

2017 WATER, RECYCLED WATER, AND WASTEWATER RATE STUDY REPORT

Rancho California Water District

June 2017

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1 Introduction

1.1 About Rancho California Water District

The Rancho California Water District (District) maintains over 44,000 water service connections, as well as, more than 12,000 acres of irrigated agriculture across a 156 square mile service area. The District is divided into two separate water Divisions with the Rancho Division generally encompassing the Eastern area of the District and the Santa Rosa Division generally encompassing the Western area (collectively the Divisions). The District also provides recycled water and wastewater services to customers within portions of the District's service area. The District maintains separate accounting records, and sets rates and charges separately for each water Division as well as wastewater and recycled water. Sources of water supply consist of local groundwater (GW), imported water from MWD (who supply both treated and untreated water) and recycled water. Water supply costs are discussed in subsequent sections.

1.2 Background of the Water Study

In 2009, Raftelis Financial Consultants assisted the District in conducting a water budget rate study. The results of the study were presented to the District Board and adopted in the summer of 2009 (see section 3 for more detail on water budgets). In 2015, due to the ongoing drought in California the District: (1) revised current water budgets to ensure adequate and equitable water supply allocation for essential and efficient use; and (2) amended rates to further improve equity, promote efficiency and conservation, and ensure compliance with Proposition 218 requirements. The 2017 Study incorporates two additional changes to the District's water rate structure: (1) added a third Tier for Agricultural (Ag), Commercial, Industrial and Institutional (CII) customers; and (2) added a Local Water Sustainability Rate (LWSR) surcharge to all customer classes.

After several years of drought, on April 1, 2015 California Governor Gerry Brown issued Executive Order B-29-15 directing the State Water Resources Control Board (State Board) to implement mandatory water reductions in urban areas to reduce potable urban water usage by 25% statewide. On April 17, 2015, the State Board released specific water use reduction percentages for urban water suppliers including the District. The District's reduction percentage was set at a cumulative 36% for the time period between June 2015 and January 2016. On February 2, 2016 the State Board extended the conservation mandate to October 2016; however, in April 2016 the State Board relaxed their mandated goals and reduced the District's conservation percentage to 32% effective March 1, 2016. The State Board subsequently rescinded mandated goals and implemented a self-reporting system that allowed individual water providers to determine if they had adequate water supply to endure three years of drought.

Fall 2016 and winter 2017 saw continued statewide water conservation and plentiful winter rain and snow. Therefore, on April 7, 2017 the Governor ended the Drought State of Emergency in most of California, while maintaining water reporting requirements and prohibitions on wasteful practices such as watering during or right after rainfall. Although the majority of the State is no longer in a drought

emergency, the District must address a depleted a groundwater aquifer resulting from multiple years of drought.

The District's groundwater aquifer generally provides 40% of the District's water supply and provides on average approximately 24,000 AF of water annually. An annual groundwater audit calculates the safe yield that can be drawn from the aquifer. The most recent audit calculated a safe yield of 16,812 AF, which is approximately 7,000 AF less than a typical water year. That 7,000 AF of water must be replaced by more costly imported water from MWD. This study discusses a Local Water Sustainability Rate (LWSR) that will be utilized to mitigate cost increases due to the loss of native groundwater.

This 2017 Water, Recycled Water and Wastewater Rate Study Report (Report) summarizes the key findings and recommendations related to the development of the potable water rates for the Divisions as well as recycled water and wastewater rates. The Report documents fiscal year (FY) 2018 rates using FY 2017-2018 budgeted financial information.

1.3 Objectives of Study

The major objectives of this Report include updating the following:

1. Incorporate the FY 2017-2018 budgeted financial data into the Budget Based Tiered Rate Model (BBTR);
2. Update Budgeted and Projected water demand (discussed in section 4); and
3. Update Agriculture (Ag) water budget allocations (discussed in section 3.1).
4. Incorporate a Tier 3 to Ag and CII usage (discussed in section 3.3)
5. Incorporate a LWSR to mitigate the reduction in native water and offset the increase in more costly imported water (discussed in section 5.6)
6. Add a recycled water rate section to the Report (discussed in section 9)
7. Add a wastewater rate section to the Report (discussed in section 10)

The Report utilized the following key information:

1. Water Supply Costs
2. FY 2017/2018 Operating Budgets
3. Conservation Program Costs
4. Number of accounts projected for FY 2017/2018
5. Usage projected for each energy zone for FY 2017/2018
6. Recycled water and wastewater costs
7. Recycled water usage
8. Number wastewater Equivalent Dwelling Units (EDUs)

1.4 Proposed FY 2017-2018 Water Rates and Charges

The proposed water rates and charges for FY 2017/2018 presented in Tables 1-1, 1-2 and 1-3 reflect the need to pass on increased costs to the District stemming from higher rates the District must pay for imported water from MWD. In addition, the rates reflect the need for more imported water due to no water being available to pull out of Vail Lake and a significantly reduced amount of native groundwater available due to the multi-year drought.

Table 1-1: Proposed FY 2017-2018 Potable Water Commodity Charges (\$/HCF)

Residential, Multi-Family, Landscape	Rancho		Santa Rosa	
	Current Rates	Proposed Rates	Current Rates	Proposed Rates
Tier 1	\$0.670	\$0.700	\$1.090	\$1.120
Tier 2	1.510	1.480	2.000	2.030
Tier 3	2.570	2.660	2.550	2.660
Tier 4	6.500	6.730	6.500	6.800
Commercial, Industrial, Institutional Ag., Ag. Domestic & Other				
Tier 1	\$1.260	\$1.260	\$1.760	\$1.800
Tier 2	2.990	3.020	2.870	2.990
Tier 3	NA	6.880	NA	6.870
All Customers				
LWSR	NA	\$0.000	NA	\$0.040

Table 1-2: Proposed FY 2017-2018 Energy Rates by Pump Zone (\$/HCF)

Pump Zone	Rancho	
	Current Rates	Proposed Rates
1305	\$0.00000	\$0.00000
1380	0.03450	0.03600
1485	0.08280	0.08640
1550	0.11270	0.11760
1610	0.14030	0.14640
1790	0.22310	0.23280
1880	0.35190	0.36720
2070	0.35190	0.36720
2350	0.48070	0.50160

Pump Zone	Santa Rosa	
	Current Rates	Proposed Rates
1305	\$0.00000	\$0.00000
1434	0.04515	0.04902
1440	0.04725	0.05130
1500	0.06825	0.07410
1670	0.12775	0.13870
1990	0.23975	0.26030
2160	0.29925	0.32490
2260	0.33425	0.36290
2550	0.43575	0.47310
2850	0.54075	0.58710

Table 1-3: Proposed FY 2017-2018 Monthly Service Charges

Pump Zone	Rancho		Santa Rosa	
	Current Charge	Proposed Charge	Current Charge	Proposed Charge
3/4"	\$21.22	\$21.22	\$40.58	\$40.58
1"	30.97	30.97	63.71	63.71
1 1/2"	53.30	53.30	110.80	110.80
2"	80.75	80.75	174.62	174.62
2" Turbine	137.15	137.15	285.23	290.93
3"	234.32	234.32	447.52	469.90
4"	456.13	456.13	991.19	991.19
6"	727.59	727.59	1,581.33	1,581.33
8"	1,089.19	1,089.19	2,251.76	2,251.76

1.5 Proposed FY 2017-2018 Recycled Water and Wastewater Rates

The proposed recycled water and wastewater rates for FY 2017/2018 presented in Tables 1-4 and 1-5 reflect the need to pass on increased costs to the District to provide these services.

Table 1-4: Proposed FY 2017-2018 Recycled Water Rates (\$/AF)

	Rancho		Santa Rosa	
	Current Rate	Proposed Rate	Current Rate	Proposed Rate
Recycled Water - AF	\$332.55	\$357.50	\$332.55	\$357.50
Monthly Service Charge	20.00	20.00	20.00	20.00

Table 1-5: Proposed FY 2017-2018 Wastewater Rates (\$/EDU)

	Current Rate	Proposed Rate
Wastewater Rate - EDU	\$38.75	\$40.75

2 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.

2.1 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 utilizes 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 service are as follows:

1. Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service.
2. Revenues derived by the fee or charge shall not be used for any other purpose other than that for which the charge was imposed.
3. The amount of the fee or charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel.
4. No fee or charge may be imposed for a service unless that service is actually used or immediately available to the owner of property.
5. No fee or charge may be imposed for general governmental services including, but not limited to, police, fire, ambulance or library services, where the service is available to the public at large in substantially the same manner as it is to property owners.
6. Reliance by an agency on any parcel map, including, but not limited to, an assessor's parcel map, may be considered a significant factor in determining whether a fee or charge is imposed as an incident of property ownership for purposes of this article. In any legal action contesting the validity of a fee or charge, the burden shall be on the agency to demonstrate compliance with this article.

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

STATUTORY AUTHORITY - GOVERNMENT CODE SECTION 370 ET SEQ. (Allocation-Based Conservation Water Pricing)

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

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.

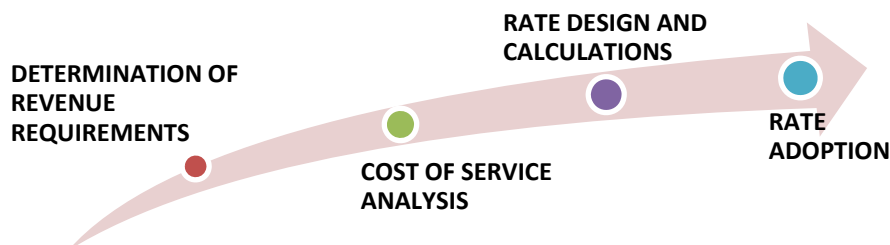
(c) A public entity may use one or more allocation-based conservation water pricing structures for any class of municipal or other service that the public entity provides.”

As noted in the referenced statutes, an “Allocation-Based Conservation Water Pricing Rate Structure” is a form of an increasing block rate structure 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 the District’s findings and determinations for individual customers, establishes a standard for efficient usage and then establishes a water budget for each individual customer. Each water budget defines how much water is considered efficient. Customers who use water in excess of their water budget pay a higher rate for their “inefficient or wasteful” usage due to the fact that water use in excess of budgeted amounts requires the District to purchase more expensive imported water from MWD.

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

2.2 Cost-Based Rate Setting Methodology



The American Water Works Association (AWWA) with approximately 50,000 members is the largest nonprofit, scientific and educational association dedicated to managing and treating water. AWWA publishes manuals of practice for the efficient operation and management of water systems. The M1 Manual, Principles of Water Rates, Fees, and Charges (M1 Manual) is considered the industry standard for rate setting practice and methodology. As stated in the M1 Manual, the AWWA Rates and Charges Subcommittee agrees 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:

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 M1 Manual. California Government Code Section 54999 mandates agencies to conduct a thorough cost of service analysis every 10 years in determining the utility rates.
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 to help educate the public about the proposed changes, provide the rationale and justifications behind the changes and their anticipated financial impacts in layman 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

On July 1, 2009, the District implemented a water budget rate structure to incentivize conservation and water use efficiency. The description of the allocations of water to individual customers and the development of water budgets is described in the following sections.

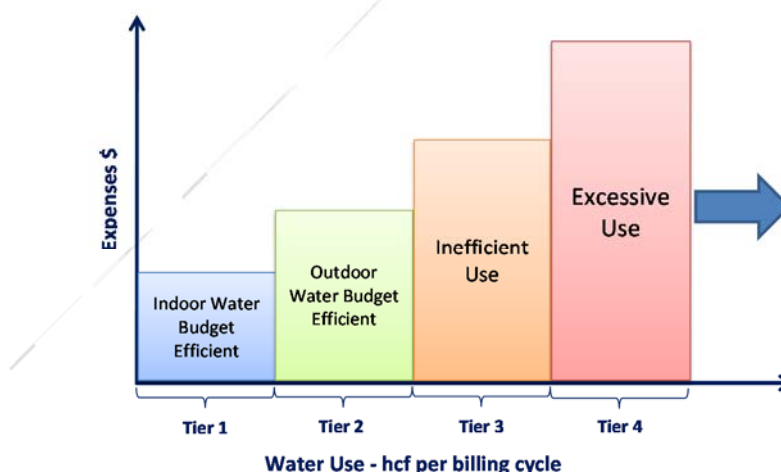
As part of the water budget rate structure, the District allowed for “rollovers” as part of an annual water budget for customers wherein month-to-month changes in consumption could be offset in subsequent

months. For example, if Household A only uses 15 units of a 20-unit budget in March, they were allowed to rollover, or apply, 5 units towards use in a following month. The same is true of overages, or use in excess of a water budget. Accounts were reconciled at the end of the year to calculate use in excess of a customer's total water budget. Accordingly, the District calculated its rates based on usage in each water budget tier as on a rolled-over annualized budget rather than on a month-by-month analysis. However, as a result of the prolonged drought conditions and the State Board's reduction mandate, "rollovers" were suspended in 2015. Even though the Governor declared an end to the drought, he has restated his commitment to conservation by retaining water reporting requirements and prohibitions on wasteful practices such as watering during or right after rainfall. Therefore, it is unlikely that "Rollovers" will be reinstated in the future.

3.1 Water Budget Definitions

The American Water Works Association Journal defines a 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 his or her own allocation or water budget as shown in the following figures. Figure 3-1 shows an example of how tier breaks are set for water budget customers. Tier 1 is defined by the allotment of water for indoor use and Tier 2 is defined by the allotment of water 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

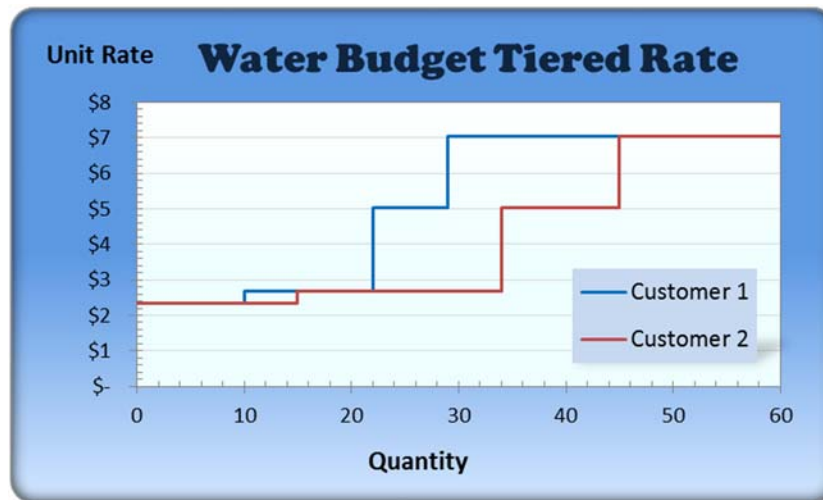


It is important to note that water budget rate structures are customized for each customer, which results in different tier breaks (water allotments) for different customers. In the illustrative example shown in Figure 3-2¹, the first 10 units consumed by Customer 1 is charged at Tier 1 rate, whereas Customer 2 has

¹ For illustrative purpose only, not actual rates of the District

12 units at Tier 1 rate (\$2.34/hcf) for indoor use. The next 12 units (11 – 22 units) consumed by Customer 1 is reserved for outdoor use, which is charged at Tier 2 rate (\$2.68/hcf), and any usage exceeding 29 units² will be deemed excessive and charged at the Tier 4 Rate (\$7.04/hcf). Similarly, for Customer 2, Tier 2 spans from 16-34 units, and usage exceeding 45 units will be charged at Tier 4 Rate (\$7.04/hcf). Customer 2, has a larger indoor (Tier 1) and outdoor (Tier 2) water budget or allotment due to the fact that they have a larger family (more people per household) and a larger landscape area than Customer 1. Each of these factors require a larger amount of water for Customer 2 and therefore would allow for a larger allotment in Tier 1 and Tier 2.

Figure 3-2: Customized Water Budget Tiers³



The District's water budget allocations and tiered rate structure, also called Budget Based Tiered Rates (BBTR), are only designed for residential and irrigation accounts which include residential (R), multifamily (M) and landscape (L). All other customer types, agriculture (Ag) and commercial, industrial, and institutional (CII), currently have a two tiered inclining rate since these customer classifications contain customers that do not have a homogeneous use of water whereas residential and irrigation accounts do. However, this Report adds a third tier for non-water budget customers to ensure equality among the different customer classes.

Indoor Water Budget for BBTR Accounts

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

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

² Tier 3 = 50% of Total Water Budget (TWB) where as TWB = Indoor WB + Outdoor WB

³ For illustrative purpose only, not actual rates of the District

where

- GPCD – Gallons per capita per day. The baseline GPCD is 55 gallons per day.
- Household Size – Number of residents for each dwelling unit. The baseline household size is three persons per household.
- Units – Number of dwelling units served by the meter.
- 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 determined based on the degree of water shortage and is subject to the approval of the District’s Board of Directors. The indoor drought factor is currently set at 100% which means that 100% of the indoor water budget is available for consumption. In a water shortage emergency, the factor would be set somewhere below 100%.
- 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 a billing unit of hundred cubic feet (hcf).

Outdoor Water Budget for BBTR Accounts

The outdoor water budget (OWB) is determined by three main variables: irrigable landscape area, weather data converted into an evapotranspiration reference index (ET_0) and an evapotranspiration (ET_0) Adjustment Factor (ETAF) to adjust the ET_0 to account for water efficient landscaping consisting of a combination of vegetation and planting density based upon a determination by the District in its review and findings of customer data and appropriateness for the service area. The irrigable landscape area, measured as by the square footage of landscape surface on a customer’s property, is estimated by the District’s geographical information systems (GIS). The weather data is based on the reference evapotranspiration (ET_0), which is the amount of water lost 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 100% landscaped area of turf grass to maintain its health and appearance. The ET Adjustment Factor (ETAF) is a coefficient that adjusts ET_0 values based on variable proportion of plant types, planting density, and irrigation system efficiency.

The formula to calculate outdoor water budget is as follows:

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

where

- ET_0 is measured in inches of water during the billing period based on daily data acquired from the private weather stations for each micro-zone within the service area.

- ETAF (% of ET_0) is tiered based upon the landscape area (in square feet). Currently there are four landscape area ranges, or bins. See Table 3-1 for details.
- Landscape Area (or Irrigable Landscape Area) (in square feet) is the measured irrigable landscape area served by customer's meter and determined by the District's GIS software.
- DF_{outdoor} – Outdoor drought factor. The percentage of outdoor water budget allotted during drought conditions. The drought factor is determined based on the degree of water shortage, and is subject to the approval of the District's Board of Directors. The outdoor drought factor is currently set at 100% meaning that 100% of the outdoor water budget is allotted for use.
- 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 $\text{inch} \cdot \text{ft}^2$ to billing unit of hundred cubic feet (hcf).

Water Allocations for Non-BBTR Accounts

As discussed above, Ag and CII (commercial, industrial, and institutional) do not have BBTR water budgets due to the fact that these types of customers do not have a homogeneous use of water whereas residential and irrigation accounts do. These accounts do receive an allocation of water based on different factors.

CII accounts generally require a specific amount of water to match their business needs. For instance, a microbrewery is a water intensive business that would require a water meter of appropriate size to ensure a sufficient amount of water is available to support their business operations. If that business was located on a property that was serviced by an undersized meter, that business would generally incur the cost to upsize to a larger meter. Conversely, if a business using minimal water was located on a property that had an oversized meter, that business would generally choose to downsize their meter.

CII allocations were determined by taking 200% of the average annual usage for all CII accounts using a $\frac{3}{4}$ " meter with a lot size of a $\frac{1}{4}$ acre or less. This amount was then applied to larger meter sizes based on relative meter capacity. This results in the allocations presented in Table 3-1. In order to provide a reasonable variance for meters serving larger lots, a large lot variance was created based upon a 2 AF allocation per acre plus the average use for a $\frac{3}{4}$ " meter per year (see Table 3-2 for large lot allocations). In addition to a large lot variance, the District provides for account specific variances when a CII customer can justify a higher allocation due to business needs.

Table 3-1: CII Accounts – Allocation by Meter Size

Pump Zone	Current Rates
3/4"	525
1"	893
1 1/2"	1,733
2"	2,784
2" Turbine	5,253
3"	8,772
4"	17,492
6"	27,998
8" – 10"	40,274

Table 3-2: CII Accounts – Large Lot Variance

Lot Size	Annual HCF
1/4 to 1/2 Acre	698
1/2 to 1 Acre	1,134
1 to 1-1/2 Acre	1,569
Over 1- 1/2 Acre	2,005

Ag account allocations are more complicated than CII account allocations due to the fact that an Ag account's water needs can vary greatly from one Ag customer to another. Agricultural customers are given an indoor (if there is a residence on the property), an outdoor, and an agricultural water budget. The indoor water budget is calculated in the same manner as that used for Residential (BBTR) customers. The outdoor water budget is also calculated in the same manner as used for BBTR customers with one exception, the amount of landscape area per parcel is limited to 10% of a parcel's agricultural-planted acreage, up to a maximum of 75,000 square feet. This ensures that Ag accounts are allocated water primarily for agricultural purposes and not for ornamental landscape. The agricultural water budget varies the most from one Ag customer to another and is determined by three main variables: ETo, crop coefficient (Kc) which accounts for the crop type and irrigated acres (IA). Please note that ETo for Ag customers is similar to the description in the BBTR section above with the exception that ETo for Ag customers is static and it is based on a representative recent dry year. The formula to calculate the agricultural water budget in AF is:

$$AWB = \left(\frac{ETo * Kc}{12} \right) * IA$$

where

- ET_0 is measured in inches of water during the billing period based on daily data acquired from the private weather stations for each micro-zone within the service area.
- K_c is the crop coefficient based on crop type (see Table 3-3)
- 12 is a conversion factor for converting inches to feet
- IA is irrigated acres

Table 3-3: Crop Coefficients for Major Crops

Crop Type	Crop Coefficient (K_c)
Avocado	0.86
Citrus	0.63
Grape	0.38

Both the outdoor and agricultural water budgets utilize GIS to determine the amount of ornamental landscaping and irrigated acres.

3.2 Water Budget Factors

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 usage and impact analysis and policy discussions with the Board. In 2015, in response to the prolonged drought and to promote further efficiency and conservation, water budget factors were fine-tuned to reflect a new water use efficiency benchmark for indoor and outdoor use. These changes proved successful in encouraging water conservation so it is recommended to continue with the current water budget factors.

Table 3-4 displays the current water budget factors for the Divisions. The gallons per capita per day (GPCD) is 55 and the default household size for a residential account is three. The outdoor ET adjustment factors for the first 30,000 sq ft of landscape will receive 75% of ET_0 for medium water use plants, and the next 45,000 sq ft will receive 60% of ET_0 , enough for California native and drought tolerant plants. Residential accounts will not have outdoor water budgets for landscape areas greater than 75,000 sq ft. Landscape accounts in the Rancho Division will have a total $ETAF$ of 60% of ET_0 for their outdoor water budgets, with 23% of ET_0 considered ultra-efficient (Tier 1) and 37% of ET_0 is in efficient use (Tier 2). Landscape accounts in the Santa Rosa Division will have a total $ETAF$ of 60% of ET_0 for their outdoor water budgets, with 13% of ET_0 considered ultra-efficient (Tier 1) and 47% of ET_0 is in efficient use (Tier 2).

Table 3-4: Water Budget Factors

Water Budget Factors	WB Structure		Landscape (L)	Landscape (L)
	Single Family (D)	Multi Family (M)	Rancho	Santa Rosa
Default Household Size	3			
GPCD	55	55		
DFin	100%	100%		
Ultra Efficient ETAF			23%	13%
Efficient ETAF for landscape area ranges				
0 - 30,000 sq ft	75%	75%	37%	47%
30,001 - 75,000 sq ft	60%	60%	37%	47%
75,001 - 150,000 sq ft	0%	60%	37%	47%
> 150,000 sq ft	0%	60%	37%	47%
DFout	100%	100%	100%	100%

Note: DFin and DFout refer to the Drought Factor Inside (Tier 1) and Outside (Tier 2) where budgets might be reduced below 100% in the event of a water shortage emergency in accordance with the District's Water Shortage Contingency Plan.

3.3 Tier Definitions

The tier definitions for water budget based rates are developed as shown in Table 3-5 on the following page. Landscape accounts do not have indoor water budgets but a portion of their outdoor budget is considered ultra-efficient (UE) and charged at the Tier 1 rate with the remaining outdoor water budget assessed at the Tier 2 rate. The UE amount of water is intended to be representative of the amount of water necessary for efficient irrigation practices for California native drought tolerant plants with minimal water needs. The amount to allocate towards UE is determined based on the District's review and findings of industry practice and local data. All three tiered customer types have their Tier 3 allotment defined as 50% of their respective total water budget (TWB) and usage in excess of that falls in Tier 4. The Tier 3 budget was set at a factor of 50% of the Efficient Indoor (Tier 1) and Outdoor (Tier 2) budget as a transitional Tier that recognizes that water use above Tiers 1 and 2 is above the standard of efficiency but it not yet at a level where it would be considered egregious water waste and require the District to purchase the most expensive imported water from MWD. Such a level of water use was determined to be appropriate for being assessed a portion of the costs for funding conservation programs but to lesser degree than the Tier 4 category.

Table 3-5: BBTR Tier Definitions by Customer Types

Tiers	Residential (R)	Multi Family (M)	Landscape (L)
Tier 1 – Indoor / Ultra-Efficient Use	100% IWB	100% IWB	100% UEWB
Tier 2 – Outdoor Use	100% OWB	100% OWB	Remaining OWB
Tier 3 – Inefficient Use	100% to 150% TWB	100% to 150% TWB	100% to 150% OWB
Tier 4 – Excessive Use	Above Tier 3	Above Tier 3	Above Tier 3
<i>TWB = Total Water Budget = IWB + OWB</i>			

The first priority for water use is essential indoor requirements for health, sanitation and safety purposes. Maintaining healthy landscapes at efficient water use levels is non-essential, but important for customers. Thus, efficient outdoor water use is required to pay the Tier 2 rate. Tier 3 provides usage up to 50% of the total water budget. The 50% 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. Usage in excess of that level (Tier 4) 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 programs. 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 (see section 5.3.3 for more information on how rates for each Tier are determined).

The tier definitions for non-water budget based rates are developed as shown in Table 3-6 below. Tier 1 allows for use up to the annual water budget (AWB) amount as described in section 3.1 above. Tier 2 allows for use above each account's AWB budget up to 150% of the AWB. Tier 3 is for usage above 150% of an account's AWB. The tier definitions for non-water budget based rates were established along similar guidelines as the budget based tier rates

Table 3-6: Non-BBTR Tier Definitions by Customer Types

Tiers	Commercial / Industrial / Institutional (CII)	Ag & Ag Domestic (Ag)
Tier 1	Up to 100% AWB	Up to 100% AWB
Tier 2	100% to 150 % AWB	100% to 150 % AWB
Tier 3	Above Tier 2	Above Tier 2
<i>AWB = Annual Water Budget (discussed in section 3.1)</i>		

3.4 Usage Analysis

Figure 3-3 on the following page shows the usage distributions within each tier for each Division within the BBTR. Figure 3-4 below shows the usage distributions for each Division for non BBTR accounts. Both Figures are based on historical usage data for each account.

Figure 3-3: Usage Distribution For BBTR Accounts (R/M/L)

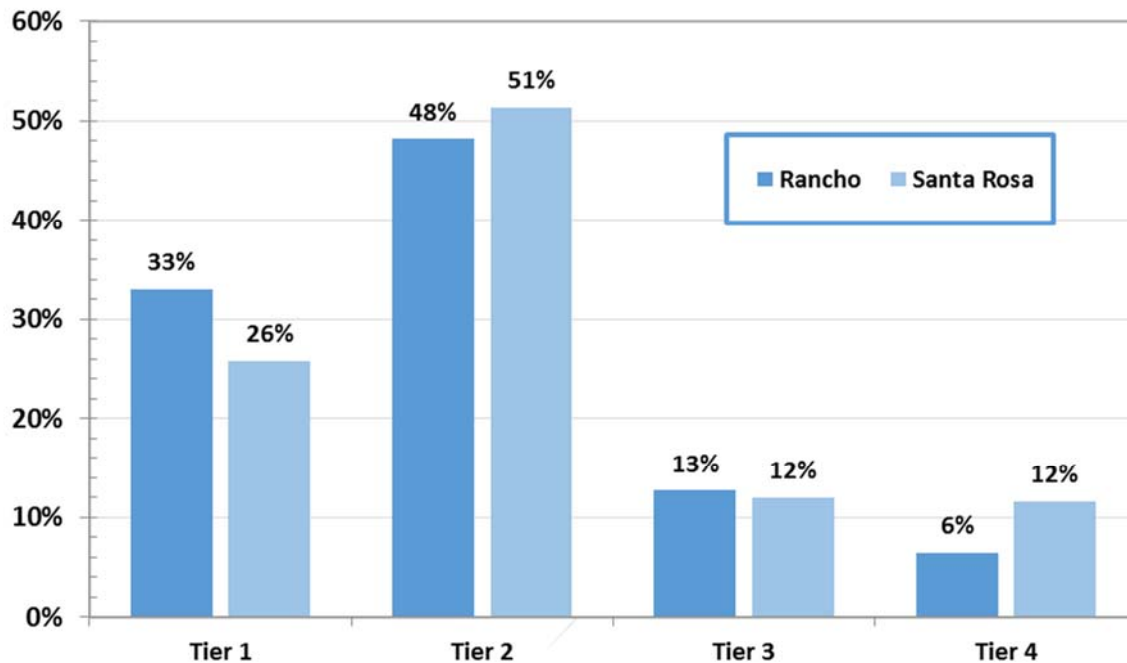
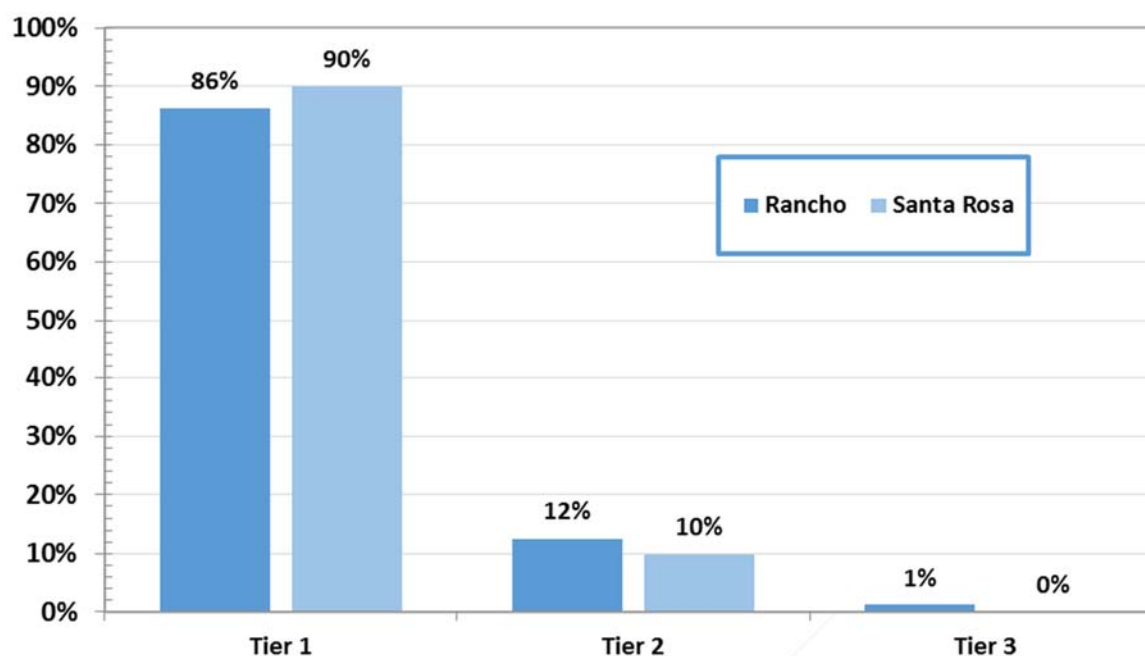


Figure 3-4: Usage Distribution For Non-BBTR Accounts (CII/Ag)



3.5 Current Water Rates

Tables 3-6, 3-7, and 3-8 show the current fixed and variable rates, as well as energy rates. Monthly fixed service charges are based on meter size. Commodity rates (variable or volumetric rates) are established with four tiers for water budget classes and three tiers for non-budget classes. Energy rates are charged on a per hcf basis and relate to specific elevation zones. The LWSR is charged on a per hcf basis.

Table 3-7: Current Monthly Service Charges – Fixed (\$/Meter Size)

Meter Size	Rancho*	Santa Rosa*
3/4-in	\$21.22	\$40.58
1-in	30.97	63.71
1 1/2-in	53.30	110.80
2-in Multi-Jet	80.75	174.62
2-in Turbine	137.15	285.23
3-in	234.32	447.52
4-in	456.13	991.19
6-in	727.59	1,581.33
8-in	1,089.19	2,251.76

*As of 7/1/2016

Table 3-8: Current Commodity Rates – Variable (\$/HCF)

Commodity Rates	Rancho*	Santa Rosa*
Water Budget (D/M/L)		
Tier 1	\$0.67	\$1.09
Tier 2	\$1.51	\$2.00
Tier 3	\$2.57	\$2.55
Tier 4	\$6.50	\$6.50
CII/Ag		
Tier 1	\$1.26	\$1.76
Tier 2	\$2.99	\$2.87
Tier 3	NA	NA
All Customers		
LWSR	NA	NA

*As of 7/1/2016

Table 3-9: Current Energy Rates – Variable (\$/HCF)

Pump Zone	Rancho*	Pump Zone	Santa Rosa*
1305	\$0.00000	1305	\$0.00000
1380	\$0.03450	1434	\$0.04515
1485	\$0.08280	1440 (1060,1160)	\$0.04725
1550	\$0.11270	1500	\$0.06825
1610	\$0.14030	1670	\$0.12775
1790	\$0.22310	1990	\$0.23975
1880	\$0.35190	2160 (2153)	\$0.29925
2070	\$0.35190	2260	\$0.33425
2350	\$0.48070	2550	\$0.43575
		2850	\$0.54075

*As of 7/1/2016

4 Water Supply Allocation Methodology

The District has limited water resources that must be used efficiently. These water supplies need to be allocated to each group of customers equitably to meet different reasonable demands including health and sanitation, commercial use, landscaping, etc. Usage in excess of reasonable demand will be subject to the highest marginal water supply costs to reflect the true cost of water.

There are three potential methods for allocating water supply resources: budgeted sales, projected demand and potential demand.

1. **The budgeted sales** method uses the operating budget, where sales are projected for each customer class. In previous years, the District used budgeted sales to calculate the commodity rates and experienced an operating loss and insufficient marginal cost recovery as the water sales within allocations exceed the budgeted amount.
2. **The projected demand** method estimates water sales based on historical demand and potential demand to balance between customer impacts on the one end, and the risk of insufficient marginal cost recovery on the other. The District chose to use this method for allocating water supply resources the past two fiscal years and will continue to use this method in FY 2017/2018.
3. **The potential demand** method assumes the total annual allocation used for all budgeted tiers and all customer class sales. For example, this method assumes that the residential class would use their entire indoor allocation (Tier 1), entire outdoor allocation (Tier 2) and entire Tier 3 budget.

The three methods of allocating water supply are presented below. The Budgeted and Potential sales values can be interpreted in a sense as extremes. Budgeted sales reflect the “new normal” that anticipates continued reduced water sales from conservation and the effects of the four years of drought. Potential efficient demand assumes that every unit of a total annual water budget, for all accounts, is sold. Projected demand falls between the two extremes and takes into consideration historical sales that came under normal water supply and weather conditions as well as the effects of the various conservation measures enacted over the past several years, which more than likely have permanently altered some customer’s consumption behavior. The goal of Projected demand is to strike a balance between the two competing factors of risk (insufficient cost recovery) and affordability.

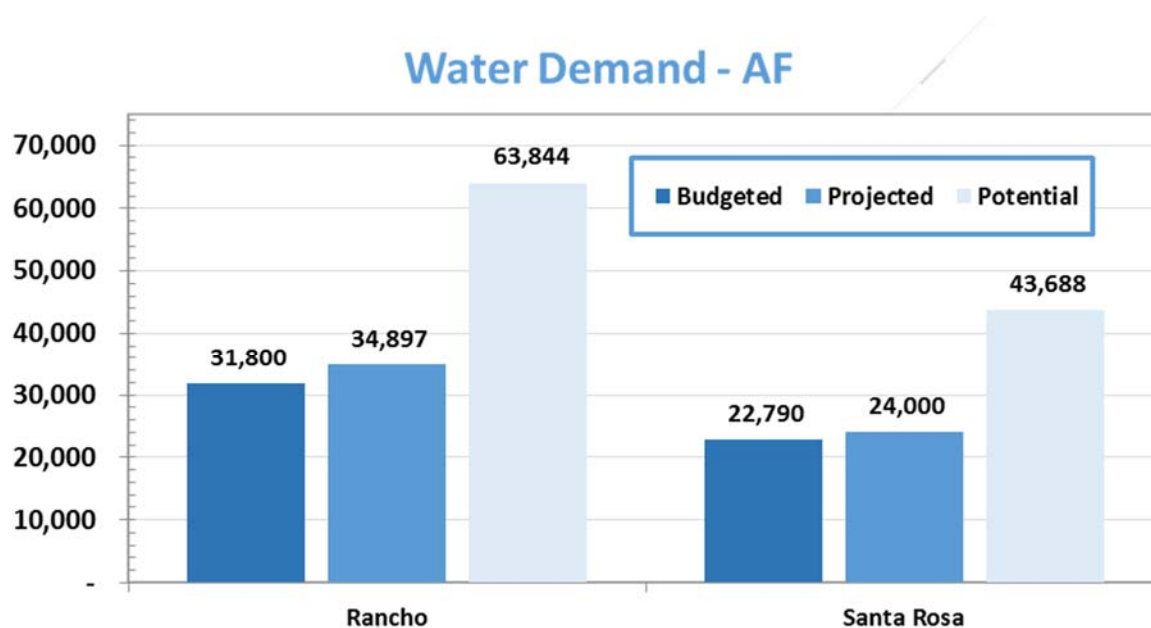
Due to the risk of insufficient marginal recovery, the District has determined it best to allocate water supply resources in the Rancho Division to all accounts at 110% of budgeted water sales with the exception of CII and Ag accounts that are allocated at 109%. The CII and Ag accounts are allocated with a smaller percentage because historically CII account usage in the Rancho Division has deviated from budgeted usage to a lesser degree thereby creating a smaller risk of insufficient cost recovery. The Santa Rosa Division has experienced a higher degree of insufficient marginal recovery in the past. As such, budget based accounts are allocated water supply resources at 108% and non-budget based accounts are allocated at 103% of budgeted water sales. The non-budget based accounts are allocated at less than the 108% due to affordability considerations for price sensitive agricultural accounts.

To address the issue of affordability it is important to examine the two primary allocation options, Budgeted and Potential sales. Budgeted sales are considered to be baseline or 100% and carry the most risk of insufficient cost recovery due to the variability of demand from uncertain factors like weather. Potential sales contain the least amount of risk of insufficient cost recovery as the full amount of water allocated to accounts is fully accounted and allocated for in the water supply cost. If Potential sales were utilized for allocating water supply, accounts in the Rancho Division would be allocated at 201% of Budgeted sales. Accounts in the Santa Rosa Division would be allocated at 192% of Budgeted sales. These

allocations would result in substantially higher rates for both Divisions. Therefore, to address affordability as well as insufficient marginal cost recovery both Divisions are allocated at a percentage much lower than the Potential sales option but slightly higher than Budgeted sales.

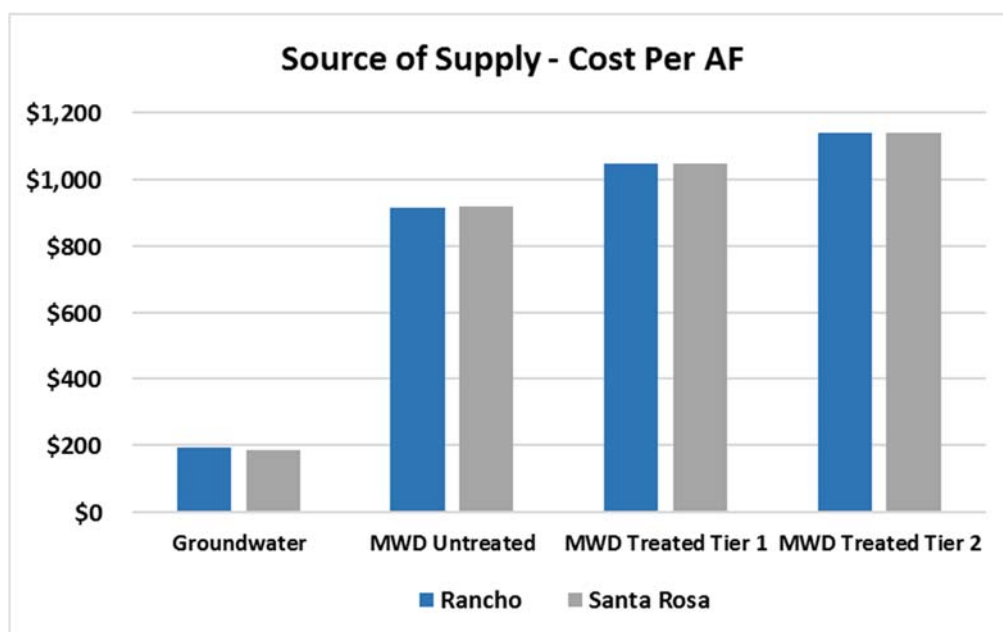
Using an amount above 100% of budget but under 100% of potential demand allows for a risk factor based on demonstrated variability of actual water use in historic water sales for each customer class as compared to budgeted amounts. It has often occurred in the District's historic experience to have water sales significantly over the budgeted amount. Additionally, it also includes some allowance for the potential use of a customer of their remaining budgeted allocation at the same rate over the amount anticipated in the budget that would result in insufficient marginal recovery but is limited for the sake of customer affordability.

Figure 4-1: Water Demand under Different Methodologies



The water demand scenarios in Figure 4-1 are based on the updated BBTR model and impact water supply unit costs. Water supply unit costs are the costs for the District to deliver a unit (acre-foot or hcf) of each type of water available to a customer. Currently the main categories of water available to the District in order of least to most expensive are; local native groundwater, untreated imported water at MWD Tier 1 prices, treated water at MWD Tier 1 prices, and treated water at MWD Tier 2 prices. Figure 4-2 illustrates the extreme cost difference among the different sources of water and illustrates the fact that when the District underestimates water sales, the marginal cost per AF of water increases substantially from the cheapest source, groundwater to the most expensive MWD Treated at Tier 2 source of water. Projected Demand is the selected method to balance the tradeoffs of risk and rate impacts given the significant financial impact of underestimating water sales.

Figure 4-2: Marginal Water Supply Costs by Source



4.1 Projected Sales and Historical Demand

Tables 4-1 and 4-2 present three methods for developing water use by customer class for each Division. Budgeted, Historical, and Projected demand are shown in annual hcf, annual AF, and percent share of total water demand. Historical demand is based on FY 2013-2014 usage, Budgeted demand is based on the FY 2017-2018 budget, and Projected demand is based on Budgeted demand but adjusted for risk mitigation and affordability as described in Section 4 above.

Table 4-1: Projected Water Demand by Customer Classes - Rancho

	Budgeted Sales		Historical Usage		Projected Demand	
Residential (R)	7,819,020 ccf	59%	10,454,204 ccf	59%	8,600,922 ccf	57%
Multi Family (M)	787,656 ccf	6%	767,436 ccf	4%	866,422 ccf	6%
Landscape (L)	1,598,602 ccf	11%	2,438,053 ccf	14%	1,758,463 ccf	12%
Commercial/ Institutional / Industrial (CII)	1,529,954 ccf	10%	1,411,322 ccf	8%	1,667,650 ccf	11%
Agriculture (Ag)	2,117,016 ccf	13%	2,578,982 ccf	15%	2,307,547 ccf	15%
Total	13,852,248 ccf	100%	17,649,997 ccf	100%	15,201,003 ccf	100%
Water Budget Customers (R, M & L)	10,205,278 ccf	74%	13,659,693 ccf	77%	11,225,806 ccf	74%
Non WB (CII / Ag)	3,646,970 ccf	26%	3,990,304 ccf	23%	3,975,197 ccf	26%

Table 4-2: Projected Water Demand by Customer Classes – Santa Rosa

	Budgeted Sales		Historical Usage		Projected Demand	
Residential (R)	1,720,630 ccf	17%	2,352,363 ccf	17%	1,892,693 ccf	18%
Multi Family (M)	112,210 ccf	1%	98,700 ccf	1%	123,431 ccf	1%
Landscape (L)	335,222 ccf	3%	434,729 ccf	3%	368,744 ccf	4%
Commercial/ Institutional / Industrial (CII)	371,318 ccf	4%	470,304 ccf	3%	386,171 ccf	4%
Agriculture (Ag)	7,387,776 ccf	74%	10,454,278 ccf	75%	7,683,287 ccf	74%
Total	9,927,156 ccf	100%	13,810,374 ccf	100%	10,454,326 ccf	100%
Water Budget Customers (R, M & L)	2,168,062 ccf	22%	2,885,792 ccf	21%	2,384,868 ccf	23%
Non WB (CII / Ag)	7,759,094 ccf	78%	10,924,582 ccf	79%	8,069,458 ccf	77%

Tables 4-3, 4-4, 4-5, and 4-6 show the distribution of usage in each Division within the tiers for water budget (BBTR) and non-water budget customer classes. The distribution of usage within the tiers for each customer class is derived from FY 2013-2014 usage data adjusted for the current water budget factors as seen in Table 3-1. The tables show usage in total hcf under budgeted sales and projected demand. The allocation of total sales for Rancho is based on the split between water budget and non-water budget customers for Budgeted Sales (74%/26%) and Projected Demand (74%/26%) based on table 4-1 on the previous page. The allocation of total sales for Santa Rosa is based on the split between water budget and non-water budget customers for Budgeted Sales (22%/78%) and Projected Demand (23%/77%) based on table 4-2 above.

Table 4-3: Projected Demand in Tiers for BBTR Customers – Rancho

	Usage Distribution in Tiers			Water Budget Customers (R, M & L)	
	Residential (R)	Multi Family (M)	Landscape (L)	Budgeted Sales	Projected Demand
Tier 1 - Essential	30%	68%	32%	3,383,514 ccf	3,721,865 ccf
Tier 2 - Efficient	53%	20%	37%	4,899,829 ccf	5,389,811 ccf
Tier 3 - Inefficient	12%	9%	16%	1,284,953 ccf	1,413,448 ccf
Tier 4 - Unsustainable	5%	3%	15%	636,984 ccf	700,682 ccf
Total	100%	100%	100%	10,205,278 ccf	11,225,806 ccf

Table 4-4 Projected Demand in Tiers for BBTR Customers – Santa Rosa

	Usage Distribution in Tiers			Water Budget Customers (R, M & L)	
	Residential (R)	Multi Family (M)	Landscape (L)	Budgeted Sales	Projected Demand
Tier 1 - Essential	25%	81%	17%	570,988 ccf	616,667 ccf
Tier 2 - Efficient	56%	14%	34%	1,096,599 ccf	1,184,326 ccf
Tier 3 - Inefficient	12%	5%	12%	255,931 ccf	276,406 ccf
Tier 4 - Unsustainable	7%	0%	37%	244,543 ccf	264,107 ccf
Total	100%	100%	100%	2,168,062 ccf	2,341,506 ccf

Table 4-5: Projected Demand in Tiers for Non-Water Budget Customers – Rancho

	Usage Distribution in Tiers			Non WB(CII / Ag / Ag Opt Out)	
	CII	Ag	Ag Opt Out	Budgeted Sales	Projected Demand
Tier 1	89%	86%	78%	3,225,512 ccf	3,515,809 ccf
Tier 2	10%	13%	22%	421,458 ccf	459,389 ccf
Tier 3	2%	1%	0%	44,337 ccf	48,327 ccf
Total	100%	100%	100%	3,691,307 ccf	4,023,524 ccf

Table 4-6: Projected Demand in Tiers for Non-Water Budget Customers – Santa Rosa

	Usage Distribution in Tiers			Non WB(CII / Ag / Ag Opt Out)	
	CII	Ag	Ag Opt Out	Budgeted Sales	Projected Demand
Tier 1	93%	91%	88%	7,078,460 ccf	7,290,913 ccf
Tier 2	6%	9%	12%	680,634 ccf	701,053 ccf
Tier 3	1%	0%	0%	13,045 ccf	13,436 ccf
Total	100%	100%	100%	7,772,138 ccf	8,005,402 ccf

5 Development of Water Commodity Rates

This section details the revenue requirements for commodity rates and explains the allocation methodology consistent with Proposition 218 behind the cost of service calculations of the rates. The figures in the following sections are calculated as part of the budget process of the District and are included in the administrative record on file with the District as part of this report and available for review upon request.

5.1 Variable Water Revenue Requirements

Table 5-1 shows the FY 2018 total revenue requirement for the Divisions. The basic revenue requirements include operating and maintenance (O&M) expenses (including water supply costs). These expenses are based on the FY 2018 operating budget. Total water supply costs for the Rancho Division are estimated at \$24.8 million, with the remaining \$14.8 million towards O&M expenses. Total water supply costs for the Santa Rosa Division are estimated at \$22.5 million, with the remaining \$9 million towards O&M expenses. Both Division's water supply cost increased substantially from the prior fiscal year due to the reduction of native groundwater available that must be replaced with higher cost MWD treated import water. See Appendix A for the FY 2018 operating budgets for the Divisions. The budgets provide greater detail on the expenses that are utilized in determining the revenue requirements.

Table 5-1: Total Revenue Requirements

Total Revenue Requirements	Rancho	Santa Rosa
Water Supply Cost	\$24,844,211	\$22,468,712
Booster Pumping	1,891,439	2,349,805
T&D	5,956,248	3,461,322
Customer Service (allocated to Water)	3,506,571	1,108,220
Recycled Water	1,615,685	886,712
Engineering (allocated to Water)	712,599	606,896
Support (allocated to Water)	1,151,758	617,964
Total Revenue Requirements	\$39,678,511	\$31,499,631

Table 5-2 below shows revenue requirements specific to delivery of water. The total revenue requirement for Rancho is approximately \$39.7 million and \$31.5 million for Santa Rosa. To determine the total variable revenue requirement, fixed rate revenue, non-rate and other revenues are subtracted from the total. Water supply requirements are then subtracted from the variable revenue requirement to determine the total delivery revenue requirement of \$1.1 million for Rancho and \$1.3 million for Santa Rosa. The variable revenue requirement is comprised of the costs associated with the District's three water supply sources which are ground water, recharge and recovery and MWD treated water.

Table 5-2: Delivery Revenue Requirements for FY 2017/2018

Delivery Revenue Requirements	Rancho	Santa Rosa
Total Revenue Requirements	\$39,678,511	\$31,499,631
Less		
Fixed Rate-Service Charges	-12,005,696	-7,075,081
Energy Revenue	-1,310,031	-1,499,211
Other Revenues	-8,838,344	-5,038,538
Net Variable Revenue Requirements	17,524,440	17,886,801
Less Variable Water Supply Revenue Requirement	-16,395,163	-16,590,717
Total Delivery Revenue Requirements	\$1,129,277	\$1,296,084

Table 5-3 shows the revenue requirements of the District's conservation programs. Table 5-4 provides more detail on the cost associated with the Water Supply/Capital Projects.

Table 5-3: Conservation Program Costs for FY 2017/2018

Conservation Program Revenue Requirements		
Conservation Programs	Rancho	Santa Rosa
Water Conservation Rebates/Devices	\$269,394	\$135,779
Commercial Water Audits	13,298	6,702
Ag Site Water Audits	29,587	14,913
Soil Moisture Research Pilot	6,649	3,351
Sap Flow Research Pilot	24,601	12,399
Education and Community Outreach	39,893	20,107
Residential Conservation Research Pilot	8,311	4,189
Budget Based Tiered Rate Model Analysis	100,604	50,706
New Water Supply Research	137,983	123,903
Special Conservation Programs*	2,624,914	1,010,000
Total CP Revenue Requirements	\$3,255,234	\$1,382,049

*Funding is used exclusively for costs associated with elevated levels of water demand offset programs and supplemental water supplies (operating and capital). These include, but are not limited to, funding for capital projects that supply additional or less expensive sources of water. Capital costs for associated water supply projects are included in the District 5-year Capital Improvement Program.

Table 5-4: Special Conservation Program Costs for FY 2017/2018

Water Supply/Capital Projects	Rancho	Santa Rosa
Regional VDC Pump Station & CCT (Construction)	\$0	\$423,000
Upper VDC Well 162	299,914	575,000
Upper VDC Well 163 (Well 166 Location)	575,000	12,000
Upper VDC Well 160,165,167	1,150,000	0
Well 121	600,000	0
Total Water Supply/Capital Projects	\$2,624,914	\$1,010,000

To allocate costs appropriately to the different usage classes and determine the cost of service rates, the revenue requirements are allocated to the rate components (discussed below) consistent with the AWWA M1 Manual.

Commodity Rate Components

Water Supply Costs – The District utilizes native groundwater as the first source of supply as it has the lowest marginal cost per AF. Native groundwater supplies only meet a portion of the total demand, therefore the District must supplement its supply with treated and untreated water purchases from a member agency of MWD. The amount of MWD water estimated to be needed to supplement native groundwater increased by approximately 7,000 AF. The increase is due to the effects of the multi-year drought on the regional aquifer. MWD treated and untreated rates are scheduled to increase on January 1, 2018 by 3.7% and 4.4% respectively which directly impacts water supply costs. The average purchased water costs of MWD for FY 2018 are shown in Table 5-10 and 5-11 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.

Water loss is the difference between total water purchased and total water delivered to customers. Total water purchased always exceeds total water delivered primarily due to leaks within a distribution system. Water loss causes the sales price per unit of water to cost more than the purchase price per unit of water. For example, suppose the purchase price per unit of water is \$1.00 but the system has 5% water loss. The sales price per unit would then have to be \$1.05 to recover the 5% water loss. Water supply costs are incorporated into each Tier (See table 5-5).

Delivery costs – These costs are associated with operating and capital costs of the water system in providing water to all customers at a constant average rate of use. Therefore, delivery costs are spread over all units of water, irrespective of customer classes or tiers, to calculate a uniform rate. Delivery costs are recovered in Tier 1 for both budget and non-budget based customers. Table 5-2 shows the calculation of the Delivery revenue requirement.

Conservation costs - Any usage above an efficient level is subject to higher charges to fund conservation programs, as well as supplemental water supply programs. Those customers who use and place greater demands on the District's water supplies create the need for the District to institute and supplement its conservation programs and supplemental water supply programs in order to accommodate higher water use. The current water supply is reserved for efficient water use within the District's budget based and non-budget based structures. Table 5-3 shows the calculation of the Conservation Program revenue requirement for each Division.

Local Water Sustainability Rate (LWSR) – This surcharge is for the cost of purchasing approximately 7,000 acre feet of MWD treated water required to replace native ground water that is not available due to the effects of the multi-year drought. Native groundwater is the District's first supply source and it is the first source used to meet Tier 1 demands. Therefore, all customers benefit from native groundwater since all

customers with usage pay Tier 1 rates. The surcharge is calculated at a uniform rate and applied to all units of water. See section 5.6 for more information on the LWSR.

Table 5-5: Water Commodity Rate Components

	Water Supply	Delivery	Conservation Program
Water Budget			
Tier 1 – Indoor/Ultra Efficient Use	x	x	
Tier 2 – Efficient Outdoor Use	x		
Tier 3 – Inefficient Use	x		x
Tier 4 – Unsustainable Use	x		x
Non-Water Budget (CII/ Ag / Ag Opt Out)			
Tier 1 – Efficient Use	x	x	
Tier 2 – Inefficient Use	x		x
Tier 3 – Unsustainable Use	x		x
All Water Use			
LWSR	x		

5.2 Commodity Rate Revenue Requirement Allocations to Customer Classes

The delivery revenue requirement for the Rancho division is allocated to customer classes using the Budgeted sales with a split of 74% to water budget customers and 26% for non-water budget customers as found in Table 4-1. The split of the delivery revenue requirement for Santa Rosa is based on Budgeted sales with 22% for water budget customers and 78% for non-water budget customers as found in Table 4-2.

Table 5-6: Delivery Revenue Requirements Allocation to Customer Classes – Rancho

Delivery Revenue Requirements		Water Budget Customers (R, M & L)	Non WB (CII / Ag)
Total Revenue Requirements	\$39,678,511	74%	26%
Less			
Fixed Rate- Service Charges	-12,005,696		
Energy Revenue	-1,310,031		
Other Revenues	-8,838,344		
Net Variable Revenue Requirements	17,524,440		
Less Variable Water Supply Revenue Requirement	-16,395,163		
Total Delivery Revenue Requirements	\$1,129,277	\$831,965	\$297,312

Table 5-7: Delivery Revenue Requirements Allocation to Customer Classes – Santa Rosa

Delivery Revenue Requirements		Water Budget Customers (R, M & L)	Non WB (CII / Ag)
Total Revenue Requirements	\$31,499,631	22%	78%
Less			
Fixed Rate-Service Charges	-7,075,081		
Energy Revenue	-1,499,211		
Other Revenues	-5,038,538		
Net Variable Revenue Requirements	17,886,801		
Less Variable Water Supply Revenue Requirement	-16,590,717		
Total Delivery Revenue Requirements	\$1,296,084	\$283,061	\$1,013,023

The conservation revenue requirement is allocated between Divisions by the percentage of inefficient use within each Division. Rancho is allocated 67% of all program costs except the Water Supply/Capital Projects Programs and Santa Rosa is allocated 33% of all program costs except Water Supply/Capital Projects. The Special Conservation Programs are allocated with 72% to Rancho and 28% to Santa Rosa. The Special Conservation Programs are recovered through Tier 4 for the BBTR customers and Tier 3 for the non BBTR customers. The allocation between Divisions is based on the amount of Budget Based customer usage to the total usage in each Division.

The Divisional amounts are then allocated to customer classes within each Division. Rancho's amount is allocated to customer classes using the Budgeted sales for water budget and non-water budget customers using the split of 74% and 26% as found in Table 4-1, for three of the four programs. Santa Rosa's amount is allocated to customer classes using the Budgeted sales with water budget customers receiving 22% and non-water budget customers receiving 78% as found in Table 4-2. For both Divisions, the Special Conservation Program is allocated to water budget customers in Tier 4 and non-water budget customers in Tier 3. Water usage in Tier 4 (BBTR) and Tier 3 (non-BBTR) is at a level where it would be considered egregious water waste and would require the District to purchase water at the most expensive marginal cost.

Table 5-8: Conservation Program Costs Allocation to Customer Classes – Rancho

Conservation Program Revenue Requirements		Water Budget Customers (R, M & L)		Non WB (CII / Ag / Ag Opt Out)	
Conservation Programs		Tiers 3 & 4	Tier 4 only	Tier 2 & 3	Tier 3 only
Water Cons. Rebates/Devices	\$269,394	\$198,469		\$70,925	
Commercial Water Audits	13,298	9,797		3,501	
Ag Site Water Audits	29,587	21,798		7,790	
Soil Moisture Research Pilot	6,649	4,898		1,750	
Sap Flow Research Pilot	24,601	18,124		6,477	
Edu. and Community Outreach	39,893	29,390		10,503	
Residential Cons. Research Pilot	8,311	6,123		2,188	
BBTR Model Analysis	100,604	74,117		26,487	
New Water Supply Research	137,983	101,656		36,328	
Water Supply/Capital Projects	2,624,914		2,454,099		170,815
Total CP Revenue Requirements	\$3,255,234	\$464,372	\$2,454,099	\$165,949	\$170,815

Table 5-9: Conservation Program Costs Allocation to Customer Classes – Santa Rosa

Conservation Program Revenue Requirements		Water Budget Customers Customers (R, M & L)		Non WB (CII / Ag / Ag Opt Out)	
Conservation Programs		Tiers 3 & 4	Tier 4 only	Tier 2 & 3	Tier 3 only
Water Cons. Rebates/Devices	\$135,779	\$29,654		\$106,125	
Commercial Water Audits	6,702	1,464		5,239	
Ag Site Water Audits	14,913	3,257		11,656	
Soil Moisture Research Pilot	3,351	732		2,619	
Sap Flow Research Pilot	12,399	2,708		9,691	
Edu. and Community Outreach	20,107	4,391		15,716	
Residential Cons. Research Pilot	4,189	915		3,274	
BBTR Model Analysis	50,706	11,074		39,632	
New Water Supply Research	123,903	69,546		54,357	
Water Supply/Capital Projects	1,010,000		959,460		50,540
Total CP Revenue Requirements	\$1,382,049	\$123,740	\$959,460	\$248,308	\$50,540

5.3 Water Supply Costs

5.3.1 Water Supply Information

The District has three distinct sources of supply. Groundwater production is the cheapest source of supply, with an available annual volume of 13,406 AF for the Rancho division and 3,406 AF for the Santa Rosa division. Each year staff evaluates the District's aquifer levels to determine how much groundwater can be drawn from the aquifer without causing long-term damage and this year's safe yield was 16,812 AF

which is 6,948 AF then the prior fiscal year's budgeted amount. The cost of groundwater is approximately \$185/AF for Rancho and \$180/AF for Santa Rosa.

The second source of supply is the District's Recharge and Recovery program that uses MWD untreated Tier 1 water that is treated naturally through percolation via a recharge spreading ground and recovered for use, with an annual production volume of 6,500 AF for each Division. The raw cost per AF for the Rancho division is \$879 and the raw cost per AF for the Santa Rosa Division is \$885. The amounts presented in tables 5-10 and 5-11 reflect the application of unrestricted non-operating revenues which reduce the cost per AF to \$120 for the Rancho Division and \$336 for the Santa Rosa Division.

Lastly, the District buys fully treated imported water to supplement groundwater and Recharge and Recovery water. Imported water is purchased from MWD at several different rates. The District has an allocation granted from MWD that allows purchase of water up to that limit at the lower Tier 1 price and it is calculated on a calendar year basis. The Tier 1 cost for both Divisions is \$1,005 per AF with Rancho Division's portion of that Tier 1 allocation at 27,028 AF and Santa Rosa's at 20,812 AF. Any amount of water over the Tier 1 allocation from MWD is at the Tier 2 cost at \$1,095 per AF for both divisions. The quantity of Tier 2 water available to the District is not limited to a specific amount but is subject to MWD's overall water supply. Tables 5-10 and 5-11 present the cost per hcf calculation for each source of supply for each division.

Table 5-10: Water Supply and Water Supply Variable Unit Cost - Rancho

Water Supply Information	Available Quantity	Quantity after Water Loss	Unit Cost (\$ / AF)	Unit Rate (\$ / ccf)
Groundwater	13,406 AF	12,862 AF	\$185 /AF	\$0.45 /hcf
Recharge & Recovery*	6,500 AF	6,236 AF	\$879 /AF	\$2.11 /hcf
MWD Tier 1	27,028 AF	25,931 AF	\$1,005 /AF	\$2.41 /hcf
MWD Tier 2	100,000 AF	95,942 AF	\$1,095 /AF	\$2.62 /hcf

*Recharge & Recovery Unit Cost per AF reflects the application of unrestricted non-operating revenues

Table 5-11: Water Supply and Water Supply Variable Unit Cost – Santa Rosa

Water Supply Information	Available Quantity	Quantity after Water Loss	Unit Cost (\$ / AF)	Unit Rate (\$ / ccf)
Groundwater	3,406 AF	3,268 AF	\$180 /AF	\$0.43 /hcf
Recharge & Recovery*	6,500 AF	6,236 AF	\$885 /AF	\$2.12 /hcf
MWD Tier 1	20,812 AF	19,967 AF	\$1,005 /AF	\$2.41 /hcf
MWD Tier 2	100,000 AF	95,942 AF	\$1,095 /AF	\$2.62 /hcf

*Recharge & Recovery Unit Cost per AF reflects the application of unrestricted non-operating revenues

5.3.2 Water Supply Allocation to Customer Classes

Tables 5-12 and 5-13 allocate the sources and volumes in Tables 5-10 and 5-11 to each Division's water budget and non-water budget customers based upon the budgeted demand split between water budget

and non-water budget customers. The split for the Rancho division is 74% and 26% (from Table 4-1) and the split for the Santa Rosa division is 22% and 78% (from Table 4-2).

Table 5-12: Allocation of Available Water Supply to Customer Classes – Rancho

Variable Water Supply Information	Quantity after Water Loss	Water Budget Customers (R, M & L)		Non WB Customers (CII/Ag)	
Groundwater	12,862 AF	9,476 AF	4,127,613 hcf	3,386 AF	1,475,048 hcf
Recharge & Recovery	6,236 AF	4,594 AF	2,001,304 hcf	1,642 AF	715,188 hcf
MWD Tier 1	25,931 AF	19,104 AF	8,321,730 hcf	6,827 AF	2,973,863 hcf

Table 5-13: Allocation of Available Water Supply to Customer Classes – Santa Rosa

Variable Water Supply Information	Quantity after Water Loss	Water Budget Customers (R, M & L)		Non WB Customers (CII/Ag)	
Groundwater	3,268 AF	714 AF	310,876 hcf	2,554 AF	1,112,566 hcf
Recharge & Recovery	6,236 AF	1,362 AF	593,274 hcf	4,874 AF	2,123,218 hcf
MWD Tier 1	19,967 AF	4,361 AF	1,899,572 hcf	15,607 AF	6,798,219 hcf

5.3.3 Water Supply Unit Rate Calculations

From water supply source costs, the water supply rate component can be calculated for each tier. Tables 5-14 and 5-15 show the water supply cost component of the commodity rates. Note that water-budget Tier 2 water and non-budget Tier 1 water is a blended cost. In addition, Tier 2 and 3 for non-water budget accounts is set to be equal to the MWD Tier 2 rates to reflect the next marginal water supply cost when usage exceeds allocation and to be consistent with the methodology for water budget accounts.

Table 5-14: Water Supply Unit Rate Calculations – Rancho

Water Budget Customers (R, M & L)	Demand	Groundwater	Recharge & Recovery	MWD Tier 1	MWD Tier 2	Unit Rate
Tier 1 - Essential	3,721,865 ccf	3,721,864 ccf	0 ccf	0 ccf	0 ccf	\$0.45 /ccf
Tier 2 - Efficient	5,389,811 ccf	405,749 ccf	2,001,304 ccf	2,982,758 ccf	0 ccf	\$1.48 /ccf
Tier 3 - Inefficient	1,413,448 ccf	0 ccf	0 ccf	1,413,448 ccf	0 ccf	\$2.41 /ccf
Tier 4 - Unsustainable	700,682 ccf	0 ccf	0 ccf	700,683 ccf	0 ccf	\$2.62 /ccf
Total	11,225,806 ccf	4,127,613 ccf	2,001,304 ccf	5,096,889 ccf	0 ccf	
Available Water Supply		4,127,613 ccf	2,001,304 ccf	8,321,730 ccf	30,789,293 ccf	
Unit Rate		\$0.45 /ccf	\$0.29 /ccf	\$2.41 /ccf	\$2.62 /ccf	

Non WB (CII / Ag)	Demand	Groundwater	Recharge & Recovery	MWD Tier 1	MWD Tier 2	Unit Rate
Tier 1	3,515,809 ccf	1,475,048 ccf	715,188 ccf	1,325,572 ccf	0 ccf	\$1.16 /ccf
Tier 2	459,389 ccf	0 ccf	0 ccf	459,388 ccf	0 ccf	\$2.62 /ccf
Tier 3	48,327 ccf	0 ccf	0 ccf	48,327 ccf	0 ccf	\$2.62 /ccf
Total	4,023,525 ccf	1,475,048 ccf	715,188 ccf	1,833,287 ccf	0 ccf	
Available Water Supply		1,651,699 ccf	621,344 ccf	2,659,353 ccf	9,784,947 ccf	
Unit Rate		\$0.45 /ccf	\$0.29 /ccf	\$2.41 /ccf	\$2.62 /ccf	

Table 5-15: Water Supply Unit Rate Calculations – Santa Rosa

Water Budget Customers (R, M & L)	Demand	Groundwater	Recharge & Recovery	MWD Tier 1	MWD Tier 2	Unit Rate
Tier 1 - Essential	616,667 ccf	310,876 ccf	305,791 ccf	0 ccf	0 ccf	\$0.62 /ccf
Tier 2 - Efficient	1,184,326 ccf	0 ccf	287,483 ccf	896,843 ccf	0 ccf	\$2.03 /ccf
Tier 3 - Inefficient	276,406 ccf	0 ccf	0 ccf	276,406 ccf	0 ccf	\$2.41 /ccf
Tier 4 - Unsustainable	264,107 ccf	0 ccf	0 ccf	264,108 ccf	0 ccf	\$2.62 /ccf
Total	2,341,507 ccf	310,876 ccf	593,274 ccf	1,437,357 ccf	0 ccf	
Available Water Supply		310,876 ccf	593,274 ccf	1,899,572 ccf	9,127,292 ccf	
Unit Rate		\$0.43 /ccf	\$0.81 /ccf	\$2.41 /ccf	\$2.62 /ccf	

Non WB (CII / Ag)	Demand	Groundwater	Recharge & Recovery	MWD Tier 1	MWD Tier 2	Unit Rate
Tier 1	7,290,813 ccf	1,112,566 ccf	2,123,218 ccf	4,055,029 ccf	0 ccf	\$1.65 /ccf
Tier 2	701,053 ccf	0 ccf	0 ccf	701,053 ccf	0 ccf	\$2.62 /ccf
Tier 3	14,350 ccf	0 ccf	0 ccf	14,350 ccf	0 ccf	\$2.62 /ccf
Total	8,006,216 ccf	1,112,566 ccf	2,123,218 ccf	4,770,432 ccf	0 ccf	
Available Water Supply		1,112,566 ccf	2,123,218 ccf	6,798,219 ccf	32,664,899 ccf	
Unit Rate		\$0.43 /ccf	\$0.81 /ccf	\$2.41 /ccf	\$2.62 /ccf	

5.4 Delivery Rate Calculations

Delivery costs are those operating and capital costs of the water system associated with delivering water to all customers at a constant average rate of use. In Rancho, delivery costs are split between water budget and non-water budget customers using the Budgeted sales split of 76% and 24%. In Santa Rosa, delivery costs are split between water budget and non-water budget customers using the Budgeted sales split of 22% and 78%. For both Divisions, the delivery revenue requirement is recovered over the units of water delivered (sold) in Tier 1 only. This results in a different unit cost for water budget and non-water budget customers in both Divisions. This is due to the fact that non water budget customers have a disproportionate amount of water use in Tier 1 versus water budget customers. Since non water budget customers only have three Tiers, a higher percentage of their total use falls in Tier 1 whereas water budget customers have four Tiers so a smaller percentage of their total use falls in Tier 1.

Table 5-16: Delivery Rate Calculations - Rancho

Delivery Revenue Requirements	FY 2017/2018	Water Budget Customers (R, M & L)	Non WB (CII / Ag)
Total Delivery Revenue Requirements	\$1,129,277	\$831,965	\$297,312
<i>Units of Service (Tier 1 Only)</i>		<i>3,383,514</i>	<i>3,225,512</i>
Unit Delivery Rate		\$0.25 /hcf	\$0.10 /hcf

Table 5-17: Delivery Rate Calculations – Santa Rosa

Delivery Revenue Requirements	FY 2017/2018	Water Budget Customers (R, M & L)	Non WB (CII / Ag)
Total Delivery Revenue Requirements	\$1,296,084	\$283,061	\$1,013,023
<i>Units of Service (Tier 1 Only)</i>		<i>570,989</i>	<i>7,078,459</i>
Unit Delivery Rate		\$0.50 /hcf	\$0.15 /hcf

5.5 Conservation Program Rate Calculations

Rancho's conservation program revenue requirement is allocated to customer classes using Budgeted sales for water budget and non-water budget customers using the split of 76% and 24% as found in Table 4-1, for three of the four programs. Santa Rosa's amount is allocated to customer classes using the Budgeted sales with water budget customers receiving 22% and non-water budget customers receiving 78% as found in Table 4-2. For both Divisions, the Water Supply/Capital Projects costs is allocated exclusively to water budget customers only in Tier 4 and to non-water budget customers only in Tier 3. Water usage in these Tiers is at a level where it would be considered egregious water waste and would require the District to purchase water at the most expensive marginal cost. All other conservation costs are allocated to the upper tiers only recognizing that efficient use does not require the District to acquire additional water supplies at a higher cost. Inefficient and/or excessive use requires the District to implement conservation programs or bear higher unit costs on Tier 2 purchases from MWD. See section 5.2 for more detail on the allocation of conservation costs. Tables 5-18 and 5-19 show the conservation program rate calculations.

Table 5-18: Conservation Program Rate Calculations – Rancho

Conservation Programs Revenue Requirements	FY 2017/2018	Water Budget Customers (R, M & L)		Non WB (CII / Ag)	
		Tiers 3 & 4	Tier 4 only	Tier 2 only	Tiers 3 only
Total CP Revenue Requirements	\$3,255,234	\$464,372	\$2,454,099	\$165,949	\$170,815
Units of Service		1,921,936	636,984	421,458	44,337
Unit CP Rate		\$0.25 /hcf	\$3.86 /hcf	\$0.40 /hcf	\$3.86 /hcf

Table 5-19: Conservation Program Rate Calculations – Santa Rosa

Conservation Programs Revenue Requirements	Water Budget Customers (R, M & L)		Non WB (CII / Ag)		
	FY 2017/2018	Tiers 3 & 4	Tier 4 only	Tier 2 only	Tiers 3 only
Total CP Revenue Requirements	\$1,382,049	\$123,740	\$959,460	\$248,308	\$50,540
Units of Service		500,474	244,543	680,635	13,045
Unit CP Rate		\$0.25 /hcf	\$3.93 /hcf	\$0.37 /hcf	\$3.88 /hcf

5.6 Local Water Sustainability Rate

Each year the District prepares an audit of the groundwater aquifer to monitor and ensure that the aquifer is maintained at a sustainable level. This year's groundwater audit revealed that the multi-year drought necessitated a 7,000 AF reduction in the amount of groundwater that could be pumped from the aquifer.

The purpose of the Local Water Sustainability Rate (LWSR) is to help offset the 7,000 AF reduction and the cost associated with replacing that water with a similar amount of higher cost imported water. The cost of the imported water is estimated to be \$3.4 million per Division for a total of approximately \$6.9 million. The Rancho Division has sufficient unrestricted non-operating revenues to offset its share of the increase in import water cost. The Santa Rosa Division's unrestricted non-operating revenues cannot completely offset the cost increase and leaves about \$400,000 to be recovered through the LWSR. Native groundwater is the District's first source of water and therefore, the cost of replacing the native water is spread to all units of water, irrespective of customer classes or tiers, to calculate a uniform rate. Table 5-20 below shows the LWSR rate calculations.

Table 5-20: Local Water Sustainability Rate Calculations

Revenue Requirements	Rancho	Santa Rosa
Revenue Requirement – Native Loss	\$3,436,914	\$3,448,832
Offset to Revenue Requirement	-3,436,914	-3,030,832
Net Revenue Requirement – Native Loss	0	418,000
<i>Units of Service</i>	<i>13,852,516</i>	<i>9,927,324</i>
Unit Delivery Rate	\$0.00 /hcf	\$0.04 /hcf

5.7 Proposed Commodity Rates

Proposed commodity rates are shown in Tables 5-21 and 5-22 for the Divisions below.

Table 5-21: Proposed Water Commodity Rates – Rancho

Water Budget Customers (R, M & L)	Current Rate	Proposed Rate	Proposed Rate Components		
			Water Supply	Delivery	Conservation Program
Tier 1 - Essential	\$0.67 /ccf	\$0.70 /ccf	\$0.45 /ccf	\$0.25 /ccf	\$0.00 /ccf
Tier 2 - Efficient	\$1.51 /ccf	\$1.48 /ccf	\$1.48 /ccf	\$0.00 /ccf	\$0.00 /ccf
Tier 3 - Inefficient	\$2.57 /ccf	\$2.66 /ccf	\$2.41 /ccf	\$0.00 /ccf	\$0.25 /ccf
Tier 4 - Unsustainable	\$6.50 /ccf	\$6.73 /ccf	\$2.62 /ccf	\$0.00 /ccf	\$4.11 /ccf
Non WB					
(CII / Ag / Ag Opt Out)	Current Rate	Proposed Rate	Water Supply	Delivery	Conservation Program
Tier 1	\$1.26 /ccf	\$1.26 /ccf	\$1.16 /ccf	\$0.10 /ccf	\$0.00 /ccf
Tier 2	\$2.99 /ccf	\$3.02 /ccf	\$2.62 /ccf	\$0.00 /ccf	\$0.40 /ccf
Tier 3	NA	\$6.88 /ccf	\$2.62 /ccf	\$0.00 /ccf	\$4.26 /ccf
All Usage	Current Rate	Proposed Rate			
LWSR	NA	\$0.00 /ccf			

Table 5-22: Proposed Water Commodity Rates – Santa Rosa

Water Budget Customers	Current Rate	Proposed Rate	Proposed Rate Components		
			Water Supply	Delivery	Conservation Program
Tier 1 - Essential	\$1.09 /ccf	\$1.12 /ccf	\$0.62 /ccf	\$0.50 /ccf	\$0.00 /ccf
Tier 2 - Efficient	\$2.00 /ccf	\$2.03 /ccf	\$2.03 /ccf	\$0.00 /ccf	\$0.00 /ccf
Tier 3 - Inefficient	\$2.55 /ccf	\$2.66 /ccf	\$2.41 /ccf	\$0.00 /ccf	\$0.25 /ccf
Tier 4 - Unsustainable	\$6.50 /ccf	\$6.80 /ccf	\$2.62 /ccf	\$0.00 /ccf	\$4.18 /ccf
Non WB					
(CII / Ag / Ag Opt Out)	Current Rate	Proposed Rate	Water Supply	Delivery	Conservation Program
Tier 1	\$1.76 /ccf	\$1.80 /ccf	\$1.65 /ccf	\$0.15 /ccf	\$0.00 /ccf
Tier 2	\$2.87 /ccf	\$2.99 /ccf	\$2.62 /ccf	\$0.00 /ccf	\$0.37 /ccf
Tier 3	NA	\$6.87 /ccf	\$2.62 /ccf	\$0.00 /ccf	\$4.25 /ccf
All Usage	Current Rate	Proposed Rate			
LWSR	NA	\$0.04 /ccf			

6 Development of Monthly Service Charges

6.1 Fixed Charges- Monthly Service Charge Background

As part of the budget process, the District reviews its budgeted expenditures and determines which proportion of these are fixed and not related to the amount of water sold. These costs break down into three main components; Meter Costs, Account Costs, and Capacity Costs. The District then takes the total fixed costs per category and divides them by a base specific to each component to determine a rate per category that would fully recover these fixed costs. Each base factor used is translated into a meter equivalency factor endorsed by the AWWA M-1 manual as an industry standard to represent the amount

of benefit derived for each of these types of cost. This allows the Monthly Service Charge to be assessed on the basis of meter size.

The total of these rates from the three components represents the total monthly service charge per account needed to fully recover its fixed costs. However, the District has recovery goals on a divisional basis that are less than this total amount and thus sets its actual total Monthly Service Charge as a portion of the full cost recovery rate. Each component of the Monthly Service Charge is further described in the remainder of Section 6.

6.2 Fixed Charges-Customer Account Costs

The Account cost component of the monthly fixed charge relates to costs that are based upon the number of accounts the District has. These costs typically relate to efforts such as providing customer service to account holders, calculating and distributing billing, and mailing required notices. The Account cost rate is determined by taking the total of these costs for each division and distributing to each account evenly. Table 6-1 shows the apportionment of the Account costs.

Table 6-1: Customer Account Cost Rate

	Rancho		Santa Rosa	
Total Customer Account Costs	\$	3,471,004	\$	1,276,116
Number of Accounts		36,161		8,143
Monthly Charge per Account	\$	8.00	\$	13.06

6.3 Fixed Charges-Meter Account Costs

The Meter cost component of the monthly fixed charge relates to costs that are based upon the size of a meter. These costs typically relate to efforts such as the physical maintenance of meters. The Meter cost rate is determined by taking the total of these costs for each division and distributing based on an equivalent meter factor, dependent on the physical size of the meter. Larger meters place a higher demand on maintenance costs due to their physical size and parts. Table 6-2 shows the apportionment of these costs on the determined meter equivalency factor based on meter size. This factor ensures meter costs are proportionate to the meter size and cost incurred on the utility.

Table 6-2: Meter Cost Rate

	Rancho	Santa Rosa
Total Customer Meter Costs	\$ 1,109,994	\$ 411,080
Number of Equivalent Meters	41,033	10,720
Monthly Charge per 3/4" Meter	\$ 2.25	\$ 3.20

Meter Size	Eq. Meter Capacity	Rancho	Santa Rosa
3/4"	1	\$ 2.25	\$ 3.20
1"	1.3	3.01	4.26
1 1/2"	2	4.51	6.39
2"	2.7	6.01	8.52
2" Turbine	2.8	6.31	8.95
3"	4	9.02	12.78
4"	5.3	12.02	17.04
6"	8	18.03	25.56
8"	10.7	24.05	34.09

6.4 Fixed Charges-Capacity Costs

The capacity cost component of the monthly fixed charge relates to costs that are based upon the total flow capability of each meter. Capacity costs represent the broadest category of fixed costs in that it is comprised of all operating costs necessary to provide water that doesn't fluctuate with the actual amount of water provided. These costs typically are comprised most of activities like the operations and maintenance of the water distribution system, legal and regulatory compliance, and certain administrative efforts. The capacity cost rate is determined by taking the total of these costs for each division and distributing based on an equivalent meter factor which is calculated based on a gallon per minute flow rate for each meter size. Larger meters place a higher demand on the utility due to their capability to place larger demands on the water system. The water system has to be designed to meet the potential demand on the system regardless of the actual water demand in a particular period of time which requires great amount and complexity of facilities with greater maintenance and oversight costs. Table 6-3 shows the apportionment of these costs on the determined meter equivalency factor based on meter size. This factor ensures meter costs are proportionate to the meter size and cost incurred on the utility.

Table 6-3: Capacity Cost Rate

	Rancho	Santa Rosa
Total Customer Capacity Costs	\$ 9,604,013	\$ 7,514,836
Total Capacity Converted to Equivalent Meters	52,976	16,808
Monthly Charge per 3/4" Meter	\$ 15.11	\$ 37.26

Meter Size	Eq. Meter Capacity	Rancho	Santa Rosa
3/4"	1	\$ 15.11	\$ 37.26
1"	1.7	25.68	63.34
1 1/2"	3.3	49.85	122.96
2"	5.3	80.07	197.47
2" Turbine	10.0	151.07	372.59
3"	16.7	252.29	622.23
4"	33.3	503.08	1,240.74
6"	53.3	805.23	1,985.92
8"	75.5	1,140.61	2,813.08

6.5 Fixed Charges-Total Monthly Service Charge Rates

The District's goal is to recover 80% of its total fixed costs for the Rancho Division and 75% for Santa Rosa Division with fixed revenues through the Monthly Service Charges. Working toward these goals has been a multi-year effort whereby incremental adjustments have been made each year in order to slowly bring the monthly service charges in line with the target goals. Over the past several years, the District reviewed the percentage of cost recovery on each meter size and assessed different degrees of increases on each meter size as needed to move closer to the overall goal of 80% for Rancho and 75% for Santa Rosa. All but two meter sizes now fall within the cost recovery goals for the Rancho and Santa Rosa Divisions. Therefore, only the 2" Turbine and 3" meters in the Santa Rosa Division will see a change in their total monthly service charge. Tables 6-4 and 6-5 below, detail the Monthly Service Charge and corresponding percentage fixed cost recovery per meter size for Fiscal Year 2017-2018.

Table 6-4 : Total Monthly Service Charges and Cost Recovery % - Rancho

Meter Size	Customer Account Cost	Meter Cost	Capacity Cost	Total Cost	Proposed Monthly Charge	Cost Recovery %
3/4"	\$ 8.00	\$ 2.25	\$15.11	\$25.36	\$21.22	84%
1"	8.00	3.01	25.68	36.69	30.97	84%
1 1/2"	8.00	4.51	49.85	62.36	53.30	85%
2"	8.00	6.01	80.07	94.08	80.75	86%
2" Turbine	8.00	6.31	151.07	165.38	137.15	83%
3"	8.00	9.02	252.29	269.31	234.32	87%
4"	8.00	12.02	503.08	523.10	456.13	87%
6"	8.00	18.03	805.23	831.26	727.59	88%
8"	8.00	24.05	1,140.61	1,172.66	1,089.19	93%
Fixed Costs					\$14,185,011	
Fixed Revenue					\$11,974,016	84%

Table 6-5 : Total Monthly Service Charges and Cost Recovery % - Santa Rosa

Meter Size	Customer Account Cost	Meter Cost	Capacity Cost	Total Cost	Proposed Monthly Charge	Cost Recovery %
3/4"	\$13.06	\$3.20	\$37.26	\$53.52	\$40.58	76%
1"	13.06	4.26	63.34	80.66	63.71	79%
1 1/2"	13.06	6.39	122.96	142.41	110.80	78%
2"	13.06	8.52	197.47	219.05	174.62	80%
2" Turbine	13.06	8.95	372.59	394.60	290.93	74%
3"	13.06	12.78	622.23	648.07	469.90	73%
4"	13.06	17.04	1,240.74	1,270.84	991.19	78%
6"	13.06	25.56	1,985.92	2,024.54	1,581.33	78%
8"	13.06	34.09	2,813.08	2,860.23	2,251.76	79%
Fixed Costs					\$9,202,033	
Fixed Revenue					\$7,051,561	77%

7 Development of Energy Rates

The District assesses an Energy Rate on all water sales to recover the energy costs necessary to move water from the base elevation where the source of water is to higher areas in the District's service area to ensure customers only pay the proportionate amount to get water to their area. Accordingly, each area of the District is subdivided into Pump Zones to represent each elevation level. The Energy rate per Pump Zone represents the incremental energy cost to lift water (hcf Lift Rate) from the base elevation area to that zone. This rate is calculated by taking the hcf Lift Rate and multiplying it by the per foot difference in elevation between the pump zone and the base zone. For example, in the Rancho Division

the 1380 Pump Zone has a 75-foot lift factor from the 1305 base elevation. The 1380 Energy rate is \$0.036000 which is calculated by multiplying the hcf Lift Rate of \$0.00048 by 75.

The hcf Lift rate used as the base rate to apply to each Pump Zone is determined by taking the total amount of anticipated water sales at each pump zone and adjusting them by the lifted feet difference factor from the base zone (Lift Adjusted Demand). The total energy cost is then divided by the total Lift Adjusted Demand to represent the cost to move one hcf of water one foot above the base zone. Tables 7-1 and 7-2 show the Total Lift Adjusted Demand, the determination of the hcf Lift Rate, and the Energy Rates for FY 2017-2018 for each Division.

Table 7-1: Lift Adjusted Demand, HCF Lift Rate and Energy Rates – Rancho

Rancho	
Total Energy Cost	\$ 1,248,156
Lift Adjusted Demand - CCF	2,604,097,635
CCF Lift Rate	\$ 0.00048

Pump Zone	Budgeted Demand	Lift Factor	Lift Adjusted Demand*	Energy Rate**
1305	3,013,475	-	-	-
1380	3,269,977	75	245,248,277	0.03600
1485	3,987,953	180	717,831,498	0.08640
1550	369,378	245	90,497,721	0.11760
1610	1,430,480	305	436,296,488	0.14640
1790	959,043	485	465,135,654	0.23280
1880(2070)	83,387	765	63,791,326	0.36720
2070	666,047	765	509,526,124	0.36720
2350	72,508	1,045	75,770,547	0.50160
	13,852,248		2,604,097,635	

* Lift Adjusted Demand is Budgeted Demand by zone x Lift Factor

** Energy Rate is Lift Factor x CCF Lift Rate

Table 7-2: Lift Adjusted Demand, HCF Lift Rate and Energy Rates – Santa Rosa

Santa Rosa	
Total Energy Cost	\$ 1,485,503
Lift Adjusted Demand - CCF	3,886,596,403
CCF Lift Rate	\$ 0.00038

Pump Zone	Budgeted Demand	Lift Factor	Lift Adjusted Demand*	Energy Rate**
1305	222,750	-	-	-
1434	-	129	-	0.04902
1440	2,350,713	135	317,346,236	0.05130
1500	1,403,467	195	273,676,139	0.07410
1670	3,749,172	365	1,368,447,753	0.13870
1990	1,351,444	685	925,739,007	0.26030
2160	68,622	855	58,671,484	0.32490
2260	120,395	955	114,977,027	0.36290
2550	642,924	1,245	800,440,178	0.47310
2850	17,669	1,545	27,298,579	0.58710
	9,927,156		3,886,596,403	

* Lift Adjusted Demand is Budgeted Demand by zone x Lift Factor

** Energy Rate is Lift Factor x CCF Lift Rate

8 Water Customer Impacts

Upon developing proposed monthly rates, impacts can be calculated for different customer classes under various levels of use.

Figures 8-1 and 8-2 show annual bill impacts for residential customers within each Division. Each chart presents the percentage of annual bills that fall within a discrete range. Similarly, Figures 8-3 and 8-4 display the same information for all water budget customers. For the Rancho Division the most number of accounts (70% of residential accounts and 68% of all water budget accounts) will have annual impacts between \$0 and \$60 (or \$0-\$5 per month). For the Santa Rosa Division, the most number of accounts (59% of residential accounts and 58% of all water budget accounts) will have annual impacts between \$30 and \$60 (or \$2.50-\$5 per month).

Figure 8-1: Residential (R) Customer Impacts – Rancho

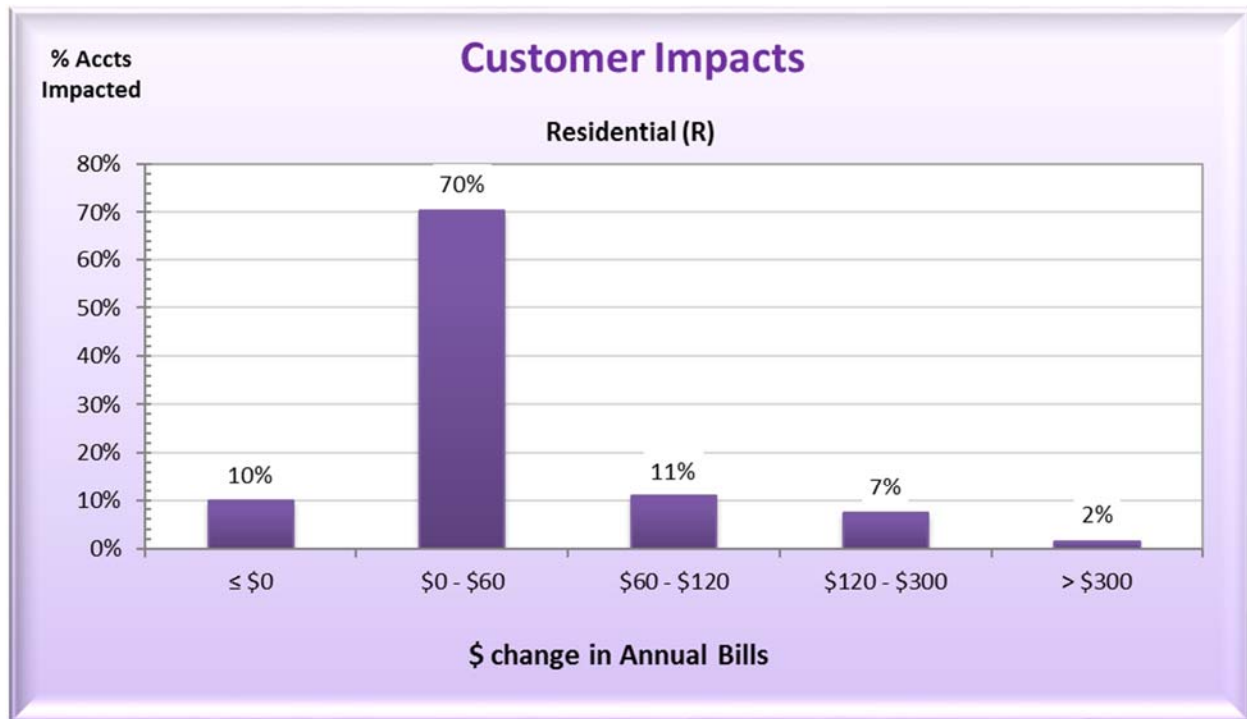


Figure 8-2: Residential (R) Customer Impacts – Santa Rosa

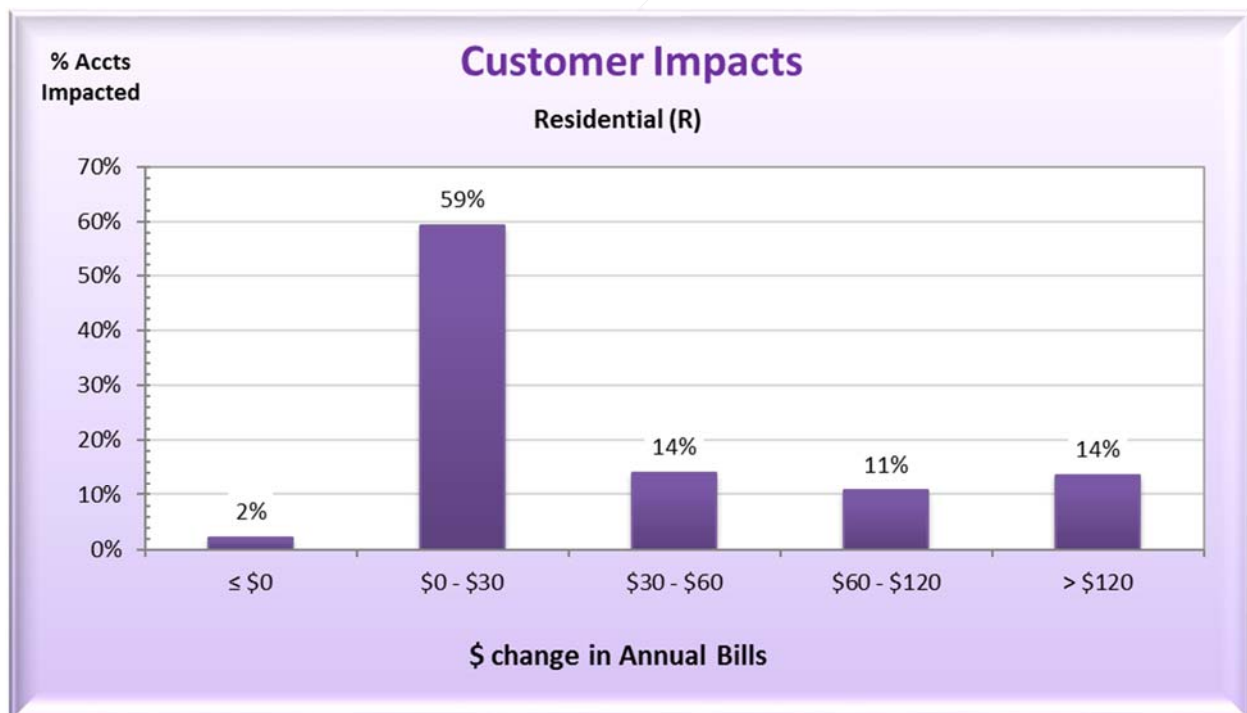


Figure 8-3: Water Budget (R/M/L) Customer Impacts – Rancho

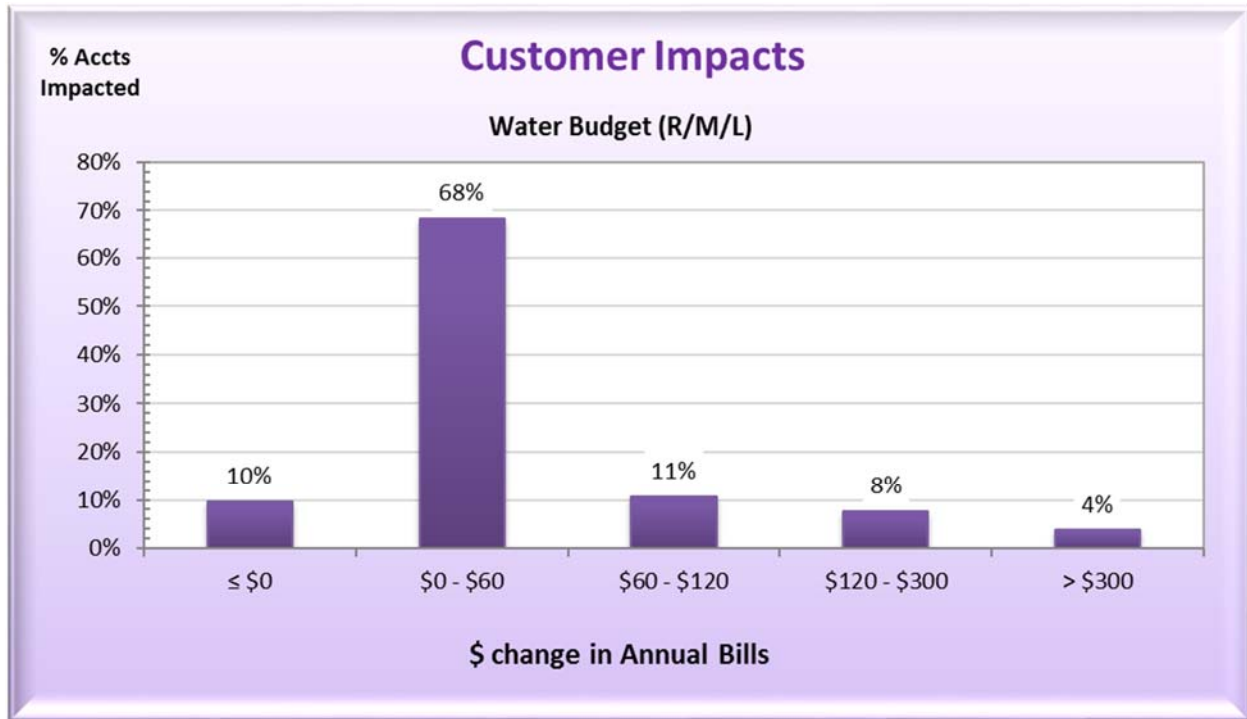
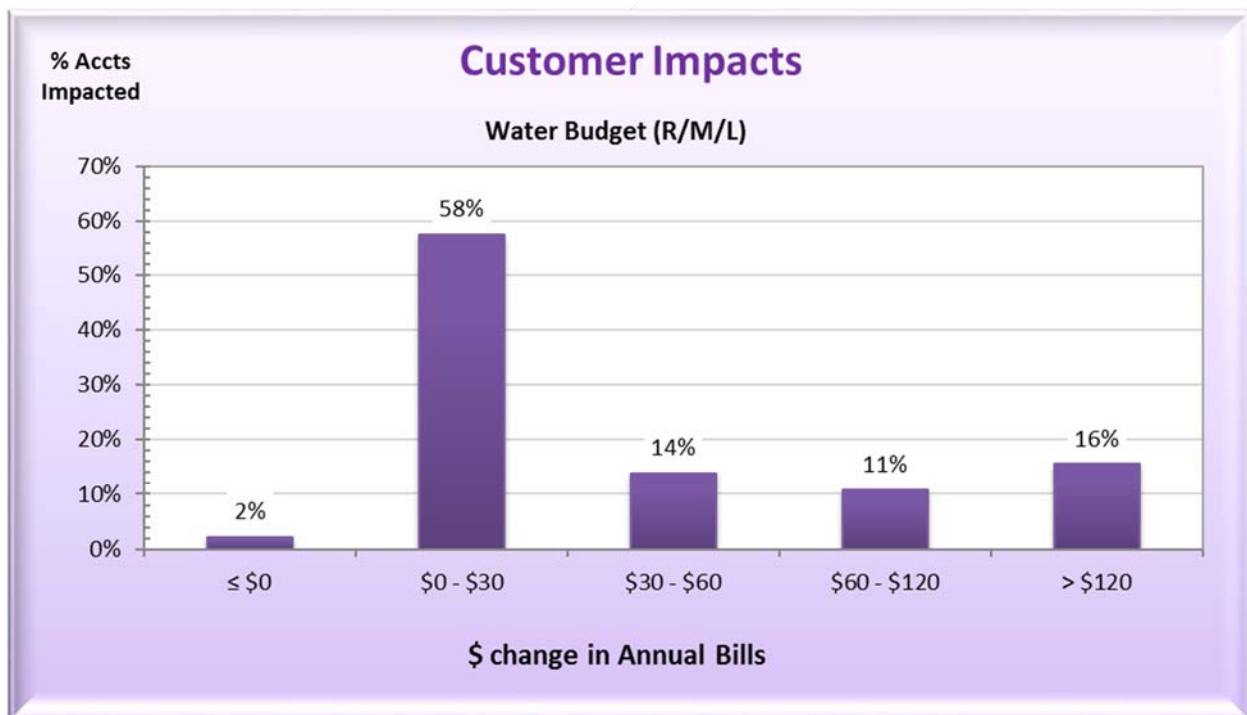


Figure 8-4: Water Budget (R/M/L) Customer Impacts – Santa Rosa



Figures 8-5 and 8-6 show bill impacts for non-water budget customers for both Divisions.

Figure 8-5: Non Water Budget (CII/Ag) Customer Impacts – Rancho

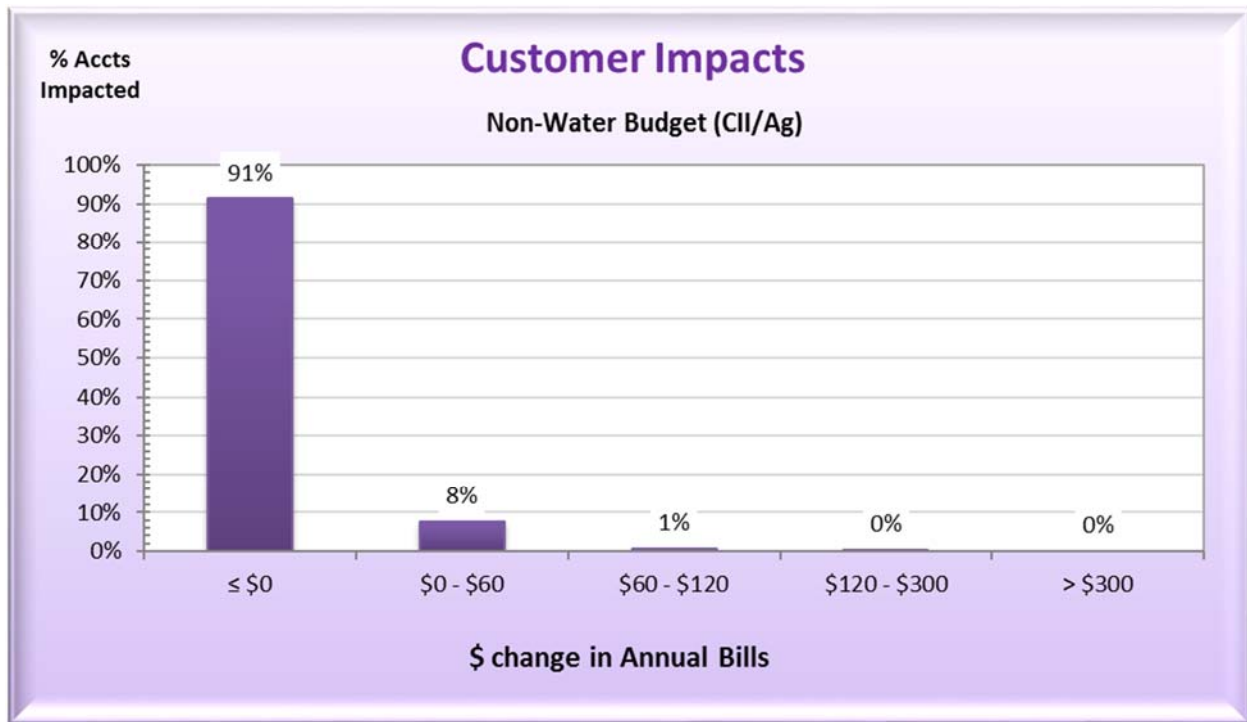
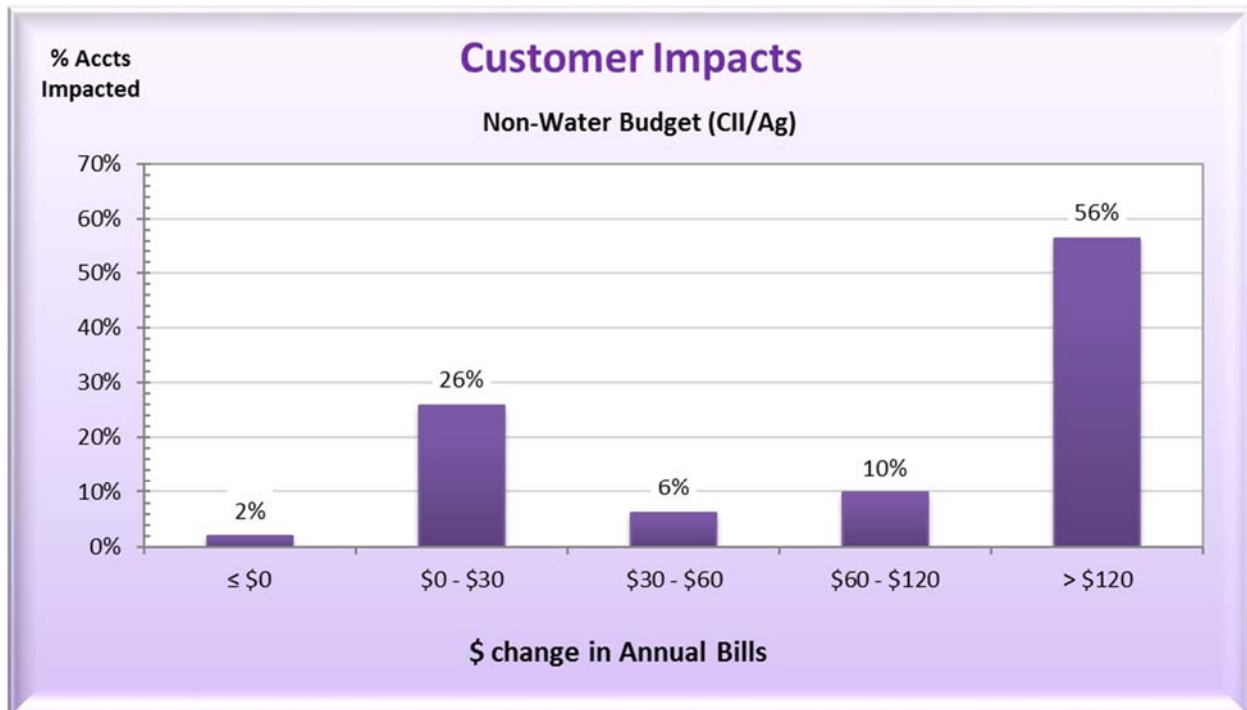


Figure 8-6: Non Water Budget (CII/Ag) Customer Impacts – Santa Rosa



Figures 8-7 and 8-8 includes all customer classes within each Division.

Figure 8-7: All Customer Impacts - Rancho

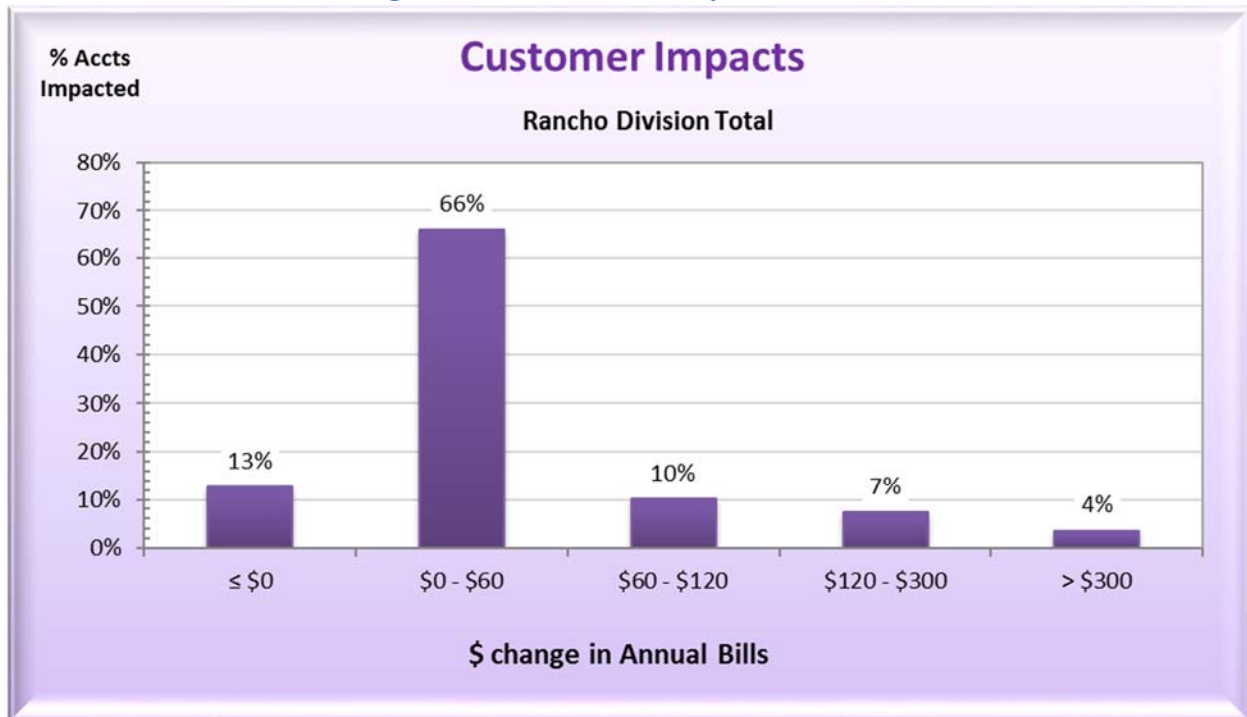
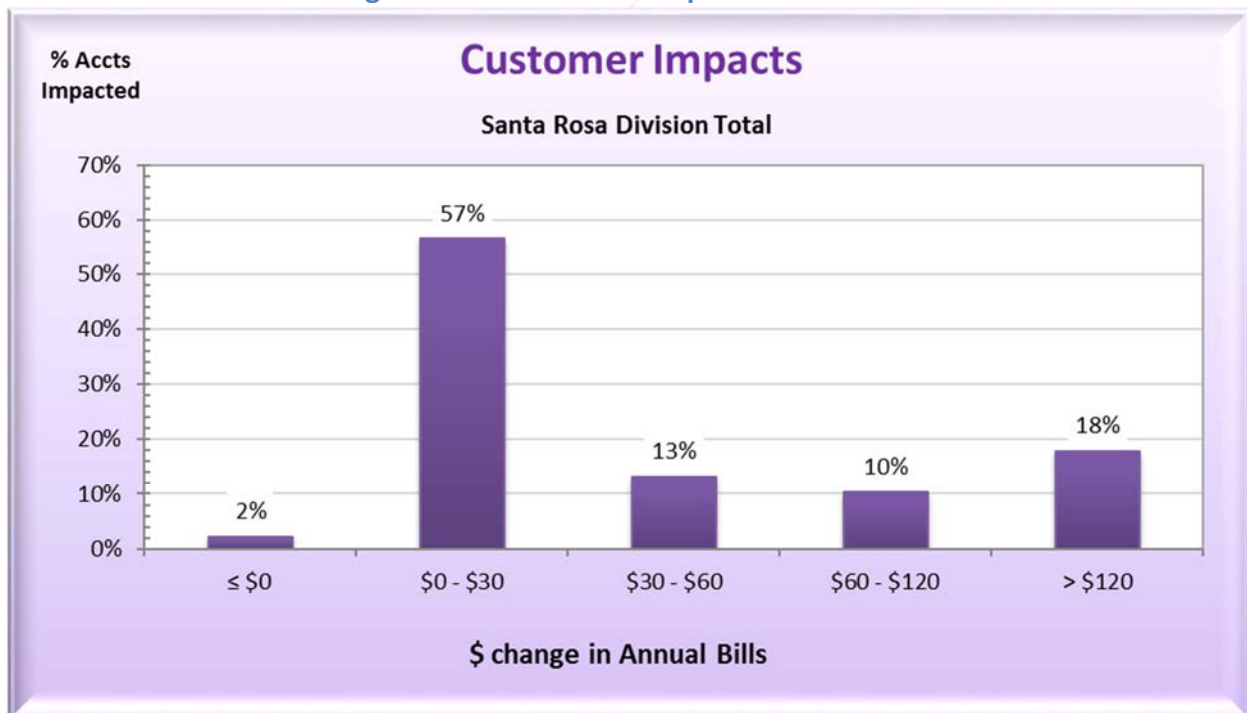


Figure 8-8: All Customer Impacts – Santa Rosa



Figures 8-9 and 8-10 show the annual bill impact for a typical residential account with a 3/4" meter (the most common in service), 4,000 square feet of landscape area, and a total annual water budget of 144 hcf (12 hcf per month) for Rancho. The Santa Rosa annual bill impact utilizes the same assumptions.

In the Rancho Division using the total annual water budget of 144 hcf, the new annual bill would be \$407.40, which is an increase of \$0.96 from the current bill (or 0.2% increase). In the Santa Rosa Division using the total annual water budget of 144 hcf, the new annual bill would be \$724.92, which is an increase of \$19.92 from the current bill (or 2.8% increase).

Figure 8-9: Sample Annual Residential (R) Bill – Rancho

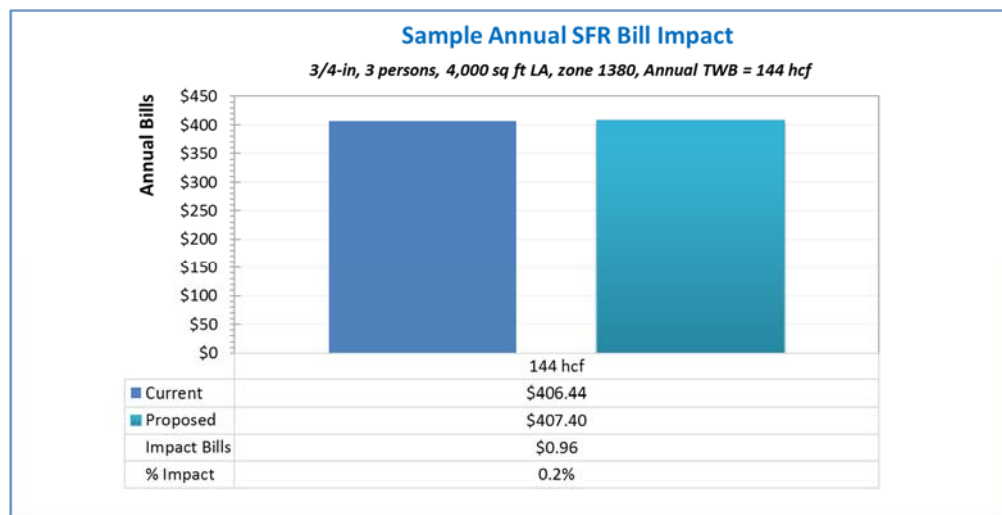
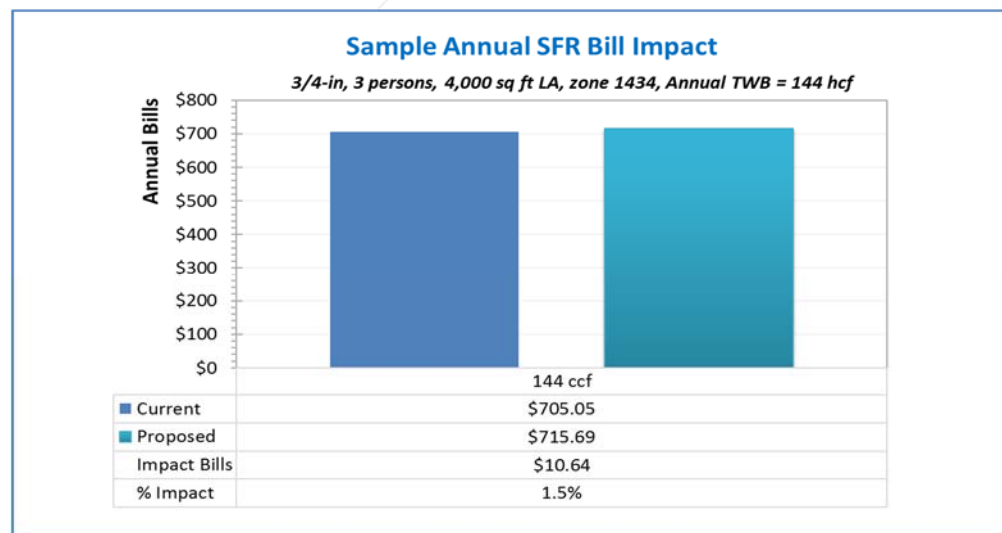


Figure 8-10: Sample Annual Residential (R) Bill – Santa Rosa



9 Recycled Water Rates

The District provides recycled water to approximately 132 accounts in the Rancho Division and 98 accounts in the Santa Rosa Division. Recycled water sales are budgeted at 3,800 AF and represent 6.5% of the total budgeted water supply portfolio for fiscal year 2017-2018. The District considers recycled water to be another source of water within its supply portfolio, and due to specific supply and distribution costs, recycled water rates are calculated independently from potable water rates.

9.1 Recycled Water Commodity Rate Calculation

Similar to potable water rate calculations, the recycled water rate calculations begin with establishing the revenue requirements. Table 9-1 below presents the revenue requirements for recycled water. Included in the revenue requirements are the District's two sources of supply, Eastern Municipal Water District (EMWD) and the Santa Rosa Water Reclamation Facility (SRWRF). These two supply costs along with distribution costs make up the recycled water revenue requirement. This revenue requirement is offset by recycled water credits, which are from a program that was implemented by MWD to encourage the development of recycled water infrastructure. The District's recycled water credit will expire at the end of fiscal year 2017-2018. The revenue requirement is also offset by Advanced Treatment Revenues received from a rate component of wastewater customer's monthly charge per EDU to help offset costs incurred to treat their wastewater flow to the recycled water level.

In addition to the offsets discussed above, \$317,441 of the revenue requirement is offset by contributions from the Water Divisions. Every AF of recycled water sold represents a benefit to potable water customers as recycled water demand serves as an offset to potable water demand. Substituting more expensive MWD Tier 1 water with less expensive recycled water benefits both Divisions financially and allows each Division to diversify their water supply portfolio with a less expensive supply source.

Table 9-1: Recycled Water Revenue Requirements

Recycled Water Revenue Requirements	
EMWD Supply	\$593,626
SRWRF Supply	996,680
Distribution	912,091
Total Recycled Water Revenue Requirements	\$2,502,397
Less Recycled Water Credits	-515,900
Less Wastewater Advanced Treatment Revenues	-173,020
Less Other Contributions from Water Divisions	-317,441
Net Recycled Water Revenue Requirements	\$1,496,036

Table 9-2 presents the proposed recycled water commodity rate per AF. The current recycled water rate is \$332.55 per AF while the proposed rate is \$357.50 per AF for an increase of \$24.95 per AF or 7.5%.

Table 9-2: Recycled Water Commodity Revenue Requirement and Rate Calculation (\$/AF)

Recycled Water Commodity Revenue Requirements	
Net Recycled Water Revenue Requirements	\$1,496,036
Less Recycled Energy Revenues	-82,369
Less Recycled Monthly Service Charges	-55,200
Recycled Water Commodity Revenue Requirements	\$1,358,467
Budgeted Recycled Water Sales - AF	3,800
Proposed Recycled Water Commodity Rate - AF	\$357.50

9.2 Recycled Water Monthly Service Charge

In addition to the commodity rate, the District charges a monthly service charge to each recycled water account. The District determines which portion of the total eligible fixed costs associated with maintaining the distribution system should be recovered with a fixed rate. To provide incentive for customers to use recycled water, the District has limited the total fixed rate to \$20 per month or \$55,200 of the total \$912,000 in fixed distribution costs. Table 9-3 below presents the monthly service charge calculation.

Table 9-3: Recycled Water Monthly Service Charge Calculation

Fixed Costs	\$55,200
Estimated Number of Accounts	230
Proposed Monthly Recycled Water Service Charge	\$20.00

9.3 Recycled Water Energy Charge

Every unit of recycled water is subject to the same energy rates as calculated for potable water. Since the recycled water moves through the same pressure zones and it is pumped by the same type of equipment as potable water, the energy rate calculations for recycled water are exactly the same as potable water. Table 9-4 presents the energy rates for recycled water specific to the Division in which the water is pumped in. For a detailed explanation of how the energy charges are calculated, see section 7 above.

Table 9-4: Recycled Water Energy Charge (\$/CCF)

Rancho	
Total Energy Cost	\$ 60,064
Lift Adjusted Demand - CCF	125,134,305
CCF Lift Rate	\$ 0.00048

Pump Zone	Budgeted Demand	Lift Factor	Lift Adjusted Demand*	Energy Rate**
1380	816,983	75	61,273,725	0.03600
1485	354,781	180	63,860,580	0.08640
	1,171,764		125,134,305	

Santa Rosa	
Total Energy Cost	\$ 22,304
Lift Adjusted Demand - CCF	58,695,000
CCF Lift Rate	\$ 0.00038

Pump Zone	Budgeted Demand	Lift Factor	Lift Adjusted Demand*	Energy Rate**
1500	301,000	195	58,695,000	0.07410
	301,000		58,695,000	

* Lift Adjusted Demand is Budgeted Demand by zone x Lift Factor

** Energy Rate is Lift Factor x CCF Lift Rate

10 Wastewater Rates

The District provides wastewater services to approximately 8,239 EDUs through the Santa Rosa Water Reclamation Facility (SRWRF). The SRWRF is in the process of being acquired by the Santa Rosa Regional Resources Authority (SRRRA) which is a Joint Powers Authority (JPA) that is comprised of the District, Western Municipal Water District and Elsinore Valley Municipal Water District.

The JPA provides wastewater treatment to the JPA member agencies while the District provides collections and customer service to its wastewater customers independently from the JPA. The JPA bills each member agency, including the District, for O&M, debt service and capital costs based on an annual budget or actual costs. The District administers the JPA and operates the SRWRF.

The District's current wastewater rate can be broken down into five components as seen in table 10-1 below. The wastewater rates are billed on a per Equivalent Dwelling Unit (EDU) basis to allocate costs by the total estimated flow each customer is impacting the wastewater collections and treatment system.

One EDU equates to the quantity of wastewater an average residential single-family customer contributes to the wastewater system. One EDU is assigned to each residential home, whereas a commercial customer's number of EDUs are based on their expected peak wastewater flows relative to an average single-family customer.

Table 10-1: Current Wastewater Rate (\$/EDU) & Components

Component	Current Rate
Operations and Maintenance	\$18.00
Collections	4.25
Replacement	4.00
Debt Service	9.50
Advanced Treatment	3.00
Total Current Wastewater Rate - EDU	\$38.75

The revenue requirement for each component of the proposed wastewater rate along with the rate calculation are presented below in table 10-2. The total proposed rate is \$40.75 which is \$2.00 or 5.16% more than the current wastewater rate of \$38.75.

Table 10-2: Revenue Requirement & Proposed Wastewater Rate (\$/EDU)

Wastewater Revenue Requirements	
Operations and Maintenance	\$2,097,357
Collections	591,981
Capital Replacement	395,475
Debt Service	840,385
Recycled Water Advanced Treatment	173,020
Total Wastewater Revenue Requirement	\$4,098,218
Wastewater Reserve Use	-70,157
Net Wastewater Revenue Requirement	\$4,028,061
Budgeted EDUs	8,239
Proposed Wastewater Rate - EDU	\$40.75

Appendix A – Fiscal Year 2017-2018 Rancho Division Operating Budget

Rancho Division

	2017-2018 BUDGET
OPERATING REVENUES	
Water Revenue	\$18,792,635
Recycled Water Revenue	961,655
Monthly Service Charge	12,005,696
Unmetered Construction Water	4,292
Energy Charges	1,310,031
Other-Recycled Project Crds	391,160
New Service Connections	450,716
Rental/Lease Income	440,853
Other Op Rev-Billing	807,394
Other Op Rev-Eng.	150,202
Reclass From/(To) Non-Op	4,525,684
Total Operating Revenues	\$39,840,317
OPERATING EXPENSES	
SOURCE OF SUPPLY	
<u>Operating</u>	
Purchased Water Resource	22,896,714
Purchased Water Santa Marg	1,947,497
TOTAL SOURCE OF SUPPLY	\$24,844,211
BOOSTER PUMPING	
<u>Operating</u>	
Labor	140,356
G&A/Fringe Benefit	326,888
Materials & Supplies	19,100
Utilities	1,248,156
Outside Services	46,600
Vehicle & Equipment	14,036
Total Operating	\$1,795,136
<u>Corrective Maintenance</u>	
Corrective Maintenance-Labor	12,920
Corrective Maintenance-G&A/FB	31,383
Corrective Maintenance	52,000
Total Corrective	96,303
TOTAL BOOSTER PUMPING	\$1,891,439

TRANSMISSION & DISTRIBUTION (T&D)

Operating

Labor	1,202,751
G&A/Fringe Benefit	2,589,188
Materials & Supplies	130,610
Outside Services	203,495
Vehicle & Equipment	111,172
Service Connections-Labor	90,148
Service Connections-G&A/FB	218,968
Service Connection Expense	141,600

Total Operating	\$4,687,932
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Corrective Maintenance

Corrective Maintenance-Labor	200,554
Corrective Maintenance-G&A/FB	487,146
Corrective Maintenance	580,616

Total Corrective	\$1,268,316
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TOTAL T&D	\$5,956,248
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CUSTOMER SERVICE

Operating

Labor	536,589
G&A/Fringe Benefit	1,222,555
Materials & Supplies	182,300
Outside Services	79,900
Vehicle & Equipment	53,659
Resource Customer Support	1,399,567
Uncollectible Accounts	32,000

Total Operating	3,506,571
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TOTAL CUSTOMER SERVICE	\$3,506,571
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RECYCLED WATER

Operating

Joint Facility Recycled Water	1,113,214
Labor	51,387
G&A/Fringe Benefit	119,681
Materials & Supplies	22,374
Utilities	209,017
Outside Services	16,075
Vehicle & Equipment	5,139

Total Operating	\$1,536,887
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<u>Corrective Maintenance</u>	
Corrective Maintenance-Labor	10,585
Corrective Maintenance-G&A/FB	25,712
Corrective Maintenance	42,500
Total Corrective	78,798
TOTAL RECYCLED WATER	\$1,615,685
ENGINEERING	
<u>Operating</u>	
Labor	48,697
G&A/Fringe Benefit	102,507
Outside Services	10,000
Vehicle & Equipment	4,870
Engineering OH-Cap Fee for Service	51,911
Resource Engineering	494,615
Total Operating	712,599
TOTAL ENGINEERING	\$712,599
SUPPORT	
<u>Operating</u>	
Direct Support Allocation	1,151,758
Resource Support	0
Total Operating	1,151,758
Total support	\$1,151,758
TOTAL OPERATING EXPENSES	\$39,678,511
GAIN OR (LOSS) FROM OPERATIONS	161,806
RESERVES	-698,923
INTEREST EARNINGS GENERAL FUND	416,000
PERS CONTRIBUTION AMORTIZATION	121,117
NET SOURCES OR (USES) FROM OP ACTIVITIES	\$0

Appendix B – Fiscal Year 2017-2018 Santa Rosa Division Operating Budget

Santa Rosa Division

OPERATING REVENUES	2017-2018 BUDGET
Water Revenue	\$18,804,665
Recycled Water Revenue	396,817
Monthly Service Charges	7,075,081
Energy Charges	1,499,211
Other- Recycled Project Crds	124,740
New Service Connections	146,038
Rental/Lease Income	168,368
Other Op Rev-Billing	313,604
Other Op Rev-Eng.	68,913
Western IDA-Rock Mtn	104,528
Reclass From(To) Non-Op	4,470,132
Total Operating Revenues	\$33,172,095
OPERATING EXPENSES	
SOURCE OF SUPPLY	
<u>Operating</u>	
Purchased Water Resource	21,634,071
Purchased Water Santa Marg	834,642
Total Source of Supply	\$22,468,712
BOOSTER PUMPING	
<u>Operating</u>	
Labor	112,873
G&A/Fringe Benefit	262,882
Materials & Supplies	45,300
Utilities	1,485,503
Outside Services	236,400
Vehicle & Equipment	11,287
Total Operating	\$2,154,246
<u>Corrective Maintenance</u>	
Corrective Maintenance-Labor	12,703
Corrective Maintenance-G&A/FB	30,856
Corrective Maintenance	152,000
Total Corrective	195,559
TOTAL BOOSTER PUMPING	\$2,349,805

TRANSMISSION & DISTRIBUTION (T&D)

Operating

Labor	643,175
G&A/Fringe Benefit	1,333,363
Materials & Supplies	144,699
Outside Services	198,431
Vehicle & Equipment	57,250
Service Connections-Labor	29,174
Service Connections-G&A/FB	70,864
Service Connection Expense	46,000

Total Operating	\$2,522,956
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Corrective Maintenance

Corrective Maintenance-Labor	183,870
Corrective Maintenance-G&A/FB	446,620
Corrective Maintenance	307,875

Total Corrective	\$938,365
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Total Transmission & Distribution	\$3,461,322
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CUSTOMER SERVICE

Operating

Labor	194,304
G&A/Fringe Benefit	443,107
Materials & Supplies	43,500
Outside Services	74,850
Vehicle & Equipment	19,430
Resource Customer Support	320,029
Uncollectible Accounts	13,000

Total Operating	1,108,220
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Total Customer Service	\$1,108,220
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RECYCLED WATER

Operating

Joint Facility Recycled Water	477,092
Labor	52,925
G&A/Fringe Benefit	123,263
Materials & Supplies	27,624
Utilities	145,467
Outside Services	19,543
Vehicle & Equipment	5,293

Total Operating	\$851,207
------------------------	------------------

<u>Corrective Maintenance</u>	
Corrective Maintenance-Labor	6,913
Corrective Maintenance-G&A/FB	16,792
Corrective Maintenance	11,800
Total Corrective	35,505
Total Recycled Water	\$886,712
ENGINEERING	
<u>Operating</u>	
Labor	30,389
G&A/Fringe Benefit	63,968
Outside Services	2,000
Vehicle & Equipment	3,039
Engineering OH-Cap Fee for Service	32,394
Resource Engineering	475,105
Total Operating	606,896
TOTAL ENGINEERING	\$606,896
SUPPORT	
<u>Operating</u>	
Direct Support Allocation	617,964
Resource Support	0
Total Operating	617,964
Total support	\$617,964
TOTAL OPERATING EXPENSES	\$31,499,631
GAIN OR (LOSS) FROM OPERATIONS	1,672,464
RESERVES	-1,814,132
INTEREST EARNINGS GENERAL FUND	66,000
PERS CONTRIBUTION AMORTIZATION	75,668
NET SOURCES OR (USES) FROM OP ACTIVITIES	\$0