EL TORO WATER DISTRICT

2020-21 Water, Recycled Water, and Wastewater Rate Update Study

Final Report / July 14, 2020

EL TORO WATER DISTRICT
Serving the Public
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July 14, 2020

Dennis P. Cafferty, P.E.
General Manager
El Toro Water District
24251 Los Alisos Blvd.
Lake Forest, CA 92630

Subject: 2020-21 Water, Recycled Water and Wastewater Rate Update Study Report

Dear Mr. Cafferty:

As part of the annual cost of service and rate update process, El Toro Water District (ETWD or District) engaged Raftelis Consultants, Inc. (Raftelis) to conduct a cost of service study for the development of its water, wastewater, and recycled water rates that comply with Proposition 218 and other legal requirements. As part of the Study, we reviewed the latest operating budget, including purchased water costs, referenced previously conducted cost of service analyses, and calculated the water, wastewater and recycled water rates for the District in fiscal year (FY) 2020-21. The updated rates, scheduled to be effective on July 1, 2020, reflect projected changes in net revenue requirements for each enterprise and projected water sales for FY 2020-21.

This Water, Recycled Water and Wastewater Rate Update Study Report summarizes the key findings and recommendations related to the development of the respective rates.

It has been a pleasure working with the District. We would like to thank you for your assistance during the Study. If we can be of further assistance, please call me at 626-233-6762.

Sincerely,

Khanh Phan
Project Manager

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1. Executive Summary

1.1. Background of the Study

The District engaged Raftelis Consultants, Inc. (Raftelis) to conduct the Water, Recycled Water (RW) and Wastewater Rate Update Study (Study) to develop rates for all three enterprises that are equitable and in compliance with Proposition 218. This 2020-21 *Water, Recycled Water and Wastewater Rate Update Study Report* (Report) summarizes the key findings and recommendations related to the development of the respective rates.

The District's current water and wastewater rate structure consists of the following components to ensure that rates are charged equitably to all customers, provide adequate revenues to fund operating and capital costs, and are simple to administer and implement while continuing to promote water efficiency and conservation.

Water

- Monthly Service Charges by meter size to recover a portion of operating costs
- Variable Rates: Tiered Residential Rates, and Uniform Commercial Rates, comprised of the following rate components:
  - Water Supply Rate to pay for purchased water supply costs
  - Delivery Rate to recover the remaining operating costs
  - Revenue Offset to provide a rate incentive and affordability for essential water use in Tier 1
  - Conservation and Recycled Water Program costs applied to inefficient and excessive water use to fund the District's conservation and supplemental water supply (i.e., Recycled Water expansion) programs
- Capital Replacement and Refurbishment (R&R) Charges by meter size to pay for capital replacement and refurbishment of the existing water system

Wastewater (WW)

- O&M Charges (by dwelling units for residential customers and by usage for non-residential customers) by customer classes
- Capital R&R Charges by meter size to pay for capital R&R of the existing wastewater system

1.2. Proposed Water Rates

1.2.1. MONTHLY SERVICE CHARGES

Table 1-1 shows the proposed monthly service charges for FY 2021, effective July 1, 2020.

Table 1-1: FY 2021 Proposed Monthly Service Charges

Meter Size	Proposed FY 2021 A	Current FY 2020 B	$ Change C = A – B	% Change D = C/B	Water Accounts E
5/8"	$15.17	$14.14	$1.03	7.3%	2,382
¾"	$20.33	$18.99	$1.34	7.1%	4,860
1"	$30.66	$28.70	$1.96	6.8%	450
1 ½"	$56.48	$52.98	$3.50	6.6%	705
2"	$108.11	$101.52	$6.59	6.5%	1,137

1.2.2. CAPITAL R&R CHARGES

The District will maintain the current Capital R&R Charges.

Table 1-2: FY 2021 Proposed Capital R&R Charges

Meter Size	Current FY 2020	Proposed FY 2021	Water Accounts	RW Accts	Water + RW Accounts
5/8"	$4.66	**$4.66**	2,382	0	2,382
¾"	$4.66	**$4.66**	4,860	0	4,860
1"	$7.78	**$7.78**	450	0	450
1 ½"	$18.91	**$18.91**	705	28	733
2"	$47.47	**$47.47**	1,137	247	1,384

1.2.3. COMMODITY RATES

The proposed water commodity rates for FY 2021, effective July 1, 2020, reflect the projected increases in purchased water supply costs from Municipal Water District of Orange County (MWDOC).

Table 1-3: FY 2021 Proposed Water Commodity Rates

Tier	FY 2020 Current	FY 2021 Proposed	$ Change	% Change	Projected Water Sales
Tier 1 - Essential Use	$2.58	$2.65	$0.07	2.7%	1,459,129 ccf
Tier 2 - Efficient Use	$2.97	$3.04	$0.07	2.4%	913,013 ccf
Tier 3 - Inefficient Use	$6.14	$6.21	$0.07	1.1%	90,201 ccf
Tier 4 - Excessive Use	$7.88	$7.95	$0.07	0.9%	72,696 ccf
Uniform - Commercial Use	$2.95	$3.02	$0.07	2.4%	383,481 ccf

1.3. Proposed Wastewater Rates

1.3.1. SERVICE CHARGES

Based on careful review of financial requirements of Wastewater Enterprise performed by the District and the current economic situation during the global pandemic, the District decided to keep the wastewater rates unchanged as shown in Table 1-4 and Table 1-5.

Table 1-4: FY 2021 Proposed Wastewater Service Charges

Customer Class	FY 2020 Current	FY 2021 Proposed	$ Increase	% Increase
Residential Unrestricted	$24.30 / EDU	$24.30 / EDU	$0.00	0.0%
Multi-Family Restricted	$19.28 / EDU	$19.28 / EDU	$0.00	0.0%
Multi-Family Unrestricted	$22.92 / EDU	$22.92 / EDU	$0.00	0.0%
Animal Kennel/Hospital	$3.99 / ccf	$3.99 / ccf	$0.00	0.0%
Car Wash	$3.97 / ccf	$3.97 / ccf	$0.00	0.0%
Department/Retail Store	$3.99 / ccf	$3.99 / ccf	$0.00	0.0%
Dry Cleaners	$3.50 / ccf	$3.50 / ccf	$0.00	0.0%
Golf Course/Camp/Park	$3.49 / ccf	$3.49 / ccf	$0.00	0.0%
Health Spa	$3.98 / ccf	$3.98 / ccf	$0.00	0.0%
Hospital/Convalescent Home	$3.50 / ccf	$3.50 / ccf	$0.00	0.0%
Hotel	$6.04 / ccf	$6.04 / ccf	$0.00	0.0%
Market	$7.92 / ccf	$7.92 / ccf	$0.00	0.0%
Mortuary	$7.89 / ccf	$7.89 / ccf	$0.00	0.0%
Nursery/Greenhouse	$3.54 / ccf	$3.54 / ccf	$0.00	0.0%
Professional/Financial Office	$3.99 / ccf	$3.99 / ccf	$0.00	0.0%
Public Institution	$3.93 / ccf	$3.93 / ccf	$0.00	0.0%
Repair/Service Station	$3.98 / ccf	$3.98 / ccf	$0.00	0.0%
Restaurant	$3.77 / ccf	$3.77 / ccf	$0.00	0.0%
Schools	$4.13 / ccf	$4.13 / ccf	$0.00	0.0%
Theater	$3.99 / ccf	$3.99 / ccf	$0.00	0.0%
Warehouse/Storage	$3.16 / ccf	$3.16 / ccf	$0.00	0.0%
Basic Commercial	$3.50 / ccf	$3.50 / ccf	$0.00	0.0%

1.3.2. CAPITAL R&R CHARGES

The Wastewater Enterprise will also maintain its Capital R&R Charges with no proposed increase.

Table 1-5: FY 2021 Proposed Wastewater Capital R&R Charges

Customer Classes	Current FY 2020 Capital R&R Charges	Proposed FY 2021 Capital R&R Charges	$ Increase	% Increase
Residential				
Residential Unrestricted	$4.93 / EDU	$4.93 / EDU	$0.00	0.0%
Multi-Family Restricted	$3.91 / EDU	$3.91 / EDU	$0.00	0.0%
Multi-Family Unrestricted	$4.65 / EDU	$4.65 / EDU	$0.00	0.0%
Non-Residential				
5/8"	$4.34 / month	$4.34 / month	$0.00	0.0%
3/4"	$7.34 / month	$7.34 / month	$0.00	0.0%
1"	$13.55 / month	$13.55 / month	$0.00	0.0%
1 1/2"	$24.07 / month	$24.07 / month	$0.00	0.0%
2"	$70.96 / month	$70.96 / month	$0.00	0.0%
Public Authority				
1"	$4.93 / month	$4.93 / month	$0.00	0.0%
1 1/2"	$24.65 / month	$24.65 / month	$0.00	0.0%
2"	$39.71 / month	$39.71 / month	$0.00	0.0%

1.4. Proposed Recycled Water Rates

With the completion of the Recycled Water Expansion Project, all RW customers (existing and converted customers) are now supplied with higher quality tertiary RW and are subject to the corresponding rates that support the annual cost of providing tertiary RW. The proposed RW rate for FY 2021 is **$2.74/ccf**, which is approximately 90 percent of the Tier 2 potable water rate. All RW customers connected to the new recycled water distribution system will be assessed Monthly Service Charges (Table 1-6) and Capital R&R Charges (Table 1-7), the same as potable meters to recover the customer service, meter service, a portion of capacity and other RW related fixed costs and to pay for capital R&R of the expanded RW system.

Table 1-6: FY 2021 Proposed Monthly Service Charges

Meter Size	FY 2020 Current A	FY 2021 Proposed B	# of RW Accounts C
5/8-in	$14.14	$15.17	0
3/4-in	$18.99	$20.33	0
1-in	$28.70	$30.66	0
1 1/2-in	$52.98	$56.48	28
2-in	$101.52	$108.11	247

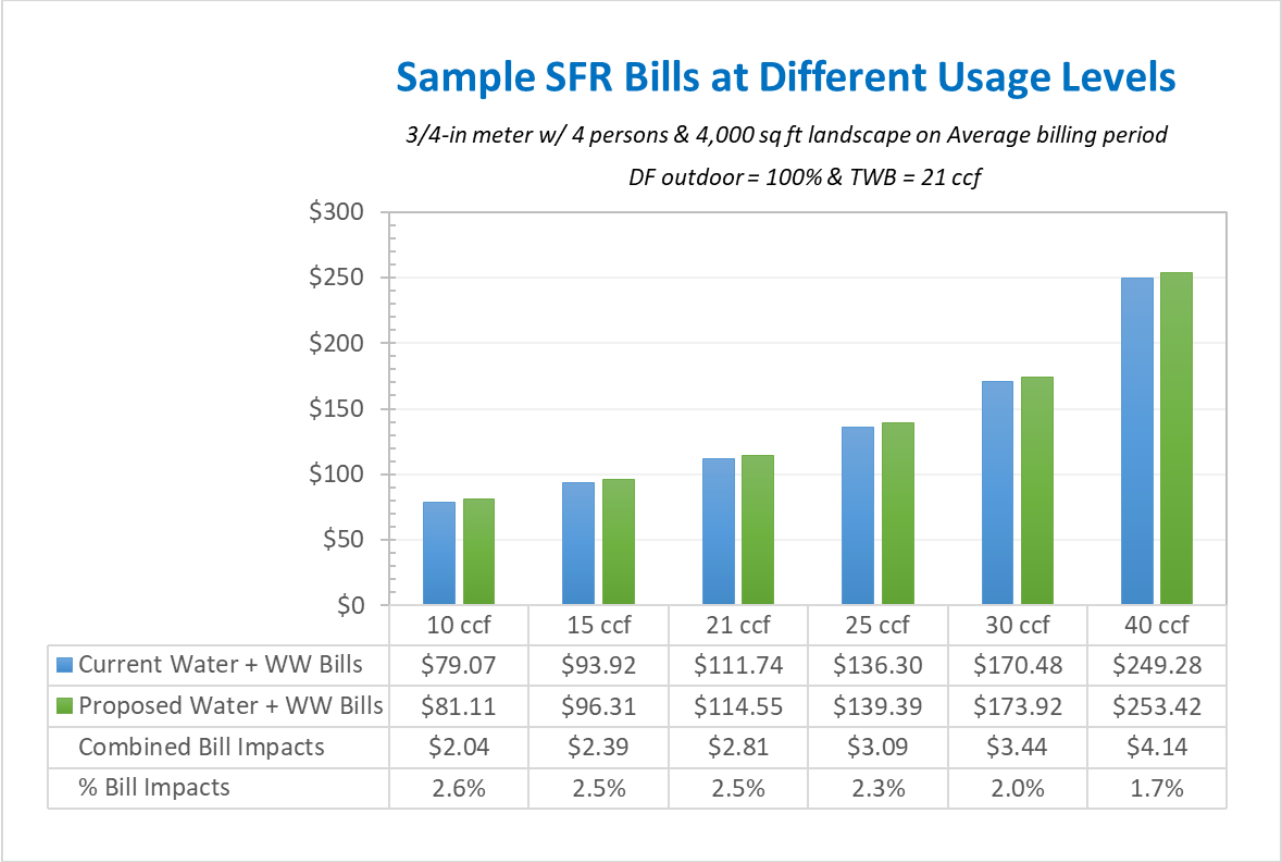
Table 1-7: FY 2021 Proposed Capital R&R Charges

Meter Size	FY 2020 Rates	FY 2021 Rates	$ Increase	% Increase
5/8-in	$4.66	$4.66	$0.00	0%
3/4-in	$4.66	$4.66	$0.00	0%
1-in	$7.78	$7.78	$0.00	0%
1 1/2-in	$18.91	$18.91	$0.00	0%
2-in	$47.47	$47.47	$0.00	0%

1.5. Customer Impact Analysis

Figure 1-1 shows a breakdown of water and wastewater bills at various water usage levels for a single-family residential user with 4 occupants and 4,000 sq. ft. landscape area serviced by a ¾-in meter. The combined water and wastewater bill increase would be ranging from $2.04 to $4.14 per month depending on the monthly billed water usage. The bill impacts result from increases in water monthly fixed service charges and water supply costs. Note that the impacts for recycled water are not shown because residential users do not purchase recycled water.

Figure 1-1: SFR Total Monthly Bill at Different Usage Levels



	10 ccf	15 ccf	21 ccf	25 ccf	30 ccf	40 ccf
Current Water + WW Bills	$79.07	$93.92	$111.74	$136.30	$170.48	$249.28
Proposed Water + WW Bills	$81.11	$96.31	$114.55	$139.39	$173.92	$253.42
Combined Bill Impacts	$2.04	$2.39	$2.81	$3.09	$3.44	$4.14
% Bill Impacts	2.6%	2.5%	2.5%	2.3%	2.0%	1.7%

2. Introduction

2.1. District Background

The El Toro Water District (District), located within the southern portion of Orange County, was formed in 1960 under provisions of California Water District Law, Division 13 of the Water Code of the State of California, commencing with Section 34,000, for the purposes of providing water and wastewater services to the service area. The District is governed by a publicly elected Board of Directors. The District is nearly built out and encompasses the entirety of the City of Laguna Woods and portions of four other cities: Lake Forest, Aliso Viejo, Laguna Hills, and Mission Viejo.

The District provides water, wastewater, and recycled water services to a population of approximately 48,500 in a service area of approximately 8.5 square miles. Constructed in phases since 1960, the District's water system is relatively modern. It contains 6 reservoirs with a combined capacity of 287 million gallons, in which the District owns 136 million gallons, over 170 miles of water lines, and 8 booster pump stations with 12 pressure zones to deliver water to approximately 10,000 metered water accounts. The District also participated in a five-agency collaboration to fund and construct a local water treatment plant (Baker Water Treatment Plant) located in the City of Lake Forest to improve water treatment and water supply reliability for ETWD's customers and South Orange County. The Baker Water Treatment Plant (Baker WTP) allows the participating agencies to purchase untreated water from MWDOC at a lower cost than the treated water, reducing the financial burden on the District's customers.
The District's wastewater system is comprised of 142 miles of collection system pipeline, 3,400 manholes, and 11 pump stations which pump to the District's treatment plant with a rated capacity of 6 million gallons per day. Much of the District's effluent is reused through RW sales. The District completed its Water Recycling Plant (WRP) upgrades to produce higher quality tertiary RW in FY 2015. To make RW available to more customers, the District increased its RW distribution by adding 19 miles of RW distribution pipeline. In FY 2019, the District completed further expansion of the RW Distribution System that increased the total amount of RW distribution pipelines to nearly 25 miles. In FY 2021, the District budget was based on to 275 and an increase in RW usage from 1,256 AF in FY 2020 to 1,400 AF.

2.2. Study Background and Objectives

As part the annual cost of service and rate update process, the District engaged Raftelis to conduct the Water, Recycled Water (RW) and Wastewater Rate Study (Study) to develop rates for all three enterprises that are equitable and in compliance with Proposition 218.

The major objectives of the Study include the following:

- Determine the revenue requirements from water, wastewater, and recycled water rates for FY 2021
- Update the water rates to meet the District's goals and objectives, including defensibility, affordability for essential use and promoting efficiency and conservation
- Update the recycled water rates
- Update the wastewater rates
- Conduct customer impact analyses for the proposed water and wastewater rates.

This *Water, Recycled Water and Wastewater Rate Update Study Report* (Report) summarizes the key findings and recommendations related to the development of the respective rates.

2.3. Legal Framework and Rate Setting Methodology

This section of the report describes the legal framework that was considered in the development of the rates to ensure that the calculated cost of service rates provided a fair and equitable allocation of costs to the different customer classes.

2.3.1. CONSTITUTIONAL MANDATES AND STATUTORY AUTHORITY

Article XIII D, Section 6 (Proposition 218) and Article X, Section 2 of the California Constitution govern the principles applicable to this Rate Study. This Rate Study equitably implements and harmonizes these constitutional mandates in concert with the authority and principles set forth in Water Code Section 370 et seq. which governs Allocation-Based Conservation Water Pricing (commonly referred to as "Water Budget Rate Structure").
This Rate Study provides for a water budget four tier Rate Structure designed to implement, in a reasonable manner, the constitutional mandates and statutory authority and principles referenced above.

2.3.2. CALIFORNIA CONSTITUTION – ARTICLE X, SECTION 2

Article X, Section 2 of the California Constitution (established in 1976) provides as follows:

> *It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.*

As such, public agencies are constitutionally mandated to maximize the beneficial use of water, prevent waste, and encourage conservation which this Rate Study achieves.

2.3.3. CALIFORNIA CONSTITUTION – ARTICLE XIII D, SECTION 6 (PROPOSITION 218)

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

1. Water and wastewater rates shall not exceed the funds required to provide the service.
2. Revenues derived by the charge shall not be used for any other 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.

The rates developed in this Rate Study use a methodology to establish an equitable system of fixed and variable charges that recover the cost of providing service and fairly apportion costs to each customer as required by Proposition 218.

2.3.4. STATUTORY AUTHORITY – GOVERNMENT CODE SECTION 370 ET SEQ. (ALLOCATION-BASED CONSERVATION WATER PRICING)

In 2000, the California Legislature (AB 2882), consistent with the above-referenced constitutional provisions, adopted a body of law entitled "Allocation-Based Conservation Water Pricing" (Water Code Section 370 et seq.)

Water Code Section 370 provides in part as follows:

> *The Legislature hereby finds and declares all of the following:*

(a) The use of allocation-based conservation water pricing by public entities that sell and distribute water is one effective means by which waste or unreasonable use of water can be prevented and water can be saved in the interest of the people and for the public welfare, within the contemplation of Section 2 of Article X of the California Constitution.

(b) It is in the best interest of the people of California to encourage public entities to voluntarily use allocation-based conservation water pricing, tailored to local needs and conditions, as a means of increasing efficient uses of water, and further discouraging wasteful or unreasonable use of water under both normal and dry-year hydrologic conditions.

Water Code Section 372 provides as follows:

(a) A public entity may employ allocation-based conservation water pricing that meets all of the following criteria.

(1) Billing is based on metered water use.

(2) A basic use allocation is established for each customer account that provides a reasonable amount of water for the customer's needs and property characteristics. Factors used to determine the basic use allocation may include, but are not limited to the number of occupants, the type or classification of use, the size of lot or irrigated area, and the local climate data for the billing period. Nothing in this chapter prohibits a customer of the public entity from challenging whether the basic use allocation established for that customer's account is reasonable under the circumstances. Nothing in this chapter is intended to permit public entities to limit the use of property through the establishment of a basic use allocation.

(3) A basic charge is imposed for all water used within the customer's basic use allocation, except that at the option of the public entity, a lower rate may be applied to any portion of the basic use allocation that the public entity has determined to represent superior or more than reasonable conservation efforts4) A conservation charge shall be imposed on all increments of water use in excess of the basic use allocation. The increments may be fixed or may be determined on a percentage or any other basis, without limitation on the number of increments, or any requirement that the increments or conservation charges be sized, or ascend uniformly, or in a specified relationship. The volumetric prices for the lowest through the highest priced increments shall be established in an ascending relationship that is economically structured to encourage conservation and reduce the inefficient use of water, consistent with Section 2 of Article X of the California Constitution.

(b) ---

(1) Except as specified in subdivision (a), the design of an allocation-based conservation pricing rate structure shall be determined in the discretion of the public entity.

(2) The public entity may impose meter charges or other fixed charges to recover fixed costs of water service in addition to the allocation-based conservation pricing rate structure.

(c) A public entity may use one or more allocation-based conservation water pricing structures for any class of municipal or other service that the public entity provides.

As noted in the referenced statutes, "Allocation-Based Conservation Water Pricing Rate Structure" is a form of increasing block rates where the amount of water within the first block or blocks is based on the estimated, efficient water needs of the individual customer. Water-budget rates differ from other metered water rate designs in two key ways. First, the blocks are established based on water budgets that represent varying levels of each customer's efficient water use. Second, water-budget rates require the public agency to set specific standards for what is, and what is not, considered efficient water use for an individual customer.

This Rate Study in conjunction with ETWD's findings and determinations for individual customers establishes a standard for efficient usage and then establishes a budget for each individual customer. That defines how much water is considered efficient. Customers with usage above this efficient usage budget pay a higher rate for their "inefficient" or "wasteful" usage in accordance with Section 372 of the Water Code.
This Rate Study conforms to the principles set forth in the enabling statutes for Water Budget Rate Structures.

2.3.5. TIERED RATES

"Inclining" Block-Rate Structures, (which are synonymous with "Increasing Block-Rate Structures") when properly designed and differentiated by customer class as this Rate Study does, allow a water agency to send consistent price incentives for conservation to customers. For this reason, the heightened interest in water conservation, "Increasing Block-Rates" have been increasingly favored, especially in relatively water-scarce regions, such as Southern California.

2.3.6. PROPORTIONALITY – PROPOSITION 218'S REQUIREMENT THAT FEES BE PROPORTIONATE TO THE COST OF SERVICE FOR EACH PARCEL

There is a fair amount of ambiguity in the way that Proposition 218 was drafted – none more so than the issue of "proportionality." It has taken a succession of court rulings over several years to clarify the substantive requirement of Proposition 218.

The recent Appellate case of Griffith v. Pajaro Valley Water Management Agency (2013) California Court of Appeal, Sixth District has provided much guidance on several important Proposition 218 issues, including the issue of proportionality. In Pajaro, the Appellate Court held in part as follows:

1. That Pajaro's costs of using supplemental water along the coast to prevent salt water intrusion benefited all of Pajaro's customers, including inland customers, using the groundwater basins.
2. That proportionality is not measured on an individual parcel basis, but instead is measured collectively, considering all customer classes. As such, the Appellate Court in Pajaro confirmed the common practice of grouping customers into classes with comparable service costs and setting rates by class rather than parcel by parcel met the Prop 218 requirement that fees be proportionate to the cost of providing service to each parcel.

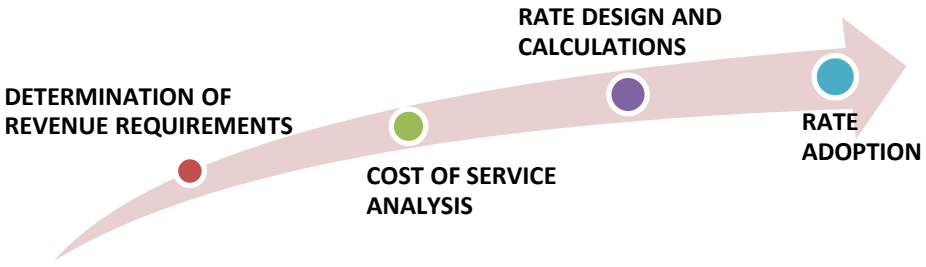
Under Item 1 noted above, water utilities can reasonably justify that the addition of recycled water to the water resource mix, frees up water for potable uses and therefore all customers should share in the costs of recycled water so that recycled water can be put to beneficial use as required by Article X, Section 2. This clarification by the appellate court allows agencies to harmonize the mandates of Proposition 218 and Article X, Section 2.
Under Item 2 noted above, utilities can develop rates by customer class and meet the requirements of Proposition 218, as opposed to the strict interpretation which would require cost proportionality for each parcel receiving service. This was another major clarification of Proposition 218 since cost proportionality for individual parcels is almost impossible to achieve in the strict sense.

The Pajaro case rulings provided for the harmonizing of the proportionality requirements of Prop 218 with the efficient use and conservation requirements of Article X, Section 2 by accepting that the supplemental costs of water used by one group of customers should be shared by all users, based on the concept that all users receive benefit from the overall water resources. In the District's case, recycled water adds a water resource that provides benefit to all users by freeing up potable water and therefore the costs of recycled water can be shared by all inefficient potable water users. Due to non-essential usage's demand on the system, the District allocates the cost of funding recycled water system development to Tiers 3 and 4 residential/irrigation usage as well as to commercial use at a smaller rate based on the assumption that 10 percent of Commercial and Public Authority (CII) water use is non-essential.

2.4. Cost-Based Rate Setting Methodology

As stated in the Manual M1, the methodology put forth by the AWWA Rates and Charges Subcommittee is consistent with the Proposition 218 requirement that "the costs of water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers." To develop utility rates that comply with Proposition 218 and industry standards while meeting other emerging goals and objectives of the utility, there are four major steps:

Figure 2-1: Cost-Based Rate Setting Methodology



1. **DETERMINATION OF REVENUE REQUIREMENT:** The rate-making process starts with the determination of future revenue requirements to sufficiently fund the utility's operation and maintenance (O&M), capital replacement and refurbishment (R&R), capital improvement and perpetuation of the system and to ensure preservation of the utility's financial integrity. The basic revenue requirements of a utility include O&M expenses, debt service payments, contributions to specified reserves and the cost of capital expenditures that are not debt financed.
2. **COST OF SERVICE ANALYSIS:** The annual costs of providing water services (cost of service), determined in the financial plan development, should be allocated among the customers commensurate with their service requirements. In this step, costs are identified and allocated to cost causation components and distributed to respective customer classes according to the industry standards provided in the Manual M1 published by AWWA.
3. **RATE DESIGN and CALCULATIONS:** Rates do more than simply recover costs. Within the legal framework and industry standards, properly designed rates should support and optimize a blend of various utility objectives, such as conservation, affordability for essential needs, revenue stability, etc. and should work as a public information tool in communicating these objectives to customers.
4. **RATE ADOPTION:** In the last step of the rate-making process, to comply with the Proposition 218 requirements, the results of the analyses are documented in a Study Report that clearly identifies the nexus between costs and rates to help educate the public about the proposed changes, the rationale and justifications behind the changes and their anticipated financial impacts in layman's terms. At least 45 days after sending out the public notices, at a public hearing, the agency shall consider all written protests against the proposed rates. If there is no majority protest, the agency can officially adopt the new rates.

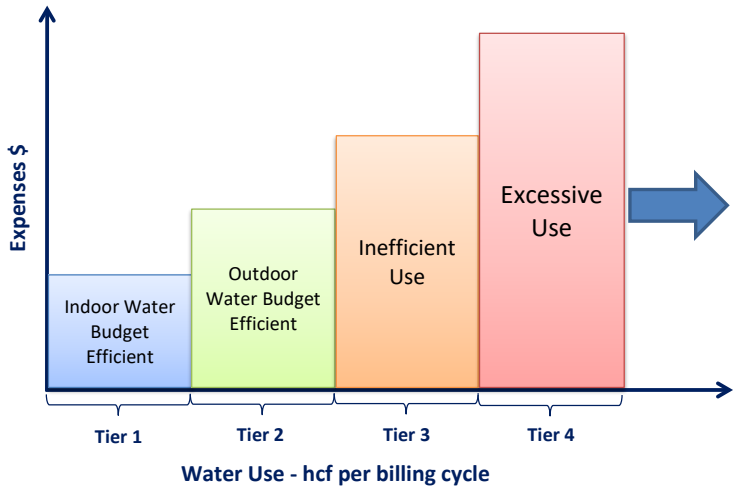
3. Water Budget and Tier Definitions

Since July 1, 2010, the District has implemented a water budget rate structure to incentivize conservation and efficient water use. The description of the allocations to individual customers and the development of water budgets is described here for completeness of this report.

3.1. Water Budget Definitions

The American Water Works Association Journal defines water budget as "the quantity of water required for an efficient level of water use by that customer" *(Source: American Water Works Association Journal, May 2008, Volume 100, Number 5).* Therefore, each customer has their own allocation or water budget as shown in the following figures. Figure 3-1 illustrates how the tier breaks are set for water budget customers. Tier 1 is defined by the allotment for indoor use and Tier 2 is defined by the allotment for outdoor use. Tier 3 is set to a percentage of the total water budget (or Tiers 1 and 2) combined. Any use beyond Tier 3 is considered excessive and falls into Tier 4.

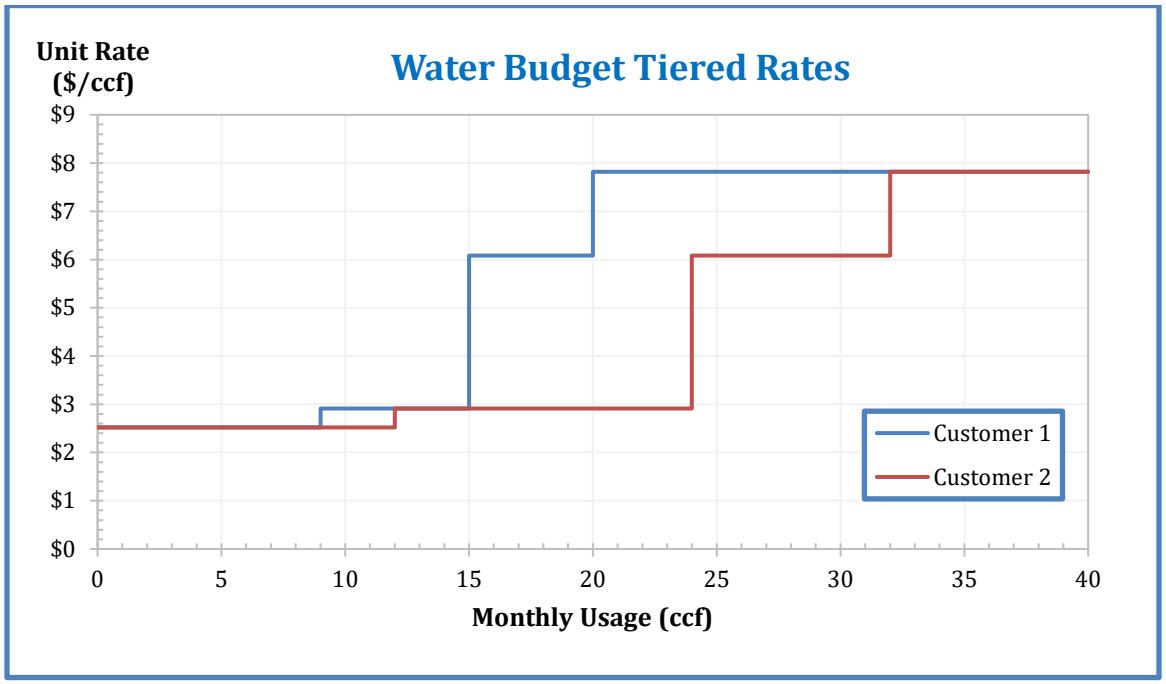
Figure 3-1: Water Budget Tiers



It is worth noting that water budget rate structures are customized for each customer, which results in different tier breaks for different customers. For example, as illustrated by Figure 3-2,[1] which examines the usage of two customers of a *hypothetical* water utility. The first 9 units consumed by Customer 1 is charged at Tier 1 rate, whereas Customer 2 has 12 units at Tier 1 rate ($2.58/ccf) for indoor use. The next 6 units (10 – 15 units) consumed by Customer 1 is reserved for outdoor use, which is charged at Tier 2 rate ($2.97/ccf), and any usage exceeding 20 units[2] will be deemed excessive and charged at the Tier 4 Rate ($7.88/ccf). Similarly, for Customer 2, Tier 2 spans from 13-24 units, and usage exceeding 32 units will be charged at Tier 4 Rate ($7.88/ccf). Customer 2, with larger indoor and outdoor water budget (or allotment), represents a residential customer with larger family and bigger irrigated landscape area than Customer 1.

[1] This is for illustrative purposes only and is not based on actual rates of the District.
[2] Tier 3 = 30% of Total Water Budget (TWB) whereas TWB = Indoor WB + Outdoor WB

Figure 3-2: Customized Water Budget Tiers[3]



Similar to the Water Budget Rate Study in 2010, the District's water budget allocations and tiered rate structure are designed for residential and irrigation accounts only; all other customer types will retain the current uniform rate structure.

3.2. Indoor Water Budget

The indoor water budget (IWB) is determined by a customer's household size and a standard consumption per person. The proposed IWB formula is as follows:

$$IWB = \frac{GPCD * Household\ \ Size * Dwelling\ Units * Days\ \ of\ Service * DF_{indoor}}{748} + V_{indoor}$$

where

- GPCD – Gallons per capita per day.
  - SB x7-7,[4] Section 10608 of the Water Code, established the provisional standard for indoor residential water use at 55 gallons per capita per day.
- Household Size – Number of residents per dwelling unit. The 2010 census lists the average household size at 2.91 persons, which includes single and multi-family housing. Typically, single family household size is greater than 3 persons and multi-family household size is less than 3.0 persons. The District policy is to provide adequate water for the health and sanitation needs and minimize customer complaints and requests for variances. The default values for household size are set as follows based on customer characteristics.
  - Single Family: Household Size = 4 persons
  - Apartment: Household Size = 2 persons
  - Multi-Family:

[3] For illustrative purposes only, not actual rates of the District

[4] The language from SB x7-7 setting the 55 GPCD performance standard: (2) The per capita daily water use that is estimated using the sum of the following performance standards: (A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard.

        - Restricted: Household Size = 2 persons (senior citizen housing typically 1 to 2 residents per dwelling unit)
        - Unrestricted: Household Size = 3 persons
- Dwelling units – Number of dwelling units served by the meter / account
- Days of Service. The number of days of service varies with each billing cycle for each customer. The actual number of days of service will be applied to calculate the indoor water budget for each billing cycle.
- DF_{indoor} – Indoor drought factor. The percentage of indoor water budget allotted during drought conditions. The drought factor is subject to the approval of the District's Board of Directors. The indoor drought factor is currently set at 100 percent.
- V_{indoor} – Indoor variance. The additional water allotment to be granted for extenuating circumstances is subject to District's approval or verification as outlined in the District's variance program. Variances can be requested by submitting a "Variance/Adjustment Request Form" found on the District's website.
- 748 is the conversion unit from gallons to billing unit of hundred cubic feet (ccf).

3.3. Outdoor Water Budget

The outdoor water budget (OWB) is determined by three main variables: irrigable landscape area, weather data and evapotranspiration (ET) Adjustment Factor. The irrigable landscape area, measured as square footage of landscape surface on a customer's property, is in some cases established through on-site direct physical measurement and in others is estimated using the Orange County Assessors' parcel data - lot size, building size and number of floors - where the actual irrigable landscape area data is not available. The weather data is based on the reference Evapotranspiration (ET_0), which is the amount of water loss to the atmosphere over a given time period under local atmospheric conditions. ET_0 is the amount of water (in inches of water) needed for a hypothetical reference crop to maintain its health and appearance. The ET Adjustment Factor (ETAF) is a coefficient that adjusts ET_0 values based on plant factor and irrigation system efficiency. The updated California Department of Water Resources' Model Water Efficient Landscape Ordinance (Landscape Ordinance) provides the following ETAF for different landscapes:

- Existing landscape (Functional): $ETAF_{Existing} = 80\%$
- New development / redevelopment landscape (Functional): $ETAF_{New} = 70\%$
- Special landscape (Recreational): $ETAF_{Recreational} = 100\%$

The formula to calculate outdoor water budget is as follows:

$$OWB = \left(\frac{\text{Landscape Area} * ET_0 * ETAF}{1200} + V_{outdoor} \right) * DF_{outdoor}$$

where

- ET_0 is measured in inches of water during the billing period based on daily data acquired from the California Irrigation Management Information System (CIMIS) Station 75, which is the closest station to the District's service area.
- ETAF (% of ET_0) is defined using the updated Landscape Ordinance as shown above.
- Landscape Area (or Irrigable Landscape Area) (in square feet) is the measured irrigable landscape area served by a customer's meter.
    - Where the measured irrigable landscape area is not available, the landscape area will be estimated by the following formula using the Orange County Assessors' parcel data.
        - $\text{Landscape Area (sq ft)} = 70\% * \left(\text{Lot Size} - \frac{\text{Building Size}}{\text{Number of Floors}} \right)$
    - For accounts dedicated for domestic use only, such as multi-family units, 25 square feet of irrigable landscape area is provided for each dwelling unit for patio plants.

- $DF_{outdoor}$ – Outdoor drought factor. The percentage of outdoor water budget allotted during drought conditions. The drought factor is subject to the approval of the District's Board of Directors. The outdoor drought factor is currently set at 100 percent.
- $V_{outdoor}$ – Outdoor variance. The additional water allotment to be granted for extenuating circumstances is subject to District's approval or verification as outlined in the variance program. Outdoor variance is subject to outdoor drought factor.
- 1,200 is the conversion unit from inch*ft^2 to billing unit of hundred cubic feet (ccf).

3.4. Water Budget Allocations by Customer Type

Table 3-1 summarizes the water budget allocation by customer type. Both Single Family and Multi-Family (restricted and unrestricted) customers will receive an indoor and outdoor water budget. Irrigation accounts will only receive an outdoor budget. Commercial and Public Authority (CII) customers will continue with the current uniform water rate structure.

Table 3-1: Water Budget Allocations by Customer Type

Customer Type	Water Budget Allocations	Default Values
Single Family	IWB + OWB	Household Size = 4 persons; GPCD = 55 $ETAF_{New}$ = 70%; $ETAF_{Existing}$ = 80%; $DF_{outdoor}$ = 100%
Multi-Family – Restricted	IWB + OWB	Household Size = 2 persons; GPCD = 55 $ETAF_{New}$ = 70%; $ETAF_{Existing}$ = 80%; $DF_{outdoor}$ = 100%
Multi- Family – Unrestricted	IWB + OWB	Household Size = 3 persons; GPCD = 55 $ETAF_{New}$ = 70%; $ETAF_{Existing}$ = 80%; $DF_{outdoor}$ = 100%
Irrigation – Functional*	OWB	$ETAF_{New}$ = 70%; $ETAF_{Existing}$ = 80%; $DF_{outdoor}$ = 100%
Irrigation – Recreational**	OWB	$ETAF_{Recreational}$ = 100%; $DF_{outdoor}$ = 100%

**Irrigation – Functional: landscape that is ornamental in nature*
***Irrigation – Recreational: landscape that is used mostly for recreational purposes (schools, parks, golf courses, etc…)*

3.5. Tier Definitions

Based on the information in Table 3-1, the tier definitions are developed as shown in Table 3-2. The main difference between Single-Family/Multi-Family and Irrigation accounts is that Irrigation accounts do not have a Tier 1 allotment which is reserved for indoor use. All three customer types have their Tier 3 allotment defined as 30 percent of their respective total water budget (TWB) and usage exceeding 130% TWB falls in Tier 4.

Table 3-2: Tier Definitions by Customer Types

Tiers	Single Family	Multi-Family	Irrigation
Tier 1 – Indoor Use	100% IWB	100% IWB	N/A
Tier 2 – Outdoor Use	100% OWB	100% OWB	100% OWB
Tier 3 – Inefficient Use	100% to 130% TWB	100% to 130% TWB	100% to 130% OWB
Tier 4 – Excessive Use	Above Tier 3	Above Tier 3	Above Tier 3
TWB = Total Water Budget = IWB + OWB			

The tier definitions are tailored to the unique consumption patterns of the District's customers and subject to the District's policy decisions. The tier definitions are based on Raftelis' usage and impact analysis and numerous policy discussions with the Board. The priority for water use is essential indoor water use for health, safety, and sanitary purposes. Based on the Board's direction, indoor water use is eligible for revenue offsets from site leases and property tax revenues. Maintaining a healthy landscape at efficient water use is non-essential, yet important; thus, efficient outdoor water use is required to pay the Tier 2 rate. The total water budget is the sum of the indoor and outdoor water budgets.

Tier 3 was designed to account for inefficient use and/or customers with non-climate appropriate landscapes. Tier 3 is set to thirty percent (30%) of the total water budget and was determined based on the 2009 analysis which indicated that a customer with high water use plants would require 30% more water than an identical customer with climate-appropriate plants. Any use beyond Tier 3 is considered excessive and falls into Tier 4. Tiers 3 and 4 allow individuals to use additional water above their total water budget while providing a signal to each customer on their inefficient and excessive water usage. Tier 3 provides usage up to 30 percent of the total water budget and usage exceeding 130% TWB is considered to be excessive.

Any usage above an efficient level is subject to higher charges to fund conservation programs and any other supplemental water supply program. The current water supply is reserved for efficient water use within the District for indoor, outdoor, and commercial use. The higher Tier 3 rate serves as a signal for conservation and efficient use, whereas excessive use in Tier 4 incurs the highest marginal costs of providing service.

The Commercial class will continue to be billed at a uniform rate; however, this rate will encompass domestic use and inefficient use. Based on SB x7-7 (i.e. Water Conservation Act of 2009), which requires commercial users to cut back by 10 percent, indoor and efficient outdoor (or process) use are defined at 90 percent of total use and the remaining 10 percent use as inefficient. Additionally, indoor use is defined as 90 percent of the efficient use (90% x 90% = 81%) and the remainder is defined as efficient outdoor use (10% x 90% = 9%). The uniform rate charged to commercial customers will then be a blend of the usage defined here.

4. Pass-through Water Supply Cost

The District purchases water from the Municipal Water District of Orange County (MWDOC), a member agency of Metropolitan Water District of Southern California (MWD). MWD rates are scheduled to increase in January 2021. The MWD rate increases, along with MWDOC's other costs, will be included in the blended rates charged to the District. As shown in Table 4-1, total combined water supply costs from the MWDOC & MWD purchased water and the Baker Treatment Plan costs are partially offset by capital charge revenue funding shown in Line 6. Dividing the total costs by the projected water sales (Line 8) results in the unit rate shown in Line 9. See Appendix 1 for detailed breakdown of water supply costs. Table 4-2 and Table 4-3 show that projected water supply rates will be increased by $0.07 across all tiers.

Table 4-1: Water Supply Revenue Requirements

Line #	Revenue Requirements	Budget FY 2021	Notes
1	MWDOC & MWD Fixed Costs	$0.656M	Appendix 1
2	MWDOC & MWD Variable Costs	$3.960M	Appendix 1
3	Baker Raw Water Cost ($)	$2.572M	Appendix 1
4	Baker O&M Annual Cost ($)	$0.680M	Appendix 1
5	Plus Baker Capital Cost (Debt Service)	$0.684M	Appendix 1
6	Less Capital Charge Revenue Funding	-$0.650M	Appendix 1
7	**Total Water Supply Costs**	**$7.903M**	Appendix 1
8	Plus (+) Operating Reserve Funding	$0.000M	Appendix 1
9	**Total Water Supply Costs w/ Reserve Funding**	**$7.903M**	**Sum of [1] to [8]**
10	Projected Water Sales	2,918,520 ccf	[8] / [9]
11	**Water Supply Unit Rate**	**$2.71 /ccf**	

Table 4-2: Current and Projected Water Supply Unit Rate

Fiscal Year (FY)	Water Supply Unit Rate $ / hundred cubic feet (ccf)
FY 2020	$2.64 / ccf
FY 2021	$2.71 / ccf
Increase / Change	**$0.07 / ccf**

Table 4-3: Water Supply Cost Component of the Water Rates ($/ccf)

Tiers	Descriptions	Current FY 2020	Proposed FY 2021
Tier 1 – Indoor Use	MWDOC + Baker Blended	$2.64	$2.71
Tier 2 – Outdoor Use	MWDOC + Baker Blended	$2.64	$2.71
Tier 3 – Inefficient Use	MWDOC + Baker Blended	$2.64	$2.71
Tier 4 – Excessive Use	MWDOC + Baker Blended	$2.64	$2.71
Uniform – CII Use	MWDOC + Baker Blended	$2.64	$2.71

5. Water Revenue Requirements and Proposed Rates

5.1. Revenue Requirements

Table 5-1 shows the derivation of the revenue requirement of the water rates. Total expenses for the water enterprise are shown in Line 1. Next, other supplementary revenues are subtracted from the expenses, serving as an offset of these costs. For the District, this is encompassed in the Non-Operating Revenues totaled in Line 2. These revenues include cell-site leases, property taxes, investment revenues, and others. The District makes annual debt payments totaling $0.684M annually for its contribution to the Baker Treatment Plant's construction. This Debt Service (Line 3) is added to the O&M expenses. Next, the District will use reserves to offset some of the operating expenses and reduce the revenue required from rates for FY 2021 (Line 4). The total revenue required from rates, excluding Fire Service, is shown in Line 5.

Details of the figures presented in Table 5-1 can be found in Appendix 3, in the Cash Flow Analysis for the Water Funds. The Cash Flow Analysis is part of the Financial Plan developed by District staff to determine the long-term financial needs of the District. Raftelis based its determination of the revenue requirements and cost of service for FY 2021 on the Financial Plan developed by District Staff.

Table 5-1: Water Operating Revenue Requirements from Rates[5]

Line #	Water Operating Revenue Requirements	FY 2021 Budgeted	Notes
1	Total Water O&M Expenses	$13.369M	
2	Less (-) Non-Operating Revenues	-$2.012M	Appendix 3
3	Plus (+) Debt Service	$0.684M	Appendix 3
4	Plus (+) Operating Reserve Funding	-$0.166M	Appendix 3
5	**Total Rev Req from Rates, excluding Fire SC**	**$11.876M**	

The District separately charges customers for the cost of capital repair and replacement (R&R) for the water and recycled water systems via a fixed charge. Table 5-2 provides the calculation of the Capital R&R revenue requirement from capital R&R charges.

[5] May include some rounding errors

Table 5-2: Water Capital Revenue Requirements

Line #	Water Capital Revenue Requirements	Water
1	Water Capital Expenditures	$755,000
2	Plus (+) Baker Capital Funding	$500,000
3	Plus (+) Capital Reserve Funding	$0
4	Less (-) Restricted Reserve Funding	$0
5	**Total Water Capital R&R Revenues**	**$1,255,000**
6	Current Water Capital R&R Revenues	$1,254,644
7	% Rate Increase	0.00%

5.2. Cost of Service

Water systems are designed to accommodate the peak use of any class or type of customer. Different parts of a water system are designed to handle different peaks and there are significant costs associated with meeting peak requirements. For example, the District's maximum day usage is estimated to be two times the average usage and facilities such as reservoirs are designed twice as large to ensure that maximum day requirements are met (reservoirs also are designed to meet fire flows). To allocate costs appropriately amongst the different type of usage, an analysis of the peaking costs is provided in Section 5.2.1.

5.2.1. PEAKING FACTOR ANALYSIS

In the 2014 Rate Study, RFC performed usage analyses for single family customers to determine the monthly peaking factors for each tier using 3-year average consumption (2009-2011) data for the 5,630 single family accounts. The results are shown in Table 5-3. The peaks in each tier are compared to the average for the class to establish the comparative peaking relationship among the tiers.

Table 5-3: Peaking Factor Analysis for Different Usage Types

Tiers	Individual Max Month Average Usage (per unit)[6]	Average Usage per account / unit	Peaking factors (among tiers)
Indoor Use	7.91	18.09	0.44
Outdoor Use	18.00	18.09	1.00
Inefficient Use	25.12	18.09	1.39
Excessive Use	36.92	18.09	2.04

The proposed peaking factors are shown in Table 5-4 for each usage type. The tiers for residential customers are defined based on each usage class as shown in Table 5-4. Commercial use includes both indoor and outdoor use and

[6] Individual max month usage (per unit) = Max month usage per dwelling unit in the 12-month period for each account
Individual Max Month Average Usage (per unit) = average of the individual max month usage

therefore peaks more than indoor use but less than outdoor. Typical indoor use for commercial is estimated at 90 percent and outdoor use at 10 percent, thus an average of the indoor and outdoor peaking factors was used to approximate the commercial peaking factor (90% x 0.44 + 10% x 1.00) of 0.50. Note that the purpose of this analysis is to define the relative difference in the peaking factors for the different usage classes so that the costs are appropriately allocated.

Table 5-4: Peaking Factors by Usage Class

Tiers	Relative Peaking Factors
Indoor Use	0.44
Outdoor Use	1.00
Inefficient Use	1.39
Excessive Use	2.04
Commercial Use	0.50

The different peaking factors, increasing in the direction of the arrow, may be conceptually represented on the scale shown below.

5.2.2. COST OF SERVICE ANALYSIS

To allocate costs appropriately to the different usage classes and determine the cost of service rates, revenue requirements are allocated to the following cost causation categories[7] consistent with the Base Extra Capacity methodology of the American Water Works Association (AWWA) *M1 Manual*, *Principles of Water Rates, Fees, and Charges* (M1 Manual):

1. Water supply costs: Imported water supply costs, allocated to all users in proportion to their usage.
2. Base fixed costs: fixed costs associated with operating and maintaining water system to deliver water to meet average demand, including customer service, meter service, administration, and other base fixed costs.
3. Peaking costs: fixed costs associated with operating and maintaining water system to deliver water to meet peak demand.
4. RW Funding: The use of RW for non-potable needs releases potable supply for inefficient and excessive use. RW is the least expensive supplemental source of water available to the District and creates supply for potable needs. The revenues collected under this category will be collected in restricted reserves to assist the RW fund to pay for debt services used to finance the RW expansion project completed in FY 2015 and expanded in FY 2019.
5. Conservation: Conservation program cost, allocated to inefficient and excessive use to help conserve water.
6. Revenue Offsets: Property taxes and cell tower lease revenues to provide incentive for indoor/domestic use.

The cost causation categories above are then assigned to each rate component:

[7] See Appendix 6 for details about cost allocations

Fixed Rate Components (i.e. Monthly Service Charges)

- To recover customer service, meter service, administration and other base fixed costs and a portion of the peaking costs.

Commodity Rate Components

- Water supply: to recover imported water supply costs.
- Delivery / Peaking: to recover remaining peaking costs associated with operating and maintaining water system to deliver water to meet peak demand. These costs are allocated based on the peaking characteristics of each class of use.
- Recycled Water (RW): to generate supplemental funding sources to pay for RW expansion projects.
- Conservation: to recover the conservation program cost, allocated to inefficient and excessive users, to help encourage water conservation.
- Revenue offsets: A portion of the property taxes and cell tower lease revenues to provide incentive for indoor/domestic use.

Capital R&R Charges:

- Funds for the capital replacement and refurbishment of the existing water and RW system.

Table 5-5 below summarizes the unrestricted revenue requirement for each cost category. The Total Cost of Service (Line 8) is divided among the various cost components (Lines 1-5 & 7). The District Board directs District staff to provide a revenue offset for essential use provided by non-rate revenues (Line 5). The revenue requirements for water supply, base fixed, and peaking were determined using COS allocation methods recommended by AWWA. Details of how the revenue requirements for these three cost causation categories were determined can be found in Appendix 6.

Table 5-5: Unrestricted Revenue Requirements by Cost Categories

Line #	Revenue Requirements	FY 2021	Water Rate Components		
			Monthly Service Charges	Unrestricted Water Commodity Rates	Water Capital R&R
1	Water Supply	$7,909,190		$7,909,190	
2	Billing & CS	$553,724	$553,724		
3	Base Fixed	$2,351,841	$2,351,841		
4	Peaking	$1,507,163	$832,163	$675,000	
5	Rev Offset	($372,779)		($372,779)	
6	**Subtotal Water Rev from Rates, excl. Fire SC**	**$11,949,139**	**$3,737,728**	**$8,211,411**	
7	Capital R&R	$1,255,000			$1,255,000
8	**Net Revenue Requirement**	**$13,204,139**	**$3,737,728**	**$8,211,411**	**$1,255,000**

The total revenue requirement for each cost causation category is then assigned to a rate component. For example, it is appropriate that the entirety of the water supply revenue requirement is assigned to the water supply rate component. The Revenue Offset is all assigned entirely to their respective rate components.

The AWWA M1 Manual describes a cost of service approach to setting water rates which results in the 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 monthly service 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 on each bill.

Utilities invest in and continue to maintain facilities to provide capacity to meet all levels of desired consumption including the peak demand plus fire protection, and these costs also must be recovered regardless of the amount of water used during a given period. Thus, capacity or peaking costs along with base costs are generally considered as fixed water system costs. Ideally an agency could recover 100% of the fixed costs in the fixed charges, therefore providing revenue stability; however, this approach foregoes affordability for essential use and heavily impacts small users. To balance between affordability and revenue stability, a portion of the base costs and peaking costs are recovered in the fixed charges along with the customer-related costs and meter-related costs. Revenue requirements for the District's fixed monthly service charges include 100 percent of base fixed costs, inclusive of billing and customer service costs and other fixed costs to meet average demand, and a portion of the peaking costs. The remaining peaking costs are recovered in the delivery rate component of the commodity rates.
The rate structure remains unchanged and consists of the monthly fixed service and the volumetric commodity rates which are determined as follows (Table 5-6):

- The monthly service charge includes customer service, fixed base costs and a portion of the peaking costs (shown in Table 5-5).
- The volumetric water commodity rates include water supply (to recover total purchased water costs from MWDOC and Baker Water Treatment Plant water costs), delivery/peaking (to recover the District's remaining peaking costs), RW funding, conservation, and revenue offsets components.

Table 5-6: Cost Categories and Water Rate Structure

Cost Components	Service Charges	Tier 1 Essential Use	Tier 2 Efficient Use	Tier 3 Inefficient Use	Tier 4 Excessive Use	Commercial Use
Billing & Customer Service	x					
Meters	x					
Fixed Base Costs	x					
Delivery Peaking Costs	x	x	xx	xxx	xxx	x
Water Supply		x	x	x	x	x
RW Program Funding				xx	xxx	x
Conservation				x	x	x
Rev Offset		x				x

Extra capacity costs representing the demand placed on the system are related to the capacity of the meters. The capacity of the meters is determined by comparing the hydraulic capacity of the meters to the smallest meter in the system which is assigned a capacity of one. Thus, a 1-inch meter that can continuously deliver 50 gallons per minute ("gpm") is considered to have a capacity of 2.5 when compared to the 5/8-inch meter which can deliver 20 gpm. Because of the unique characteristics of the District's service area, the maximum of the hydraulic capacity or the actual usage characteristics were used to determine the capacity of the meters. For example, a 2-inch meter, on the

average, used 10 times the water of the 5/8-inch meter. The meter capacity ratios representing the maximum of the hydraulic ratio or the actual usage is used to calculate the equivalent meter units to recover the meters & capacity costs (based on ETWD Cost of Service Study Report for Water, Wastewater and Recycled Water prepared in April 2009).

Monthly service charge calculations are shown in Table 5-7, Table 5-8, and Table 5-9 below.

Table 5-7: Units of Service for Monthly Service Charges

Meter Size	Water Accounts A	Bills / year B = A x 12	Meter Capacity Ratios C	EMUs[8] D = B x C
5/8"	2,382	28,584	1.00	28,584
¾"	4,860	58,320	1.50	87,480
1"	450	5,400	2.50	13,500
1 ½"	705	8,460	5.00	42,300
2"	1,137	13,644	10.00	136,440
Total	**9,534**	**114,408 Bills**		**308,304 EMU's**

Table 5-8: Calculated Unit Cost of Service for Monthly Service Charges

	Billing & Customer Service	Meters & Capacity
Revenue Requirements *(Table 5-5)*	$553,724	$3,184,004
Units of Service *(Table 5-7)*	114,408 bills / year	308,304 EMUs / year
Unit Cost of Service	**$4.84**	**$10.33**

[8] EMUs = equivalent meter units

Table 5-9: Proposed Monthly Service Charges Calculations

Meter Size	Billing & CS A	Meters & Capacity B[9]	Proposed FY 2021 C = A + B	Current FY 2020 D	$ Change E = C – D	% Change F = E / D
5/8"	$4.84	$10.33	**$15.17**	$14.14	$1.03	7.3%
¾"	$4.84	$15.49	**$20.33**	$18.99	$1.34	7.1%
1"	$4.84	$25.82	**$30.66**	$28.70	$1.96	6.8%
1 ½"	$4.84	$51.64	**$56.48**	$52.98	$3.50	6.6%
2"	$4.84	$103.27	**$108.11**	$101.52	$6.59	6.5%

5.3. Proposed Rates

As discussed above, the District has determined that it will not increase its Capital R&R charges in FY 2020. In addition, the District will pass-through the increase in water supply costs in the water commodity rates.

5.3.1. MONTHLY SERVICE CHARGES

Based on the revenue requirements shown in Table 5-3 and the Monthly Service Charge calculations in Tables 5-5 to 5-7, the proposed Monthly Service Charges for FY 2021 are shown in Table 5-10 below.

Table 5-10: Monthly Service Charges

Meter Size	Proposed FY 2021 A	Current FY 2020 B	$ Change C = A – B	% Change D = C/B	Water Accounts E
5/8"	$15.17	$14.14	$1.03	7.3%	2,382
¾"	$20.33	$18.99	$1.34	7.1%	4,860
1"	$30.66	$28.70	$1.96	6.8%	450
1 ½"	$56.48	$52.98	$3.50	6.6%	705
2"	$108.11	$101.52	$6.59	6.5%	1,137
Projected Revenues[10]	**$3,737,703**	**$3,500,004**	**$237,698**	**6.8%**	**9,534**

5.3.2. CAPITAL R&R CHARGES

As discussed above, the District will not adjust the Capital R&R Charges.

[9] $10.33 (from Table 5-8) x Meter Capacity Ratio for each meter size (from Table 5-7, column C)
[10] Projected Revenues = Σ (Service Charges x # of Accounts for each meter size) x 12 bills/year

Table 5-11: Water Capital R&R Charges

Meter Size	Current FY 2020	Proposed FY 2021	Water Accounts	RW Accts	Water + RW Accounts
5/8"	$4.66	**$4.66**	2,382	0	2,382
¾"	$4.66	**$4.66**	4,860	0	4,860
1"	$7.78	**$7.78**	450	0	450
1 ½"	$18.91	**$18.91**	705	28	733
2"	$47.47	**$47.47**	1,137	247	1,384
Projected Revenues			**$1,254,644**	**$147,055**	**$1,401,699**

5.3.3. COMMODITY RATES

The District will pass-through increases in water supply costs in the Water Commodity Rates. See Section 4 for projected water supply costs and unit cost change.

Table 5-12: FY 2021 Proposed Water Commodity Rates

Tier	FY 2020 Current	FY 2021 Proposed	$ Change	% Change	Projected Water Sales
Tier 1 - Essential Use	$2.58	$2.65	$0.07	2.7%	1,459,129 ccf
Tier 2 - Efficient Use	$2.97	$3.04	$0.07	2.4%	913,013 ccf
Tier 3 - Inefficient Use	$6.14	$6.21	$0.07	1.1%	90,201 ccf
Tier 4 - Excessive Use	$7.88	$7.95	$0.07	0.9%	72,696 ccf
Uniform - Commercial Use	$2.95	$3.02	$0.07	2.4%	383,481 ccf
Total Projected Revenues	**$9,172,174**	**$9,356,433**	**2.3%**	**2.3%**	**2,918,520 ccf**

6. Wastewater Revenue Requirements and Proposed Rates

6.1. Monthly Service Charges

As with the Water Enterprise, the Wastewater Enterprise will maintain its cost of service allocations. Therefore, the rates will be updated to account for any necessary adjustments to meet the revenue requirements projected for FY 2021. Table 6-1 shows the calculation of the Wastewater O&M revenue requirement from rates. The Wastewater O&M expenses (Line 1) will be partially offset by non-operating revenues (Line 2). The District also continues to have a debt obligation (Line 3) due entirely to the Northline Lift Station. The resulting revenue requirement for FY 2021 is shown in Line 5 and compared to the projected FY 2020 revenues from current rates in Line 6. The projected revenue from current rates was provided in the Wastewater Enterprise's cash flow statement. Based on the projected revenue requirement, the current Wastewater rates are sufficient for FY 2021, thus the District will not adopt any change for FY 2021.

Table 6-1: Wastewater O&M Revenue Requirements from Rates

Line #	Wastewater Operating Revenue Requirements	Budget FY 2021	Notes
1	Total WW O&M Expenses	$8,207,716	Appendix 2
2	Less (-) Non-Operating Revenues	($712,750)	Appendix 5
3	Plus (+) Debt Service	$258,146	Appendix 5
4	Plus (+) Operating Reserve Funding	$21,888	Appendix 5
5	**Total Revenue Requirement from WW Rates**	**$7,775,000**	
6	Current WW Service Revenues	$7,775,000	Appendix 5
7	Required Revenue Increase	$0	Appendix 5
8	**Overall WW Rate Increase**	**0.0%**	

Table 6-2 provides the proposed rates for FY 2021, which is the same as the FY 2020 rates.

Table 6-2: FY 2021 Proposed Wastewater Service Charges

Customer Class	FY 2020 Current	FY 2021 Proposed	$ Increase	% Increase
Residential Unrestricted	$24.30 / EDU	$24.30 / EDU	$0.0	0.0%
Multi-Family Restricted	$19.28 / EDU	$19.28 / EDU	$0.0	0.0%
Multi-Family Unrestricted	$22.92 / EDU	$22.92 / EDU	$0.0	0.0%
Animal Kennel/Hospital	$3.99 / ccf	$3.99 / ccf	$0.0	0.0%
Car Wash	$3.97 / ccf	$3.97 / ccf	$0.0	0.0%
Department/Retail Store	$3.99 / ccf	$3.99 / ccf	$0.0	0.0%
Dry Cleaners	$3.50 / ccf	$3.50 / ccf	$0.0	0.0%
Golf Course/Camp/Park	$3.49 / ccf	$3.49 / ccf	$0.0	0.0%
Health Spa	$3.98 / ccf	$3.98 / ccf	$0.0	0.0%
Hospital/Convalescent Home	$3.50 / ccf	$3.50 / ccf	$0.0	0.0%
Hotel	$6.04 / ccf	$6.04 / ccf	$0.0	0.0%
Market	$7.92 / ccf	$7.92 / ccf	$0.0	0.0%
Mortuary	$7.89 / ccf	$7.89 / ccf	$0.0	0.0%
Nursery/Greenhouse	$3.54 / ccf	$3.54 / ccf	$0.0	0.0%
Professional/Financial Office	$3.99 / ccf	$3.99 / ccf	$0.0	0.0%
Public Institution	$3.93 / ccf	$3.93 / ccf	$0.0	0.0%
Repair/Service Station	$3.98 / ccf	$3.98 / ccf	$0.0	0.0%
Restaurant	$3.77 / ccf	$3.77 / ccf	$0.0	0.0%
Schools	$4.13 / ccf	$4.13 / ccf	$0.0	0.0%
Theater	$3.99 / ccf	$3.99 / ccf	$0.0	0.0%
Warehouse/Storage	$3.16 / ccf	$3.16 / ccf	$0.0	0.0%
Basic Commercial	$3.50 / ccf	$3.50 / ccf	$0.0	0.0%

6.2. Capital R&R Charges

The Wastewater Enterprise also charges a separate Capital R&R Charge. As shown in Table 6-3, there is no increase in revenue requirements for WW Capital R&R charges. The proposed Capital R&R Charges are shown in Table 6-4.

Table 6-3: Wastewater Capital R&R Revenue Requirements

Wastewater Revenue Requirement from Rates	Budget FY 2021 *(Appendix 5)*
Total Capital Expenditures	$1,605,000
Current Wastewater Capital R&R Revenues	$1,605,000
Overall Capital R&R Rate Increase	**0%**

Table 6-4: FY 2021 Proposed Wastewater Capital R&R Charges

Customer Classes	Current Capital R&R Charges	FY 2021 Capital R&R Charges	$ Increase	% Increase
Residential				
Residential Unrestricted	$4.93 / EDU	$4.93 / EDU	$0.00	0.0%
Multi-Family Restricted	$3.91 / EDU	$3.91 / EDU	$0.00	0.0%
Multi-Family Unrestricted	$4.65 / EDU	$4.65 / EDU	$0.00	0.0%
Non-Residential				
5/8"	$4.34 / month	$4.34 / month	$0.00	0.0%
3/4"	$7.34 / month	$7.34 / month	$0.00	0.0%
1"	$13.55 / month	$13.55 / month	$0.00	0.0%
1 1/2"	$24.07 / month	$24.07 / month	$0.00	0.0%
2"	$70.96 / month	$70.96 / month	$0.00	0.0%
Public Authority				
1"	$4.93 / month	$4.93 / month	$0.00	0.0%
1 1/2"	$24.65 / month	$24.65 / month	$0.00	0.0%
2"	$39.71 / month	$39.71 / month	$0.00	0.0%

7. Recycled Water Revenue Requirements and Proposed Rates

7.1. Recycled Water System

Prior to the completion of the Recycled Water Expansion Project, the District had only one recycled water (RW) customer who purchased secondary treated disinfected recycled water - Laguna Woods Village Golf Course, operated by the Golden Rain Foundation (GRF). There was neither a monthly service charge nor a capital R&R charge for this RW customer since all services were provided based on the terms of the service contract. With the completion of the RW expansion project, all RW customers (existing and converted customers) are now supplied with higher quality tertiary RW and all RW customers are subject to the corresponding rates that support the annual cost of providing tertiary RW.

In FY 2015, the District completed the expansion of its recycled water system, including water recycling plant (WRP) upgrades to tertiary treatment and RW distribution system pipeline expansion. In FY 2019, the District completed the Phase II expansion of the RW Distribution System. The RW expansion capital cost for both phases, was financed by the following sources: State Revolving Fund (SRF) Loan, grants, and from the restricted reserve (revenues from Tier 3 and Tier 4 potable usage dedicated to recycled water expansion).

7.2. Projected Recycled Water Sales

The District is completing the Phase II Recycled Water Retrofit Project and anticipates serving 275 Recycled Water accounts in FY 2021. The projected RW sales for FY 2020 are estimated at 1,256 AF. The District projects an increase of 144 AF or 11.5% in consumption for FY 2021. The estimated Recycled Water sales for FY 2020 and budgeted water states for FY 2021 are shown in Table 7-1.

Table 7-1: Recycled Water Sales

	RW Sales	
	ccf	AF
FY 2020 Estimated Actual Sales	546,901	1,256
FY 2021 Budgeted Sales	609,840	1,400
Increase	62,939	144
% Increase	11.5%	

7.3. Revenue Requirement and Proposed Rates

In FY 2015, the District began separating Recycled Water costs into an independent RW Enterprise Fund. Table 7-2 summarizes the RW revenue requirements from rates for FY 2021. RW O&M expenses and supply (Line 3) will be partially offset by non-operating revenues (Line 4). The RW Fund's debt service payment is incorporated into Restricted Reserve Funding (Line 5). Debt Service payments (Line 6) and Operating Reserve Funding (Line 7) from missing revenues are added to the revenue requirement. The remaining revenue requirement to be recovered from

rates is shown in Line 8. The line items shown below are further detailed in Appendix 4 – Cash Flow Analysis for RW Funds, developed by District Staff and provided to Raftelis as basis for the cost of service analysis.

Table 7-2: Recycled Water Revenue Requirement from Rates

Line #	Revenue Requirement	FY 2021	Notes
1	Treatment Tertiary Recycled Water	$285,500	Appendix 2
2	Other RW O&M	$907,101	Appendix 2
3	**Revenue Requirement for RW**	**$1,192,601**	
4	Less (-) Non-Operating Revenues	($286,250)	Appendix 4
5	Less (-) Restricted Reserve Funding	($918,302)	Appendix 4
6	Plus (+) Debt Service	$2,012,004	Appendix 4
7	Plus (+) Operating Reserve Funding	$10,615	Appendix 4
8	**Total Revenue Requirement from Rates**	**$2,010,668**	

All RW customers connected to the recycled water distribution system will be assessed the same Monthly Service Charges (Table 7-3) and Capital R&R Charges (Table 7-4) as potable customers to recover the customer service, meter service, a portion of capacity and other RW related fixed costs and to pay for capital R&R of expanded RW system. After the completion of the RW expansion in FY 2015, all RW customers (existing and converting customers) are now supplied with higher quality tertiary RW and will be subject to the corresponding rates that support the annual projected cost of providing tertiary RW.

Table 7-3: FY 2021 Proposed Monthly Service Charges

Meter Size	FY 2020 Current A	FY 2021 Proposed B	# of RW Accounts C
5/8-in	$14.14	$15.17	0
3/4-in	$18.99	$20.33	0
1-in	$28.70	$30.66	0
1 1/2-in	$52.98	$56.48	28
2-in	$101.52	$108.11	247
Projected RW Revenues *(Column A or B x Column C x 12)*	**$318,707**	**$339,415**	**275 Accounts**

Table 7-4: FY 2021 Proposed Capital R&R Charges

Meter Size	FY 2020 Rates	FY 2021 Rates	$ Increase	% Increase
5/8-in	$4.66	$4.66	$0.00	0%
3/4-in	$4.66	$4.66	$0.00	0%
1-in	$7.78	$7.78	$0.00	0%
1 1/2-in	$18.91	$18.91	$0.00	0%
2-in	$47.47	$47.47	$0.00	0%
Projected Capital R&R RW Revenues	**$147,055**	**$147,055**		

Table 7-5 derives the revenue required from the Recycled Water Commodity Rate (Line 3) by subtracting the Monthly Service Charge Revenue (Line 2) from the Total Revenue Requirements (Line 1). The unit RW commodity rate is calculated using the net revenue requirements from RW commodity rates (Line 3) divided by projected RW sales (Line 4). The RW commodity rate for FY 2021 is $2.74 / ccf or $1,194 / AF, which is approximately 90% of Tier 2 Potable Water Commodity Rate for FY 2021 and provides an economic incentive for irrigation customers to convert to RW.

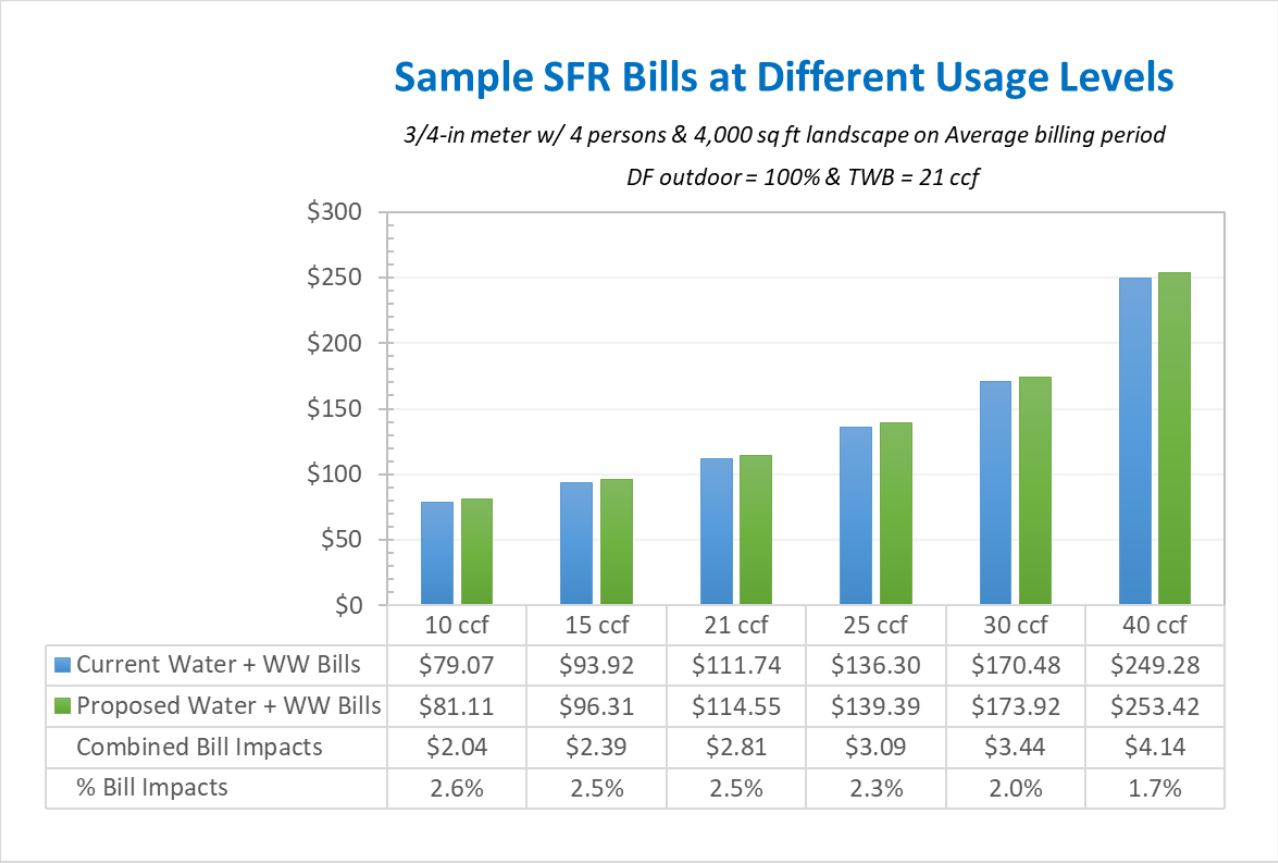
Table 7-5: Recycled Water Commodity Rate Calculation

Line #		FY 2021
1	Total Revenue Requirement from RW Rates	**$2,010,668**
2	Less (-) Monthly Service Charge	($339,415)
3	**Net Commodity Rate Revenue Requirements**	**$1,671,253**
4	Projected RW Sales	609,840 ccf
5	**Unit RW Commodity Rate ($/ccf)**	**$2.74 /ccf**
6	Unit RW Commodity Rate ($/AF)	$1,194 / AF
7	Percent of Tier 2 Potable Water Rate	**90%**

8. Customer Impact Analysis

Figure 8-1 shows a breakdown of water and wastewater bills at various water usage levels for a single-family residential user with 4 occupants and 4,000 sq. ft. landscape area serviced by a ¾-in meter. The combined water and wastewater bill increase would be ranging from $2.04 to $4.14 per month depending on the monthly billed water usage. The bill impacts are resulting from increases in water monthly fixed service charges and water supply costs. Note that the impacts for recycled water are not shown because residential users do not purchase recycled water.

Figure 8-1: SFR Total Monthly Bill at Different Usage Levels



	10 ccf	15 ccf	21 ccf	25 ccf	30 ccf	40 ccf
Current Water + WW Bills	$79.07	$93.92	$111.74	$136.30	$170.48	$249.28
Proposed Water + WW Bills	$81.11	$96.31	$114.55	$139.39	$173.92	$253.42
Combined Bill Impacts	$2.04	$2.39	$2.81	$3.09	$3.44	$4.14
% Bill Impacts	2.6%	2.5%	2.5%	2.3%	2.0%	1.7%

APPENDICES

APPENDIX 1: PASS-THROUGH WATER SUPPLY COST

Source: Purchased Water.xlsx sent by Dennis 6/12/2020.

EL TORO WATER DISTRICT
2020/21 PURCHASED WATER BUDGET

		2019/20 Budget		2019/20 Projected Actual		2020/21 Budget	
		Jul 2019	Jan 2020	Jul 2019	Jan 2020	Jul 2020	Jan 2021
1	Total Period Demand (AF)	3,925	3,425	4,033	2,966	4,000	3,000
2	Total Annual Demand (AF)		7,350		6,999		7,000
3	MWD Period Demand (AF)	2,246	1,746	2,473	1,252	2,321	1,321
4	MWD Annual Demand (AF)		3,992		3,725		3,642
5	**MWD Untreated Commodity Rates**						
6	System Access Rate	326.00	346.00	326.00	346.00	346.00	373.00
7	System Power Rate	127.00	136.00	127.00	136.00	136.00	161.00
8	Water Stewardship Rate	69.00	65.00	69.00	65.00	65.00	-
9	MWD Tier 1 Rate	209.00	208.00	209.00	208.00	208.00	243.00
10	**Subtotal Untreated Full Service**	**731.00**	**755.00**	**731.00**	**755.00**	**755.00**	**777.00**
11	Treatment Surcharge	319.00	323.00	319.00	323.00	323.00	327.00
12	**Total Treated Full Service Rate**	**1,050.00**	**1,078.00**	**1,050.00**	**1,078.00**	**1,078.00**	**1,104.00**
13	**Total Treated Full Service Annual Cost**	**2,358,300**	**1,882,188**	**2,596,965**	**1,349,333**	**2,502,038**	**1,458,384**
14	**MWD Fixed Charges**						
15	Capacity Reservation Charge	56,610	58,200	56,610	58,200	68,978	68,978
16	Readiness To Serve Charge	197,838	202,200	179,261	204,114	200,369	200,369
17	**Total MWD Fixed Charges**		**514,848**		**498,185**		**538,692**
18	**Total MWD Cost**		**4,755,336**		**4,444,483**		**4,499,114**
19	**Total MWD Unit Cost ($/AF)**		**1,191**		**1,193**		**1,235**
20	**MWDOC Connection Rate ($/meter)**	**12.50**		**12.40**		**12.20**	
21	ETWD Meters	9,568		9,568		9,578	
22	**MWDOC Connection Charge ($)**		**119,600**		**118,643**		**116,852**
23	**Baker Water Treatment Plant**						
24	Period Demand (AF)	1,679	1,679	1,560	1,715	1,679	1,679
25	Annual Demand (AF)		3,358		3,274		3,358
26	**Baker Raw Water Cost**	**1,227,349**	**1,267,645**	**1,140,068**	**1,294,518**	**1,267,645**	**1,304,583**
27	Baker O&M Unit Cost (per AF)	187	187	172	182	193	193
28	SCP Surcharge	8.38	8.38	8.14	8.14	8.38	8.38
29	SAC Surcharge	1.15	1.15	1.10	1.10	1.13	1.13
30	**Baker O&M Annual Cost**	**330,759**	**330,759**	**282,662**	**327,899**	**340,026**	**340,026**
31	Baker Capital Cost (Debt Service)	342,131	342,131	342,131	342,131	342,131	342,131
32	**Total Period Baker Water Treatment Plant Cost**	**1,900,239**	**1,940,535**	**1,764,861**	**1,964,548**	**1,949,802**	**1,986,740**
33	**Total Annual Baker Water Treatment Plant Cost**		**3,840,775**		**3,729,409**		**3,936,543**
34	**Baker Water Treatment Plant Unit Cost($/AF)**		**1,144**		**1,139**		**1,172**
35	**Capital Charge Revenue Funding**		**(600,000)**		**(600,000)**		**(650,000)**
36	**Total Baker Water Treatment Plant Cost**		**3,240,775**		**3,129,409**		**3,286,543**
37	**Total Purchased Water Cost**						
38	MWD		4,755,336		4,444,483		4,499,114
39	MWDOC		119,600		118,643		116,852
40	Baker		3,240,775		3,129,409		3,286,543
41	**Total Purchased Water Cost**		**8,115,711**		**7,692,535**		**7,902,508**
42	**Total Expense (Less Baker Debt Service)**		**8,031,449**		**7,608,273**		**7,868,246**
43	Percent Increase Budget to Budget per Unit		**2.30%**				2.24%
44	**Overall Imported Water Effective Rate**						
45	Fiscal Year Cost per Acre Foot Purchased		**1,104**		**1,099**		**1,129**
46	Fiscal Year Cost per CCF Purchased		**2.53**		**2.52**		**2.59**
47	Fiscal Year Rate per CCF Sold		**2.64**		**2.64**		**2.71**

APPENDIX 2: O&M EXPENSES ALLOCATIONS TO WATER, RECYCLED WATER AND WASTEWATER FUNDS

Source: 10YearCashFlow.2021.KP.0620.xlsx sent by Dennis 6/12/2020

	Projected 2019/20 Actual	Water	Sewer	Recycled Water	Total		2020/21 Budget	Water	Sewer	Recycled Water	Total
Source of Supply	7,741,992	7,741,992			7,741,992		8,001,449	8,001,449			8,001,449
Pumping Water	248,962	248,962			248,962		263,623	263,623			263,623
Treatment Water	45,166	45,166			45,166		35,341	35,341			35,341
Transmission & Distribution Water	569,358	569,358			569,358		563,547	563,547			563,547
Customer Accounts	0	0			0		0	0			0
Outside Treatment Sewer	912,721		912,721		912,721		963,500		963,500		963,500
Pumping Sewer	328,282		328,282		328,282		305,835		305,835		305,835
Treatment Sewer	904,982		904,982		904,982		886,749		886,749		886,749
Treatment Tertiary Recycled Water	248,532			248,532	248,532		285,500			285,500	285,500
Transmission & Distribution Sewer	240,754		240,754		240,754		194,475		194,475		194,475
T&D Recycled Water	6,000			6,000	6,000		6,000			6,000	6,000
Operations Support	225,657	90,263	117,342	18,053	225,657		324,413	129,765	168,695	25,953	324,413
Operations Support Power	8,100	3,240	4,212	648	8,100		8,500	3,400	4,420	680	8,500
Fleet	301,900	120,760	156,988	24,152	301,900		286,185	114,474	148,816	22,895	286,185
Operations Indirect Costs	29,934	11,974	15,566	2,395	29,934		42,752	17,101	22,231	3,420	42,752
Information Technology	296,569	118,627	154,216	23,725	296,569		256,000	102,400	133,120	20,480	256,000
Administration	178,132	71,253	92,629	14,251	178,132		167,400	66,960	87,048	13,392	167,400
Admin Power	36,900	14,760	19,188	2,952	36,900		38,400	15,360	19,968	3,072	38,400
Administration Indirect Costs	1,303,495	521,398	677,817	104,280	1,303,495		1,550,716	620,286	806,372	124,057	1,550,716
Depreciation & Amortization	4,620,946	1,848,378	2,402,892	369,676	4,620,946		4,906,850	1,962,740	2,551,562	392,548	4,906,850
Interest Expense	787,459	277,046	75,567	434,845	787,459		756,649	264,422	70,638	421,589	756,649
Total	**19,035,840**	**11,683,176**	**6,103,156**	**1,249,508**	**19,035,840**		**19,843,884**	**12,160,869**	**6,363,429**	**1,319,586**	**19,843,884**
Other O&M											

	Projected 2019/20 Actual	Water	Sewer	Recycled Water	Total		2020/21 Budget	Water	Sewer	Recycled Water	Total
Purchased Water	$7,608,273	$7,608,273			7,608,273		7,868,246	7,868,246			7,868,246
SOCWA	902,721		$902,721		902,721		950,000		950,000		950,000
Fuel & Power	1,055,800	188,000	756,700	111,100	1,055,800		1,123,400	196,260	788,390	138,750	1,123,400
Operations Indirect Costs	29,934	11,974	15,566	2,395	29,934		42,752	17,101	22,231	3,420	42,752
Information Technology	296,569	118,627	154,216	23,725	296,569		256,000	102,400	133,120	20,480	256,000
Administration	178,132	71,253	92,629	14,251	178,132		167,400	66,960	87,048	13,392	167,400
Administration Indirect Costs	1,303,495	521,398	677,817	104,280	1,303,495		1,550,716	620,286	806,372	124,057	1,550,716
Depreciation & Amortization	4,620,946	1,848,378	2,402,892	369,676	4,620,946		4,906,850	1,962,740	2,551,562	392,548	4,906,850
Interest Expense	787,459	277,046	75,567	434,845	787,459		756,649	264,422	70,638	421,589	756,649
Total Other O&M	**2,252,511**	**1,038,227**	**1,025,048**	**189,237**	**2,252,511**		**2,221,871**	**1,062,453**	**954,068**	**205,350**	**2,221,871**
Labor	8,484,793	3,392,806	4,410,648	678,561	8,482,015		8,589,397	3,435,759	4,466,487	687,152	8,589,397
Total Expense	**27,520,633**	**15,075,982**	**10,513,803**	**1,928,069**	**27,517,854**		**28,433,281**	**15,596,628**	**10,829,916**	**2,006,738**	**28,433,282**
Less Depreciation & Interest	**22,112,229**	**12,950,558**	**8,035,344**	**1,123,548**	**22,109,450**		**22,769,782**	**13,369,465**	**8,207,716**	**1,192,601**	**22,769,782**
Enterprise Allocations		**40%**	**52%**	**8%**							
Per 1920 Labor Budget Dept Salary Analysis											

APPENDIX 3: CASH FLOW ANALYSIS FOR WATER FUND

Source: 10YearCashFlow.2021.KP.0620.xlsx sent by Dennis 6/12/2020

WATER CASH FLOW	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
BEGINNING RESERVE BALANCE	**6,653,104**	**6,799,988**	**6,634,366**	**6,538,307**	**6,515,301**	**6,520,068**	**6,520,648**	**6,520,349**	**6,518,798**	**6,518,159**	**6,519,237**
OPERATIONS & MAINTENANCE CASH FLOW											
O&M REVENUES											
Revenue from 19/20 Commodity Rates (Unrestricted)	8,368,736	8,008,839	8,008,839	8,008,839	8,008,839	8,008,839	8,008,839	8,008,839	8,008,839	8,008,839	8,008,839
Revenue from 19/20 Fixed Meter Rates	3,502,749	3,500,004	3,500,004	3,500,004	3,500,004	3,500,004	3,500,004	3,500,004	3,500,004	3,500,004	3,500,004
Revenue from 19/20 Fire / Flooding Meters	118,320	126,100	134,200	146,000	156,500	162,100	174,300	183,100	192,400	203,400	213,000
Additional Service Revenue Required											
Year	**Rate Action**										
2020-21	MWD Pass Through		204,296	204,296	204,296	204,296	204,296	204,296	204,296	204,296	204,296
2020-21	COS Rate Increase		236,000	236,000	236,000	236,000	236,000	236,000	236,000	236,000	236,000
2021-22	MWD Pass Through			233,500	233,500	233,500	233,500	233,500	233,500	233,500	233,500
2021-22	COS Rate Increase			240,000	240,000	240,000	240,000	240,000	240,000	240,000	240,000
2022-23	MWD Pass Through				262,700	262,700	262,700	262,700	262,700	262,700	262,700
2022-23	COS Rate Increase				350,000	350,000	350,000	350,000	350,000	350,000	350,000
2023-24	MWD Pass Through					408,600	408,600	408,600	408,600	408,600	408,600
2023-24	COS Rate Increase					310,000	310,000	310,000	310,000	310,000	310,000
2024-25	MWD Pass Through						612,900	612,900	612,900	612,900	612,900
2024-25	COS Rate Increase						165,000	165,000	165,000	165,000	165,000
2025-26	MWD Pass Through							321,000	321,000	321,000	321,000
2025-26	COS Rate Increase							360,000	360,000	360,000	360,000
2026-27	MWD Pass Through								321,000	321,000	321,000
2026-27	COS Rate Increase								260,000	260,000	260,000
2027-28	MWD Pass Through									291,900	291,900
2027-28	COS Rate Increase									275,000	275,000
2028-29	MWD Pass Through										291,900
2028-29	COS Rate Increase										325,000
2029-30	MWD Pass Through										321,000

WATER CASH FLOW	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
2029-30 COS Rate Increase											285,000
Total Unrestricted Water Service Rate Revenue	**11,989,805**	**12,075,239**	**12,556,839**	**13,181,339**	**13,910,439**	**14,693,939**	**15,387,139**	**15,976,939**	**16,553,139**	**17,181,039**	**17,796,639**
Adjusted for partial year revenue increases											
MWD Pass Through		(34,049)	0	0	0	0	0	0	0	0	0
COS Rate Increase		(39,333)	0	0	0	0	0	0	0	0	0
Other Sources of Cash											
Restricted Reserves Funding of Conservation Program	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Capital Charge Funding of Baker Debt Service	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
Restricted Reserve Funding of Baker Debt Service	100,000	150,000	150,000	225,000	200,000						
Property Taxes - General Fund Revenue	320,891	390,141	407,726	425,733	444,173	463,057	482,395	502,199	522,482	543,254	564,528
Property Taxes (Funds Tier 1 Offset)	141,609	136,609	129,559	122,298	114,818	107,114	99,180	91,007	82,589	73,918	64,987
Miscellaneous Revenue	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000
Other Income (Site Leases)	230,000	235,000	242,050	249,312	256,791	264,495	272,429	280,602	289,020	297,691	306,622
Other Income (R-6 Partners)	124,400	124,500	126,990	129,530	132,120	134,763	137,458	140,207	143,011	145,872	148,789
Investment Income	200,000	175,000	175,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Subtotal Other Sources of Cash	**1,791,900**	**1,886,250**	**1,906,325**	**1,926,872**	**1,922,903**	**1,744,429**	**1,766,462**	**1,789,016**	**1,812,102**	**1,835,734**	**1,859,926**
TOTAL O&M REVENUES (Unrestricted)	**13,781,705**	**13,888,107**	**14,463,164**	**15,108,211**	**15,833,342**	**16,438,368**	**17,153,601**	**17,765,955**	**18,365,241**	**19,016,773**	**19,656,565**
O&M REVENUE REQUIREMENTS											
Total O & M Expense	12,950,558	13,369,465	13,874,960	14,446,954	15,096,312	15,753,525	16,359,637	16,953,243	17,531,617	18,161,433	18,781,854
OPEB (115 Trust)					48,000		110,000	130,000	150,000	170,000	190,000
Debt Service											
Baker Water Treatment Plant	684,263	684,263	684,263	684,263	684,263	684,263	684,263	684,263	684,263	684,263	684,263
Subtotal Debt Service	**684,263**	**684,263**	**684,263**	**684,263**	**684,263**	**684,263**	**684,263**	**684,263**	**684,263**	**684,263**	**684,263**
TOTAL O&M REVENUE REQUIREMENTS	**13,634,821**	**14,053,728**	**14,559,223**	**15,131,217**	**15,828,575**	**16,437,788**	**17,153,900**	**17,767,506**	**18,365,880**	**19,015,696**	**19,656,117**
ANNUAL O&M SURPLUS (DEFICIT)	**146,884**	**(165,622)**	**(96,059)**	**(23,006)**	**4,767**	**580**	**(299)**	**(1,551)**	**(638)**	**1,078**	**448**

WATER CASH FLOW	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
CAPITAL REPLACEMENT & REFURBISHMENT PROGRAM											
CAPITAL EXPENDITURES											
Capital Replacement & Refurbishment Program	755,000	755,000	816,000	860,000	904,000	948,000	970,000	1,014,000	1,036,000	1,036,000	1,036,000
Baker Pipeline Capacity Purchase											
Baker Water Treatment Plant											
Baker Water Treatment Plant Construction Period Interest											
Capital Charge Funding of Baker Debt Service	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
TOTALCAPITAL EXPENDITURES	**1,255,000**	**1,255,000**	**1,316,000**	**1,360,000**	**1,404,000**	**1,448,000**	**1,470,000**	**1,514,000**	**1,536,000**	**1,536,000**	**1,536,000**
CAPITAL PROGRAM REVENUE											
Revenue from Existing Capital Charge	755,000	755,000	755,000	755,000	755,000	755,000	755,000	755,000	755,000	755,000	755,000
Capital Charge Funding of Baker Debt Service	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
Restricted Reserve Funding		0	0	0	0	0	0	0	0	0	0
Capital Charge Revenue Increase		0	61,000	105,000	149,000	193,000	215,000	259,000	281,000	281,000	281,000
Capital Charge Revenue Increase											
Subtotal Capital Charge Revenue	**1,255,000**	**1,255,000**	**1,316,000**	**1,360,000**	**1,404,000**	**1,448,000**	**1,470,000**	**1,514,000**	**1,536,000**	**1,536,000**	**1,536,000**
Loan Proceeds - Baker											
Loan Proceeds - Recycled Water Project- SRF											
Capital Reserves											
TOTAL CAPITAL REVENUE	**1,255,000**	**1,255,000**	**1,316,000**	**1,360,000**	**1,404,000**	**1,448,000**	**1,470,000**	**1,514,000**	**1,536,000**	**1,536,000**	**1,536,000**
	—	—	—	—	—	—	—	—	—	—	—
ANNUAL CAPITAL SURPLUS (DEFICIT)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL CASH FLOW											
TRANSFER FROM RECYCLED WATER	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL ANNUAL RESERVE IMPACT	**146,884**	**(165,622)**	**(96,059)**	**(23,006)**	**4,767**	**580**	**(299)**	**(1,551)**	**(638)**	**1,078**	**448**
ENDING RESERVE BALANCE	**6,799,988**	**6,634,366**	**6,538,307**	**6,515,301**	**6,520,068**	**6,520,648**	**6,520,349**	**6,518,798**	**6,518,159**	**6,519,237**	**6,519,686**

APPENDIX 4: CASH FLOW ANALYSIS FOR RECYCLED WATER FUND

Source: 10YearCashFlow.2021.KP.0620.xlsx sent by Dennis 6/12/2020

RECYCLED WATER CASH FLOW	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
BEGINNING RESERVE BALANCE	0	0	0	0	0	0	0	0	0	0	0
OPERATIONS & MAINTENANCE CASH FLOW											
O&M REVENUES											
Revenue from 1920 Commodity Rates	1,432,880	1,628,273	1,628,273	1,628,273	1,628,273	1,628,273	1,628,273	1,628,273	1,628,273	1,628,273	1,628,273
Revenue from 1920 Fixed Meter Rates	283,030	318,707	318,707	318,707	318,707	318,707	318,707	318,707	318,707	318,707	318,707
Additional Service Revenue Required											
Year / Rate Action											
2020-21 RW Commodity Rate Increase		35,574	42,689	42,689	42,689	42,689	42,689	42,689	42,689	42,689	42,689
2020-21 COS Rate Increase		17,500	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000
2021-22 RW Commodity Rate Increase			146,732	146,732	146,732	146,732	146,732	146,732	146,732	146,732	146,732
2021-22 COS Rate Increase			21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000
2022-23 RW Commodity Rate Increase				51,749	51,749	51,749	51,749	51,749	51,749	51,749	51,749
2022-23 COS Rate Increase				29,000	29,000	29,000	29,000	29,000	29,000	29,000	29,000
2023-24 RW Commodity Rate Increase					84,093	84,093	84,093	84,093	84,093	84,093	84,093
2023-24 COS Rate Increase					27,000	27,000	27,000	27,000	27,000	27,000	27,000
2024-25 RW Commodity Rate Increase						116,436	116,436	116,436	116,436	116,436	116,436
2024-25 COS Rate Increase						18,000	18,000	18,000	18,000	18,000	18,000
2025-26 RW Commodity Rate Increase							64,687	64,687	64,687	64,687	64,687
2025-26 COS Rate Increase							42,000	42,000	42,000	42,000	42,000
2026-27 RW Commodity Rate Increase								64,687	64,687	64,687	64,687
2026-27 COS Rate Increase								33,000	33,000	33,000	33,000
2027-28 RW Commodity Rate Increase									58,218	58,218	58,218
2027-28 COS Rate Increase									39,000	39,000	39,000
2028-29 RW Commodity Rate Increase										58,218	58,218
2028-29 COS Rate Increase										48,000	48,000

RECYCLED WATER CASH FLOW	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
2029-30 RW Commodity Rate Increase											64,687
2029-30 COS Rate Increase											43,000
Total Recycled Water Service Rate Revenue	1,715,910	2,000,053	2,178,400	2,259,149	2,370,242	2,504,678	2,611,364	2,709,051	2,806,269	2,912,487	3,020,173
Other Sources of Cash											
Restricted Reserves Funding of Debt Service	1,039,643	764,302	587,447	550,225	497,051	399,041	376,409	336,531	305,011	271,519	239,734
Recycled Water Meter Capital Charge Funding of Debt	147,000	154,000	166,000	175,000	184,000	193,000	197,000	206,000	210,000	210,000	210,000
MWD LRP Rebate	233,000	286,250	326,625	326,625	326,625	326,625	326,625	326,625	326,625	326,625	326,625
Property Taxes											
Subtotal Other Sources of Cash	1,419,643	1,204,552	1,080,072	1,051,850	1,007,676	918,666	900,034	869,156	841,636	808,144	776,359
TOTAL O&M REVENUES	3,135,552	3,204,605	3,258,472	3,310,999	3,377,918	3,423,344	3,511,398	3,578,207	3,647,905	3,720,631	3,796,533
O&M REVENUE REQUIREMENTS											
Total O & M Expense	1,123,548	1,192,601	1,246,468	1,298,995	1,353,914	1,411,340	1,471,394	1,534,203	1,599,901	1,668,627	1,740,529
OPEB (115 Trust)					12,000		28,000	32,000	36,000	40,000	44,000
Debt Service											
Recycled Water SRF Loan - Phase 1	1,602,958	1,602,958	1,602,958	1,602,958	1,602,958	1,602,958	1,602,958	1,602,958	1,602,958	1,602,958	1,602,958
Recycled Water SRF Loan - Phase II	409,046	409,046	409,046	409,046	409,046	409,046	409,046	409,046	409,046	409,046	409,046
Subtotal Debt Service	2,012,004	2,012,004	2,012,004	2,012,004	2,012,004	2,012,004	2,012,004	2,012,004	2,012,004	2,012,004	2,012,004
TOTAL O&M REVENUE REQUIREMENTS	3,135,552	3,204,605	3,258,472	3,310,999	3,377,918	3,423,344	3,511,398	3,578,207	3,647,905	3,720,631	3,796,533
ANNUAL O&M SURPLUS (DEFICIT)	0	0	0	0	0	0	0	0	0	0	0
TOTAL ANNUAL RESERVE IMPACT	0	0	0	0	0	0	0	0	0	0	0
ENDING RESERVE BALANCE	0	0	0	0	0	0	0	0	0	0	0

APPENDIX 5: CASH FLOW ANALYSIS FOR WASTEWATER FUND

Source: 10YearCashFlow.2021.KP.0620.xlsx sent by Dennis 6/12/2020

WW CASH FLOW	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
BEGINNING RESERVE BALANCE	6,653,104	6,806,669	6,828,557	6,777,788	6,808,009	6,808,605	6,808,215	6,809,694	6,810,074	6,810,525	6,811,308
OPERATIONS & MAINTENANCE CASH FLOW											
O&M REVENUES											
Revenue from 18/19 Service Rates	7,775,000	7,775,000	7,775,000	7,775,000	7,775,000	7,775,000	7,775,000	7,775,000	7,775,000	7,775,000	7,775,000
Additional Service Revenue Required											
Year / Rate Action											
2020-21 COS Rate Increase											
2021-22 COS Rate Increase			360,000	360,000	360,000	360,000	360,000	360,000	360,000	360,000	360,000
2022-23 COS Rate Increase				475,000	475,000	475,000	475,000	475,000	475,000	475,000	475,000
2023-24 COS Rate Increase					330,000	330,000	330,000	330,000	330,000	330,000	330,000
2024-25 COS Rate Increase						375,000	375,000	375,000	375,000	375,000	375,000
2025-26 COS Rate Increase							485,000	485,000	485,000	485,000	485,000
2026-27 COS Rate Increase								440,000	440,000	440,000	440,000
2027-28 COS Rate Increase									460,000	460,000	460,000
2028-29 COS Rate Increase										470,000	470,000
2029-30 COS Rate Increase											500,000
Total Wastewater Service Rate Revenue	7,775,000	7,775,000	8,135,000	8,610,000	8,940,000	9,315,000	9,800,000	10,240,000	10,700,000	11,170,000	11,670,000
Other Sources of Cash											
Property Taxes	462,500	526,750	537,285	548,031	558,991	570,171	581,575	593,206	605,070	617,172	629,515
MNWD Payment for RW Service to Golf Course	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
Capital Facilities Fee	0	0	0	0	0	0	0	0	0	0	0

WW CASH FLOW	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Investment Income	200,000	175,000	150,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Subtotal Other Sources of Cash	673,500	712,750	698,285	659,031	669,991	681,171	692,575	704,206	716,070	728,172	740,515
TOTAL O&M REVENUES	8,448,500	8,487,750	8,833,285	9,269,031	9,609,991	9,996,171	10,492,575	10,944,206	11,416,070	11,898,172	12,410,515
O&M REVENUE REQUIREMENTS											
Total O & M Expense	8,036,789	8,207,716	8,625,908	8,980,664	9,351,250	9,738,416	10,142,950	10,565,680	11,007,473	11,469,243	11,951,946
OPEB (115 Trust)							90,000	120,000	150,000	170,000	200,000
Debt Service											
State Revolving Fund Loan											
Northline Lift Station	258,146	258,146	258,146	258,146	258,146	258,146	258,146	258,146	258,146	258,146	258,146
Subtotal Debt Service	258,146	258,146	258,146	258,146	258,146	258,146	258,146	258,146	258,146	258,146	258,146
TOTAL O&M REVENUE REQUIREMENTS	8,294,935	8,465,862	8,884,054	9,238,810	9,609,396	9,996,561	10,491,096	10,943,825	11,415,619	11,897,389	12,410,092
ANNUAL O&M SURPLUS (DEFICIT)	153,565	21,888	(50,769)	30,221	596	(390)	1,479	381	451	783	423
CAPITAL REPLACEMENT & REFURBISHMENT PROGRAM											
CAPITAL EXPENDITURES											
Capital Replacement & Refurbishment Program	1,605,000	1,605,000	1,684,000	1,740,000	1,796,000	1,852,000	1,880,000	1,936,000	1,964,000	1,964,000	1,964,000
TOTAL CAPITAL EXPENDITURES	1,605,000	1,605,000	1,684,000	1,740,000	1,796,000	1,852,000	1,880,000	1,936,000	1,964,000	1,964,000	1,964,000
CAPITAL PROGRAM REVENUE											
Revenue from Existing Capital Charge	1,605,000	1,605,000	1,605,000	1,605,000	1,605,000	1,605,000	1,605,000	1,605,000	1,605,000	1,605,000	1,605,000
Capital Charge Revenue Increase			79,000	135,000	191,000	247,000	275,000	331,000	359,000	359,000	359,000
Subtotal Capital Charge Revenue	1,605,000	1,605,000	1,684,000	1,740,000	1,796,000	1,852,000	1,880,000	1,936,000	1,964,000	1,964,000	1,964,000
Loan Proceeds - Northline											

WW CASH FLOW	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Capital Reserves											
TOTAL CAPITAL REVENUE	1,605,000	1,605,000	1,684,000	1,740,000	1,796,000	1,852,000	1,880,000	1,936,000	1,964,000	1,964,000	1,964,000
ANNUAL CAPITAL SURPLUS (DEFICIT)	0	0	0	0	0	0	0	0	0	0	0
TOTAL ANNUAL RESERVE IMPACT	153,565	21,888	(50,769)	30,221	596	(390)	1,479	381	451	783	423
ENDING RESERVE ANALYSIS	6,806,669	6,828,557	6,777,788	6,808,009	6,808,605	6,808,215	6,809,694	6,810,074	6,810,525	6,811,308	6,811,731

APPENDIX 6: DETAILED WATER COST OF SERVICE ANALYSIS

	Peaking Factors	Base Cost Allocation	Peaking Cost Allocation
Max Day	2.00 x Average Demand	50.0%	50.0%
Max Hour	3.00 x Average Demand	33.3%	66.7%
Average Demand		41.7%	58.3%

The appropriate allocation factors between base and extra capacity vary with system design. The water utility is comprised of various facilities, each designed and operated to fulfill a given function. To provide adequate service to its customers at all times, the utility must be capable of providing the total water demand as well as peak demand.

Different facilities are designed to meet different peaking demands. These characteristics are used to allocate costs to functional cost components. Since all customers do not exert their maximum demand for water at the same time, water facilities are designed to meet coincidental demands for all customers. Comparison of historical system coincidental maximum day and maximum hour demands to average day demands results in appropriate ratios for allocation of capital costs and operating expenses to base and extra capacity cost components. A maximum day to average day ratio of 2.0 is used based on demands experienced in the District's system. This indicates that 50 percent of the capacity of the facilities designed and operated for maximum day demand is needed for average or base use and 50 percent is used for maximum day extra capacity requirements.

Cost of service is allocated to functional cost components using either water system demand ratios developed above or direct assignment, such as billing costs. The separation of costs into functional components provides a means for distributing such costs to customers based on their respective responsibilities for each type of service.

O&M expenses are generally allocated to the functional cost components that best reflect the design parameter associated with that expense. For example, source of supply meets the average day requirements of the system; thus, related expenses are allocated to the base cost component. The treatment plant and transmission mains are designed to meet maximum day demands of the system and so related expenses are allocated to the base and maximum day cost components. In a similar manner, pump stations and distribution mains are designed to meet the maximum hour demands of the system so related expenses are allocated to the base, maximum day and maximum hour cost components.

Other supporting costs such as Fleet, Information Technology and General & Admin are allocated using staff levels as provided by District Staff.

Cost Categories	Billing & Customer Service	Base Fixed	Peaking	Notes
Operations Support	18%	82%		Based on staffing levels for field office
Operations Support Power	18%	82%		Based on staffing levels for field office
Fleet	18%	82%		Based on staffing levels for field office
Operations Indirect Costs	18%	82%		Based on staffing levels for field office
Information Technology	30%	70%		Based on staffing level for main office
Administration	30%	70%		Based on staffing level for main office
Admin Power	30%	70%		Based on staffing level for main office
Administration Indirect Costs	30%	70%		Based on staffing level for main office
Labor	6.97%	62.76%	30.27%	Based on staffing levels

Using the allocation factors discussed above, the Table below summarizes the allocation of Water Revenue Requirements to different cost causation categories.

Water Revenue Requirements	2020-21	Water Supply	Billing & CS	Meters	Base Fixed	Peaking	RW	Conservation	Rev Offset	Capital R&R
					Water Revenue Requirement Components					
O&M Expenses (excl. Interest & Depreciation)										
Source of Supply	$8,001,449	98.3%			1.7%					
Pumping Water	$263,623				33.3%	66.7%				
Treatment Water	$35,341				50.0%	50.0%				
Transmission & Distribution Water	$563,547				50.0%	50.0%				
Customer Accounts	$0				41.7%	58.3%				
Outside Treatment Sewer	$0				100.0%					
Operations Support	$129,765		18%		82.0%					
Operations Support Power	$3,400		18%		82.0%					
Fleet	$114,474		18%		82.0%					
Operations Indirect Costs	$17,101		18%		82.0%					
Information Technology	$102,400		30%		70.0%					
Administration	$66,960		30%		70.0%					
Admin Power	$15,360		30%		70.0%					
Administration Indirect Costs	$620,286		30%		70.0%					
Labor	$3,435,759		7.0%		62.99%	30.04%				
Subtotal O&M Expenses (excl. Interest & Depreciation)	**$13,369,465**	**$7,868,246**	**$528,628**	**$0**	**$3,465,428**	**$1,507,163**	**$0**	**$0**	**$0**	**$0**
Other Revenue Requirements										
OPEB (115 Trust)	$0		30%		70.0%					
Debt Service	$684,263	100.0%								
Unrestricted Capital R&R Funding	$755,000									100.0%
Restricted Capital R&R Funding (Baker WTP)	$500,000									100.0%
Subtotal Other Revenue Requirements	**$1,939,263**	**$684,263**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,255,000**
***Less* Other Revenues**										
Fire Service Charges	($126,100)				100.0%	0.0%				
Restricted Reserves Funding of Conservation Program	($100,000)				100.0%	0.0%				
Capital Charge Funding of Baker Debt Service	($500,000)	100.0%				0.0%				
Restricted Reserve Funding of Baker Debt Service	($150,000)	100.0%				0.0%				
Restricted Reserve Funding	$0									100.0%
Property Taxes - General Fund Revenue	($390,141)				99.7%	0.0%			0.3%	
Property Taxes (Funds Tier 1 Offset)	($136,609)								100.0%	
Miscellaneous Revenue	($75,000)				100.0%	0.0%				
Other Income (Site Leases)	($235,000)					0.0%			100.0%	
Other Income (R-6 Partners)	($124,500)				100.0%	0.0%				
Investment Income	($175,000)				100.0%	0.0%				
Subtotal Other Revenues	**($2,012,350)**	**($650,000)**	**$0**	**$0**	**($989,571)**	**$0**	**$0**	**$0**	**($372,779)**	**$0**
***Plus* Operating Reserve Funding**	($165,622)				100%					
***Plus* Capital Reserve Funding**	$0									100%
Plus Annualizing Revenue Adjustments	$73,383	9%	34%		57%					
NET REV REQUIREMENTS FROM RATES, EXC. FIRE SC	**$13,204,139**	**$7,909,190**	**$553,724**	**$0**	**$2,351,841**	**$1,507,163**	**$0**	**$0**	**($372,779)**	**$1,255,000**

Revenues requirements by categories are then collected through different rate components. Peaking costs are recovered using both fixed charges via meters & capacity rates and water commodity rates via peaking delivery rate component, as shown in the Table below.

Water	Water Rate Components								
Revenue Requirements	2020-21	Billing & CS	Meters & Capacity	Water Supply	Peak Delivery	RW	Conservation	Rev Offset	Capital R&R
Water Supply	$7,909,190			$7,909,190					
Billing & CS	$553,724	$553,724							
Meters	$0								
Base Fixed	$2,351,841		$2,351,841						
Peaking	$1,507,163		$832,163		$675,000				
RW	$0					$0			
Conservation	$0						$0		
Rev Offset	($372,779)							($372,779)	
Capital R&R	$1,255,000								$1,255,000
NET REVENUE REQUIREMENTS	$13,204,139	$553,724	$3,184,004	$7,909,190	$675,000	$0	$0	($372,779)	$1,255,000