WATER, SEWER AND RECYCLED WATER COST OF SERVICE STUDY REPORT 2014

El Toro Water District

April 2014

RAFTELIS
FINANCIAL CONSULTANTS, INC.

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April 24, 2014

Michael P. Grandy, CPA
Assistant General Manager/CFO
El Toro Water District
24251 Los Alisos Blvd.
Lake Forest, CA 92630

Subject: 2014 Water, Sewer and Recycled Water Cost of Service Rate Study (Study)

Dear Mr. Grandy:

In light of recent court decisions related to Proposition 218, El Toro Water District (ETWD or District) engaged Raftelis Financial Consultants, Inc. (RFC) to review its current water rate structure and to conduct a cost of service study for the development of its water, sewer and recycled water rates that are compliance with Proposition 218 and other legal requirements. As part of the Study, RFC reviewed the latest purchased water costs, as well as the operating budget, conducted cost of service analyses and calculated the fiscal year (FY) 2014-15 water, sewer and recycled water rates for the District to reflect projected changes in net revenue requirements for each enterprise. The updated rates are scheduled to be effective on July 1st, 2014.

This Report documents the methodologies used to determine water, sewer and recycled water rates for FY 2014-15.

It has been a pleasure working with the District. We would like to thank you for your assistance during the course of the study. If we can be of further assistance please call me at 626-583-1894.

Sincerely,

Sudhir Pardiwala
Vice President and Director of Western Operations

Khanh Phan
Sr. Consultant

1 Executive Summary

Utility rates, especially water rates, are coming under increasing scrutiny as supplies tighten, costs and rates increase and organized groups and customers question the equitability of rates. The El Toro Water District (District) proactively wants to ensure that its rates are consistent with regulatory requirements and the costs of providing service. Recent court rulings have helped to clarify the somewhat confusing regulatory requirements and so it is appropriate to review the requirements and the rulings to provide a background for the study.

To ensure that the rate structure conforms to Proposition 218, the District engaged RFC to conduct a cost of service analyses for water, sewer and recycled water for fiscal year (FY) 2014/15. The 2014 Water, Sewer and Recycled Water Report (Report) summarizes the key findings and recommendations related to the development of the water, sewer and recycled water rates.

1.1 Legal Framework

The legal framework that supports the proposed rates and the equitable distribution of Costs of Service among Customer Classes in accordance with applicable Constitutional and Statutory Mandates is described in detail within Section 3.1.

1.2 Water, sewer and recycled water rate structure overview

The District's current water and sewer 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 and Uniform Commercial, comprised of the following rate components:
    - Water Supply Cost to fund 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 Rate and Recycled Water Program costs applied to inefficient and excessive use to fund the District's conservation and supplemental water supply (i.e. Recycled Water expansion) programs
  - Capital R&R Charges by meter size to pay for capital replacement and refurbishment of the existing water system
- Sewer

- 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 sewer system

To ensure stricter compliance with Proposition 218 we recommend the following for water rates:

1. Water usage will be regrouped based on usage and peaking characteristics:
   - Tier 1 – Efficient Indoor or domestic use
   - Tier 2 – Efficient outdoor use
   - Tier 3 – Inefficient use
   - Tier 4 – Excessive use
   - Commercial use will include domestic use, efficient outdoor use and inefficient use but is combined into a uniform rate since commercial usage varies widely among customers and fixed tiers are not fair to users with widely varying usage characteristics.
2. Since water systems are designed to meet peak conditions, and since different uses have different peaking factors, rates for the different usages can be based on peaking characteristics. Indoor or domestic use has the lowest peaking therefore Tier 1 comprised of residential (Single Family Residential (SFR) and Multi-Family Residential (MFR)) domestic use will have the lowest rates. Efficient outdoor or irrigation use has higher peaking characteristics, so Tier 2 comprised of efficient outdoor irrigation use will have rates based on higher peaking factors. Inefficient and excessive uses have the highest peaking characteristics and the rates will reflect the higher peaking and other costs. Peaking costs are represented by the delivery charges. Indoor or domestic use has the lowest peaking factors; therefore all indoor use (residential and commercial) is assigned a lower delivery cost. Outdoor Irrigation is associated with higher peaking factors, so outdoor use comprising of residential irrigation and the current irrigation class, will have higher delivery costs. Inefficient and excessive uses have even higher peaking factors and are assigned the highest delivery costs.
3. The Commercial class rates will continue to be a uniform rate based on domestic use and inefficient use. Based on SB x7-7, which requires commercial users to cut back by 10 percent, we will define efficient indoor and other efficient commercial use at 90 percent and the remaining 10 percent use as inefficient and subject to higher peaking, conservation and supplemental water supply costs as explained below. Of the 90 percent efficient use, 10 percent is estimated for efficient outdoor use and the remainder for indoor use. Commercial cost allocation will be based on these usage characteristics.
4. Only the inefficient and excessive usage is targeted for conservation, therefore conservation costs are applied only to inefficient and excessive use.
5. Supplemental water programs are required to meet the demands of inefficient and excessive usage and those costs are assigned to inefficient and excessive usage.
6. Finally, based on the District's current policy objective to provide rate incentives for essential and efficient indoor use, revenues from cell tower lease (aka site lease income) and a portion of the property taxes received by the District is used to offset the essential and efficient usage rate which benefits Tier 1 and commercial indoor use.

In summary, to ensure compliance with Proposition 218, we have identified and allocated the costs and provided conservation incentives to different uses and customer classes in proportion to the service they receive and developed tiers for residential and irrigation customers to meet conservation requirements and harmonized with Article X:

- Usage will be classified as efficient indoor/domestic, efficient outdoor, inefficient and excessive;
- All domestic –residential and commercial will benefit from property tax and miscellaneous revenue offsets;
- All inefficient and excessive usage will bear the costs of conservation programs and supplemental water sources;
- Peaking or delivery costs will be assigned to the different usages based on the individual peaking characteristics of each type of usage; and
- Residential rates will continue to be tiered and commercial rates will be uniform.

The District is in process of expanding its recycled water system, including water treatment plant (WTP) upgrades to tertiary treatment and RW transmission pipeline expansion, in order to increase its RW sales by 836 acre feet (AF) per year to 1,261 AF per year in FY 2017. The expansion is scheduled to be completed and operational starting FY 2015; and all existing and converting customers will be supplied with high quality tertiary treated recycled water and will be assessed at the new recycled water rates. As part of the Study, RFC develop the recycled water rates that cover the operations and maintenance (O&M) of recycled water system after the expansion.

1.3 Proposed Water Rates

The recommended rate structure consists of the monthly fixed service and the volumetric commodity rates which are determined as follows (Table 1-1). For more information and detailed analyses, refer to Section 4 for Water Budget and Tier Definitions, Section 5 for Purchased Water Supply Cost and Section 6 for Cost of Service and Proposed Rates.

Table 1-1: 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	Uniform Commercial Use
Water Supply		x	x	x	x	x
Water System	x	x	x	x	x	x
Supplemental Water Supply				x	x	x
Conservation				x	x	x
Customer Service	x					
Meters	x					
Rev Offset		x				x

The proposed monthly service charges for each meter size are shown in Table 1-2.

Table 1-2: Monthly Service Charges

Monthly Service Charges	Current	FY 2015	Number of Accounts[1]
5/8	$9.31	$9.98	2,385
3/4	$12.42	$13.31	4,850
1	$18.61	$19.95	433
1 1/2	$34.12	$36.56	695
2	$65.15	$69.81	1,423
Projected Revenues	**$2,483,056**	**$2,660,916**	**9,786**

Water capital R&R charges will remain unchanged from FY 2014 levels and are shown in Table 1-3.

Table 1-3: Water Capital R&R Charges

Water Capital R&R Charges	Current	FY 2015	Number of Accounts
5/8	$4.66	$4.66	2,385
3/4	$4.66	$4.66	4,850
1	$7.78	$7.78	433
1 1/2	$18.91	$18.91	695
2	$47.47	$47.47	1,423
Projected Revenues	**$1,413,313**	**$1,413,313**	**9,786**

The proposed water commodity rates by usage type for FY 2015 are shown in Table 1-4.

Table 1-4: Proposed Water Commodity Rates

Water Rates	FY 2015	Water Supply	Delivery	Conservation	Recycled Water	Rev Offset
Tier 1 – Essential Use	**$2.34**	$2.38	$0.15	$0.00	$0.00	-$0.19
Tier 2 – Efficient Use	**$2.68**	$2.38	$0.30	$0.00	$0.00	$0.00
Tier 3 – Inefficient Use	**$5.04**	$2.38	$0.45	$0.35	$1.86	$0.00
Tier 4 – Excessive Use	**$7.04**	$2.38	$0.60	$0.35	$3.71	$0.00
Uniform – CII Use	**$2.63**	$2.38	$0.17	$0.04	$0.19	-$0.15

[1] Includes accounts converting to recycled water system

1.4 Proposed Sewer Rates

Based on the increase in revenue requirements for Sewer Enterprise, the sewer rates are projected to increase 7.9 percent across the board (Table 1-5). For further details, refer to Section 7 of the Report.

Table 1-5: Sewer Rates by Customer Classes

Sewer Rates	FY 2014	FY 2015
Residential Unrestricted	$18.99 / EDU	$20.50 / EDU
Multi-Family Restricted	$15.06 / EDU	$16.26 / EDU
Multi-Family Unrestricted	$17.90 / EDU	$19.33 / EDU
Animal Kennel/Hospital	$3.11 /ccf	$3.36 /ccf
Car Wash	$3.09 /ccf	$3.34 /ccf
Department/Retail Store	$3.11 /ccf	$3.36 /ccf
Dry Cleaners	$2.72 /ccf	$2.94 /ccf
Golf Course/Camp/Park	$2.71 /ccf	$2.93 /ccf
Health Spa	$3.10 /ccf	$3.35 /ccf
Hospital/Convalescent Home	$2.72 /ccf	$2.94 /ccf
Hotel	$4.71 /ccf	$5.09 /ccf
Market	$6.17 /ccf	$6.67 /ccf
Mortuary	$6.15 /ccf	$6.64 /ccf
Nursery/Greenhouse	$2.76 /ccf	$2.98 /ccf
Professional/Financial Office	$3.11 /ccf	$3.36 /ccf
Public Institution	$3.05 /ccf	$3.30 /ccf
Repair/Service Station	$3.10 /ccf	$3.35 /ccf
Restaurant	$2.93 /ccf	$3.17 /ccf
Schools	$3.21 /ccf	$3.47 /ccf
Theater	$3.11 /ccf	$3.36 /ccf
Warehouse/Storage	$2.45 /ccf	$2.65 /ccf
Basic Commercial	$2.72 /ccf	$2.94 /ccf

The sewer capital R&R is projected to remain unchanged for FY 2015 (shown in Table 1-6).

Table 1-6: Sewer Capital R&R Charges

Sewer Capital R&R	FY 2014	FY 2015
Residential Unrestricted	$4.93 / EDU	$4.93 / EDU
Multi-Family Restricted	$3.95 / EDU	$3.95 / EDU
Multi-Family Unrestricted	$4.69 / EDU	$4.69 / EDU
Non-Residential	$4.93 / EDU	$4.93 / EDU

1.5 Proposed Recycled Water Rates

Currently, the District has only one recycled water (RW) customer - Laguna Woods Village Golf Course, operated by the Golden Rain Foundation (GRF). There is neither a monthly service charge nor a capital R&R charge for this RW customer. Upon the completion of the RW expansion in FY 2015, when all RW customers (existing and converting customers) will be supplied with higher quality tertiary RW, thus will be subject to the corresponding rates that support the annual projected cost of providing tertiary RW. It is also recommended that all RW customers will be assessed monthly service charges (Table 1-7) and capital R&R charges same (Table 1-8) 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 expanded RW system.

Table 1-7: Monthly Service Charges

Monthly Service Charges	Current	FY 2015
5/8	$9.31	$9.98
3/4	$12.42	$13.31
1	$18.61	$19.95
1 1/2	$34.12	$36.56
2	$65.15	$69.81

Table 1-8: Capital R&R Charges

Capital R&R Charges	Current	FY 2015
5/8	$4.66	$4.66
3/4	$4.66	$4.66
1	$7.78	$7.78
1 1/2	$18.91	$18.91
2	$47.47	$47.47

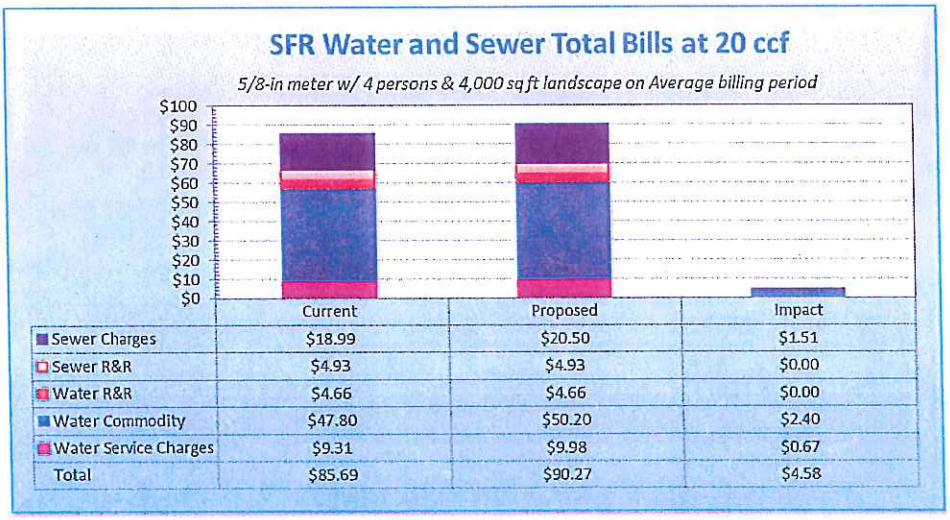
Until the expansion is completed, the existing customer GRF will continue to receive disinfected secondary recycled water product at the current rate of $1.00 / ccf or $435 / acre foot. Once the expansion is completed and operational, the District will supply its RW customers with tertiary treated recycled water product at the proposed rate of $2.41 / ccf, which is approximately 90 percent of Tier 2 potable water rate.

Table 1-9: RW Commodity Rate

	Budget FY 2015
Prior to Tertiary Switch	$1.00 / ccf
New Tertiary RW Rates	$2.41 / ccf

1.6 Customer Impacts for Single Family Residential

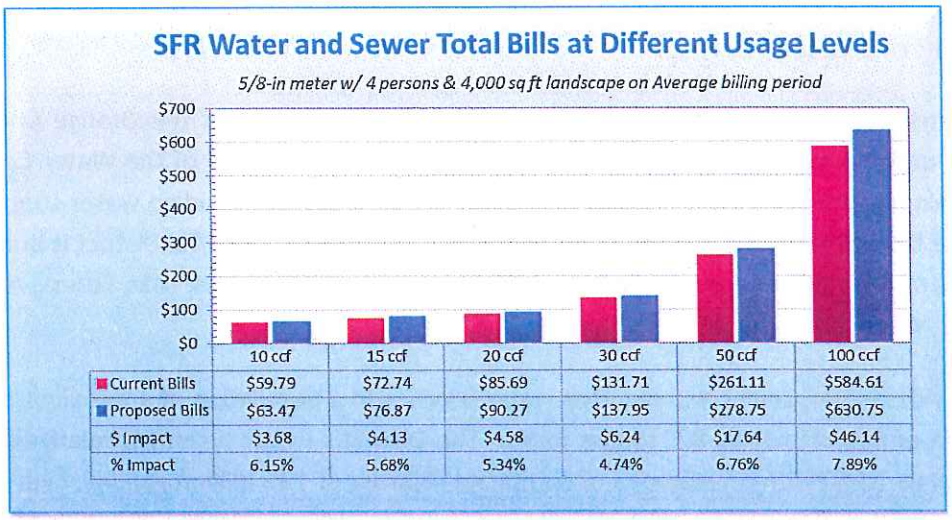
Figure 1-1 shows a breakdown of water and sewer bills for a single family residential user with 4 occupants and 4,000 sq ft landscape area who uses 20 ccf on average per month and is served by ¾-in meter. The inclusive total bill is projected to increase $4.58 per average month or 5.3 percent from the current bill at FY 2014 rates.



	Current	Proposed	Impact
Sewer Charges	$18.99	$20.50	$1.51
Sewer R&R	$4.93	$4.93	$0.00
Water R&R	$4.66	$4.66	$0.00
Water Commodity	$47.80	$50.20	$2.40
Water Service Charges	$9.31	$9.98	$0.67
Total	$85.69	$90.27	$4.58

Figure 1-1: Sample Single Family Residential Monthly Bill

Figure 1-2 shows the impacts at different usage levels for single family residential customers.



	10 ccf	15 ccf	20 ccf	30 ccf	50 ccf	100 ccf
Current Bills	$59.79	$72.74	$85.69	$131.71	$261.11	$584.61
Proposed Bills	$63.47	$76.87	$90.27	$137.95	$278.75	$630.75
$ Impact	$3.68	$4.13	$4.58	$6.24	$17.64	$46.14
% Impact	6.15%	5.68%	5.34%	4.74%	6.76%	7.89%

Figure 1-2: SFR Total Monthly Bill at Different Usage Levels

Single family residential customers do not purchase recycled water. Hence, their impacts are not shown.

2 Introduction

2.1 About El Toro Water District

The El Toro Water District (District), located within the southern portion of the 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 34000, for the purpose of providing water supply for the service area. The District is governed by a publicly elected Board of Directors. The District is built out and encompasses all 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, sewer and recycled water services to a population of approximately 51,000 in a service area of approximately 8.5 square miles. The District's water system is relatively modern, built in phases since 1960 with 6 reservoirs of combined capacity of 136 million gallons, over 170 miles of water lines and 8 booster stations with 13 pressure zones to deliver water to approximately 10,000 metered water accounts.

2.2 Background of the Study

In view of recent court decisions related to Proposition 218, the District engaged Raftelis Financial Consultants, Inc. (RFC) to conduct the Water, Sewer and Recycled Water Cost of Service Study to develop water, sewer and recycled water (RW) rates that are equitable and in compliance with Proposition 218.

The major objectives of the study include the following:

1. Determine the revenue requirements from water, sewer and recycled water rates in FY 2015
2. Review and update methodology used in water rate development;
3. Update the sewer rates;
4. Develop a cost-of-service analysis for the Water Enterprise;
5. Develop water rates to meet the District's goals and objectives, including defensibility, affordability for essential use and promoting efficiency and conservation;
6. Develop tertiary RW rates and
7. Conduct customer impact analyses for the proposed water and sewer rates.

The 2014 Water, Sewer and Recycled Water Report (Report) summarizes the key findings and recommendations related to the development of the water, sewer and recycled water rates.

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.

3.1 Legal Framework

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 an inclining four tier Rate Structure designed to implement, in a reasonable manner, the constitutional mandates and statutory authority and principles referenced above.

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.

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 sewer service are as follows:

1. Water and sewer 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.

STATUTORY AUTHORITY - GOVERNMENT CODE SECTION370 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 efforts.

(4) 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" (commonly referred to as a "Water-Budget 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.

This Rate Study conforms to the principles set forth in the enabling statutes for Water Budget Rate Structures.

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, allows a water district 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.

Significantly a Rate Structure utilizing a tiered rate structure was upheld in the *Brydon v. East Bay Mun. Utility Dist.* California Court of Appeal, Fourth District (1995) ("Brydon"). In Brydon, a pre-Proposition 218 decision the Appellate Court rejected the challenge that the tiered rate structure constituted a "special tax" in violation of Proposition 13.

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 rate payers. 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. In essence, this clarification by the appellate court allows agencies to harmonize the mandates of Proposition 218 and Article X, Section 2.

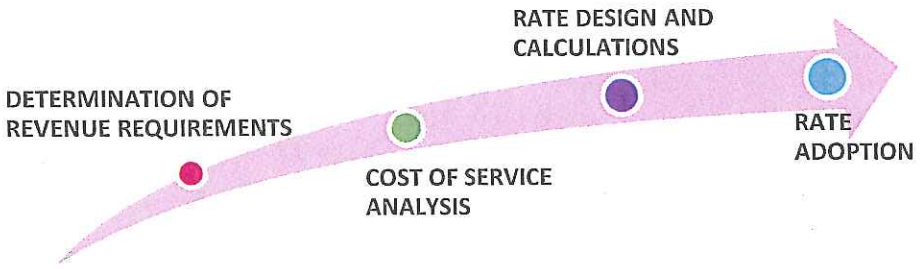
Under Item 2 noted above, utilities can develop rates by customer class and meet the requirements of Proposition 218, as opposed to the strict interpretation which would require cost proportionality to each parcel receiving service. This was another major clarification of Proposition 218 since cost proportionality to 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 the acceptance of the supplemental costs of water used by one group of customers to be shared by all users, based on the concept that all users receive benefit from the overall water resources. In our 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 users.

To summarize, based on the Pajaro decision, the following are considered as complying with Proposition 218:

1. Recycled water costs benefit all users even those that don't take recycled water. Costs of recycled water can be allocated to all customers; and
2. Costs should be allocated to customer classes based on the costs of providing service to those customers.

3.2 Cost-Based Rate Setting Methodology



As stated in the Manual M1, the AWWA Rates and Charges Subcommittee agree with the Proposition 218 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:

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, 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 functional cost components and distributed to respective customer classes according to the industry standards provided in the Manual M1 published by AWWA. California Government Code Section 54999 mandates agencies to conduct a thorough cost of service analysis every ten years in determining the utility rates.
3. **RATE DESIGN and CALCULATIONS.** Rates do more than simply recovering 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.

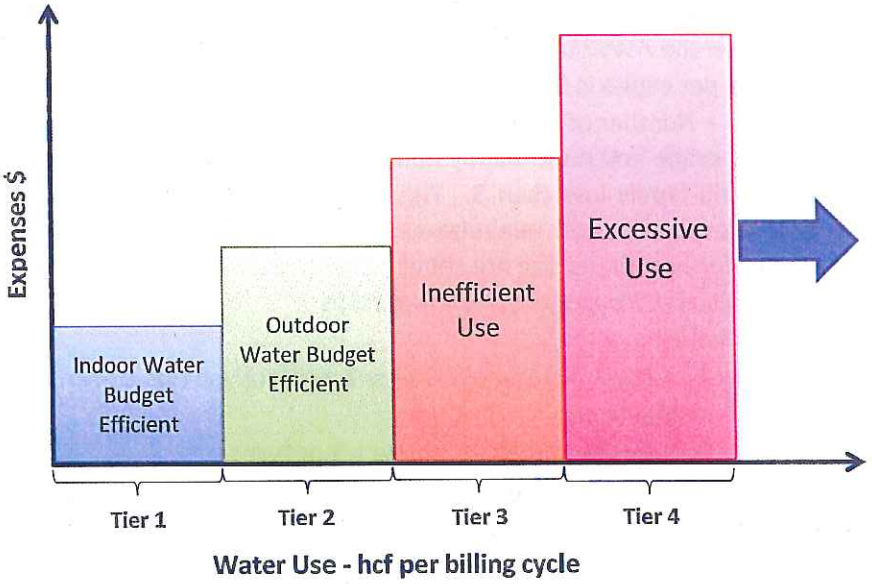
4. **RATE ADOPTION.** In the last step of the rate-making process, to comply with the Proposition 218 requirements, the results of the analyses are documented in a Study Report to help educate the public about the proposed changes, the rationale and justifications behind the changes and their anticipated financial impacts in laymen 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.

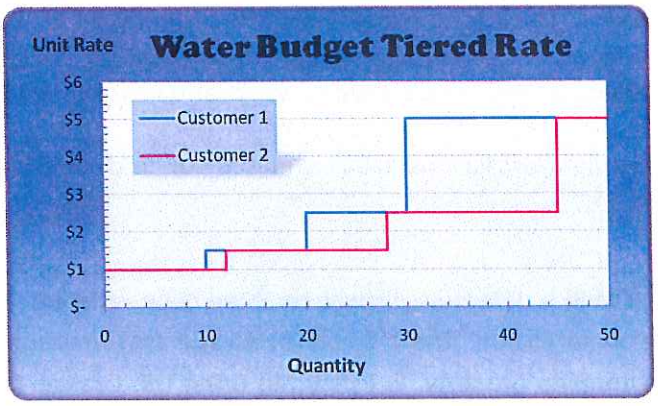
4 Water Budget and Tier Definitions

Since July 1, 2009, the District has implemented a water budget rate structure to incentivize conservation and use water efficiently. The description of the allocations to individual customers is and the development of water budgets is described here for completeness of this report.

4.1 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.





Water budget allocations are usually broken into two components: indoor water budget and outdoor water budget. Similar to the Water Budget Rate Study in 2009, the water budget allocations and tiered rate structure are designed for residential and irrigation accounts only; all other customer classes will retain the current uniform rate structure.

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:

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

where

- GPCD – Gallons per capita per day. The standard consumption per person per day is set at 60 gallons based on the *AWWARF Residential End Uses of Water Study,* which stated that the mean daily water use per capita is 59.8 gallons.
- Household Size – Number of residents. The 2010 census lists the average household size at 2.91 which includes single and multi-family housing. Typically single family household size is greater than 3 and multi-family less than 3. The District policy is to provide adequate water for the health and safety needs and minimize customer complaints and requests for variances. The default values for household size are set as follows based on customer class.
    - Single Family: Household Size = 4 persons
    - Multi Family:
        - Restricted: Household Size = 2 persons (senior citizen housing typically 1 to 2 residents per dwelling unit)
        - Unrestricted: Household Size = 3 persons
- 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 at different drought stages. 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
- 748 is the conversion unit from gallons to billing unit of hundred cubic feet (ccf).

Outdoor Water Budget

The outdoor water budget (OWB) is determined based on three main variables: irrigable landscape area, weather data and ET Adjustment Factor. The irrigable landscape area, measured as square footage of landscape surface on a customer's property, 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 at given specific 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 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 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 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 at different drought stages. The outdoor drought factor is currently set at 100percent.
- $V_{outdoor}$ – 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.
- 1200 is the conversion unit from inch*ft^2 to billing unit of hundred cubic feet (ccf).

Water Budget Allocations by Customer Classes

The table below summarizes the water budget allocation by customer class. 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 4-1: Water Budget Allocations by Customer Classes

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

**Irrigation – Functional: whose landscape is ornamental in nature*
***Irrigation – Recreational: whose landscape is used mostly for recreational purposes (school, parks, golf etc...)*

4.2 Tier Definitions

Based on the information in Table 4-1, the tier definitions are developed as shown in Table 4-2 below. 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 tiered customer classes have their Tier 3 allotment defined as 30 percent of their respective total water budget and usage in excess of that fall in Tier 4.

Table 4-2: Tier Definitions by Customer Classes

Tiers	Single Family	Multi Family	Irrigation
Tier 1 – Indoor Use	100% IWB	100% IWB	0% OWB
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 proposed tier definitions are based on RFC's usage and impact analysis and numerous policy discussions with the Board. The first priority for water use is essential indoor water use for health, safety and sanitary purposes. Based on the Board direction, indoor water use is eligible for revenue offsets from site leases and property tax revenues. Maintaining healthy landscape at efficient water use is non-essential, yet important, thus efficient outdoor water use

is required to pay the Tier 2 rate. Tier 3 provides usage up to 30 percent of the total water budget and usage in excess of that level is considered to be excessive. The Tier 3 residential usage will represent approximately 3.6 percent of the total usage and Tier 4 usage represents about 3.1 percent of the total usage. The 30 percent of the water budget available in Tier 3 provides enough water to more than meet an ETAF of 100%, which allows turf landscapes with water to adequately meet their needs, but recognizes that they need to pay for that lifestyle in this type of supply restricted climate. The allocation between Tiers 3 and 4 provides a reasonable mechanism for providing incentives for conservation and meeting the District's objectives.

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.

While the tier definitions for residential and irrigation customers remain unchanged, commercial use is redefined. The Commercial class will continue to be a billed at uniform rate, however, this rate will encompass domestic use and inefficient use. Based on Senate Bill x7-7 (i.e. Water Conservation Act of 2009), which requires commercial users to cut back by 10 percent, we will define indoor and efficient outdoor (or process) use at 90 percent and the remaining use as inefficient. The uniform rate charged to commercial customers will then be a blend of the usage defined here.

Based on the tier definitions shown in Table 4-2 above, the projected water usage for FY 2015 is shown in Table 4-3 below.

Table 4-3: Projected Water Usage by Tiers

Tiers	FY 2015
Tier 1 – Indoor Use	1,602,329
Tier 2 – Outdoor Use	1,342,268
Tier 3 – Inefficient Use	131,944
Tier 4 – Excessive Use	114,265
Uniform – CII Use	468,235
Total (ccf) Total (AF)	3,659,041 ccf 8,400 AF

5 Pass-through Water Supply Costs

The District purchases water from the Municipal Water District of Orange County (MWDOC), a member agency of Metropolitan Water District of Southern California (MET or MWD). MET rates are scheduled to increase in January 2015. The MET rate increases, along with other MWDOC's costs, will be included in the melded rates charged to the District. The weighted average purchased water costs from MWDOC for FY 2014 and FY 2015 are shown in Table 5-1 and include the direct cost of purchased water and the cost of the sold water which considers impacts of water losses that are normal in a water system. See Appendix I for detailed water supply cost breakdown.

Table 5-1: Current and Projected MWDOC Unit Cost

	MWDOC Water Unit Cost ($ / Unit Purchased)	MWDOC Water Unit Rate[2] ($ / Unit Sold)
Current – FY 2013-14	$2.17 / ccf	$2.25 / ccf
Projected – FY 2014-15	$2.29 / ccf	$2.38 / ccf
Increase / Change	$0.12 / ccf	$0.13 / ccf

The net increase in the cost of purchased water from FY 2014 to FY 2015 is $0.13 per ccf. Since all users in the District use water purchased from MWDOC, the cost of each tier of water applied to residential customers and the cost of the uniform rate should increase by $0.13 per ccf as shown in Table 5-2 below.

Table 5-2: Water Supply Cost Component of the Water Rates ($/ccf)

Tiers	Descriptions	Current	Proposed
Tier 1 – Indoor Use	MWDOC Blended	$2.25	$2.38
Tier 2 – Outdoor Use	MWDOC Blended	$2.25	$2.38
Tier 3 – Inefficient Use	MWDOC Blended	$2.25	$2.38
Tier 4 – Excessive Use	MWDOC Blended	$2.25	$2.38
Uniform – CII Use	MWDOC Blended	$2.25	$2.38

[2] Includes 300 AF water loss. Refer to Appendix 1 for detailed water supply cost calculations.

6 Water Cost of Service and Proposed Rates

This section details the revenue requirements and explains the allocation methodology consistent with Proposition 218 behind the cost of service calculations of the rates.

6.1 Water Revenue Requirements

The water operating budget consists of purchased water supply costs from MWDOC ($8.7M) and the District's operations and maintenance (O&M) expenses for delivering water to end users ($4.4M). The District is projected to receive approximately $1M from other non-operating sources such as property tax, income from site leases, and other miscellaneous revenues. The District pays its last payment of $447K for Laguna Hill Water Company debt in FY 2014, thus in FY 2015, there is no debt payment in the revenue requirements. The resulting net revenue requirements from rates in FY 2015, after funding from reserves ($168K), total $11.9M including water supply costs (shown in Table 6-1). Additional funding requirements include conservation program ($100K) and recycled water program funding ($755K). The revenue requirements from rates (i.e. monthly service charges & commodity rates) after adjustments for other factors such as fire service charges and RW monthly service charges ($18.5K) are projected to be $12.7M for FY 2015 including water supply rates and $3.99M excluding water supply rates.

Table 6-1: Water Revenue Requirements from Rates

	Proposed FY 2015
Water O&M	$4,427,827
Water Supply Costs	$8,693,971
Less (-) Non-Operating Revenues	-$1,037,685
Plus (+) Debt Service	$0
Less (-) Funding From Reserves	-$168,210
Total Revenue Requirements from Unrestricted Rates	**$11,915,903**
Plus (+) RW Monthly Service Charges[3]	$18,500
Plus (+) Conservation and RW Program	$854,930
Less (-) Fire Service Charges[4]	-$90,000
Total Revenue Requirements from Rates	**$12,699,333**
Less (-) Water Supply Rate Revenues[5]	$8,708,518
Total Revenue Requirements from Rates w/o Water Supply	**$3,990,816**

[3] RW accounts will be assessed the same monthly service charges as potable accounts (Section 8). This revenue requirement is added for the purpose of calculating the total monthly service charges for both enterprises and is recorded as revenue source for RW enterprise only.

[4] The reporting monthly service charges in the Operating Budget document include approximately $90K from fire service charges, which is not calculated in this Study.

[5] $2.38 / ccf * 3,659,041 ccf = $8,708,518 whereas $2.38 / ccf is the projected water supply unit rate (Section 5) and 3,659,041 is the projected water sales (Section 4)

6.2 Cost of Service Analysis

Water systems are designed to handle 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. To allocate costs appropriately amongst the different type of usage, an analysis of the peaking costs is provided in Section 6.2.1.1.

6.2.1.1 Peaking Factor Analysis

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 6-2.

Table 6-2: 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

For simplicity the proposed peaking factors were rounded and are shown in Table 6-3 for each usage type. The tiers for residential customers are defined based on each usage type as shown in Table 6-3. Commercial use includes indoor or domestic and outdoor use and 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 0.5 + 10% x 1) of 0.55. Note that the purpose of this analysis is to define the relative difference in the peaking factors for the different usage types so that the costs are appropriately allocated.

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

Table 6-3: Peaking Factors by Usage Types

Tiers	Peaking factors
Indoor Use	0.50
Outdoor Use	1.00
Inefficient Use	1.50
Excessive Use	2.00
Commercial Use	0.55

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

6.2.1.2 Cost of Service Analysis

To allocate costs appropriately to the different usage types and determine the cost of service rates, revenue requirements are allocated to the following cost categories[7] (shown in Table 6-4) consistent with the Commodity-Demand methodology of the American Water Works Association (AWWA) M1 Manual, Principles of Water Rates, Fees, and Charges (M1 Manual):

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

- Customer Service: Costs associated with serving customers, including meter reading, billing, etc. These costs are the same for all customers and are billed equally to each account in the water system.
- Meter Service: Maintenance costs related to meters. These costs are allocated to meters proportional to the actual average flows of the different meter sizes in the District.

Variable Rate Components (i.e. Commodity Rates)

- Water supply: Imported water supply costs, allocated to all users in proportion to their usage (See Section 5).
- Water System/Delivery: fixed costs associated with operating and maintaining water system to deliver water to end users. Since the system is designed to meet peak demands, these costs are allocated based on the peaking characteristics of each type of use.
- Recycled Water (RW): The supplemental water is provided by the development of the recycled water allocated to inefficient and excessive use to meet their water demands. Not all users

[7] General & Administrative (G&A) costs are allocated to the other cost categories proportional to the total cost incurred in each category

have access to recycled water, however, by converting some potable water users to recycled water, potable water becomes available to other users

- Conservation: Conservation program cost, allocated to inefficient and excessive use to help them conserve water.
- Revenue offsets from property taxes and cell tower lease to provide incentive for indoor/domestic use.

Table 6-4: Revenue Requirements Excluding Water Supply (WS) by Cost Categories

Cost Categories	FY 2015	Monthly Service Charges		Commodity Rates			
		Customer Service	Capacity	Delivery	Revenue Offsets	RW	Conservation
Water System / Delivery	$883,199		$32,635	$850,564			
Supplemental WS (i.e. RW)	$754,930					$754,930	
Conservation	$100,000						$100,000
Customer Service	$217,239	$217,239					
Meters	$2,389,438		$2,389,438				
Revenue Offset	-$374,678				-$374,678		
Total Cost of Service excluding WS	$3,990,816	$217,239	$2,442,761	$850,564	-$374,678	$754,930	$100,000

The rate structure remains unchanged and consists of the monthly fixed service and the volumetric commodity rates which are determined as follows (Table 6-5):

- The monthly fixed charge includes customer service, meter service and a portion of the peaking costs (shown in Table 6-6 and Table 6-7). To ensure revenue stability and meet the District's objectives, a portion of the peaking costs which represent the demand a customer places on the system, is included in the fixed meter charge. The current fixed charges represent about 21 percent of the total rate revenues and the proposed fixed charges will retain the same percentage. This percentage is significantly under the maximum 30 / 70 fixed/variable ratio recommended by the California Urban Water Conservation Council's (CUWCC) Best Management Practice (BMP) 1.4. The current revenue from meter charges is $2.48 million. The proposed revenue to be collected is $2.66 million. The percentage increase in revenue from meters is approximately 7.2 percent and applied across all meter sizes to minimize impacts and ensure fairness.
- The volumetric water commodity rates include water supply (to recover total purchased water costs from Municipal Water District of Orange County (MWDOC)), water system/delivery (to recover the District's remaining water system costs Shown in Table 6-8), supplemental water supply (i.e. Recycled Water), conservation and revenue offsets components. The supplemental water is provided by the development of the recycled water.

Table 6-5: Cost Categories and Water Rate Structure

	Service Charges	Tier 1 Essential Use	Tier 2 Efficient Use	Tier 3 Inefficient Use	Tier 4 Excessive Use	Uniform Commercial Use
Water Supply		x	x	x	x	x
Water System/Delivery	x	x	x	x	x	x
Supplemental Water Supply				x	x	x
Conservation				x	x	x
Customer Service	x					
Meters	x					
Revenue Offset		x				x

Table 6-6: Monthly Service Charges Revenue Requirements

	Budget FY 2015
Customer Service	$217,239
Meters	$2,389,438
Water System/Delivery	$32,635
Total Monthly Service Charges Revenue Requirements	**$2,660,000**
Current Monthly Service Charge[8]	$2,483,056
% Increase	**7.2%**

Table 6-7: Proposed Monthly Service Charges

Monthly Service Charges	Current	FY 2015[9]
5/8	$9.31	$9.98
3/4	$12.42	$13.31
1	$18.61	$19.95
1 1/2	$34.12	$36.56
2	$65.15	$69.81
Projected Revenues	**$2,483,056**	**$2,660,916**

[8] Based on calculated revenues at current rates for both Water and RW accounts
[9] Rates are rounded up to the nearest cent

Table 6-8: Water System/Delivery Revenue Requirements

	Budget FY 2015
Water System/Delivery Revenue Requirement	$883,199
Less (-) Water System/Delivery Recovered in Monthly Service Charges	-$32,635
Total Water System/Delivery Revenue Requirements	$850,564

Water System/Delivery charges (shown in Table 6-9) are applied to all rates based on peaking characteristics for each usage type (shown in Table 6-3). Indoor or domestic use has the lowest peaking factor; therefore all indoor use (residential and commercial) is assigned a lower delivery cost. Outdoor Irrigation is associated with higher peaking factors, so outdoor use comprising of residential irrigation and the current irrigation class, will have higher delivery costs. Inefficient and excessive use has even higher peaking factors and is assigned the highest delivery costs.

Table 6-9: Water System/Delivery Rate Calculations

	Rev Req[10]	Total Usage	Peaking Factors	Units of Equiv Service[11]	Rate ($ / ccf)
Tier 1 - Indoor	$241,013	1,602,329	0.50	801,165	$0.15
Tier 2 - Outdoor Use	$403,792	1,342,268	1.00	1,342,268	$0.30
Tier 3 - Inefficient Use	$59,539	131,944	1.50	197,916	$0.45
Tier 4 - Excessive Use	$68,748	114,265	2.00	228,530	$0.60
Uniform - Commercial Use	$77,472	468,235	0.55	257,529	$0.17
Total	$850,564	3,659,041 ccf		2,827,408	

Conservation programs are targeted to inefficient and excessive use and therefore conservation costs are applied only to inefficient and excessive use (shown in Table 6-10 and Table 6-11). The supplemental water program is associated with meeting the demands of inefficient and excessive use and supplemental program costs are therefore allocated to inefficient and excessive use only (usage in Tiers 3 and 4 and 10 percent of commercial use which is considered to be inefficient and allocated at the same rate as residential inefficient usage). The supplemental program provides recycled water and offsets potable water use which is then available for Tiers 3 and 4. To provide a strong signal for conservation and efficient usage the recycled water rate component of Tier 4 is double that for Tier 3 consistent with Article X, Section 2, of the California Constitution. Revenues collected from this cost component are used to meet the debt service requirements associated with the recycled water system

[10] Revenue Requirements
[11] Units of Equivalent Service = Usage * Peaking (or Allocation) Factors

which provides supplemental water and frees up valuable potable water resources to offset the demand imposed by inefficient and excessive use.

Table 6-10: Supplemental Water Supply (i.e. RW) Rate Calculations

	Rev Req	Total Usage	Allocation Factors	Units of Equiv Service	Rate ($ / ccf)
Tier 1 - Essential Use	$0	1,602,329	0.00	0	**$0.00**
Tier 2 - Efficient Use	$0	1,342,268	0.00	0	**$0.00**
Tier 3 - Inefficient Use	$244,560	131,944	1.00	131,944	**$1.86**
Tier 4 - Excessive Use	$423,583	114,265	2.00	228,530	**$3.71**
Uniform - Commercial Use	$86,788	468,235	0.10	46,824	**$0.19**
Total	**$754,930**	**3,659,041 ccf**		**407,298**	

Table 6-11: Conservation Rate Calculations

	Rev Req	Total Usage	Allocation Factors	Units of Equiv Service	Rate ($ / ccf)
Tier 1 - Essential Use	$0	1,602,329	0.00	0	**$0.00**
Tier 2 - Efficient Use	$0	1,342,268	0.00	0	**$0.00**
Tier 3 - Inefficient Use	$45,027	131,944	1.00	131,944	**$0.35**
Tier 4 - Excessive Use	$38,994	114,265	1.00	114,265	**$0.35**
Uniform - Commercial Use	$15,979	468,235	0.10	46,824	**$0.04**
Total	**$100,000**	**3,659,041 ccf**		**293,033**	

Finally, based on the District's current policy objective to provide rate incentives for essential and efficient indoor use, revenues from cell tower lease (aka site lease income) and a portion of the property taxes received by the District is used to offset the essential and efficient usage rate which benefits indoor/domestic use in Tier 1 and commercial indoor use (shown in Table 6-12).

- In the 2009 Water Budget Rate Study, providing incentives for essential and efficient use was determined by the District Board as a policy option for water rate design. Currently, $100,000 from cell tower lease revenues is used to provide revenue offset of $0.06 per ccf to Tier 1 usage. The remaining site lease income and property tax revenue is used to offset delivery revenue requirements for all usage.
- To minimize customer impacts and provide incentives for essential and efficient use, $375K from cell tower lease revenues and a portion of property tax is used to provide a revenue offset of $0.19 per ccf for essential use (efficient indoor and efficient commercial indoor use).

- Note that it is assumed that efficient usage for commercial is 90 percent of total use and of that 90 percent; the indoor usage is 90 percent so the indoor usage is 81 percent of the total commercial use. The revenue offset is applied to 81 percent of total commercial use to determine the revenue requirement from the commercial class.
- Note that $0.19 /ccf is applied to the efficient indoor commercial use; and since commercial rates are uniform the incentive drops to $0.15 /ccf when applied to the full commercial use. The remaining property tax is used to offset delivery revenue requirements for all usage. Note that all user classes benefit from this offset. Most irrigation customers have associated domestic usage which also benefits from the revenue offset.

Table 6-12: Revenue Offset Rate Calculations

	Rev Req	Total Usage	Allocation Factors	Units of Equiv Service	Rate ($ / ccf)
Tier 1 - Essential Use	-$302,966	1,602,329	1.00	1,602,329	-$0.19
Tier 2 - Efficient Use	$0	1,342,268	0.00	0	$0.00
Tier 3 - Inefficient Use	$0	131,944	0.00	0	$0.00
Tier 4 - Excessive Use	$0	114,265	0.00	0	$0.00
Uniform - CII Use	-$71,712	468,235	0.81	379,270	-$0.15
Total	-$374,678	3,659,041 ccf		1,981,599	

In summary, the cost allocation methodology developed herein allocates the costs to customers, meters and usage. Customer costs are the same for each account and meter costs are in proportion to the capacity of each meter. The remaining costs are allocated to each usage type in accordance with the demand they place on the system. The usage of each customer class is defined and the costs associated with the usage of each customer type provide the revenue to be recovered from that customer class. The rationale for allocating conservation costs and supplemental water costs allows the development of inclining tiered rates to provide the incentives for conservation in the inefficient and excessive water usage identified with each customer class. This methodology meets the requirements of Proposition 218 and Article X of the California Constitution.

6.3 Proposed Rates

Based on the revenue requirements as shown in Table 6-5 and individual components shown in Table 6-6, the proposed monthly service charges for each meter size are shown in Table 6-13.

Table 6-13: Monthly Service Charges

Monthly Service Charges	Current	FY 2015	Number of Accounts[12]
5/8	$9.31	$9.98	2,385
3/4	$12.42	$13.31	4,850
1	$18.61	$19.95	433
1 1/2	$34.12	$36.56	695
2	$65.15	$69.81	1,423
Projected Revenues	**$2,483,056**	**$2,660,916**	**9,786**

Water capital R&R charges will remain unchanged from FY 2014 levels and are shown in Table 6-14.

Table 6-14: Water Capital R&R Charges

Water Capital R&R Charges	Current	FY 2015	Number of Accounts
5/8	$4.66	$4.66	2,385
3/4	$4.66	$4.66	4,850
1	$7.78	$7.78	433
1 1/2	$18.91	$18.91	695
2	$47.47	$47.47	1,423
Projected Revenues	**$1,413,313**	**$1,413,313**	**9,786**

[12] Includes accounts converting to recycled water system

Based on the individual water rate components shown in Tables 6-7 to 6-12, the proposed water commodity rates by usage type for FY 2015 are shown in Table 6-15.

Table 6-15: Proposed Water Commodity Rates

Water Rates	FY 2015	Water Supply	Delivery	Recycled Water	Conservation	Rev Offset
Tier 1 – Essential Use	$2.34	$2.38	$0.15	$0.00	$0.00	-$0.19
Tier 2 – Efficient Use	$2.68	$2.38	$0.30	$0.00	$0.00	$0.00
Tier 3 – Inefficient Use	$5.04	$2.38	$0.45	$0.35	$1.86	$0.00
Tier 4 – Excessive Use	$7.04	$2.38	$0.60	$0.35	$3.71	$0.00
Uniform – CII Use	$2.63	$2.38	$0.17	$0.04	$0.19	-$0.15

Based on the individual rate components shown in Table 6-15, the resulting commodity rates effective July 1, 2014 are shown in Table 6-16.

Table 6-16: Water Commodity Rates

Water Rates	Current	FY 2015	Projected Usage
Tier 1 – Essential Use	$2.19 /ccf	$2.34 / ccf	1,602,329
Tier 2 – Efficient Use	$2.59 /ccf	$2.68 / ccf	1,342,268
Tier 3 – Inefficient Use	$4.91 /ccf	$5.04 / ccf	131,944
Tier 4 – Excessive Use	$6.47 /ccf	$7.04 / ccf	114,265
Uniform – CII Use	$2.42 /ccf	$2.63 / ccf	468,235
Projected Revenues	$9,529,255	$10,047,610	3,659,041 ccf 8,400 AF

7 Sewer Revenue Requirements and Proposed Rates

The sewer O&M expenses in FY 2015 are budgeted to increase by 0.9 percent (or $65K). Starting FY 2015, recycled water revenues and expenses are separated from Sewer Enterprise. Non-operating revenues are projected to decrease by $240K mainly due to the separation of old recycled water sales from Sewer source of revenues (~$184K) and changes in other revenues. Debt service also decreases by $204K as the District makes the last payment to Laguna Hills Sanitation Company in FY 2014. In FY 2015, the District projects to use $251K from reserves to offset the sewer annual revenue requirement. Altogether, the increase in revenue requirements from rates is $500K (shown in Table 7-1), which translates to an across-the-board 7.9 percent increase on sewer rates (shown in Table 7-3).

Table 7-1: Sewer Revenue Requirements from Rates (in thousands of dollars)

	Estimated FY 2014	Budget FY 2015	$ Change	% Change
Sewer O&M Expenses	$7,030	$7,095	$65	0.9%
Less (-) Non-Operating Revenues	-$1,121	-$881	$240	-21.4%
Plus(+) Debt Service	$1,031	$827	-$204	-19.8%
Less (-) Funding From Reserves	-$650	-$251	$399	-61.4%
Total Rev Requirements from Rates	**$6,290**[13]	**$6,790**	**$500**	**7.9%**

The sewer capital R&R charges remain unchanged (shown in Table 7-2).

Table 7-2: Sewer Capital R&R Charges

Sewer Capital R&R	FY 2014	FY 2015
Residential Unrestricted	$4.93 / EDU	$4.93 / EDU
Multi-Family Restricted	$3.95 / EDU	$3.95 / EDU
Multi-Family Unrestricted	$4.69 / EDU	$4.69 / EDU
Non-Residential	$4.93 / EDU	$4.93 / EDU

[13] Also equal to revenue from current sewer fees

Table 7-3: Sewer Rates by Customer Classes

Sewer Rates	FY 2014	FY 2015
Residential Unrestricted	$18.99 / EDU	$20.50 / EDU
Multi-Family Restricted	$15.06 / EDU	$16.26 / EDU
Multi-Family Unrestricted	$17.90 / EDU	$19.33 / EDU
Animal Kennel/Hospital	$3.11 /ccf	$3.36 /ccf
Car Wash	$3.09 /ccf	$3.34 /ccf
Department/Retail Store	$3.11 /ccf	$3.36 /ccf
Dry Cleaners	$2.72 /ccf	$2.94 /ccf
Golf Course/Camp/Park	$2.71 /ccf	$2.93 /ccf
Health Spa	$3.10 /ccf	$3.35 /ccf
Hospital/Convalescent Home	$2.72 /ccf	$2.94 /ccf
Hotel	$4.71 /ccf	$5.09 /ccf
Market	$6.17 /ccf	$6.67 /ccf
Mortuary	$6.15 /ccf	$6.64 /ccf
Nursery/Greenhouse	$2.76 /ccf	$2.98 /ccf
Professional/Financial Office	$3.11 /ccf	$3.36 /ccf
Public Institution	$3.05 /ccf	$3.30 /ccf
Repair/Service Station	$3.10 /ccf	$3.35 /ccf
Restaurant	$2.93 /ccf	$3.17 /ccf
Schools	$3.21 /ccf	$3.47 /ccf
Theater	$3.11 /ccf	$3.36 /ccf
Warehouse/Storage	$2.45 /ccf	$2.65 /ccf
Basic Commercial	$2.72 /ccf	$2.94 /ccf

8 Recycled Water Revenue Requirements and Proposed Rates

8.1 Recycled Water System

Currently, the District has only one recycled water (RW) customer - Laguna Woods Village Golf Course, operated by the Golden Rain Foundation (GRF). The RW rate of $435per acre-foot (as of July 1st 2013) will continue until the completion of the Recycled Water Expansion Project at which time tertiary treated recycled water will become available. The District is in the process of expanding its recycled water system, including water treatment plant (WTP) upgrades to tertiary treatment and RW transmission pipeline expansion, in order to increase its RW sales by 836 acre feet (AF) per year to 1,261 AF per year in FY 2017. The RW expansion capital cost, which is estimated at $35.4 million (M), will be financed by the following sources: $27.3M from a State Revolving Fund (SRF) loan, $4.4M from grants and the remaining $3.7M from restricted reserve (revenues from Tier 3 and Tier 4 potable usage dedicated to recycled water expansion).

8.2 Projected Recycled Water Sales

Upon the completion of the RW expanded system construction in fiscal year (FY) 2015, conversion of potable irrigation customers to RW is assumed to start in FY 2015 and to be completed in FY 2017. From FY 2015 to FY 2017, the District has identified approximately 1,550 potable irrigation equivalent dwelling units (with an average consumption of 836 AF per year) to be converted to RW accounts. District staff estimated the conversion to occur in the 3 years from FY 2015 to FY 2017. Table 8-1 shows the projected RW sales for FY 2015.

Table 8-1: Projected Recycled Water Sales for Fiscal Year 2015

RW Customers	Projected Sales		Rates	Revenues
Existing	250 AF	108,900	$435 / AF	$108,750
New	275 AF	119,790	$1,050 / AF	$288,694
Total	**525 AF**	**228,690 ccf**		**$397,444**

8.3 Recycled Water Revenue Requirements from Rates

Currently, RW revenues and expenses are tracked within the Sewer Enterprise Fund. Starting FY 2015, Recycled Water will be separated into an independent RW Enterprise Fund. Table 8-2 summarizes the RW revenue requirements from rates for FY 2015. RW O&M expenses are budgeted to be $548.1K, which will be offset by the projected grants from Metropolitan Water District of Southern California

(MWD) of $44.6K and the projected funding from restricted reserve ($84.0K). No debt service or reserve funding is projected for FY 2015. The net RW revenues to be recovered from rates (i.e. revenue requirement) are projected to be $415.9K

Table 8-2: RW Revenue Requirement from Rates

RW Revenue Requirement from Rates	Budget FY 2015
RW O&M Expenses	$550,117
Less (-) Non-Operating Revenues	-$44,603
Less (-) Restricted Reserve Funding	-$89,570
Plus (+) Debt Service	$0
Total Revenue Requirement from Rates	**$415,944**

8.4 Proposed RW Rates

Upon the completion of the RW expansion in FY 2015, all RW customers (existing and converting customers) will be supplied with higher quality tertiary RW, and will be subject to the corresponding rates (shown in Table 8-5) that support the annual projected cost of providing tertiary RW. It is also recommended that all RW customers be assessed the same monthly service charges (shown in Table 8-3) and capital R&R charges (shown in Table 8-4) 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.

Table 8-3: Monthly Service Charges

Monthly Service Charges	Current	FY 2015
5/8	$9.31	$9.98
3/4	$12.42	$13.31
1	$18.61	$19.95
1 1/2	$34.12	$36.56
2	$65.15	$69.81

Table 8-4: Capital R&R Charges

Capital R&R Charges	Current	FY 2015
5/8	$4.66	$4.66
3/4	$4.66	$4.66
1	$7.78	$7.78
1 1/2	$18.91	$18.91
2	$47.47	$47.47

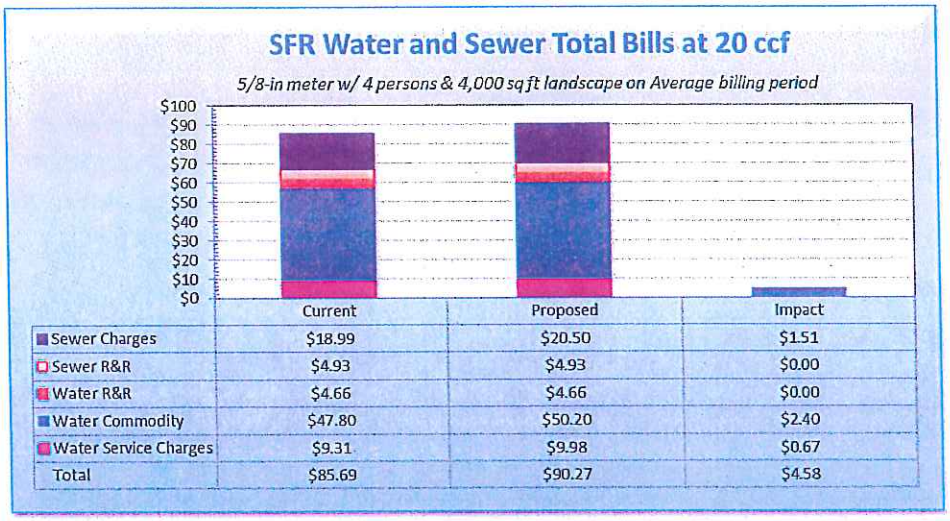
Until the expansion is completed, the existing customer GRF will continue to receive disinfected secondary recycled water product at the current rate of $1.00 / ccf or $435 / acre foot. Once the expansion is completed and operational, the District will supply its RW customers with tertiary treated recycled water product at the proposed rate of $2.41 / ccf, which is approximately 90 percent of Tier 2 potable water rate.

Table 8-5: Unit RW Commodity Rate Calculation

	Budget FY 2015
Total Revenue Requirement from Rates	**$415,944**
Less (-) Monthly Service Charge	-$18,500
Less (-) Existing RW Sales	-$108,750
Net Revenue Requirements from RW Commodity Rates	**$288,694**
Projected RW Sales (ccf)	119,790 ccf
Unit RW Commodity Rate	**$2.41 / ccf $1,050 / AF**
Percent of Tier 2 Potable Water Rate	**90%**

9 Customer Impacts

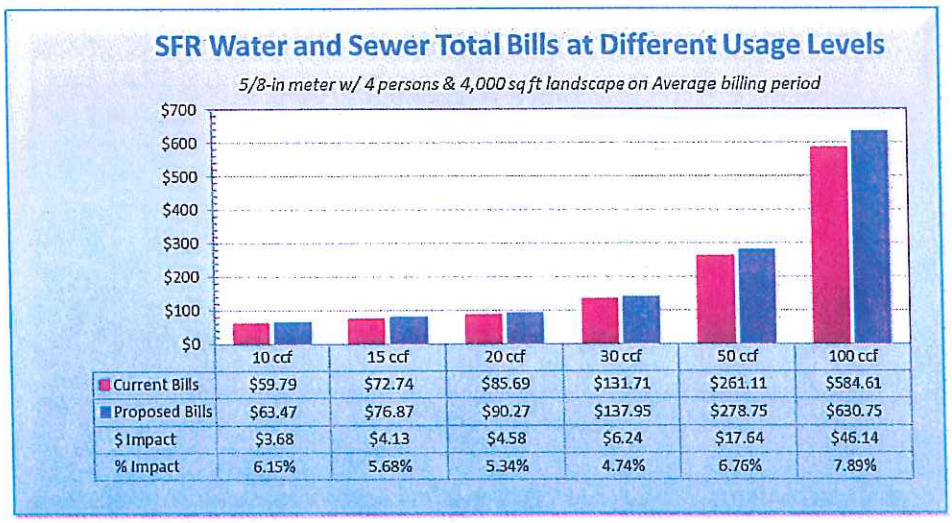
Figure 9-1 shows a breakdown of water and sewer bills for a single family residential user with 4 occupants and 4,000 sq ft landscape area who uses 20 ccf on average per month and is served by a ¾-in meter. The total water and sewer bill is projected to increase by $4.58 per month or 5.3 percent from the current bill at FY 2014 rates.



	Current	Proposed	Impact
Sewer Charges	$18.99	$20.50	$1.51
Sewer R&R	$4.93	$4.93	$0.00
Water R&R	$4.66	$4.66	$0.00
Water Commodity	$47.80	$50.20	$2.40
Water Service Charges	$9.31	$9.98	$0.67
Total	$85.69	$90.27	$4.58

Figure 9-1: Sample Single Family Residential Monthly Bill

Figure 9-2 shows the impacts at different usage levels for single family residential customers.



	10 ccf	15 ccf	20 ccf	30 ccf	50 ccf	100 ccf
Current Bills	$59.79	$72.74	$85.69	$131.71	$261.11	$584.61
Proposed Bills	$63.47	$76.87	$90.27	$137.95	$278.75	$630.75
$ Impact	$3.68	$4.13	$4.58	$6.24	$17.64	$46.14
% Impact	6.15%	5.68%	5.34%	4.74%	6.76%	7.89%

Figure 9-2: SFR Total Monthly Bill at Different Usage Levels

Single family residents do not purchase recycled water. Hence, their impacts are not shown.

10 Appendices

10.1 Appendix 1 – Pass-through Water Supply Cost

EL TORO WATER DISTRICT
2014/15 PURCHASED WATER BUDGET

	2013/14 Budget		2013/14 Actual		2014/15 Budget	
	Jul 2013	Jan 2014	Jul 2013	Jan 2014	Jul 2014	Jan 2015
Period Demand (AF)	5,000	3,800	5,000	3,800	5,000	3,700
Annual Demand (AF)		8,800		8,800		8,700
System Access Rate	223.00	243.00	223.00	243.00	243.00	256.00
System Power Rate	189.00	161.00	189.00	161.00	161.00	125.00
Water Stewardship Rate	41.00	41.00	41.00	41.00	41.00	41.00
Delta Surcharge	-	0.00	-	0.00	-	0.00
MWD Tier 1 Rate	140.00	148.00	140.00	148.00	148.00	160.00
MWDOC Incremental Rate	3.25	3.25	3.25	3.25	0.60	0.60
Subtotal Untreated Full Service	596.25	596.25	596.25	596.25	593.60	582.60
Treatment Surcharge	254.00	297.00	254.00	297.00	297.00	341.00
Total Treated Full Service	850.25	893.25	850.25	893.25	890.60	923.60
Imported Water Charges						
RTS ($)	225,168	263,225	220,944	303,618	303,618	287,790.0
MWDOC Connection Rate ($/meter)	8.40		8.40		10.20	
ETWD Meters	9,806		9,806		9,806	
MWDOC Connection Charge ($)	82,370		82,370		100,021	
Capacity Reservation Charge Rate						
Capacity Reservation Charge Rate ($/CFS)	6,400	8,600	7,400	6,400	6,400	8,600
ETWD CFS	22.0			22	22.0	
Total Capacity Reservation Charge	50,601	67,995	50,601	64,842	64,842	67,380
MWDOC Choice Programs						
Water Use Efficiency						
School Program						
Huntington Beach Desal						
Second Lower Cross Feeder						
Total Choice Program	-		-		-	
Total Period Water Cost	4,609,389	3,725,569	4,605,165	3,762,810	4,921,481	3,772,490
Total MWDOC Purchased Water Cost		8,334,958		8,367,975		8,693,971
Percent Increase Budget to Budget per Unit		5.57%				5.51%
Percent Increase Budget to Actual per Unit		5.93%				5.09%
Overall Imported Water Effective Rate	921.88	980.41	921.03	990.21	984.30	1,019.59
Fiscal Year Cost per Acre Foot Purchased		947.15		950.91		999.31
Fiscal Year Cost per CCF Purchased		2.17		2.18		2.29
Fiscal Year Rate per CCF Sold		2.25		2.26		2.38

10.2 Appendix 2 – Detailed Water Cost of Service Analysis

	Operating	FY 2015 Capital	Total	Allocation Factors: Water Supply	Base	Peaking	RW	Conservation	Fire	Customer	Meters	Rev Offset	G&A	Total
Revenue Requirements														
Fleet	$123,176		$123,176								60%		40%	100%
Labor	$2,727,475		$2,727,475							5%	60%		35%	100%
Source of Supply	$88,159		$88,159		100%								0%	100%
Water Supply Cost	$8,693,971		$8,693,971	100%									0%	100%
Water Pumping	$241,517		$241,517		50%	50%							0%	100%
Water Treatment	$40,941		$40,941		50%	50%							0%	100%
T&D - Water	$430,488		$430,488		38%	53%					10%		0%	100%
Customer Accts	$8,500		$8,500							100%			0%	100%
Operations Support	$91,163		$91,163								10%		90%	100%
Admin	$676,408		$676,408							5%	30%		65%	100%
Subtotal Revenue Requirements	$13,121,798	$0	$13,121,798	$8,693,971	$390,821	$367,235	$0	$0	$0	$178,694	$1,965,478	$0	$1,525,599	$13,121,798
Less: Other Revenue Sources														
4963 · Site Leases	$214,800		$214,800									100%	0%	100%
4965 · JPIA Refunds	$0		$0										100%	100%
4967 · SMWD	$120,000		$120,000										100%	100%
4971 · MNWD R-6 Maintenance	$12,000		$12,000										100%	100%
4950 · Other Operating Income - Other	$37,300		$37,300										100%	100%
MWD - AMP	$52,000		$52,000										100%	100%
Property Taxes	$467,585		$467,585									34%	66%	100%
MWDOC Tier II Reserve Fund	$0		$0										100%	100%
Budget Based Tiered Rate Study Grant Funds	$0		$0										100%	100%
Restricted Reserve Funding of Conservation Program	$100,000		$100,000										100%	100%
Interest Income	$34,000		$34,000											
Subtotal Other Revenue Sources	$1,037,685	$0	$1,037,685	$0	$0	$0	$0	$0	$0	$0	$0	$374,678	$663,007	$1,037,685
Less: Adjustments													100%	100%
Reserve Funding		$168,210	$168,210										0%	100%
Water Supply Revenue Surplus for Reserve Funding	$14,547		$14,547			100%								100%
Restricted Reserve Funding		-$854,930	-$854,930			0%	88%	12%						100%
Fire Service Charge	$90,000		$90,000						100%					100%
RW Monthly Service Charges	-$18,500		-$18,500										100%	100%
Subtotal Adjustments	$86,047	-$686,720	-$600,673		$0	$14,547	-$754,930	-$100,000	$90,000	$0	$0	$0	$149,710	-$600,673
Total Revenues to be Recovered from Rates	$11,998,067	$686,720	$12,684,787	$8,693,971	$390,821	$352,689	$754,930	$100,000	-$90,000	$178,694	$1,965,478	-$374,678	$712,882	$12,684,787
Reallocation of G&A Expenses					14% $96,482	12% $87,068			$0	6% $44,114	68% $485,217		-100% -$712,882	$0
Reallocation of Fire Expenses					14% -$12,181	12% -$10,992			-100% $90,000	6% -$5,569	68% -$61,258		$0	$0
Combined Base Costs and Peaking Costs into Delivery Costs					0% $0	100% $475,122								
Cost of Service after G&A and Fire Allocations				$8,693,971	$0	$903,887	$754,930	$100,000	$0	$217,239	$2,389,438	-$374,678	$0	$12,684,787
Reallocation of Peaking Costs					$0	94% $850,564	$0	$0	$0	$0	6% $53,323		$0	$903,887
Reallocation of RW Costs				$0	$0	$0	$0	$0	$0	$0	$0		$0	$0
Final Cost of Service				$8,693,971	$0	$850,564	$754,930	$100,000	$0	$217,239	$2,442,761	-$374,678	$0	$12,684,787
Units of Service				3,659,041 Annual usage	3,659,041 Annual usage	108,466 Extra Peak	3,659,041 Annual usage	293,033 Inefficient		117,432 Bills	307,218 Equiv	3,366,009 Efficient		
Unit Cost of Service				$2.38 per ccf	$0.00 per ccf	$7.84 per ccf	$0.21 per ccf	$0.34 per ccf		$1.85 per bill	$7.95 per equiv meter	-$0.11		