,049,722	10%	$68,624	$0.07 /hcf
Tier 4	898,638	100%	$587,467	$0.65 /hcf
Temporary	8,346	100%	$5,456	$0.65 /hcf
Commercial Tier 1	673,345	0%	$0	$0.00 /hcf
Commercial Tier 2	75,069	50%	$24,537	$0.33 /hcf
Commercial Tier 3	69,105	100%	$45,176	$0.65 /hcf
Total	**7,949,881**	**1,118,595**	**$731,260**	

Table 6-26: Commercial Conservation Program Costs

Commercial Conservation Program	Demand for Water Supply 2020	Accountable Usage	Rev Requirements	Unit Rate ($/hcf)
Commercial Tier 1	673,345	100.0%	$45,300	$0.07 /hcf
Commercial Tier 2	75,069	100.0%	$5,050	$0.07 /hcf
Commercial Tier 3	69,105	100.0%	$4,649	$0.07 /hcf
Total	**817,518**	**817,518**	**$55,000**	

Table 6-27: Total Conservation Unit Rate

2020 Conservation Rate	Unit Rate
Tier 1	$0.00 /hcf
Tier 2	$0.00 /hcf
Tier 3	$0.07 /hcf
Tier 4	$0.65 /hcf

Temporary	$0.65 /hcf
Commercial Tier 1	$0.07 /hcf
Commercial Tier 2	$0.39 /hcf
Commercial Tier 3	$0.72 /hcf

6.2.3.5. Peaking

Table 6-28 determines each tier's peaking factor which compares the minimum and maximum seasonal system usage. The peaking factors for each tier and customer class play an integral role in determining the cost of providing service to said customer class or tier. Tier 4 and Temporary are combined as the temporary usage is highly variable and does not depend on the season, and therefore discretely using the temporary usage gives an inaccurate peaking factor. Furthermore, temporary water rates are designed to match tier 4 costs, so the usage is combined, and peaking factors matched.

Table 6-28: Peaking Characteristics for Potable Water Tiered Usage

Tiers	Peaking Factors
Tier 1	25.3%
Tier 2	237.0%
Tier 3	336.9%
Tier 4 + Temp	394.8%
Commercial Tier 1	167.9%
Commercial Tier 2	139.9%
Commercial Tier 3	563.3%

Table 6-29 calculates the unit rate peaking factors for each tier. The projected sales for each tier from **Table 6-18** are multiplied by the peaking factors developed in **Table 6-28**, to determine the "equivalent peaking usage total". The equivalent peaking usage total is divided by the peaking revenue requirement of $5.9M found in **Table 6-5**. The resulting unit peaking rate of $0.35 is then multiplied by the peaking factor percentages for each tier to determine the peaking rate component for each tier.

Table 6-29: Peaking Rate Component of Commodity Charges

Line	Tier	Projected Sales (Table 6-18)	Peaking Factors (Table 6-28)	Equivalent Peaking Use	Unit Rate ($ / hcf)	Notes
		A	B	C = A*B	F = C10 *B	
1	Tier 1	1,926,806	25.3%	487,482	$0.09 /hcf	
2	Tier 2	3,248,851	237.0%	7,699,901	$0.83 /hcf	
3	Tier 3	1,049,722	336.9%	3,536,776	$1.18 /hcf	
4	Tier 4 + Temp	906,984	394.8%	3,580,938	$1.38 /hcf	
5	Commercial Tier 1	673,345	167.9%	1,130,546	$0.59 /hcf	
6	Commercial Tier 2	75,069	139.9%	104,987	$0.49 /hcf	
7	Commercial Tier 3	69,105	563.3%	389,237	$1.97 /hcf	

8	Total	7,949,881		16,929,866		
9	**Peaking Rev Requirements**			**$5,923,484**		**Table 6-5**
10	**Unit Peaking Rate ($/equiv hcf)**			**$0.35 /hcf**		***C9 / C8***

6.2.3.6. Revenue Offset

Revenue offsets (revenues from property tax dedicated to providing affordability for essential and efficient use and other non-rate related revenues) are allocated uniformly for Tiers 1 and 2 for residential. Commercial Tier 1 also receives a portion of the revenue offset. The split in Revenue offset components for Residential and Commercial was based on the property tax percentage split that the District currently has in place which is allocated 85% to residential and 15% to commercial. The 135% of accountable usage to commercial Tier 1 is used to allocate 15% of the revenue offset requirement from **Table 6-5** to commercial. The unit rates for revenue offsets can be seen on **Table 6-30**.

Table 6-30: Revenue Offset Rate Component of Commodity Charges

	Tiers Allocation	Demand for Water Supply 2020	Accountable Usage	Rev Req Allocation	Rev Requirements	Unit Rate ($/hcf)	Notes
Line		A	B	C = A*B/B4	D = C*D4	E = B*D5	
1	Tier 1	1,926,806	100%	32%	-$400,475	-$0.21 /hcf	
2	Tier 2	3,248,851	100%	53%	-$675,254	-$0.21 /hcf	
3	Tier 3	1,049,722	0%	0%	$0	$0.00 /hcf	
	Tier 4	898,638	0%	0%	$0	$0.00 /hcf	
	Temp	8,346	0%	0%	$0	$0.00 /hcf	
	Com Tier 1	673,345	135%	15%	-$188,933	-$0.28 /hcf	
	Com Tier 2	75,069	0%	0%	$0	$0.00 /hcf	
	Com Tier 3	69,105	0%	0%	$0	$0.00 /hcf	
4	Total	7,949,881	6,084,673		**($1,264,663)**		
5					**-$0.21 /hcf**		D4 / B4

6.2.3.7. Cost of Service Commodity Charge

Adding together the various commodity charge components produces the total cost of service commodity charge for each tier, as found below in **Table 6-31**. The proposed rates for FY 2021, the rate-setting year, is a result of the cost of service analysis developed during the study. Rates for all years on and beyond FY 2021 are adjusted based on the proposed revenue adjustment per year from **Table 3-15**. At the direction of District staff, Temporary Services are charged at the Tier 4 rate with a 1.5 times adjustment factor.

Table 6-31: Cost of Service Commodity Charges for FY 2020

Commodity Charge ($ / hcf)	Base Power	Water Supply	Delivery	Peaking	Conserv	Rev Offset	Revised COS
Tier 1	$0.05	$2.44	$0.47	$0.09	$0.00	($0.21)	**$2.84 /hcf**
Tier 2	$0.05	$2.44	$0.47	$0.83	$0.00	($0.21)	**$3.58 /hcf**
Tier 3	$0.05	$2.44	$0.47	$1.18	$0.07	$0.00	**$4.21 /hcf**

Tier 4	$0.05	$2.76	$0.47	$1.38	$0.65	$0.00	**$5.32 /hcf**
Temporary Services[15]	$0.05	$2.76	$0.47	$1.38	$0.65	$0.00	**$7.98 /hcf**
Commercial Tier 1	$0.05	$2.44	$0.47	$0.59	$0.07	($0.28)	**$3.34 /hcf**
Commercial Tier 2	$0.05	$2.44	$0.47	$0.49	$0.39	$0.00	**$3.85 /hcf**
Commercial Tier 3	$0.05	$2.76	$0.47	$1.97	$0.72	$0.00	**$5.98 /hcf**

Table 6-32 shows the proposed commodity charges with a pass-through adjustment added onto FY 2021. **Table 6-33** shows the proposed pass through adjustment for FY 2021 which is added on top of the revised cost of service rate with revenue adjustment. Note that each year after FY 2021 does not contain a pass thru adjustment as the pass-through adjustment will be calculated each year after FY 2021 by District Staff and added on top of the rate.

Table 6-32: Proposed 5-Year Commodity Charges With Pass Thru on FY 2021

Five-Year Rate Schedule	2020	2021[16]	2022	2023	2024	2025
Commodity Charge ($/HCF)	Revised COS	5%	5%	5%	5%	5%
Tier 1	$2.84	$3.14	$3.30	$3.47	$3.65	$3.84
Tier 2	$3.58	$3.91	$4.11	$4.32	$4.54	$4.77
Tier 3	$4.21	$4.58	$4.81	$5.06	$5.32	$5.59
Tier 4	$5.32	$5.74	$6.03	$6.34	$6.66	$7.00
Temporary Services	$7.98	$8.53	$8.96	$9.41	$9.89	$10.39
Commercial Tier 1	$3.34	$3.66	$3.85	$4.05	$4.26	$4.48
Commercial Tier 2	$3.85	$4.20	$4.41	$4.64	$4.88	$5.13
Commercial Tier 3	$5.98	$6.43	$6.75	$7.09	$7.45	$7.83

Table 6-33: Proposed Pass Through

		A	B	*C*
		2020	2021	*Notes*
1	Source of Supply	$24,007,931	$25,225,948	***Table 3-11 Line 43***
2	Total Water Usage (HCF)	7,941,536	7,954,409	***Table 3-7 Line 32***
3	Cost per HCF	$3.02	$3.17	***Row 1 / Row 2***
4	Incremental Pass Through Rates		**$0.15**	***B3 – A3***

[15] Temporary Services are charged at the Tier 4 rate with a 1.5 times adjustment factor.

[16] FY 2021 includes pass thru adjustment which will be calculated and added onto subsequent years rates.

7. Recycled Water Cost of Service Analysis and Rate Design

7.1. Recycled Water Cost of Service Analysis

Proposition 218 requires a nexus between the rates charged and the costs of providing service. Based on the proposed financial plan, the cost of service analysis translates this financial requirement into actual rates. The first step in the cost of service analysis is to determine how much revenue is required to be collected from rates. The methodology used is based upon the premise that the utility must generate annual revenues adequate to meet its estimated annual expenses. As part of the cost of service analysis, several adjustments are made to the appropriate cost elements to ensure the adequate collection of revenues by determining the annual revenues needed from rates. Revenues from sources other than recycled water rates and charges (e.g. revenues from miscellaneous services) are deducted.

Currently, Recycled Water (recycled water) customers pay a 3-tier commodity charge and elevation charges based on total recycled water usage along with an RTS charge component that is aligned with the potable water RTS charge. As part of this cost of service analysis, Raftelis recommended the District create a unique RTS charge that is separate from the potable water charges. This will be discussed in a later section of this chapter. The financial plan (from Section 5) shows the required revenue adjustment for FY 2020 effective in January 2020, or 6 months of revenues under new rates; however, the calculated revenue requirement shown in **Table 7-1** is annualized.

Table 7-1: Annualized Recycled Water Revenue Requirement for FY 2020

A Line	B REVENUE REQUIREMENTS	C 2020	D Notes
1	O&M Expenses	$4,685,202	*Table 5-11*
2	Debt Service	$0	
3	Rate Funded Replacement CIP	$23,889	*Figure 5-1*
4	Net Cash Change	$436,822	
5	Mid-Year Adjustment	$79,715	
6	**SUBTOTAL REVENUE REQUIREMENTS**	**$5,225,628**	
7			
8	***Less Non-Operating Revenues***		
9	Temporary Meter Charge	($1,800)	*Table 5-9*
10	Temporary Meter Installation Fees	($100)	*Table 5-9*
11	Late Payment Fees and other Non Operating Revenues	($100,000)	*Table 5-9*
12	Water Usage - Accidents	($100)	*Table 5-9*
13	Other Income from Operations	($90,000)	*Table 5-9*
14	**SUBTOTAL NON-OPERATING REVENUE REQUIREMENTS**	**($192,000)**	

A Line	B REVENUE REQUIREMENTS	C 2020	D Notes
15			
16	NET REVENUE REQUIREMENTS	$5,033,628	

Table 7-2 summarizes the peaking characteristics of the District's water system determined by the District's recycled water Master Plan. These ratios are used to determine the appropriate percentage allocation of total O&M and capital costs towards peaking, as shown in the Appendix. As detailed in Section 7, the Max Day and Max Hour peaking factors are calculated as follows:

$$Max\ Day = \frac{\text{Peak Day Demand}}{\text{Average Daily Flow}} = 2.10$$

$$Max\ Hour = \frac{\text{Peak Hour Demand}}{\text{Average Hourly Flow}} = 2.50$$

Table 7-2: Recycled Water System Peaking Factors

A Line	B	C Peaking Factors
1	Base	1.00
2	Max Day	2.50
3	Max Hour	5.00

Table 7-3 summarizes the allocation percentages for the peaking factors using the peaking factors found in **Table 7-2.** Base represents average daily demand during the year, which has been normalized to a factor of 1.00 (Column B, Line 1).

The allocation bases (Columns C to E) are calculated using the equations outlined in this section. Columns are represented in these equations as letters and rows are represented as numbers. For example, Column D, Line 2 is shown as D2.

The Max Day allocations are calculated as follows:

- Base Delivery: B1 / B2 x 100% = C2
- Max Day: (B2 - B1) / B2 x 100% = D2

The Max Hour allocations are calculated as follows:

- Base Delivery: B1 / B3 x 100% = C3
- Max Day: (B2 - B1) / B3 x 100% = D3
- Max Hour: (B3 - B2) / B3 x 100% = E3

Table 7-3: Allocation of Extra Capacity to Cost Components

Line No.	Allocation Factor A	Peaking Factor B	Base C	Max Day D	Max Hour E
1	Base	1.00	100.0%		
2	Max Day	2.50	40.0%	60.0%	
3	Max Hour	5.00	20.0%	30.0%	50.0%

Similar to cost of service for water services, the second step in the cost of service analysis for recycled water services is to functionalize the revenue requirement into cost components. This analysis employs the "Base-Extra Capacity" method under which utility costs of service are assigned to basic functional cost components including: supply costs; base costs (fixed costs incurred to meet average demand); extra capacity or peaking costs (fixed water system costs to meet maximum day and maximum hour, or peaking, demand); and conservation, meter service and customer-service related costs as described in the M1 Manual. The Base-Extra Capacity method is widely used in the water industry to serve retail customers. The revenue to be recovered from rates of $5M is allocated according to the categories in **Table 7-4**. See the Appendix for detailed step by step allocations of recycled water system costs into cost categories.

Table 7-4: Recycled Water Revenue Requirements Allocated to Rate Components

		2020 A	Commodity B	Elevation C	RTS D
1	Water Supply	$2,540,002	$2,540,002		
2	Power	$884,696	$446,611	$438,085	
3	Base	$571,104	$274,130		$296,974
4	Peaking	$1,094,523	$525,371		$569,152
5	Conservation	$0			
6	Rev Offset	-$192,000	-$192,000		
7	Fire	$0			
8	Meters	$116,846			$116,846
9	B&CS	$18,457			$18,457
10	Total	**$5,033,628**	**$3,594,114**	**$438,085**	**$1,001,429**

7.2. RW Rates Calculations

7.2.1. RECYCLED WATER COMMODITY CHARGES

Similar to Water, commodity charges for recycled water usage will also utilize a Water Budget Tiered Rate Structure.

In meeting Proposition 218 requirements, Raftelis conducted a cost of service analysis and identified several different rate components for recycled water commodity rates, including Base Power and Delivery, Water Supply, Peaking Costs, and Revenue Offsets. Each of the rate components is described in **Table 7-5**, below.

Table 7-5: Descriptions of Potable Water Volumetric Rate Components

Rate Components	Description
Base Power and Delivery	To recover power costs to produce and deliver water to base zone to meet average demand and remaining base water system costs.
Water Supply	To recover water supply costs using the following supply allocation: 1. Recycled water purchased from JPA used to meet all usage, with highest priority for Tier 1 (Efficient) usage Water Supply 2. Potable Water Supplement is used to meet Tier 2 (Inefficient) demand along with JPA supply (estimated by District staff) 3. Remaining Potable Supplement and JPA supply are used to meet Tier 3
Peaking Costs	To recover the remaining peaking water system costs
Revenue Offset	To provide affordability for essential usage, ad valorem property tax revenues and other non-rate revenues are dedicated to offset essential Tier 1 revenue requirements.

7.2.1.1. Water Supply

The projected water supply costs for FY 2020 are made up of purchased water from the JPA and purchased supplemental water from the potable water supply. Recycled water usage beyond 3,170 AF/year requires the District to use higher priced potable water to meet demands. The District's projected demand is 4,117 AF as seen on **Table 5-10**. The potable water supply is used to cover excessive usage that goes above District JPA purchases. As mentioned in **Table 7-5**, JPA water is allocated to the first two tiers and is blended with the potable supplement for the second tier. **Table 7-6** shows the water supply costs from **Table 7-4** split between JPA and the potable supplement.

Table 7-6: Recycled Water Supply Sources

Sources	Water Supply Costs
JPA RWTR	$997,922
Supplemental Potable Water	$1,542,080
Total	**$2,540,002**

In order to calculate the blended unit rate, Raftelis first calculated the proposed revenue generated for the excessive tier using the projected demand from the potable water supply fund. **Table 7-7** below summarizes the Recycled Water purchases and sales and **Table 7-8** summarizes the demand per hcf at each tier, as well as the quantity of water available from each source at each tier. Note that Column C of **Table 7-7** is the actual recycled water sales after factoring in Recycled Water Loss.

Table 7-7: Recycled Water Supply Sources and Demand

	A Water Supply Sources	B Quantity Available	C Quantity Available for Sales
1	JPA RWTR	3,268 AF	3,170 AF
2	From Potable Water Fund	976 AF	947 AF
3	Total	**4,244 AF**	**4,117 AF**

Table 7-8: Recycled Water Demand per Tier

	A Tier	B Demand (HCF)	C Blended	D From Potable Water Fund
1	Tier 1	1,178,431	1,178,431	-
2	Tier 2	259,737	202,612	57,125
3	Tier 3	351,014	-	351,014
4	Temporary	4,304	-	4,304
5	Total HCF	**1,793,485**	**1,381,043**	**412,442**
6	Total AF	**4,117**	**3,170**	**947**

The supplemental potable water supply costs (**Table 7-6**) is divided by the projected demand to determine the unit cost for potable supplement. Column E of **Table 7-9** factors in the water loss percentage which was seen in **Table 5-10**. Factoring in this loss, the purchased potable supplement that is available for sale is 947 AF or 412,442 hcf.

The cost of supplemental potable water is allocated in this way as excessive usage causes the District to pay for more expensive water to supplement any shortcomings that cannot be covered by JPA recycled water. As such, inefficient and excessive tiers are charged the costs to purchase this water.

Table 7-9: Supplemental Potable Water Supply Cost

A	B Quantity Available (AF)	C 2020 Supply Rev Req	D Unit Cost AF	E Unit Cost with Water Loss	F Unit Cost HCF
Water Supply Sources		**(From Table 7-6)**	**D= C/B**	**E = D/(1+3.08%)**	**F = E/435.6**
From Potable Water Fund	976	$1,542,080	$1,580	$1,630	$3.74

The unit rate for Supplemental Potable is multiplied by the supplemental water sales (Column C Row 3 **Table 7-7**) to determine the amount of revenue that will be covered by the excessive tier. This revenue is subtracted from the total water supply requirement to determine the JPA / blended revenue requirement. This calculation is seen on **Table 7-10**.

Table 7-10: Blended Revenue Requirement

Water Supply Revenue Requirement	Potable Supplement Revenue	JPA / Blended Rev Requirement
A	**B = $3.74/hcf * 412,442 hcf**	**C = A - B**
$2,540,002	$1,543,544	$996,458

The JPA / blended Revenue Requirement is then divided by the JPA / blended demand (Row 5 Column C **Table 7-8)** to determine the JPA unit rate. This calculation can be seen in the formula below:

Unit Cost Calculation:

$$\frac{(Blended\ Revenue\ Requirement)}{Blended\ Demand}$$

$$\frac{\$996{,}458}{1{,}381{,}043\ hcf} = \$0.72/hcf$$

This unit cost reflects the cost of just recycled water when not mixed with potable supplement and is assigned to Tier 1. To determine the blended Tier 2 costs, a weighted average is created by multiplying the previous mentioned units by their respective amounts from each source as show in **Table 7-8**. The formula below shows the determination of the unit cost.

$$\frac{(Tier\ 2\ JPA\ Demand * JPA\ Unit\ Rate) + (Tier\ 2\ Supplement\ Demand * Potable\ Supplement\ Rate}{Tier\ 2\ Demand}$$

$$\frac{202{,}612 * \$0.72 + 57{,}125 * \$3.74}{202{,}612 + 57{,}125} = \$1.39/hcf$$

Table 7-11 shows the water supply unit cost for each tier. Note that temporary is set equal to the highest tier cost.

Table 7-11: Unit Cost for Water Supply

	A Tier	B Unit Cost
1	Tier 1	$0.72 /hcf
2	Tier 2	$1.39 /hcf
3	Tier 3	$3.74 /hcf
4	Temporary	$3.74 /hcf

7.2.1.2. Delivery and Base Power

Delivery costs (**Table 7-12**) are recovered uniformly from each tier. The revenue requirement for the rate component is divided by the total number of recycled water units sold to determine the unit rate.

Table 7-12: Delivery Rate Component of Recycled Water Commodity Charges

	2020	Notes
Revenue Requirement	$274,130	*Row 3 Column B **Table 7-4***
Unit of Service	1,793,485	*Row 5 Column B **Table 7-8***
Unit Rate	**$0.15 /hcf**	

As with potable water, all recycled water usage must be pumped through the Las Virgenes Valley Zone. The cost to pump through this Zone is recovered in the Base Power Unit rate which is the elevation revenue requirement generated for the Las Virgenes Valley Zone divided by all water usage. The calculation for the Base Power unit is shown below. Base power is applied to all tiers uniformly.

Table 7-13: Base Power Component of Recycled Water Commodity Charges

	2020	Notes
Revenue Requirement	$446,611	***Row 2 Column B Table 7-4***
Unit of Service	1,793,485	***Row 5 Column B Table 7-8***
Unit Rate	**$0.25 /hcf**	

7.2.1.3. Peaking

Table 7-14 determines each tier's peaking factor which compares the minimum and maximum seasonal system usage. The peaking factors for each tier and customer class play an integral role in determining the cost of providing service to said customer class or tier. Tier 3 and Temporary are combined as the temporary usage is highly variable and does not depend on the season; therefore, discretely using the temporary usage gives an inaccurate peaking factor. Furthermore, temporary water rates are designed to match tier 3 costs, so the usage is combined, and peaking factors matched much like in Potable water.

Table 7-14: Peaking Characteristics for Recycled Water Tiered Usage

Tiers	Peaking Factors
Tier 1	414%
Tier 2	1468%
Tier 3	1071%
Temporary	1071%

Table 7-15 calculates the unit rate peaking factors for each tier. The projected sales for each tier from **Table 7-8** are multiplied by the peaking factors developed in **Table 7-14** to determine the "equivalent peaking usage total." The equivalent peaking usage total is divided by the peaking revenue requirement of $525,371 found in **Table 7-4**. The resulting unit peaking rate of $0.04 is then multiplied by the peaking factor percentages for each tier to determine the peaking rate component for each tier.

Table 7-15: Peaking Rate Component of Commodity Charges

Line	Tier	Projected Sales (Table 7-8) A	Peaking Factors (Table 7-14) B	Equivalent Peaking Use C = A*B	Unit Rate ($ / hcf) F = C7 *B	Notes
1	Tier 1	1,178,431	414%	4,883,604	$0.17 /hcf	
2	Tier 2	259,737	1468%	3,813,046	$0.62 /hcf	
3	Tier 3	351,014	1071%	3,759,527	$0.45 /hcf	
4	Temporary	4,304	1071%	46,098	$0.45 /hcf	
5	**Total**	1,793,485		12,502,275		
6	**Peaking Rev Requirements**			**$525,371**		**Table 7-4**
7	**Unit Peaking Rate ($/equiv hcf)**			**$0.04 /hcf**		**C6 / C5**

7.2.1.4. Revenue Offset

Revenue offsets (revenues from property tax and other non-rate revenues dedicated to providing affordability for essential and efficient use and other non-rate related revenues) are allocated entirely to Tier 1. The unit rate is determined by dividing Tier 1 usage from the overall revenue offset requirement as shown in **Table 7-16**.

Table 7-16: Revenue Offset Rate Component of Commodity Charges

	2020	Notes
Revenue Requirement	($192,000)	*Table 7-4*
Unit of Service	1,178,431	*Table 7-8*
Unit Rate	**-$0.16 /hcf**	

7.2.1.5. Cost of Service Commodity Charge

Adding together the various commodity charge components produces the total cost of service commodity charge for each tier, as found below in **Table 7-17**. The proposed rates for FY 2021, the rate-setting year, is a result of the cost of service analysis developed during the study. Rates for all years on and beyond FY 2021 are adjusted based on the proposed revenue adjustment per year from **Table 5-13**. At the direction of District staff, Temporary Services are charged at the Tier 3 rate with a 1.5 times adjustment factor.

Table 7-17: Cost of Service Commodity Charges for FY 2020

Commodity Charge ($ / hcf)	Base Power	Water Supply	Delivery	Peaking	Rev Offset	Revised COS
Tier 1	$0.25	$0.72	$0.15	$0.17	($0.16)	**$1.14**
Tier 2	$0.25	$1.39	$0.15	$0.62	$0.00	**$2.41**
Tier 3	$0.25	$3.74	$0.15	$0.45	$0.00	**$4.60**
Temporary	$0.25	$3.74	$0.15	$0.45	$0.00	**$6.90**

Table 7-18 shows the proposed commodity charges for the study period.

Table 7-18: Proposed 5-Year Recycled Water Commodity Charges

Five-Year Rate Schedule	2020	2021	2022	2023	2024	2025
Commodity Charge ($/HCF)	Revised COS	8%	8%	8%	8%	8%
Tier 1	$1.14	$1.24	$1.34	$1.45	$1.57	$1.70
Tier 2	$2.41	$2.61	$2.82	$3.05	$3.30	$3.57
Tier 3	$4.60	$4.97	$5.37	$5.80	$6.27	$6.78
Temporary[17]	$6.90	$7.46	$8.06	$8.71	$9.41	$10.17

7.2.2. ELEVATION CHARGES

Elevation charges recover the costs associated with pumping water to the District's various geographic areas, or zones. The District does not add elevation charges to recycled water customers within the Las Virgenes Valley Zone (Zone L) but does assess elevation charges for all other zones. **Table 7-19** summarizes the recycled water sales in hcf delivered to Zone L versus all other Zones.

[17] Temporary Services are charged at the Tier 4 rate with a 1.5 times adjustment factor.

Table 7-19: FY 2020 Projected Recycled Water Sales in Zones

		Projected Sales *(From Table 5-7)*
1	Zone L	109,952
2	All Other Zones	1,683,533
3	**Total**	**1,793,485**

Since Zone L does not incur elevation charges, the revenue requirement is recovered from the sales to all other zones. **Table 7-20** shows the calculation to determine the per unit rate for elevation charges to recycled water customers outside of Zone L.

Table 7-20: FY 2020 Elevation Charges

	2020	Notes
Revenue Requirement	$438,085	Table 7-4
Unit of Service	1,683,533	*Row 2 of Table 7-19*
Unit Rate	**$0.27 /hcf**	*Rounded up to nearest cent*

The elevation charge unit rate of $0.27/hcf for all recycled water usage outside of Zone L, is increased by the proposed revenue adjustment percentage found in **Table 5-13** for each year of the Study period.

Table 7-21: Proposed 5-Year Elevation Charges ($/hcf)

Five-Year Rate Schedule	2020	2021	2022	2023	2024	2025
Commodity Charge ($/HCF)	Revised COS	8%	8%	8%	8%	8%
Las Virgenes Valley Zone	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Calabasas Zone	$0.27	$0.30	$0.33	$0.36	$0.39	$0.43
Calabasas/MWD Zone	$0.27	$0.30	$0.33	$0.36	$0.39	$0.43
Western Zone	$0.27	$0.30	$0.33	$0.36	$0.39	$0.43

7.2.3. READINESS TO SERVE CHARGE

Raftelis recommended to District staff conducting an independent cost of service analysis that would create a separate meter charge for recycled water which would separate it from the potable water RTS charges. The current RTS charges for recycled water are tied to the potable water meter charge, which is no longer representative of the cost of recycled water. A similar process was done to develop the rates for the Recycled RTS charges.

In order to create parity across the various meter sizes, each meter size is assigned a factor relative to a ¾" meter, which has a value of 1. According to the AWWA M1 Manual, a particular meter size's ratio of meter and capacity servicing costs relative to that of a ¾" meter is its "Equivalent Meter Units" (EMU). For example, as noted earlier, a 2-inch meter has 5.33 times the throughput capacity of a ¾" meter and therefore has a multiplication factor of 5.33 to determine its EMU to ¾" meter. The Meter & Capacity factor escalates as meter

size increases because the District's cost to service a meter increases with its size. **Table 7-22** summarizes the EMUs for the regular services.

Table 7-22: Equivalent Meter Units (EMUs) for FY 2020 for Regular Services

Regular Services	Number of Accts A	Meter & Capacity Factor B	# of Bills per Year C = A x 12	Capacity EMUs per Year D = B x C
3/4"	1	1.00	12	12
3/4" x 1"	11	1.00	132	132
1"	63	1.67	756	1,260
1 1/2"	207	3.33	2484	8,280
2"	361	5.33	4332	23,104
3"	6	11.67	72	840
4"	5	21.00	60	1,260
6"	6	53.33	72	3,840
8"	0	93.33	0	-
10"	1	140.00	12	1,680
Total	**661**		**7,932**	**40,408**

RTS Charge components include two components: Billing & Customer Service, which is uniform for all accounts, and Meter Service and Capacity Costs, which increase with meter capacity ratios. Since the cost of Billing & Customer Service does not fluctuate with usage, the unit cost is simply the line item's revenue requirement divided by the number of bills issued. Meter & Capacity costs do increase with capacity of usage for each meter size; therefore, the revenue requirement must be divided by the EMUs to determine the unit rate. The unit rate for each RTS component for FY 2020, is shown in **Table 7-23**.

Table 7-23: Components for FY 2020 RTS Charge for Regular Services

	Rev Requirement (A)	Units of Service (B)	Unit Cost of Service (A / B)
Billing and Customer Service	$18,457	7,932	$2.33
Meters and Capacity	$982,972	40,408	$24.33

The cost of service RTS charges proposed for FY 2020 in **Table 7-24** are built from adding up the monthly service charge components, Billing & Customer Service and Meters & Capacity. As noted above, the customer service cost is the same for each account regardless of meter size. The capacity component of the monthly base fee is determined by multiplying the unit cost of $24.33 (found in **Table 7-23**) by the appropriate meter factor found in column B of **Table 7-22**. Adding these two components together yields the total cost of service monthly base fee for each meter size for FY 2020, as shown in **Table 7-24** below.

Table 7-24: Cost of Service Readiness-to-Serve Charges

Meter Size	Number of Accounts	Billing & CS A	Capacity B	Cost of Service RTS Charges C = A + B
3/4"	1	$2.33	$24.33	$26.65
3/4" x 1"	11	$2.33	$24.33	$26.65

Meter Size	Number of Accounts	Billing & CS A	Capacity B	Cost of Service RTS Charges C = A + B
1"	63	$2.33	$40.54	$42.87
1 1/2"	207	$2.33	$81.09	$83.41
2"	361	$2.33	$129.74	$132.07
3"	6	$2.33	$283.81	$286.13
4"	5	$2.33	$510.85	$513.18
6"	6	$2.33	$1,297.40	$1,299.72
8"	0	$2.33	$2,270.44	$2,272.77
10"	1	$2.33	$3,405.66	$3,407.99

One of the District's policy goals is to enhance revenue stability by recovering 50 percent of the base and peaking costs through RTS charges along with the entirety of the Meters and Billing & Customer Service costs projected for the Study period. Similar to potable water, Recycled water meter costs recover 52% of overall base and peaking costs. The proposed rates for FY 2021, the rate-setting year, is a result of the cost of service analysis developed during the Study. Rates for all years on and beyond FY 2021 are adjusted based on the proposed revenue adjustment per year from **Table 5-13**. At the direction of District staff, Temporary Services are charged at the RTS rate with a 1.5 times adjustment factor.

Table 7-25: Proposed 5-Year Readiness-To-Serve Charges

Five-Year Rate Schedule Monthly RTS	2020 Revised COS	2021 8%	2022 8%	2023 8%	2024 8%	2025 8%
3/4"	$26.65	$28.79	$31.10	$33.59	$36.28	$39.19
3/4" x 1"	$26.65	$28.79	$31.10	$33.59	$36.28	$39.19
1"	$42.87	$46.31	$50.02	$54.03	$58.36	$63.03
1 1/2"	$83.41	$90.09	$97.30	$105.09	$113.50	$122.58
2"	$132.07	$142.64	$154.06	$166.39	$179.71	$194.09
3"	$286.13	$309.03	$333.76	$360.47	$389.31	$420.46
4"	$513.18	$554.24	$598.58	$646.47	$698.19	$754.05
6"	$1,299.72	$1,403.71	$1,516.01	$1,637.30	$1,768.29	$1,909.76
8"	$2,272.77	$2,454.60	$2,650.97	$2,863.05	$3,092.10	$3,339.47
10"	$3,407.99	$3,680.64	$3,975.10	$4,293.11	$4,636.56	$5,007.49

8. Sanitation Rates

Raftelis reviewed the District's current cost of service and found that it is still up to date and that a cost of service update was not needed for the sanitation enterprises rates as the numbers are still reasonable and proportional to the prior study. Raftelis also discussed with District staff that, given that the wastewater system will see major changes as a result of the pure water project implementation, an update will be needed once the infrastructure is in place. As such, Raftelis recommends that the District maintain its current policies with respect to the 2015 Sanitation Cost of Service and Rate Design and increase rates each year by the financial plan's required revenue adjustments seen in **Table 4-12**. The proposed rates for FY 2021 through FY 2025 are calculated by multiplying the revenue adjustment for those years from the previous year's rate[18] which can be seen in **Table 8-1** below.

[18] $rate_t X (1+Revenue\ Adjustment\ \%) = rate_{t+1}$ *where t = any given year*

Table 8-1: Proposed Sanitation Rates

		Current	2021 3.75%	2022 3.75%	2023 3.75%	2024 3.75%	2025 3.75%
Residential Monthly Service Charge	Household Size						
	1	$22.73	$23.59	$24.48	$25.40	$26.36	$27.35
	2	$38.04	$39.47	$40.96	$42.50	$44.10	$45.76
	3	$53.35	$55.36	$57.44	$59.60	$61.84	$64.16
	4	$68.66	$71.24	$73.92	$76.70	$79.58	$82.57
	5	$83.97	$87.12	$90.39	$93.78	$97.30	$100.95
	6+	$99.28	$103.01	$106.88	$110.89	$115.05	$119.37
Commercial Monthly Account Service Charge	Class 1	$7.42	$7.70	$7.99	$8.29	$8.61	$8.94
	Class 2	$7.42	$7.70	$7.99	$8.29	$8.61	$8.94
	Class 3	$7.42	$7.70	$7.99	$8.29	$8.61	$8.94
	Class 4	$7.42	$7.70	$7.99	$8.29	$8.61	$8.94
Commercial Monthly ERU Charges	ERU Charges						
	Class 1	$44.52	$46.19	$47.93	$49.73	$51.60	$53.54
	Class 2	$61.37	$63.68	$66.07	$68.55	$71.13	$73.80
	Class 3	$81.27	$84.32	$87.49	$90.78	$94.19	$97.73
	Class 4	$102.27	$106.11	$110.09	$114.22	$118.51	$122.96
	Excess ERU						
	Class 1	$6.75	$7.01	$7.28	$7.56	$7.85	$8.15
	Class 2	$9.30	$9.65	$10.02	$10.40	$10.79	$11.20
	Class 3	$12.31	$12.78	$13.26	$13.76	$14.28	$14.82
	Class 4	$15.49	$16.08	$16.69	$17.32	$17.97	$18.65

9. Customer Impact Analysis

9.1. Potable water Customer Impacts

Residential customer impacts shown in **Figure 9-1** below compares the dollar impact of FY 2020 versus the proposed FY 2021 rates which also include MWD pass through. The customer profile shown is that of a Zone 1 customer with a ¾" x 1" meter and a Landscape area of 4000 square feet. **Table 9-1** shows how the customer impacts are broken down between District and Pass Through Costs.

Figure 9-1: Residential Potable Water Bill Impacts with MWD Pass Through

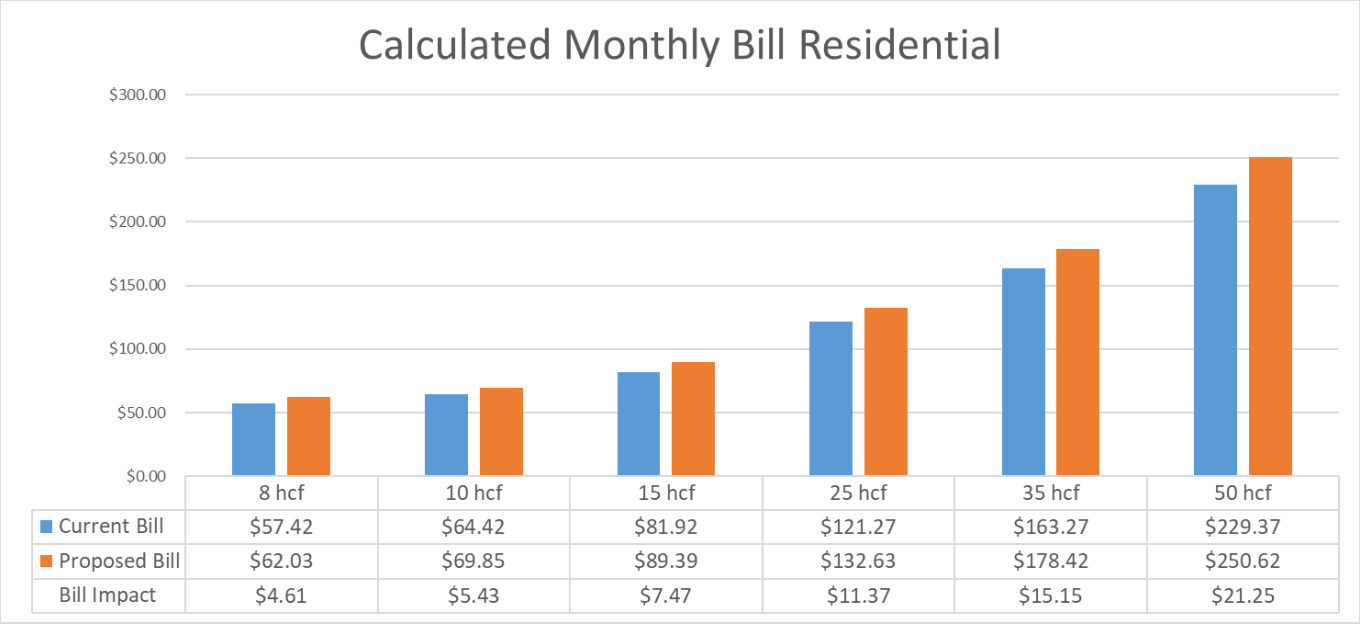


Table 9-1: Residential Potable Water Bill Impacts with MWD Pass Through

Usage	8 hcf	10 hcf	15 hcf	25 hcf	35 hcf	50 hcf
Bill Impacts	+$4.61	+$5.43	+$7.47	+$11.37	+$15.15	+$21.25
MWD Pass Through	**$1.19**	**$1.48**	**$2.22**	**$3.71**	**$5.19**	**$7.41**
District Costs	**$3.43**	**$3.95**	**$5.25**	**$7.66**	**$9.96**	**$13.83**

Commercial customer impacts shown in **Figure 9-2** below compares the dollar impact of FY 2020 versus the proposed FY 2021 rates which also include MWD pass through. The customer profile shown is that of a Zone 1 customer with a ¾" x 1" meter and a commercial water budget of 100 hcf which is approximately the average water budget for most commercial customers. **Table 9-2** shows how the customer impacts are broken down between District and Pass Through Costs.

Figure 9-2: Commercial Potable Water Bill Impacts with MWD Pass Through

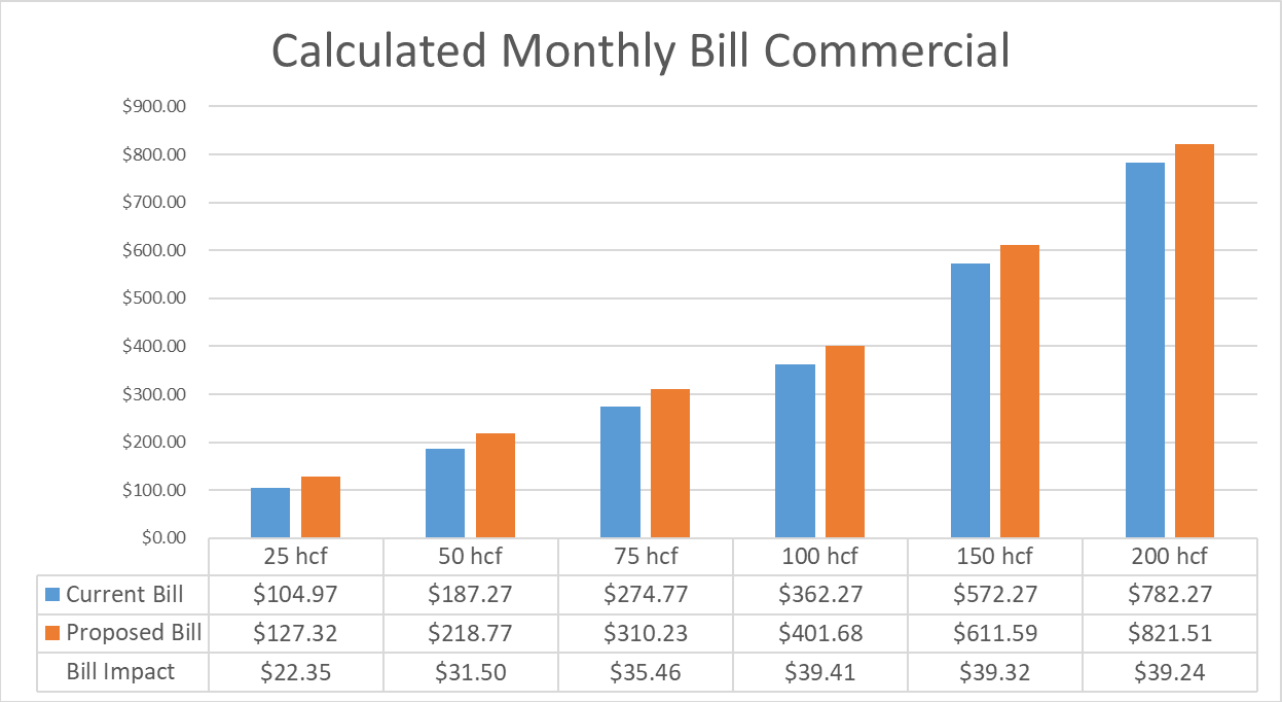


Table 9-2: Commercial Potable Water Bill Impacts with MWD Pass Through

	25 hcf	50 hcf	75 hcf	100 hcf	150 hcf	200 hcf
Bill Impacts	+$22.35	+$31.50	+$35.46	+$39.41	+$39.32	+$39.24
MWD Pass Through	**$3.71**	**$7.41**	**$11.12**	**$14.82**	**$22.23**	**$29.65**
District Costs	**$18.64**	**$24.09**	**$24.34**	**$24.59**	**$17.09**	**$9.59**

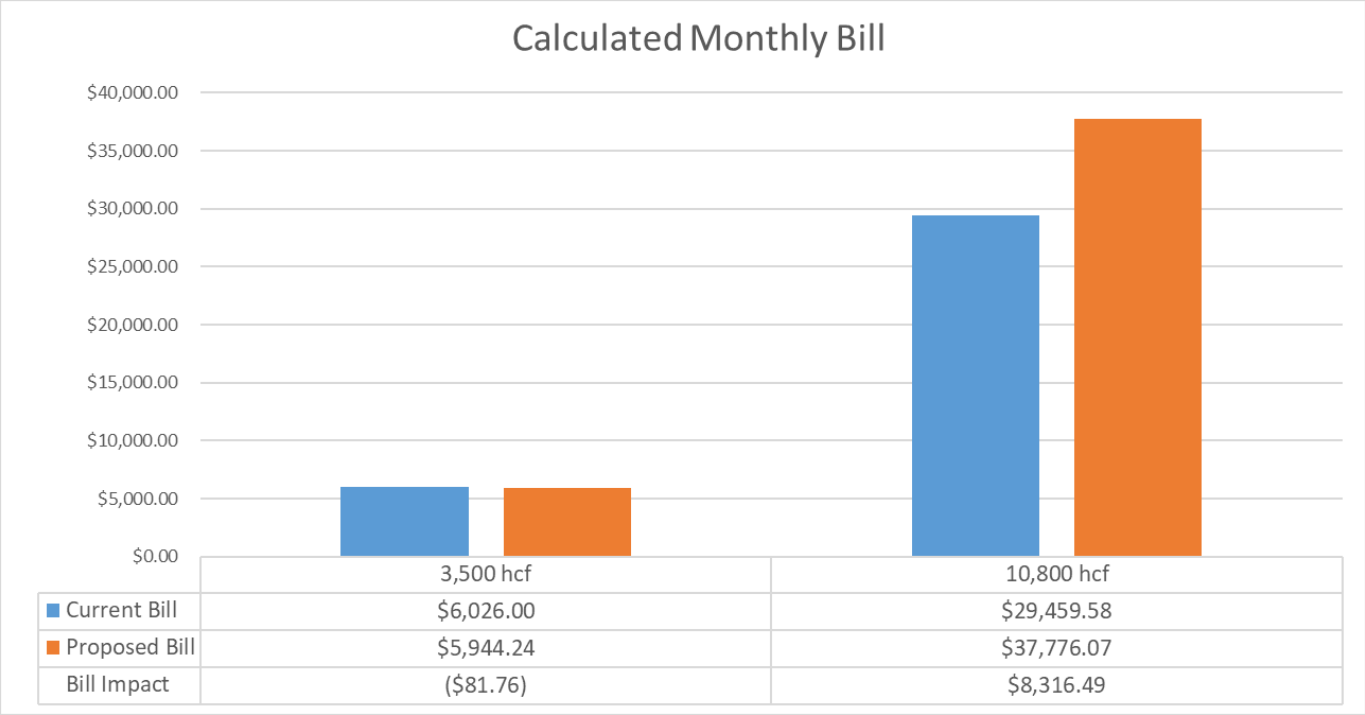
9.2. Recycled Water Customer Impacts

Raftelis analyzed impacts for two different types of recycled water customers and compared what their bills would be if they used potable irrigation water instead on **Table 9-3**. Column B shows an efficient Recycled customer who stays within their tier 1 budget where column C shows an excessive user who goes into the inefficient and excessive tiers. As shown in the table below, efficient customers should expect to see a decrease in their bills, whereas excessive users will have to pay a higher cost for going above their water budgets. **Figure 9-3** visualizes the tabular data.

Table 9-3: Recycled Water Bill Impacts

A	B	C
Usage	**3,500 hcf**	**10,800 hcf**
Current Bill	$6,026.00	$29,459.58
Proposed Bill	$5,944.24	$37,776.07
Bill Impacts	**($81.76)**	**$8,316.49**
Potable Water Equivalent Charge	**$14,382.93**	**$48,820.35**
% Difference	59%	23%

Figure 9-3: Recycled Water Bill Impacts



	3,500 hcf	10,800 hcf
Current Bill	$6,026.00	$29,459.58
Proposed Bill	$5,944.24	$37,776.07
Bill Impact	($81.76)	$8,316.49

9.3. Sanitation Customer Impacts

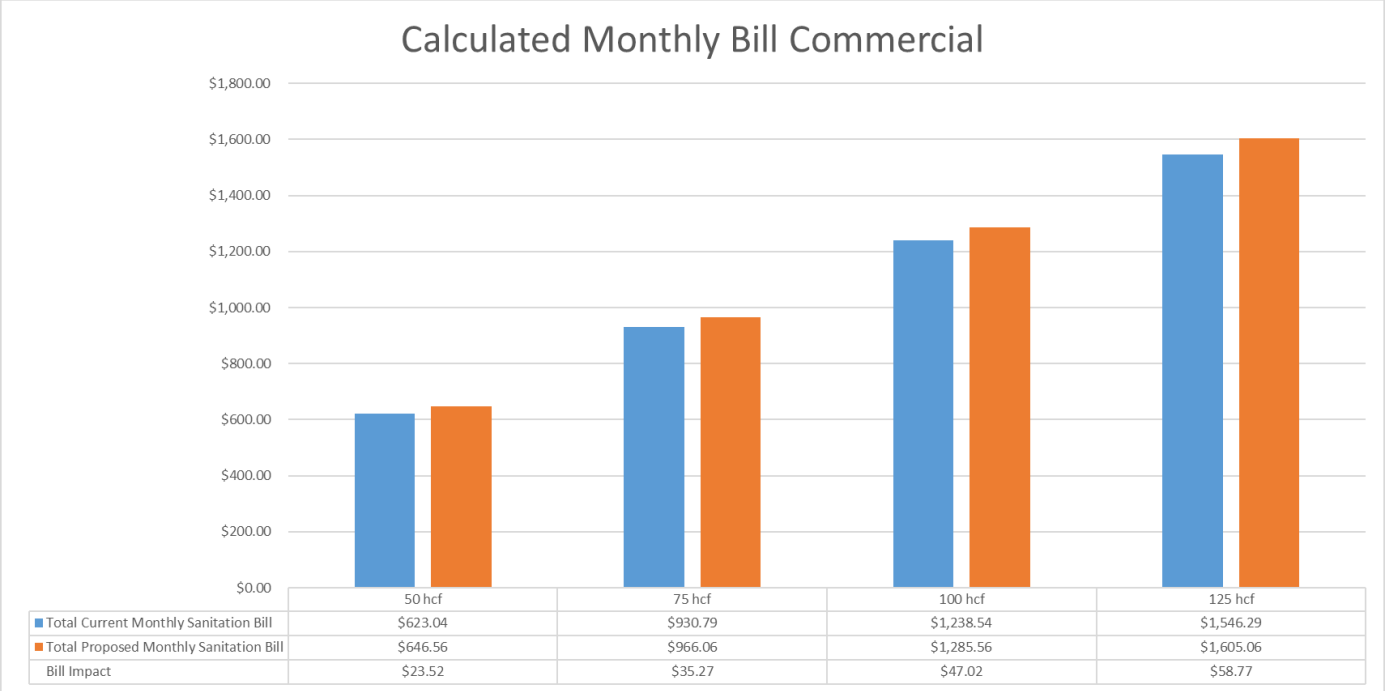
Because the cost of service remained the same, the only changes to the rates are the result of the percentage increase in revenue adjustments. Because of this, residential sanitation customers will see a 3.75% increase on their monthly bills. **Table 9-4** below shows the dollar increase for a household size of three.

Table 9-4: Residential Sanitation Bill Impacts

Household Size of 3	Current	Proposed	Bill Impact
Residential Sanitation Bill	$53.35	$55.36	$2.01

Likewise, commercial customers will also see a 3.75% increase in their monthly bills. **Figure 9-4** below shows the bill impacts for different usage amounts each month.

Figure 9-4: Commercial Sanitation Bill Impacts



	50 hcf	75 hcf	100 hcf	125 hcf
Total Current Monthly Sanitation Bill	$623.04	$930.79	$1,238.54	$1,546.29
Total Proposed Monthly Sanitation Bill	$646.56	$966.06	$1,285.56	$1,605.06
Bill Impact	$23.52	$35.27	$47.02	$58.77

APPENDICES

10. APPENDIX 1 Capital Improvement Projects:

10.1. Potable Water

		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
10521	SCADA System Communication Upgrades (LV Only)	$0	$873,575	$0	$0	$0	$0
10694	Building No. 8 Office Space Rehabilitation	$0	$578,925	$0	$0	$0	$0
10679	New Fire Panel for Building #8	$0	$92,338	$0	$0	$0	$0
10683	Boardroom Audio/Video Upgrade	$0	$49,864	$0	$0	$0	$0
10701	Electronic Document Management System	$0	$103,750	$0	$0	$0	$0
10663	ERP Systems	$0	$418,113	$0	$0	$0	$0
201837	Business Intelligence Tools	$0	$5,188	$134,981	$0	$0	$0
10706	Mobility Review	$0	$51,875	$53,820	$0	$0	$0
201864	Building No. 7 Air Conditioner Repair	$0	$181,666	$0	$0	$0	$0
201865	Multi Site Security Assessment and Improvement - LV Or	$0	$77,034	$79,923	$0	$0	$0
201886	Mobile Crane Replacement	$0	$207,500	$0	$0	$0	$0
201892	CIS Mobile Capability	$0	$17,119	$17,761	$0	$0	$0
201905	Building No. 1 Drainage Improvements	$0	$0	$0	$175,333	$0	$0
201917	Construction Services Truck Replacement	$0	$181,563	$0	$0	$0	$0
201919	Customer Service Security Improvements	$0	$160,813	$0	$0	$0	$0
201935	Dump Truck Replacement	$0	$0	$118,405	$0	$0	$0
201936	Backhoe Replacement	$0	$0	$0	$122,845	$0	$0
201937	Shop Lifts - Fleet Maintenance	$0	$0	$0	$111,677	$0	$0
10430	Twin Lakes Pump Station Pipeline Project	$0	$1,141,250	$1,184,047	$0	$0	$0
10662	Potable Water System PLC Upgrade Phase 1	$0	$0	$0	$210,802	$0	$0
99991	Westlake Filter Plant PLC Upgrade	$0	$0	$203,182	$0	$0	$0
99998	Water System PLC Upgrade Phase 2	$0	$0	$153,926	$0	$0	$0
10655	Cornell Pump Station Upgrades	$0	$0	$538,203	$0	$0	$0
10674	Pressure Reducing Station #45 (Kimberly) Rehabilitation	$0	$230,490	$193,753	$0	$0	$0
10675	Pressure Reducing Station #32 (Old Chimney) Rehabilitat	$0	$288,112	$193,753	$0	$0	$0
10684	Upper Oaks Pump Station Electrical Upgrade	$0	$10,375	$131,322	$0	$0	$0

		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
10705	Pressure Regulating Station Rehabilitation #55 (Hindu Te	$0	$83,000	$21,528	$265,345	$0	$0
201843	JBR Pump Station Pump 2 Rehabilitation	$0	$41,085	$0	$0	$0	$0
201850	Cla-Val Repair Truck	$0	$0	$0	$223,354	$0	$0
201870	Roadside Bridge Waterline Relocation	$0	$141,100	$0	$0	$0	$0
201873	Surge Tank(s)	$0	$109,560	$0	$0	$0	$0
201874	Stunt Road Pump Station Improvements	$0	$336,150	$0	$0	$0	$0
201885	Mobile Generators	$0	$155,625	$0	$0	$0	$0
201891	Latigo and Seminole Pax Mixers for Tanks	$0	$149,400	$0	$0	$0	$0
201893	JBR Pump Station Valve Replacements	$0	$0	$165,982	$0	$0	$0
201894	Agoura Pump Station Onsite Generator	$0	$0	$0	$309,346	$0	$0
201896	Conduit Pressure Regulating (PR) Station Rehabilitation	$0	$0	$326,582	$0	$0	$0
201898	"Iwater" Program	$0	$33,200	$0	$0	$0	$0
201899	Three Springs VFD Pump Station Project	$0	$0	$240,039	$0	$0	$0
10660	AMR Implementation	$0	$3,127,025	$5,735,093	$3,015,009	$0	$0
201851	Three Inch (3") & Larger Meter Replacements	$0	$77,813	$80,730	$0	$0	$0
10678	Deerlake Tank and Twin Lakes Tank Pump Station (Parent	$0	$0	$0	$0	$0	$0
10685	Deerlake Tank Construction	$0	$177,413	$1,078,416	$0	$0	$0
10686	Twin Lakes P/S Improvement	$0	$363,125	$387,097	$0	$0	$0
10651	Tank Renovation: Equestrian Tank	$0	$176,868	$0	$0	$0	$0
10671	Saddle Peak Tank Rehabilitation	$0	$1,357,251	$0	$0	$0	$0
201867	Water Tank Rehab. - Upper Oaks and Dardenne	$0	$0	$269,102	$0	$0	$0
201868	Potable Water Tank Rehabilitation	$0	$0	$0	$2,331,667	$1,527,179	$1,880,322
201841	Vehicle Replacement Program	$0	$51,875	$53,820	$223,354	$231,730	$240,420
201842	IT Capital Purchases	$0	$77,813	$80,730	$83,758	$86,899	$90,157
201847	Potable Water System Rehabilitation	$0	$103,750	$107,641	$294,828	$305,884	$317,354
201848	PW System Small Valve Replacement	$0	$103,750	$107,641	$294,828	$305,884	$317,354

		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
201853	Meter Vault Upgrades	$0	$68,475	$71,043	$0	$0	$0
201878	Potable Water System Pipe Rehabilitation and Replacement	$0	$311,250	$0	$1,244,083	$4,634,602	$4,808,399
201897	Pressure Regulating Station Valve Replacements (Multiple S	$0	$41,085	$0	$805,751	$835,966	$867,315
201903	Emergency Pipeline Construction Repair and Replacement	$0	$410,850	$426,257	$442,242	$458,826	$476,032
201920	Pressure Vessel Maintenance Program	$0	$0	$0	$111,677	$115,865	$120,210
201921	Fire Hardening - LVMWD Facilities	$0	$0	$0	$223,354	$231,730	$240,420
201922	Potable System Coatings Program	$0	$0	$0	$111,677	$115,865	$120,210
201924	Cathodic Protection Program	$0	$0	$0	$111,677	$115,865	$120,210
10556	Interconnection With CMWD	$0	$4,767,313	$1,614,609	$0	$0	$0
10672	Stationary Emergency Generator - PW Pump Station	$0	$3,454,875	$0	$0	$0	$0
201871	Wildlife Corridor Utility Relocation - LVMWD	$0	$51,875	$284,171	$0	$0	$0
201908	Electric Vehicle Charging Stations	$0	$75,323	$0	$0	$0	$0
201925	Interconnection With CMWD - Offset	$0	($2,075,000)	$0	$0	$0	$0
201926	Stationary Emergency Generator - PW Pump Station - Offset	$0	($3,454,875)	$0	$0	$0	$0
201927	Wildlife Corridor Utility Relocation - LVMWD - Offset	$0	($51,875)	($284,171)	$0	$0	$0
10642	Westlake Pump Station and Filtration Plant Landscaping	$0	$0	$0	$0	$0	$0
201889	Westlake Treatment Plant and Pump Station Access Road P	$0	$51,875	$0	$298,178	$0	$0
201923	Raw Water Reservoir Cover (Westlake)	$0	$81,963	$0	$0	$0	$0
10690	Westlake Filter Plant - Woolsey Fire	$0	$3,986,494	$0	$0	$0	$0
10700	Troutdale Pipeline - Woolsey Fire	$0	$678,525	$0	$0	$0	$0
10691	Woolsey Fire - Repair LV Facilities	$0	$356,070	$0	$0	$0	$0
201931	Woolsey Fire - Westlake Filter Plant - Reimbursement	$0	($3,986,494)	$0	$0	$0	$0
201932	Woolsey Fire - Repair LV Facilities - Reimbursement	$0	($356,070)	$0	$0	$0	$0
201934	Troutdale Pipeline - Woolsey Fire - Reimbursement	$0	($678,525)	$0	$0	$0	$0
XXXXXX	FY 2019-20 Budgeted Potable Water Construction	$0	$0	$0	$0	$0	$0
XXXXXX	FY 2019-20 Budgeted Potable Water	$1,415,242	$0	$0	$0	$0	$0
	Total CIP Fund	**$1,415,242**	**$13,561,633**	**$12,392,447**	**$11,010,784**	**$8,966,294**	**$9,598,404**
	Total CIP Fund	**$1,415,242**	**$15,068,481**	**$13,769,386**	**$11,010,784**	**$8,966,294**	**$9,598,404**

10.2. Recycled

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
201901	Wildlife Corridor Utility Relocation - JPA Recycled Water	$0	$0	$0	$0	$0	$0	$0	$0
201928	Wildlife Corridor Utility Relocation - JPA - Offset	$0	$0	$0	$0	$0	$0	$0	$0
10629	Canyon Oaks Park RW Main Extension	$0	$0	$0	$287,371	$0	$0	$0	$0
10665	Cordillera Tank Rehab	$0	$0	$0	$850,688	$0	$0	$0	$0
10666	Calabasas Park Recycled Water Main Extension	$0	$0	$0	$0	$0	$494,813	$0	$0
201869	Recycled Water Tank Rehabilitation	$0	$0	$0	$0	$0	$0	$409,004	$424,341
XXXXXX	FY 2019-20 Budgeted Recycled Water	$0	$0	$23,889	$0	$0	$0	$0	$0
	Pure Water Recycled Allocation	$0	$0	$0	$1,230,558	$1,504,598	$1,607,851	$1,864,722	$4,337,547
Grand Total		**$0**	**$0**	**$23,889**	**$2,368,617**	**$1,504,598**	**$2,102,664**	**$2,273,726**	**$4,761,888**

10.3. Sanitation

		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
10520	SCADA System Communication Upgrades	$0	$44,427	$0	$312,223	$269,942	$0
201866	Multi Site Security Assessment and Improvement - JPA	$0	$23,728	$24,618	$0	$0	$0
201839	Rancho Reliability Improvements	$0	$96,687	$100,312	$104,074	$107,977	$112,026
201840	Tapia Water Reclamation Facility Improvements	$0	$96,687	$100,312	$104,074	$107,977	$112,026
201915	Fire Hardening - JPA Facilities	$0	$193,373	$200,625	$208,148	$215,954	$224,052
10635	Pure Water Project	$0	$3,896,767	$4,764,561	$5,091,529	$5,904,953	$13,735,566
201911	Pure Water Project Grant Offset	$0	$0	($1,082,567)	$0	$0	$0
80748	Rancho: Replace Agitators	$0	$0	$0	$437,585	$453,994	$0
10693	Pavement Restoration Rancho	$0	$0	$0	$418,662	$0	$0
10668	Rancho Las Virgenes Storm Water Diversion Structure Replacement	$0	$104,785	$89,369	$0	$0	$0
10670	Centrate 24" Valve Replacement	$0	$211,685	$0	$0	$0	$0
10680	Rancho Las Virgenes Digester Cleaning and Repair	$0	$454,911	$0	$0	$0	$0
70019	Centrate Tank Inspection and Rehabilitation Assessment	$0	$7,325	$0	$0	$0	$0
201862	Rancho Valving In Street Replacement	$0	$0	$192,646	$0	$0	$0
201907	Rancho Generator Study and Purchase	$0	$222,672	$209,243	$0	$0	$0
10596	Lift Stations Programmable Logic Controller Upgrades	$0	$0	$0	$0	$0	$0
99983	Trunk Sewer System Improvements	$0	$0	$1,194,811	$1,239,616	$1,286,102	$1,334,331
201855	Lift Station No. 1 Pump Replacement	$0	$0	$426,257	$0	$0	$0
201856	Lift Station No. 2 Pump Replacement	$0	$0	$0	$0	$458,826	$0
201914	Lift Station Improvements	$0	$155,625	$1,194,811	$1,239,616	$0	$0
10567	Tapia Programmable Logic Controller Upgrades	$0	$1,731,084	$0	$0	$0	$0
10661	A/B Bus Electrical Modification	$0	$73,248	$0	$0	$0	$0
60030	Grit Chamber Mixing System Replacement	$0	$0	$0	$104,863	$0	$0
60031	New RAS Wet Well and Pumps	$0	$87,897	$0	$883,054	$0	$0
60032	Pavement Restoration Tapia	$0	$0	$0	$340,606	$0	$0
10619	Summer Season TMDL Compliance	$0	$1,918,499	$0	$0	$0	$0

		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
10669	Develop Tour Seating Area at Tapia	$0	$8,032	$0	$0	$0	$0
10702	Tapia Effluent Pump Station 4160 Volt Feeder Relocation	$0	$73,248	$300,937	$0	$0	$0
10703	Tapia Tertiary Filter Rehabilitation	$0	$0	$0	$62,445	$0	$0
201854	Tapia Influent Pump Replacement	$0	$0	$300,937	$0	$0	$0
201857	Tapia Hypochlorite Tank Replacement	$0	$141,514	$0	$0	$0	$0
201858	Tapia Secondary Clarifier Rehabilitation	$0	$0	$0	$221,552	$0	$0
201859	Tapia Effluent Meter Replacement	$0	$24,172	$0	$0	$0	$0
201860	Tapia Sludge Wet Well Re-circulation Piping Replacement	$0	$0	$47,724	$0	$0	$0
201861	Tapia Air Line Repair	$0	$0	$37,997	$260,185	$0	$0
201875	Tapia Gantry Crane	$0	$0	$87,849	$0	$0	$0
201904	Tapia Flow Equalization - Design/Construct	$0	$73,248	$189,986	$197,110	$2,723,964	$2,826,113
201906	Tapia HVAC Replacement	$0	$222,672	$0	$0	$0	$0
201912	Concrete Corrosion/Crack Repair - Tapia	$0	$48,343	$50,156	$52,037	$0	$0
201913	Tapia Effluent Pump Station Rehabilitation	$0	$0	$0	$0	$4,517,445	$0
201916	Tapia Control Building Improvements	$0	$0	$0	$1,750,338	$1,815,976	$0
201918	003 Discharge Point Rehabilitation	$0	$563,493	$0	$0	$0	$0
10689	Rancho Fire Repair - Woolsey Fire	$0	$1,087,044	$0	$0	$0	$0
10692	JPA Facility Facilities Repair - Woolsey Fire	$0	$640,731	$0	$0	$0	$0
201930	Rancho Fire Repair - Woolsey Fire - Reimbursement	$0	($1,087,044)	$0	$0	$0	$0
201933	JPA Facility Facilities Repair - Woolsey Fire - Reimbursement	$0	($241,717)	$0	$0	$0	$0
XXXXXX	FY 2019-20 Budgeted Sanitation	$6,293,359	$0	$0	$0	$0	$0
	Grand Total	**$6,293,359**	**$8,698,507**	**$6,744,468**	**$11,724,946**	**$17,863,109**	**$18,344,114**
		$6,293,359	**$10,873,134**	**$8,430,585**	**$13,027,717**	**$17,863,109**	**$18,344,114**

11. APPENDIX 2 Cost of Service Allocations:

11.1. Potable

11.1.1. CAPITAL

	FY 2020	Water Supply	Power	Base	Max Day	Max Hour	Conservation	Rev Offset	Fire	Meters	B&CS	General	Total
			Peaking Factors	Base	Max Day	Max Hour							
		Base	1.00	100.0%									
		Max Day	2.10	47.6%	52.4%								
		Max Hour	2.50	40.0%	44.0%	16.0%							
	Total Asset	Water Supply	Power	Base	Max Day	Max Hour	Conservation	Rev Offset	Fire	Meters	B&CS	General	Total
Potable Water													
Land & Land Rights	$6,800,720											100.0%	100.0%
Source of Supply (Tanks)	$40,957,290			47.6%	52.4%							0.0%	100.0%
Source of Supply (Tanks)-Intangible	$87,723			47.6%	52.4%							0.0%	100.0%
Pumping Plant	$23,971,873			47.6%	52.4%							0.0%	100.0%
Water Treatment Plant (WLR)	$20,084,821			47.6%	52.4%							0.0%	100.0%
Transmission & Distribution Plant	$74,970,423			40.0%	44.0%	16.0%						0.0%	100.0%
Transmission & Distri/Intangible	$129,849			40.0%	44.0%	16.0%						0.0%	100.0%
Distribution Mains	$27,790			40.0%	44.0%	16.0%						0.0%	100.0%
Meter Installation - Non Tract	$5,173,238									100.0%		0.0%	100.0%
Cost of Meters - Installed	$1,956,869									100.0%		0.0%	100.0%
Fire Hydrants Installed	$3,824,375								100.0%			0.0%	100.0%
Meter Installation - In Tract-Donated	$5,499,072									100.0%		0.0%	100.0%
Meter Installation - In Tract-Other	$1,617,774									100.0%		0.0%	100.0%
Other Construction	$311,209											100.0%	100.0%
General Asset Allocation to Funds	$17,256,463											100.0%	100.0%
CONSTRUCTION IN PROGRESS	$1,633,183											100%	100%
Total Asset	**$204,302,671**	**$0**	**$0**	**$70,575,847**	**$77,633,432**	**$12,020,490**	**$0**	**$0**	**$3,824,375**	**$14,246,953**	**$0**	********	********
Capital Allocation Factors		**0.0%**	**0.0%**	**34.5%**	**38.0%**	**5.9%**	**0.0%**	**0.0%**	**1.9%**	**7.0%**	**0.0%**	**12.7%**	**100.0%**

11.1.2. O&M

	FY 2020	Water Supply	Power	Base	Max Day	Max Hour	Conservation	Rev Offset	Fire	Meters	B&CS	General	Total
Source of Supply													
5000 Purchased Water - MWD	$22,626,233	92.2%		3.1%	3.4%	1.3%	0.0%					0.0%	100.0%
5054 Draw from Reservoir	$854,100	0.0%			100.0%							0.0%	100.0%
5105 Purchased Water - Ventura Co.	$308,388	100.0%	0.0%									0.0%	100.0%
5110 Purchased Water - Simi Dist. #8	$61,269	100.0%	0.0%									0.0%	100.0%
5125 Water Supply - LVR Adjustment	$157,941	0.0%			100.0%							0.0%	100.0%
Subtotal - Source of Supply	***$24,007,931***												
Operating Expense													
5400 Labor	$1,099,101		47.0%	21.2%	23.3%	8.5%						0.0%	100.0%
5405.1 Energy	$842,200		94.8%	2.1%	2.3%	0.8%						0.0%	100.0%
5405.2 Telephone	$47,050		70.2%	11.9%	13.1%	4.8%						0.0%	100.0%
5405.3 Gas	$13,189		98.6%	0.6%	0.6%	0.2%						0.0%	100.0%
5405.4 Water	$7,148		36.4%	25.4%	28.0%	10.2%						0.0%	100.0%
5410 Supplies/Material	$125,898		32.2%	27.1%	29.8%	10.8%						0.0%	100.0%
5410.10 Hypochlorite	$6,500		0.0%	40.0%	44.0%	16.0%						0.0%	100.0%
5415 Outside Services	$127,200		53.1%	18.8%	20.6%	7.5%						0.0%	100.0%
5420 Permits and Fees	$40,748		87.4%	5.0%	5.5%	2.0%						0.0%	100.0%
5425 Consulting Services	$3,768		0.0%	40.0%	44.0%	16.0%						0.0%	100.0%
Subtotal - Operating Expense	**$2,312,802**												
Maintenance Expense													
5500 Labor	$885,757		36.9%	25.2%	27.8%	10.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
5510 Supplies/Material	$159,291		20.5%	31.8%	35.0%	12.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
5515 Outside Services	$243,604		10.1%	36.0%	39.6%	14.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
5518 Building Maintenance	$64,776		0.0%	40.0%	44.0%	16.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
5520 Permits and Fees	$20,000		0.0%	40.0%	44.0%	16.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
5530 Capital Outlay	$40,140		0.0%	40.0%	44.0%	16.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Subtotal - Maintenance Expense	**$1,413,568**												

	FY 2020	Water Supply	Power	Base	Max Day	Max Hour	Conservation	Rev Offset	Fire	Meters	B&CS	General	Total
Specialty Expenses													
Inventory Adjustment	$0		0.0%	40.0%	44.0%	16.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
5700 SCADA Services	$121,008		77.1%	9.2%	10.1%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
5710.2 Technical Services	$54,876		1.3%	39.5%	43.4%	15.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
5715.2 Other Lab Services	$1,000		0.0%	40.0%	44.0%	16.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
5715.3 Tapia Lab Sampling	$80,778		85.6%	5.7%	6.3%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
5725 Gen Supplies/Small Tools	$5,800		0.0%	40.0%	44.0%	16.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
7202 Allocated Lab Expense	$178,341		69.5%	12.2%	13.4%	4.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Subtotal – Specialty Expenses	**$441,803**												
Public Information Expenses													
6602 School Education Program	$41,749		0.0%									100.0%	100.0%
6604 Public Education Program	$2,862		0.0%									100.0%	100.0%
6606 Community Group Outreach	$3,901		0.0%									100.0%	100.0%
6608 Intergovernmental Coordination	$0		0.0%									100.0%	100.0%
Subtotal – Public Information Exp	**$48,512**												
Field Conservation Expenses													
6639 Turf Removal Program	$0		0.0%				100.0%					0.0%	100.0%
6640 RainBarrel Program	$1,181		0.0%				100.0%					0.0%	100.0%
6709 WBIC Irrigation Controller	$415,168		0.0%				100.0%					0.0%	100.0%
Subtotal – Field Conservation Ex	**$416,349**												
unity Conservation Education Expenses													
6742 Demonstration Garden Grant	$15,500		0.0%									100.0%	100.0%
6749 Residential Customer Training	$20,000		0.0%									100.0%	100.0%
Subtotal – Community Conservat	**$35,500**												
Resource Conservation Expenses													
6785 Watershed Programs	$12,397		0.0%									100.0%	100.0%
6790 Back Flow Protection	$32,638		0.0%									100.0%	100.0%
Subtotal – Resource Conservatic	**$45,035**												

	FY 2020	Water Supply	Power	Base	Max Day	Max Hour	Conservation	Rev Offset	Fire	Meters	B&CS	General	Total
Administrative Expenses													
6260 Rental Charge - Facility Repl	$255,375		0.0%									100.0%	100.0%
6516 Other Professional Services	$181,650		0.0%									100.0%	100.0%
7135.1 Property Insurance	$118,122		0.0%									100.0%	100.0%
7135.4 Earthquake Insurance	$133,767		0.0%									100.0%	100.0%
7145 Claims Paid	$0		0.0%									100.0%	100.0%
7155 Other Expense	$0		0.0%									100.0%	100.0%
7203 Allocated Building Maint	$92,425		0.0%									100.0%	100.0%
7205 Allocated Legal	$20,000		0.0%									100.0%	100.0%
Allocated Rental Property Exp	$0		0.0%									100.0%	100.0%
7225 Allocated Support Services	$2,173,666		0.0%								15.0%	85.0%	100.0%
7226 Allocated Operations Services	$5,674,630		0.0%									100.0%	100.0%
Allocated Insurance	$0		0.0%									100.0%	100.0%
Subtotal - Administrative Exper	**$8,649,634**												
TOTAL OPERATING EXPEN	**$37,371,134**	**$21,225,322**	**$2,177,845**	**$1,504,358**	**$2,666,835**	**$601,743**	**$416,349**	**$0**	**$0**	**$0**	**$326,050**	**$8,452,631**	**$37,371,134**
	TRUE	57%	6%	4%	7%	2%	1%	0%	0%	0%	1%	23%	100%

	FY 2020	Water Supply	Power	Base	Max Day	Max Hour	Conservation	Rev Offset	Fire	Meters	B&CS	General	Total
O&M		57%	6%	4%	7%	2%	1%	0%	0%	0%	1%	23%	**100%**
Recycled Funding							**100%**						**100%**
Rev Offset								**100%**					**100%**
Capital		0%	0%	35%	38%	6%	0%	0%	2%	7%	0%	13%	**100%**
Rev Req excl WS			9%	18%	24%	4%	2%	0%	1%	2%	1%	39%	**100%**
Rev Req		46%	5%	10%	13%	2%	1%	0%	0%	1%	1%	21%	**100%**
General Cost												100%	**100%**
General Cost Reallocation				34.8%	46.2%	8.6%	3.2%			4.7%	2.5%		**100%**
NT REVENUE REQUIREMENTS	**FY 2020**	**Water Supply**	**Power**	**Base**	**Max Day**	**Max Hour**	**Conservation**	**Rev Offset**	**Fire**	**Meters**	**B&CS**	**General**	**Total**
REVENUE REQUIREMENTS													
O&M Expenses	$37,371,134	$21,225,322	$2,177,845	$1,504,358	$2,666,835	$601,743	$416,349	$0	$0	$0	$326,050	$8,452,631	**$37,371,134**
Debt Service	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Rate Funded Replacement CIP	$1,415,242	$0	$0	$488,892	$537,781	$83,268	$0	$0	$26,492	$98,691	$0	$180,118	**$1,415,242**
Net Cash Change	$5,822,781	$0	$0	$2,011,465	$2,212,612	$342,593	$0	$0	$108,998	$406,049	$0	$741,065	**$5,822,781**
Mid Year Adjustment	$1,324,865	$0	$0	$457,671	$503,438	$77,951	$0	$0	$24,800	$92,389	$0	$168,615	**$1,324,865**
SUBTOTAL REVENUE REQUIR	$45,934,022	$21,225,322	$2,177,845	$4,462,386	$5,920,666	$1,105,555	$416,349	$0	$160,290	$597,129	$326,050	$9,542,429	**$45,934,022**
Less Non-Operating Revenues													
Conservation Violation Charge	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Penalty for Unsustainable Wtr Use	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Temporary Meter Fees	($3,000)	$0	$0	$0	$0	$0	$0	($3,000)	$0	$0	$0	$0	**($3,000)**
Late Payment Fees and other Non C	($536,000)	$0	$0	$0	$0	$0	$0	($536,000)	$0	$0	$0	$0	**($536,000)**
Water Usage - Accidents	($29,500)	$0	$0	$0	$0	$0	$0	($29,500)	$0	$0	$0	$0	**($29,500)**
PW Supplement to RW	($1,542,080)	($1,542,080)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**($1,542,080)**
PW Suppl RW-Prior Yr Adj	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
MWD Conser Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Prop 50 - IRWMP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
MWD Future Supply Actions Funding	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Other Income from Operations (Inclu	($696,163)	$0	$0	$0	$0	$0	$0	($696,163)	$0	$0	$0	$0	**($696,163)**
SUBTOTAL NON-OPERATING	($2,806,743)	($1,542,080)	$0	$0	$0	$0	$0	($1,264,663)	$0	$0	$0	$0	($2,806,743)
NET REVENUE REQUIREMENT	**$43,127,279**	**$19,683,242**	**$2,177,845**	**$4,462,386**	**$5,920,666**	**$1,105,555**	**$416,349**	**($1,264,663)**	**$160,290**	**$597,129**	**$326,050**	**$9,542,429**	**$43,127,279**
Reallocation of General Costs		$0	$0	$3,319,423	$4,404,189	$822,386	$309,708	$0	$0	$444,185	$242,538	-$9,542,429	**$0**
Reallocation of Public Fire Protection Costs		$0	$0	$55,758	$73,980	$13,814	$5,202	$0	-$160,290	$7,461	$4,074	$0	**($0)**
NET ADJUSTED REV REQMT F	**$43,127,279**	**$19,683,242**	**$2,177,845**	**$7,837,568**	**$10,398,835**	**$1,941,756**	**$731,260**	**-$1,264,663**	**$0**	**$1,048,775**	**$572,662**	**$0**	**$43,127,279**
		46%	5%	18%	24%	5%	2%	-3%	0%	2%	1%	0%	

11.2. Recycled

11.2.1. CAPITAL

	FY 2020	Water Supply	Power	Base	Max Day	Max Hour	Conservation	Rev Offset	Fire	Meters	B&CS	General	Total
			Peaking Factors	Base	Max Day	Max Hour							
		Base	1.00	100.0%									
		Max Day	2.50	40.0%	60.0%								
		Max Hour	5.00	20.0%	30.0%	50.0%							
	Total Asset	Water Supply	Power	Base	Max Day	Max Hour	Conservation	Rev Offset	Fire	Meters	B&CS	General	Total
RECYCLED WATER													
Land & Land Rights	$3,397											100%	100%
Source of Supply (Tanks)	$692,617			40%	60%	0%						0%	100%
Pumping Plant	$309,040			40%	60%	0%						0%	100%
Transmission & Distribution Plant	$7,934,316			40%	60%	0%						0%	100%
Meter Installation - Non Tract	$228,676			40%	60%	0%						0%	100%
Cost of Meters - Installed	$176,772			20%	30%	50%						0%	100%
Meter Installation - In Tract-Donated	$288,531			20%	30%	50%						0%	100%
Meter Installation - In Tract-Other	$88,456			20%	30%	50%						0%	100%
Other Construction	$28,015											100%	100%
General Asset Allocation to Funds	$899,496											100%	100%
CONSTRUCTION IN PROGRESS	$0											100%	100%
Total Asset	**$10,649,315**	**$0**	**$0**	**$3,776,611**	**$5,664,917**	**$276,880**	**$0**	**$0**	**$0**	**$0**	**$0**	**$930,908**	**$10,649,315**
		0%	**0%**	**35%**	**53%**	**3%**	**0%**	**0%**	**0%**	**0%**	**0%**	**9%**	**100%**

11.2.2. O&M

	FY 2020	Water Supply	Power	Base	Max Day	Max Hour	Conservation	Rev Offset	Fire	Meters	B&CS	General	Total
Source of Supply													
Purchased Water - JPA RWTR	$1,882,618	53%	47%									0%	100%
Purchased Water - Potable Suppl	$1,542,080	100%		0%								0%	100%
Purch Water-PW Supp-Prior Yr Adj	$0											100%	100%
Subtotal - Source of Supply	**$3,424,698**												
Operating Expenses													
Labor	$144,185			20%	30%	50%						0%	100%
Energy	$4,091			20%	30%	50%						0%	100%
Supplies/Material	$0			20%	30%	50%						0%	100%
Outside Services	$0			20%	30%	50%						0%	100%
Permits and Fees	$1,636			20%	30%	50%						0%	100%
Subtotal - Operating Expenses	**$149,912**												
Maintenance Expenses													
Labor	$2,167			20%	30%	50%						0%	100%
Supplies/Material	$250			20%	30%	50%						0%	100%
Outside Services	$5,516			20%	30%	50%						0%	100%
Subtotal - Maintenance Expenses	**$7,933**												
Specialty Expenses													
Tech Services	$0											100%	100%
Subtotal - Specialty Expenses	**$0**												
Resource Conservation													
Back Flow Protection	$4,070											100%	100%
Subtotal - Resource Conservation	**$4,070**												
Administrative Expense													
Rental Charge - Facility Repl	$12,368											100%	100%
Other Professional Services	$0											100%	100%
Claims Paid	$900											100%	100%
Other Expense	$0											100%	100%
Allocated G & A	$0											100%	100%
Allocated Support Services	$157,916											100%	100%
Allocated Operations Services	$927,404											100%	100%
Subtotal - Administrative Expense	**$1,098,588**												
TOTAL OPERATING EXPENSES	**$4,685,202**	**$2,540,002**	**$884,696**	**$31,569**	**$47,354**	**$78,923**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,102,658**	**$4,685,202**
O&M Allocation Factors		**54%**	**19%**	**1%**	**1%**	**2%**	**0%**	**0%**	**0%**	**0%**	**0%**	**24%**	**100%**

	FY 2020	Water Supply	Power	Base	Max Day	Max Hour	Conservation	Rev Offset	Fire	Meters	B&CS	General	Total
O&M		54%	19%	1%	1%	2%	0%	0%	0%	0%	0%	24%	100%
Recycled Funding							100%					0%	100%
Rev Offset								100%				0%	100%
Capital		0%	0%	35%	53%	3%	0%	0%	0%	0%	0%	9%	100%
Rev Req excl WS				8.3%	12.5%	3.5%	0.0%	0.0%	0.0%	0.0%	0.0%	76%	100%
Rev Req		49%	17%	4%	6%	2%	0%	0%	0%	0%	0%	22%	100%
General Cost												100%	100%
General Cost Reallocation				34.3%	51.4%	14.3%	0.0%	0.0%			0.0%	0%	100%

Revenue Requirements	FY 2020	Water Supply	Power	Base	Max Day	Max Hour	Conservation	Rev Offset	Fire	Meters	B&CS	General	Total
REVENUE REQUIREMENTS													
O&M Expenses	$4,685,202	$2,540,002	$884,696	$31,569	$47,354	$78,923	$0	$0	$0	$0	$0	$1,102,658	**$4,685,202**
Debt Service	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Rate Funded Replacement CIP	$23,889	$0	$0	$8,472	$12,708	$621	$0	$0	$0	$0	$0	$2,088	**$23,889**
Net Cash Change	$436,822	$0	$0	$154,912	$232,368	$11,357	$0	$0	$0	$0	$0	$38,185	**$436,822**
Mid-Year Adjustment	$79,715	$0	$0	$28,270	$42,405	$2,073	$0	$0	$0	$0	$0	$6,968	**$79,715**
SUBTOTAL REVENUE REQUIREMEN	**$5,225,628**	**$2,540,002**	**$884,696**	**$223,223**	**$334,834**	**$92,973**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,149,900**	**$5,225,628**
Less Non-Operating Revenues													
Temporary Meter Charge	($1,800)	$0	$0	$0	$0	$0	$0	($1,800)	$0	$0	$0	$0	**($1,800)**
Temporary Meter Installation Fees	($100)	$0	$0	$0	$0	$0	$0	($100)	$0	$0	$0	$0	**($100)**
Late Payment Fees and other Non Operati	($100,000)	$0	$0	$0	$0	$0	$0	($100,000)	$0	$0	$0	$0	**($100,000)**
Water Usage - Accidents	($100)	$0	$0	$0	$0	$0	$0	($100)	$0	$0	$0	$0	**($100)**
Other Income from Operations	($90,000)	$0	$0	$0	$0	$0	$0	($90,000)	$0	$0	$0	$0	**($90,000)**
SUBTOTAL NON-OPERATING REVE	**($192,000)**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**($192,000)**	**$0**	**$0**	**$0**	**$0**	**($192,000)**
NET REVENUE REQUIREMENTS	**$5,033,628**	**$2,540,002**	**$884,696**	**$223,223**	**$334,834**	**$92,973**	**$0**	**($192,000)**	**$0**	**$0**	**$0**	**$1,149,900**	**$5,033,628**
General to Meters/ B&CS										$116,846	$18,457	($135,303)	**$0**
Reallocate General Costs		$0	$0	$347,881	$521,821	$144,894	$0	$0	$0	$0	$0	**($1,014,596)**	**$0**
NET RW COMMODITY REV BEFORE	**$5,033,628**	**$2,540,002**	**$884,696**	**$571,104**	**$856,655**	**$237,868**	**$0**	**-$192,000**	**$0**	**$116,846**	**$18,457**	**$0**	**$5,033,628**