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Rincon Del Diablo Municipal Water District

Comprehensive Water Cost of Service & Rate Study

Final Report / June 9, 2015

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May 18, 2015

Ms. Tish Berge
Director of Administration and Finance
Rincon del Diablo Municipal Water District
1920 N. Iris Lane
Escondido, CA 92026

Subject: Water Rate Study Report

Dear Ms. Berge,

Raftelis Financial Consultants, Inc. (RFC) is pleased to provide this Water Rate Cost of Service Study Report (Report) for Rincon del Diablo Municipal Water District (District) to address financial needs of the District and to establish equitable water rates that provide sufficient revenue over a five-year planning period. The rate structure is consistent with direction provided to us from District staff and the District Board.

The major objectives of the study include the following:

1. Develop financial plans for the District to ensure financial sufficiency, meet operation and maintenance (O&M) costs, ensure sufficient funding for capital replacement and refurbishment (R&R) needs, and build up reserves over the five years
2. Perform cost-of-service analyses for the water utility based on recent historical usage
3. Develop a conservation based rate structure, and
4. Develop fair and equitable water rates

The Report summarizes the key findings and recommendations related to the development of the financial plan and the development of rates the for water enterprise.

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

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.

Sudhir Pardiwala	**Habib Isaac**	**Gregg Tobler**
Executive Vice President	Manager	Senior Consultant

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

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1 EXECUTIVE SUMMARY

1.1 BACKGROUND OF THE RINCON DEL DIABLO MUNICIPAL WATER DISTRICT

In 2014, the Rincon del Diablo Municipal Water District (the District) contracted with RFC to conduct a Water Cost of Service and Rate Study (Study) to develop a financial plan as well as design water rates for the District over the next five years.

The District is located approximately 25 miles north of the City of San Diego and serves portions of the cities of Escondido and San Marcos, as well as unincorporated areas of San Diego County. The District provides potable water service to a population of approximately 30,000 customers through 8,000 connections. On an annual basis, the District delivers approximately 6,500 acre-feet of potable water which is obtained solely through purchases from the San Diego County Water Authority (SDCWA). The District also retails approximately 3,000 acre-feet of recycled water from the City of Escondido and distributes it to approximately 70 irrigation or industrial customers.

The District's Water Utility, like other agencies in San Diego County, is faced with challenges related to the reduction in water usage as a result of conservation, the slow economy, and increasing SDCWA water supply costs as well as the recent Executive Order by Governor Brown (Executive Order B-29-15) related to mandatory conservation of 25%. The District is operating in an environment where operational costs and external costs associated with imported water from the SDCWA continue to increase and the reinvestment of funds to its infrastructure is required as outlined within the District's updated Master Plan. This is not a situation that is unique to the District, as many agencies throughout the state are faced with water availability, conservation and the need to update capital infrastructure that is necessary to continue providing reliable water services, adhere to new regulations and mandates, and meet service demands while water supplies are strained in the face of the current statewide drought.

1.2 WATER UTILITY

The current water rate structure of the District consists of four main components: a monthly system operations charge (Rincon service charge), a monthly San Diego County Water Authority (SDCWA) Infrastructure Access Charge (IAC), a water usage rate or commodity charge, and a pumping charge. Both the Rincon service charge and SDCWA IAC vary based on meter size whereas the water usage rate varies by customer class and usage. The following tables summarize the current rate structure of the District. **Table 1-1** provides a summary of water accounts by meter size, with the majority of residential customers served by 5/8" meters. **Tables 1-2** identifies the monthly system operations charges, including both the Rincon service charge and the SDCWA IAC, by meter size. **Table 1-3** identifies the commodity charges by customer class. As shown in **Table 1-3,** the District's commodity rate structure is comprised of inclining tiers for residential and commercial customers, budget based tiers for agricultural / landscape customers, and a flat or uniform rate for construction customers. **Table 1-4** identifies the current pumping charge which is applied as a uniform rate.

Table 1-1: Water Accounts by Meter Size

Meter Size	Meter Count
5/8"	5,737
1"	1,271
1 1/2"	199
2"	133
3"	30
4"	3
6"	7
8"	2
Total Meters	7,382

Table 1-2: FY 2014-15 Water Monthly System Operations Charge (Service Charge)

Meter Size	Rincon Service Charge	SDCWA IAC Charge
5/8"	$26.09	$2.76
1"	$34.75	$4.42
1 1/2"	$65.89	$8.29
2"	$104.04	$14.36
3"	$173.25	$26.51
4"	$216.53	$45.29
6"	$287.43	$82.85
8"	$389.75	$143.60

Table 1-3: FY 2014-15 Water Commodity Charge by Customer Class

Customer Class	Structure (Tier)	Commodity Rate (per unit[1])
Residential	(per residence)	
	Tier 1 – (1-6 Units)[2]	$4.78
	Tier 2 – (7-20 Units)	$4.93
	Tier 3 – (21-35 Units)	$5.17
	Tier 4 – (36-45 Units)	$5.54
	Tier 5 – (46 Units or more)	$6.03
Mobile Home Parks	(per space)	
	Tier 1 – (1-3 Units)	$4.78
	Tier 2 – (4-6 Units)	$4.93
	Tier 3 – (7-8 Units)	$5.17
	Tier 4 – (9-10 Units)	$5.54
	Tier 5 – (11 Units or more)	$6.03
Apartments	(per apartment)	
	Tier 1 – (1-2 Units)	$4.78
	Tier 2 – (3-4 Units)	$4.93
	Tier 3 – (5-8 Units)	$5.17
Commercial	(per enterprise)	
	Tier 1 – (1-3 Units)	$4.93
	Tier 2 – (4-7 Units)	$5.17
	Tier 3 – (8 Units or more)	$5.54
Medical Care Facilities	(per bed)	
	Tier 1 – (1-2 Units)	$4.93
	Tier 2 – (3-4 Units)	$5.17
	Tier 3 – (5 Units or more)	$5.54
Agricultural – TSAWR		
	Tier 1 – (1-6 Units)	$4.78
	Tier 2 – (7-19 Units)	$4.93
	Tier 3 – (Up to Budgeted Units)	$4.93
	Tier 4 – (Above Budgeted Units)	$5.17
Commercial Agricultural / Landscape / Irrigation		
	Tier 1 – (Up to 60% of Budget)	$4.78
	Tier 2 – (61% - 80% of Budget)	$4.93
	Tier 3 – (81% -90% of Budget)	$5.17
	Tier 4 – (91%-100% of Budget)	$5.54
	Tier 5 – (101% or more of Budget)	$6.03
Construction	Flat / Uniform	$5.70

Table 1-4: FY 2014-15 Pumping Charge

Zones (1-4, 10, 15)	Pumping Charge
Pumping Charge (per unit)	**$0.59**

[1] Commodity rates are per unit whereby 1 unit equals 1,000 gallons of water.
[2] As part of current rate structure, residential customers not exceeding 6 Units of water receive a frugal user discount of 30% off the Rincon monthly service charge.

1.3 RECYCLED WATER UTILITY

Rincon also provides recycled water to its customers for landscape irrigation and industrial use. Recycled water is an important component of Rincon's water portfolio and helps to meet water supply needs while reducing the reliance on potable imported water. The current recycled water rate structure consists of two components: a monthly system operations charge by meter size, and a uniform usage rate. **Table 1-5** summarizes the current recycled water monthly system operations rates. **Table 1-6** identifies the recycled water usage/commodity rate.

Table 1-5: FY 2014-15 Recycled Water System Operations Charge

Meter Size	System Operations Charge
5/8"	$13.05
1"	$17.38
1 1/2"	$32.95
2"	$52.00
3"	$86.62
4"	$108.26
6"	$143.72
8"	$194.88
16”	$779.50

Table 1-6: FY 2014-15 Recycled Water Commodity Charge

	Recycled Commodity Charge
RW Commodity Charge (per unit)	**$4.34**

1.4 FINANCIAL HEALTH AND PROPOSED RECOMMENDATIONS

1.4.1 Water Utility Recommendations

The beginning balance for Fiscal Year (FY) 2015-16 reserves is expected to be approximately $10.4M, which is held in the following three accounts, Operating Reserve, Capital Reserve, and Rate Stabilization Reserve. It is projected that the District would have positive net cash at Fiscal Year End (FYE) 2014-15; however, without future revenue adjustments, the water utility is projected to have a slight operating deficit by FYE 2015-16 and will need to draw on reserves to offset annual shortfalls. In addition, the District's annual planned capital improvement expenditures average $3.3M over the next five years. The District currently has a healthy level of capital reserves, equal to approximately $9.2M, but reserves would only fully cover the next two years of necessary capital improvements without an influx of additional revenues.

As part of our review of the District's current financial position and reserve policy, RFC recommends increasing the Operating Reserve to ninety (90) days of operating expenses, maintaining the current Capital Repair and Replacement Reserve Target equal to 35% of the 5-yr annual average capital improvement plan (approximately $5M), and adjusting the Rate Stabilization Reserve Target to 10% of purchased water cost, which is a significant portion of the District's budget (equal to approximately $930k).

After review of the water utilities revenue requirements, reserves, and current revenues, it is recommended that the District adjust revenue by 5% for each of the next five years beginning on September 1, 2015 and incorporate a pass-through component to its charges for any cost increases from the SDCWA. Additionally, to mitigate significant rate increases and adequately fund its capital improvement plan, it is recommended that the District issue debt totaling $10M in FY 2016-17. Given the useful life of these capital improvements, funding these items through debt provides inter-generation equity between existing customers and future customers by spreading the cost over a debt-term of 30-years, in-line with the life of improvement. As such, current customers are not funding the entire project in advance of those that will also benefit from the projects.

Overall, the proposed financial plan for the water system aims to strike a balance between maintaining a strong financial position and minimizing rate increases to its customers through a multi-year measured approach. Under the proposed plan, the water utility will reach and maintain a positive net income and will meet and maintain the minimum reserve targets throughout the study period.

In addition to reviewing the water utility's current financial health, RFC also reviewed the current rate structure and consumption data to determine the most appropriate rate structure moving forward. As such, RFC is recommending the following proposed adjustments to the current structure:

- RFC recommends changing the Residential (Residential, Apartments, and Mobile Home Parks) water rate structures from 5-tiered to 3-tiered inclining rate structures to ensure compliance with Proposition 218 and the specific provisions of cost-based rates. Given that the District imports its water, tying costs to each higher tier may become problematic when compared to a tiered rate structure with multiple water supplies that each have a separate cost. Therefore, the difference between tiered pricing is through the allocation of conservation programs and tier-demand costs, such as, electricity, pumping and capital projects
- RFC recommends changing Non-Residential (Commercial/Industrial and Medical Care Facilities) water rate structures from a 3-tiered rate structure to a uniform rate structure as Non-Residential commercial uses and related water needs can vary drastically between accounts. Although a uniform rate is recommended, it is important to note that the customer class as a whole is still paying its fair share of costs based on the demand they place on the system and is not being subsidized by another customer class. To ensure equitability between accounts within the customer class, a uniform commodity rate is the most appropriate rate structure.
- RFC recommends changing the Agricultural and Irrigation rate structure from a 5-tiered budget based rate structure to a 2-tiered budget based rate structure. The District has previously defined efficient use for each account by providing a unique water allotment each month that is specific to each account's landscape area. Therefore, Tier 1 would reflect the amount of water needed (within their water budget) and Tier 2 would signal when an account went over their water budget
- Given the adjustments in the number of tiers, RFC also recommends adjusting the tier breakpoints to compliment the new proposed tiers.
- Additionally, RFC recommends including a SDCWA pass-through component to separately account for costs outside of the Districts control.

Table 1-7 through **Table 1-9** summarizes the proposed water rates.

Table 1-7: Proposed Rincon Service Charge

Meter Size	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
5/8"	$28.42	$30.13	$31.93	$33.85	$35.88
1"	$40.35	$42.77	$45.33	$48.05	$50.93
1 1/2"	$60.22	$63.83	$67.66	$71.72	$76.03
2"	$84.07	$89.11	$94.46	$100.13	$106.14
3"	$159.60	$169.17	$179.32	$190.08	$201.49
4"	$219.22	$232.37	$246.32	$261.09	$276.76
6"	$417.97	$443.05	$469.63	$497.81	$527.68
8"	$656.47	$695.86	$737.61	$781.87	$828.78

Table 1-8: Proposed SDCWA IAC

Meter Size	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
5/8"	$2.37	$2.51	$2.66	$2.82	$2.99
1"	$5.93	$6.28	$6.66	$7.06	$7.48
1 1/2"	$11.85	$12.56	$13.31	$14.11	$14.96
2"	$18.96	$20.10	$21.30	$22.58	$23.94
3"	$41.48	$43.96	$46.60	$49.40	$52.36
4"	$59.25	$62.81	$66.57	$70.57	$74.80
6"	$118.50	$125.61	$133.15	$141.14	$149.60
8"	$189.60	$200.98	$213.03	$225.82	$239.37

Table 1-9: Proposed Commodity Charges – Including Projected Pass-through Component

Customer Class	Tier width	2015-16 Rate (per unit)
Residential		
Tier 1	1 - 6 Units	$5.04
Tier 2	6.01 - 25 Units	$5.90
Tier 3	> 25 Units	$6.24
Apartments & Mobile Home Parks		
Tier 1	1 - 3 Units	$5.04
Tier 2	3.01 - 6 Units	$5.90
Tier 3	> 6 Units	$6.24
Non-Residential (Com, Med, Etc.)	Uniform	$5.50
Agricultural, Commercial Ag., Landscape/Irrigation		
Tier 1	100% of Water Budget	$5.90
Tier 2	Above Water Budget	$6.24
Construction	Uniform	$6.17
Pumping Charge	Uniform	$0.21

1.4.2 Recycled Water Utility Recommendations

Table 1-10: Proposed Rincon Recycled Water Service Charge

Meter Size	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
5/8"	$14.21	$15.06	$15.97	$16.92	$17.94
1"	$20.17	$21.38	$22.67	$24.03	$25.47
1 1/2"	$30.11	$31.92	$33.83	$35.86	$38.01
2"	$42.04	$44.56	$47.23	$50.06	$53.07
3"	$79.80	$84.59	$89.66	$95.04	$100.74
4"	$109.61	$116.19	$123.16	$130.55	$138.38
6"	$208.99	$221.52	$234.82	$248.90	$263.84
8"	$328.24	$347.93	$368.80	$390.93	$414.39

Table 1-11: Proposed Rincon Recycled Water Commodity Charge

Customer Class	2015-16 Rate (per unit)
Recycled Water	
Uniform	$4.65

2 INTRODUCTION

In 2014, the Rincon del Diablo Municipal Water District (the District) contracted with RFC to conduct a Water Cost of Service and Rate Study (Study) to develop a financial plan as well as design water rates for the District over the next five years. The major objectives of the study include the following:

1. Develop financial plans for the District to ensure financial sufficiency, meet operation and maintenance (O&M) costs, ensure sufficient funding for capital replacement and refurbishment (R&R) needs, and build up reserves over the five years
2. Perform cost-of-service analyses for the water utility based on recent historical usage
3. Develop a conservation based rate structure, and
4. Develop fair and equitable water rates in compliance with Proposition 218

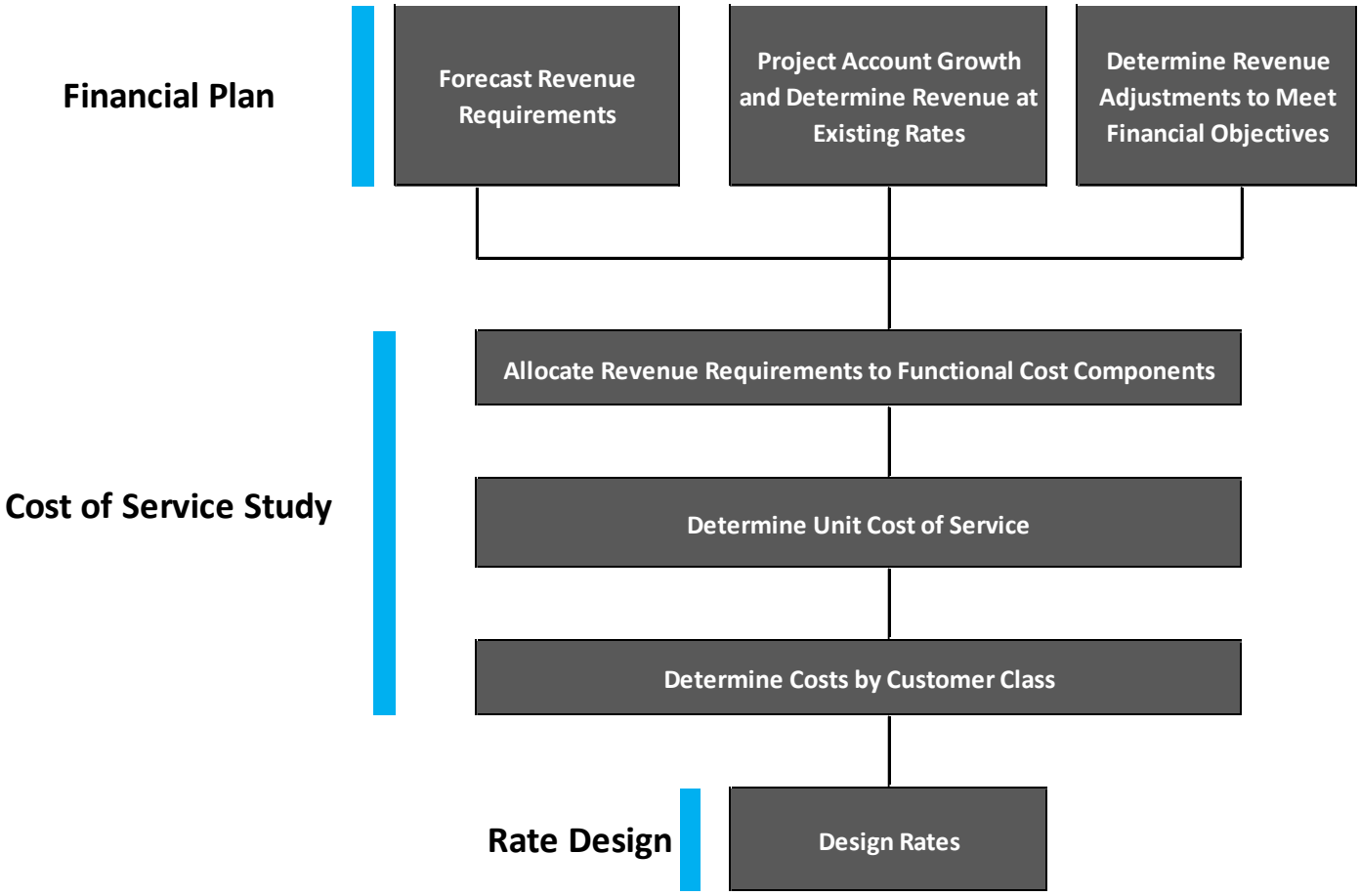
2.1 STUDY APPROACH

The Study approach is summarized as follows:

- **Financial Plan:** District water and recycled water consumption was compiled and projected to forecast revenue at existing rates. This forecast revenue was compared against a forecast of the District's operation and maintenance (O&M) and capital expenditures to determine any necessary revenue adjustments. The ultimate outcomes are the operating and capital revenue requirements for the year in which cost of service rates will be implemented, FY 2015-16 (the "test year").
- **Cost of Service Analysis:** The Cost of Service Analysis involves allocating the annual revenue requirements determined by the financial plan to the District's customer classes based on their proportionate use of the system, and contribution to the cost of its operation.
- **Rate Design:** Rate Design involves the development of rates for all customer classes, which recover their proportionate share of system costs, determined by the cost of service analysis.

Figure 2-1 provides a graphical representation of the various steps involved in the comprehensive cost of service and rate design process.

Figure 2-1: Rate Study Process



This Study report includes the following sections in addition to the Executive Summary and the Introduction:

- ***Section 3*** summarizes the development of the long-term financial plan.
- ***Section 4*** describes findings and results of the cost of service analysis.
- ***Section 5*** describes the methodology and calculation of the District's rates.

However, before discussing the development of the financial plan, the general assumptions used during the course of the study have been discussed below.

2.2 ASSUMPTIONS USED IN THE STUDY

The period for the Water Rate Cost of Service Study uses Fiscal Year 2014-15 as the base year and the model projects through Fiscal Year 2025-26; however, the proposed rates herein are for the next five (5) years, as the District will continue to periodically review rates and take a measured approach with any potential rate adjustments[3]. Certain cost escalation assumptions and inputs were incorporated into the Study to adequately model expected future costs of the Water Utility. These assumptions were based on discussions with and/or direction from District management. Assumptions include growth rates for customer accounts, reduced water demand factors for recent conservation goals of the District, inflation

[3] Tables in this report show a five-year period, starting with FYE 2016 through FYE 2020.

factors, and other miscellaneous assumptions. These assumptions are presented in **Table 2-1** and **Table 2-2**.

Table 2-1: Inflation Factor Assumptions

Key Factors	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
General	3%	3%	3%	3%	3%
Salary	3%	3%	3%	3%	3%
Benefits	0%	3%	3%	3%	3%
Water Purchases	5%	5%	5%	5%	5%
Capital	3%	3%	3%	3%	3%
Energy	5%	5%	5%	5%	5%
Water Loss	3%	3%	3%	3%	3%

Table 2-2: Growth & Demand Assumptions

Key Factors	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
Growth Rate					
All Customer Classes	0%	0%	0%	0%	0%
Other Revenue Projections					
Interest Earnings	1%	1%	1%	1%	1%
Property Tax	1%	1%	1%	1%	1%
General	0%	0%	0%	0%	0%
Proposed Debt Terms					
Interest Rates	N/A	3%	N/A	N/A	N/A
Term (years)	N/A	15	N/A	N/A	N/A
Issuance Cost w/ Reserves	N/A	2%	N/A	N/A	N/A
Water Demand Factor					
Reduction Factor	N/A	2%	2%	2%	2%

3 WATER SYSTEM - FINANCIAL PLAN

This section describes the development of the financial plan, the results of which were used to determine the revenue adjustments needed to meet ongoing expenses and provide fiscal stability to the District.

3.1 REVENUE REQUIREMENTS

A review of a utility's revenue requirements is a key step in the rate design process. The review involves analyses of annual operating revenues under the current rates, operation and maintenance (O&M) expenses, capital expenditures, transfers between funds and reserve requirements. This section of the report provides a discussion on projected revenues, O&M and capital expenditures, the capital improvement financing plan, debt service requirements, and overall revenue requirements over the 5-year period of the Water Utility.

3.1.1 Revenues from Current Rates

The current water rate structure consists of four main components: a monthly service charge (which varies by meter size), a monthly San Diego County Water Authority (SDCWA) Infrastructure Access Charge (IAC) (also varies by meter size), a water usage charge (which varies by customer class and usage), and a pumping charge to certain areas of the District. The projected water revenues for the Water Utility derived from current rates are shown in **Table 3-1**.

Table 3-1: Projected Water Rate Revenues at Current FY 2014-15 Rates

	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
Fixed Revenue[4]	$3,152,701	$3,152,701	$3,152,701	$3,152,701	$3,152,701
Variable Revenue[5]	10,255,676	10,255,676	10,255,676	10,255,676	10,255,676
Total Water Revenues*	**$13,408,377**	**$13,408,377**	**$13,408,377**	**$13,408,377**	**$13,408,377**

3.1.2 O&M Expenses

The District's Fiscal Year 2014-15 budget values and the assumed inflation factors for the study period were used as the basis for projecting O&M costs. **Table 3-2** shows total budgeted and projected O&M expenses, including any proposed debt, from Fiscal Year 2015-16 through Fiscal Year 2019-20.

[4] Fixed revenue includes both the Rincon Service Charges and the SDCWA IAC's less the fugal discount.

[5] The variable revenues include both the commodity charges and any applicable pumping charges.

Table 3-2: Projected Water O&M Expenses and Debt Service

	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
Water Purchases	$9,613,733	$9,934,897	$10,267,500	$10,611,980	$10,968,792
Water System O&M	$878,539	$890,591	$903,011	$915,809	$928,997
Engineering Services	$77,605	$79,933	$82,331	$84,801	$87,345
Admin Services	$475,064	$489,610	$504,607	$520,069	$536,011
Public Information	$52,530	$54,106	$55,729	$57,401	$59,123
Water System O&M					
Employee Salaries	$1,447,636	$1,491,066	$1,535,797	$1,581,871	$1,629,328
Employee Benefits	$1,262,099	$1,299,962	$1,338,961	$1,379,130	$1,420,504
Capital Outlay Purchases	$106,605	$109,803	$113,097	$116,490	$119,985
Contingency	$267,612	$267,612	$267,612	$267,612	$267,612
Debt Service	$0	$0	$854,761	$854,761	$854,761
Total	**$14,181,423**	**$14,617,580**	**$15,068,645**	**$15,535,163**	**$16,017,696**

3.1.3 Capital Improvement Plan

The District has adopted a long-term capital improvement plan (CIP) to address future Water Utility needs. **Table 3-3** shows the most recent 5-year CIP provided by the District. The Water Utility's future CIP needs will be funded through a combination of rates on a Pay-As-You-Go basis (PAYGO) and through proposed debt financing.

Table 3-3: Capital Improvement Expenditures

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Rincon del Diablo Water District					
Potable Water					
Capital Improvement					$2,954,025
100 Enterprise Resource System	$1,014,132				
352 Advanced Metering Infrastruture System (5)					
369 Ground Water Exploration and Development (5)	$25,000	$25,000	$25,000	$25,000	
371 North Broadway Pipeline Extension (5)	$1,100,000				
373 Lawrence Lane Exposed Pipe - ID A	$442,000				
375 Interstate 15 Crossings (5)			$80,000		
377 Citracado Bridge Pipeline Replacement (5)	$300,000	$300,000	$250,000		
379 Andreasen Pipeline (Fire Flow Upgrade) (5)		$40,000			
381 Surrey Lane Replacement	$235,000				
401 W-1 New 3 MG R-7 Reservoir (ID-1)	$202,136	$171,935	$1,825,929	$2,000,000	
402 W-2 New 16-inch R-7 Supply Pipeline (ID-1)			$848,006	$331,994	
404 W-4 New 24-inch SDCWA Connection No. 1 and 3 (ID1)	$330,000				
405 W-5 R-5 Isolation valve 3-fire flow check valve (ID1)	$75,000				
406 W-6 Pressure zone modifications (ID1)		$50,000	$50,000		
411 W-11 VID Flume Supply Expansion (ID1)		$230,000	$230,000	$230,000	
412 W-12 Rockoff Pump Station Upgrade (ID1)	$600,000	$600,000			
500 Allocation of Labor and Benefit Costs	$128,732	$128,732	$128,732	$128,732	
	$4,452,000	**$1,545,667**	**$3,437,667**	**$2,715,726**	**$2,954,025**

3.1.4 Reserve Requirements

To ensure a strong financial outlook and credit rating, RFC recommends a few adjustments to the District's current reserve policy. Currently, the District maintains three reserve funds.

Operating Reserve – The operating reserve is used primarily to meet ongoing cash flow requirements. Given that a majority of the District's water revenue is recovered through its commodity charge (75% of revenue), RFC recommends establishing an operating reserve target of 90-days of O&M expenses as opposed to the current policy of 45-days of O&M expenditures. As the potential of revenue volatility increases, reserves should be set at an amount to offset this revenue reliability. A 90-day reserve ensures working capital to support the operation, maintenance and administration of the utility. Maintaining this level of reserves also provides liquid funds for the continued ongoing operations of the utility in the event of unforeseen costs or interruption with the utility or the monthly billing system.

Capital Repair and Replacement (R&R) – The capital reserve is used primarily to meet capital improvement requirements. Currently the District's policy is to maintain a minimum reserve target of 35% of the 5-Yr R&R schedule and no more than 100% of the R&R schedule. This translates to a reserve of approximately $5M. At this time the Capital R&R reserve is adequately funded, but without additional funding it will not be sufficient to cover the significant future capital improvements. RFC recommends gradually building the R&R reserve over the study period and utilizing debt to help finance the 5-Yr R&R.

Rate Stabilization – A Rate Stabilization fund is used in the event of any unforeseen circumstances or critical asset failures to help mitigate the impact to the District and ultimately the District's customers. RFC recommends setting the Rate Stabilization fund at 10% of the annual cost of purchased water, as this is the most significant cost to the District.

Collectively, the total minimum reserve target of the water utility is approximately $7M in FY 2015-2016.

3.1.5 Financial Outlook at Current Rates

Revenues generated from current rates and other miscellaneous revenues slightly exceed operational expenses for FY 2014-15 and the District has adequate reserves to fund its capital costs; however, starting in FY 2015-16, reserves will be below the minimum target and used to fund the shortfall of the District's revenue requirements. The District's O&M costs continue to increase through annual inflationary adjustments as previously listed under **Table 2.1** – "Assumptions". As such, current revenues cannot fully fund O&M, and capital without drawing down reserves each year. By FYE 2018, the Capital Reserves would be depleted. By FY 2017-18, the revenue shortfall reaches $1.3M primarily due to increase in water purchases and necessary capital improvements.

In conclusion, the District will not be unable to maintain fiscal sustainability and solvency under the current rates over the next five years. **Figure 3-1** illustrates operating position of the Water Utility, where the expenses, inclusive of reserve funding and debt service, are shown by stacked bars; and total revenues at current rates is shown by the horizontal green trend line. **Figure 3-2** summarizes the projected CIP and its funding sources (currently 100% PAYGO) and **Figure 3-3** displays the ending total reserve balance for the water utility.

Figure 3-1: Operating Position at Current Rates

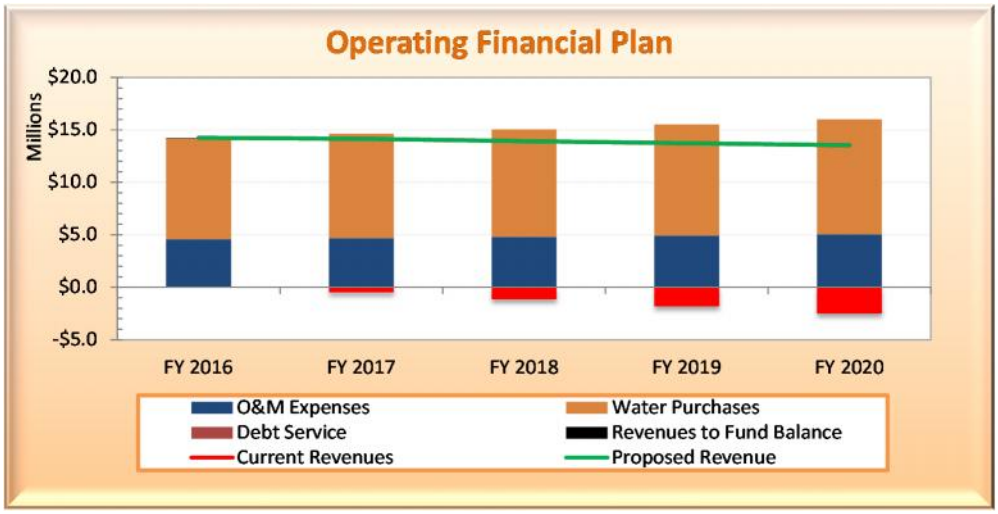


Figure 3-2: Capital Improvement Plan and Funding Source

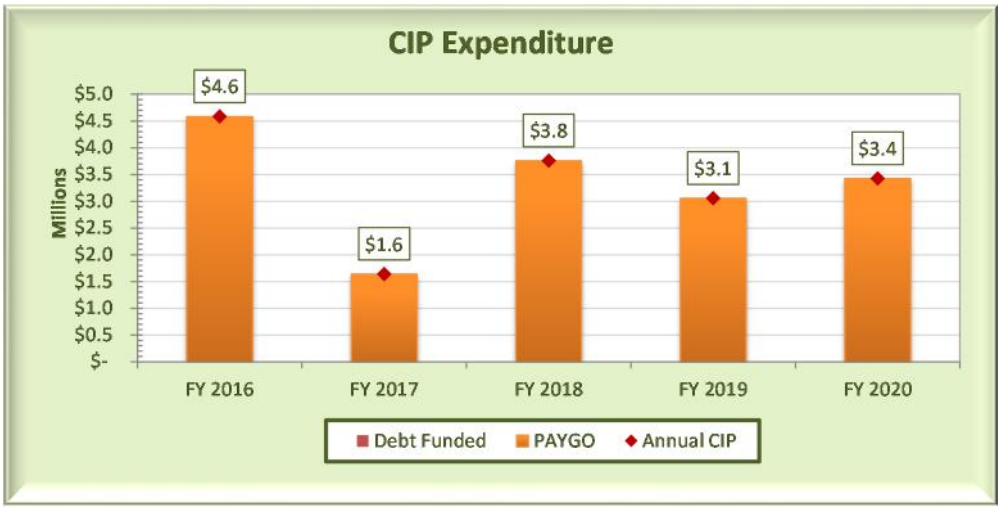
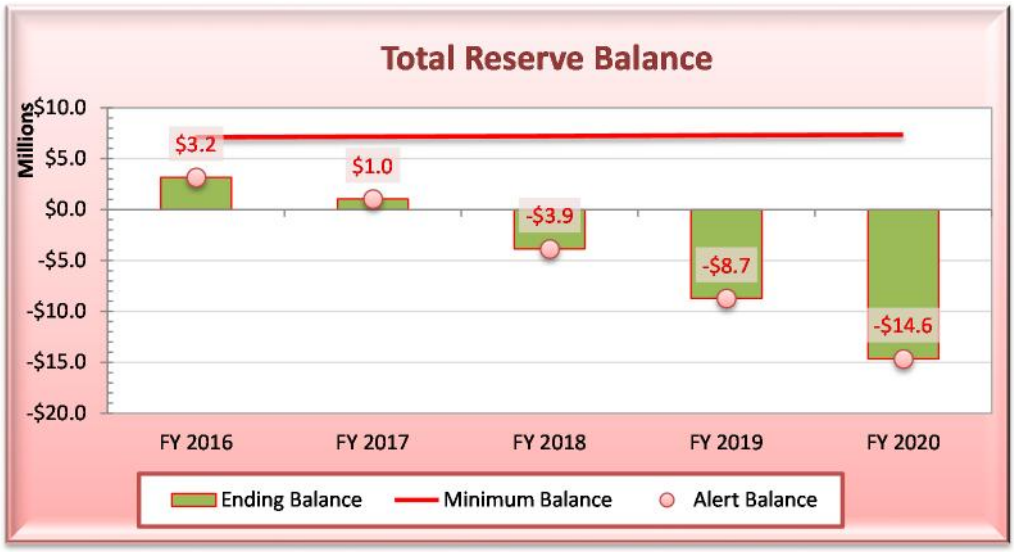


Figure 3-3: Projected Ending Reserves at Current Rates



3.2 PROPOSED FINANCIAL PLAN

To ensure that the water utility will have adequate revenues to fund operating expenses, capital expenditures, and comply with future bond covenants, it is recommended that the District increase rates over the next five years, FY 2015-16 through FY 2020-21, and incorporate a pass through component to generate sufficient revenue for funding its revenue requirements. The first revenue adjustment would occur on September 1, 2015 with the remaining adjustments occurring on September 1 of each Fiscal Year. In order to mitigate the risks of increasing water supply costs, RFC recommends that the District use the provision as allowed by AB 3030 (Government Code Section 53756) to establish passing through increases in water supply costs from SDCWA. This would mitigate financial risk to the District associated with water supply cost uncertainties through the following:

- Incorporating "Pass Through" component provides clear transparency between costs that are controlled by District versus uncontrolled costs from outside agencies
- Provides increased revenue stability
- SDCWA today's costs are known and would be included as part of water supply costs
    - Subsequent years, starting in January 2016, any incremental increase would be spread over all units of water purchased
    - The "Pass-Through" rate would continue to increase as SDCWA rates increase

In addition, RFC recommends issuing $10M in debt in FY 2016-17 to help finance capital related improvements. The combination of additional revenue and debt issuance would enable the agency to complete the planned capital projects for the Study period while building up a healthy level of reserves over the next five years.

A pro forma of the proposed revenue requirements is shown in **Table 3-4** below (Appendix A provides a detailed summary of **Table 3-4**). The proposed revenue requirements account for the District's annual financial needs while building up reserves, achieving positive net revenues through the study period, and complying with debt covenants.

Table 3-4: Five-Year Water Utility Proposed Financial Plan - Pro-forma

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Rate and Other Revenues	$14,818,798	$15,561,712	$16,235,695	$16,940,601	$17,677,917
Pass Through	$212,866	$679,192	$1,154,159	$1,638,475	$2,121,070
Total Operating Exp.	$14,003,757	$14,595,556	$15,060,903	$15,542,948	$16,030,713
Total Debt Service	$0	$0	$854,761	$854,761	$854,761
Net Revenues	$1,027,907	$1,645,348	$1,474,190	$2,181,367	$2,913,512
CIP Expenditures	$4,585,560	$1,639,798	$3,756,432	$3,056,574	$3,424,524
Ending Reserve Balance	$3,634,578	$5,279,926	$6,754,116	$8,935,483	$9,171,668
Debt Coverage	N/A	N/A	272%	355%	441%

Although the pro forma reflects a ten-year planning horizon, recommended revenue adjustments are only for the next five years and the figures below reflect FY 2015-16 through FY 2019-20 (Figures 3-4, 3-5, and 3-6). **Figure 3-4** illustrates the operating position of the Water Utility, where the expenses, inclusive of reserve funding and debt service, are shown by stacked bars; and total revenues at current rates and proposed rates are shown by the horizontal trend lines. **Figure 3-5** summarizes the projected CIP and its funding sources, either PAYGO or debt financed. **Figure 3-6** displays the ending total reserve balance for the water utility, inclusive of operating and capital funds, where the horizontal trend line indicates the target reserve balance (as recommended by the reserve requirements discussed in Section 3.1.4) and the bars indicate ending reserve balance.

Figure 3-4: Proposed Operating Financial Plan

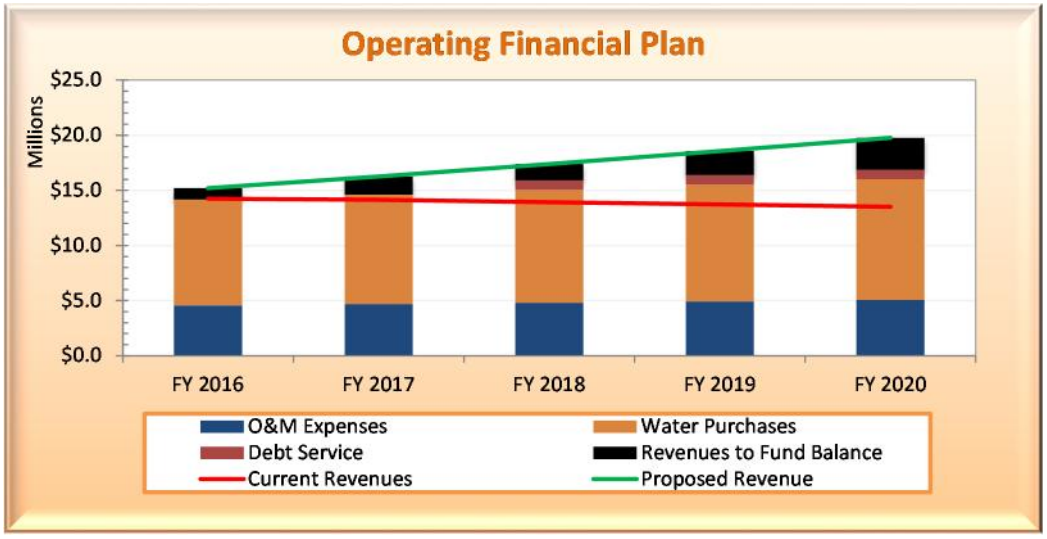


Figure 3-5: Projected CIP and Funding Sources

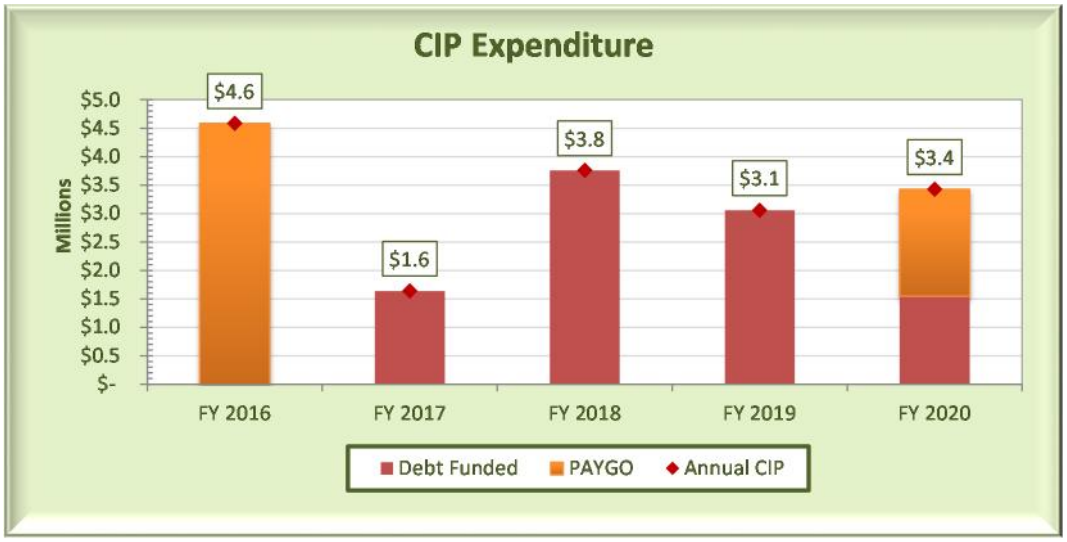
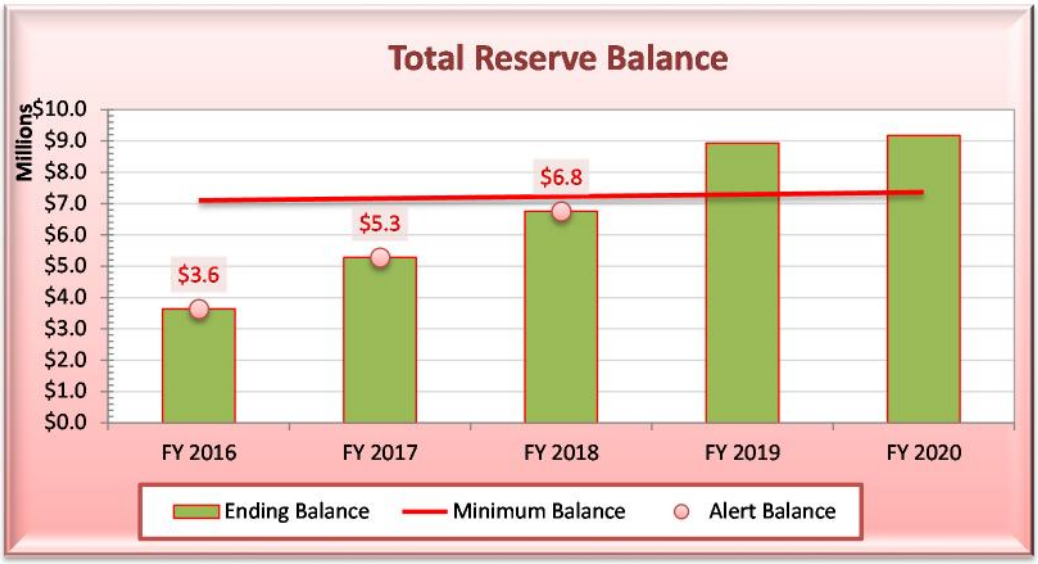


Figure 3-6: Projected Ending Reserve Balances



4 WATER SYSTEM - COST OF SERVICE AND RATE DESIGN

4.1 LEGAL FRAMEWORK AND RATE METHODOLOGY BACKGROUND

Proposition 218 (California Constitution Article 13D) states that:

1. A property-related charge (such as water rates) imposed by a public agency on a parcel shall not exceed the funds required to provide the property related service.
2. Revenues derived by the charge shall not be used for any other purpose other than that for which the charge was imposed.
3. The amount of the charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel.
4. No charge may be imposed for a service unless that service is actually used or immediately available to the owner of property.
5. A written notice of the proposed charge shall be mailed to the record owner of each parcel at least 45 days prior to the public hearing, when the agency considers all written protests against the charge.

As stated in the Manual M1, "the costs of water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers." Prop 218 ensures that water rates cannot be "arbitrary and capricious", meaning that the rate-setting methodology must be sound and that there must be a nexus between costs and the rates charged.

In conjunction with Proposition 218, Article X (2) of the State Constitution establishes the need to preserve the State's water supplies and to discourage the wasteful or unreasonable use of water by encouraging conservation. In addition, Section 106 of the Water Code declares that the highest priority use of water is for domestic purposes, with irrigation secondary. In connection with meeting the objectives of Article X, Water Code Sections 370 (AB2882) and 375 authorize a water purveyor to utilize its water rate design to incentivize the efficient use of water. Although incentives to conserve water could be provided by implementing a higher rate as consumption increases, a nexus between the rates and cost incurred to provide the water must be developed in order to achieve compliance with Proposition 218.

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."*

The District currently has its Agricultural/Irrigation customers on budget based rates and RFC recommends maintaining this rates structure but only have two (2) tiers as opposed to its current five (5) tiered rate structure.

Government Code Section 370 ET SEQ. (Allocation-Based Conservation Water Pricing)

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

Water Code Section 370 provides in part as follows:

"The Legislature hereby finds and declares all of the following:

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

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

Water Code Section 372 provides as follows:

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

(1) Billing is based on metered water use.

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

This Rate Study conforms to the principles set forth in the enabling statutes. The study establishes a standard for efficient usage for each customer class and further for each individual customer for the irrigation or agricultural customers. Customers with usage above this efficient usage pay a higher rate for their "inefficient' or wasteful" usage.

4.1.1 Proportionality

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

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

> That proportionality is not measured on an individual parcel basis, but instead is measured collectively, considering all rate payers. As such, the Appellate Court in Pajaro confirmed the common practice of grouping customers into classes our sub-groups with comparable service costs and setting rates by class rather than parcel. Rate setting by class met the Prop 218 requirement that fees be proportionate to the cost of providing service to each parcel

Given the opinion in Pajaro, utilities can develop rates by grouping customers and meet the requirements of Proposition 218, as opposed to the strict interpretation which would require cost proportionality to each parcel receiving service. This was another major clarification of Proposition 218 since cost proportionality to individual parcels is almost impossible to achieve in the strict sense.

4.2 COST BASED RATE SETTING METHODOLOGY

As stated in the Manual M1, the AWWA Rates and Charges Subcommittee agree with the Proposition 218 that "the costs of water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers".

The utilities revenue requirements are, by definition, the cost of providing service. This cost is then used as the basis to develop unit costs for the water components and to allocate costs to the various customer classes in proportion to the water services rendered. The concept of proportionality requires that cost allocations consider both the average quantity of water consumed (base) and the peak rate at which it is consumed (peaking). Use of peaking is consistent with cost of providing service because the water system is designed to handle peak demands, and the additional costs associated with design, construction and maintenance of facilities specified to meet these peak demands need to be allocated to those imposing such costs on the utility so that the costs can be recovered appropriately.

4.2.1 Functional Cost Components

The total cost of water service is analyzed by system function in order to equitably distribute costs in relation to how it's incurred, in general, which then allows each cost component to be recovered through the most appropriate revenue recovery (i.e. fixed versus variable). For this analysis, water utility costs of service are assigned under the Base-Extra Capacity method to the following functional cost components: Water Supply, Treatment, Base, Peaking (Max Day / Max Hour), Customer Service, Capacity, Infrastructure Access, Fire Protection, and Conservation. **Table 4-1** provides a summary of the District's revenue requirements by cost category. A breakdown of the District's revenue requirements by functional cost components are on file with the District and available upon request.

Table 4-1: Summary of Revenue Requirements by Function

Cost Categories	FYE 2016 Revenue Requirements
Water Supply	$8,893,460
Treatment	$31,312
Base	$1,158,573
Max Day	$72,539
Max Hour	$124,353
Customer Service	$1,561,204
Capacity	$1,079,322
Infrastructure Access	$329,742
Fire Protection	$452,752
Conservation	$52,530
Total	**$13,755,788**

4.2.2 Cost of Service

Once the total cost of each functional component is calculated, the next step is to determine the most appropriate way to recover such costs based on the following criteria: 1) how the cost is incurred, 2) District policy objectives, 3) promote water efficiency, and 4) revenue stability, to name a few. **Table 4-2** illustrates how costs were allocated to the fixed versus variable revenue components.

Table 4-2: Fixed vs. Variable Cost Allocation to Revenue Components

		Fixed				Variable		
Cost Categories	Cost of Service	Accounts	Meters (Capacity)	Private Fire Lines	Infrastructure Access	Water Supply	Delivery	Tier Demand (Tier 1 = Base)
Water Supply	$8,893,460	0%	0%	0%	0%	100%	0%	0%
Treatment	$31,312	0%	0%	0%	0%	100%	0%	0%
Base	$1,158,573	0%	0%	0%	0%	0%	100%	0%
Max Day	$72,539	0%	0%	0%	0%	0%	0%	100%
Max Hour	$124,353	0%	0%	0%	0%	0%	0%	100%
Customer Service	$1,561,204	100%	0%	0%	0%	0%	0%	0%
Capacity	$1,079,322	0%	90%	0%	0%	0%	0%	10%
Infrastructure Access	$329,742	0%	0%	0%	100%	0%	0%	0%
Fire Protection	$452,752	30%	30%	40%	0%	0%	0%	0%
Conservation	$52,530	0%	0%	0%	0%	0%	0%	100%
Total	$13,755,788	$1,697,030	$1,107,216	$181,101	$329,742	$8,924,772	$1,158,573	$357,354
		12.3%	8.0%	1.3%	2.4%	64.9%	8.4%	2.6%
		24%				76%		

Therefore, monthly fixed charges recover all of the costs associated with customer service, infrastructure access, fire protection, and a majority of capacity. Commodity rates recover all of costs associated with Water Supply, Treatment, Base, Max Day and Max Hour, Conservation Programs, and a portion of capacity.

This study calculated water rates based on FY 2014-15 as the base year with FY 2015-16 through FY 2020-21 for the new proposed rates. The annual revenue requirements or costs of service to be recovered from rates include O&M expenses (including water supply), proposed debt service, and capital costs. O&M expenses include costs directly related to the supply, treatment, and distribution of water as well as routine maintenance of system facilities. **Table 4-3** summarizes revenue requirements, by function, for Fiscal Year 2015-16. The cost of service analysis is based upon the premise that the utility must generate annual revenues adequate to meet estimated annual revenue requirements.

Table 4-3: Revenue Requirements by Function – Fiscal Year 2015-16

		Fixed				Variable		
		Accounts	Meters (Capacity)	Private Fire Lines	Infrastructure Access	Water Supply	Delivery	Tier Demand (Tier 1 = Base)
	Percent Allocation	12.3%	8.0%	1.3%	2.4%	64.9%	8.4%	2.6%
Fiscal Year Ending	Revenue	24%				76%		
FYE 2016	$14,692,348	$1,812,572	$1,182,600	$193,431	$352,192	$9,532,413	$1,237,454	$381,685

5 PROPOSED RATES

5.1 PROPOSED RATE STRUCTURE

Similar to the District's current rate structure, the proposed rates will include four main components plus a separate pass-through charge. The four main components include: a monthly system operations charge (Rincon service charge), a monthly San Diego County Water Authority (SDCWA) Infrastructure Access Charge (IAC), a water usage rate or commodity charge, and a pumping charge. Both the Rincon service charge and SDCWA IAC are considered fixed charges and are based on meter size whereas the water usage rate and pumping charge are considered variable charges and vary based on water consumption. The proposed commodity variable rate structures vary by customer class and have been discussed below.

5.1.1 Residential 3-Tiered Inclining Rate Structure

RFC recommends adjusting its current 5-tiered commodity charges for residential to a 3-tiered rate structure that provides a more straight-forward connection between water needs and tiered allotments. The goal of the first tier is to provide for basic indoor water demand; the second tier to provide for outdoor water demand; and the third tier for excessive use above the total water allotment provided through Tiers 1 and 2 combined. For the typical single-family residential home, Tier 1 is based on the City of Escondido's density of approximately 3 persons per household at 60 gpcd over the 30-day billing period (rounded to the next whole unit of water). **Figure 5-1** shows the calculation used to derive the single-family residential Tier 1 allocation of 6 units of water.

Figure 5-1: Tier 1 Residential Allotment Calculation

$$\frac{3.00 \text{ density} \times 60 \text{ gpcd} \times 30 \text{ days}}{1{,}000 \text{ gallons}} = 5.40 = \text{Rounded to 6 Units}$$

The single-family residential Tier 2 allotment provides an additional 19 units of water for each single-family residential customer to account for the average peak usage during summer of equal to 22 units. As usage varies between months as well as accounts, the total water allotment of Tier 1 and Tier 2 combined, equals 25 units. Tier 3 captures any usage above tiers 1 and 2. **Figure 5-2** graphically shows the residential tier structure.

Figure 5-2: Residential Tier Structure

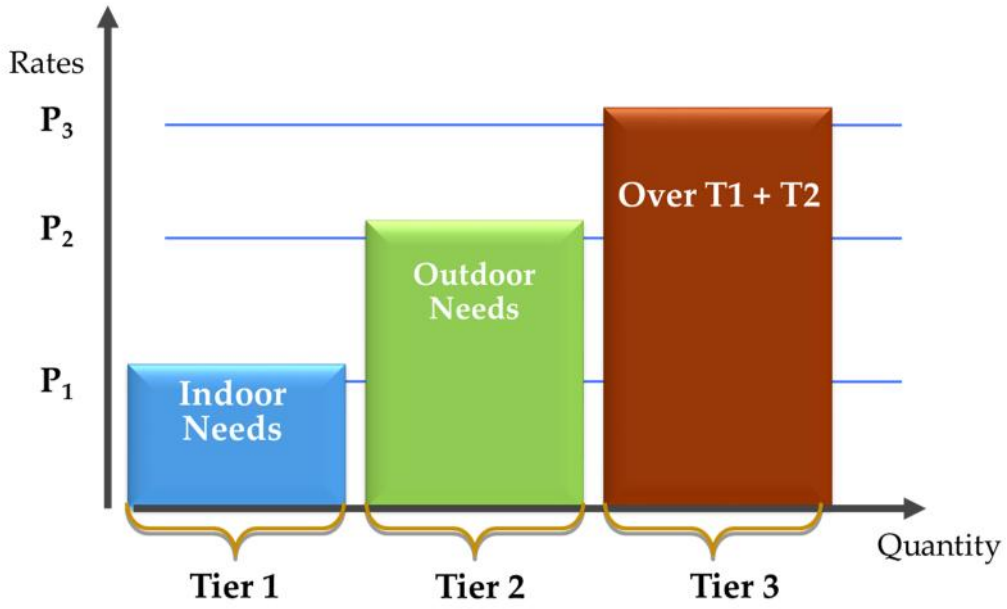


Table 5-1 summarizes the 3-tier allotments for the different residential customer classes (single-family, apartments, and mobile home parks). Multi-family residential customers, such as apartments and mobile home parks, were given a lower allotment for tier 1 due to the smaller sized dwelling units when compared to single-family homes; however, the allotment provided is on a per unit basis and, typically, apartments and mobile homes are connected through one master meter. Therefore, the Tier 1 allotment and Tier 2 allotment is multiplied by the total number of units that served by master meter. For example, if an apartment complex has 5 dwelling units they would receive a Tier 1 allotment of 15 units (3 units x 5 dwelling units = 15 unit allotment). Similarly the Tier 2 allotment is also on a per unit basis and is less than a single-family lot to account for the reduced outdoor needs on a per unit basis. For all residential accounts Tier 3 captures any usage above tiers 1 and 2.

Table 5-1: Residential Tier Allotments

Customer Class	Tier width / Allotments[1]
Residential	
Tier 1	1 - 5 Units
Tier 2	6.01 - 24 Units
Tier 3	> 25 Units
Apartments & Mobile Home Parks	
Tier 1	1 - 2 Units
Tier 2	3.01 - 5 Units
Tier 3	> 6 Units

[1] District's billing system charges each fraction of a unit at the lower whole unit

5.1.2 Non-Residential Uniform Rate Structure

For non-residential customers, RFC recommends implementing a uniform rate per unit of water rather than a tiered rate structure. Customers other than residential vary considerably in size, use profile and needs, which makes it impractical and inequitable to place them in a "one size fits all" tiered rate structure without additional detailed data and analysis on the type of businesses and related water demand to determine appropriate allotments for efficient use. For example, a bookstore and a coffee shop exhibit drastically different water needs. However, despite not being tiered, the uniform rate structure is based on the same cost components and non-residential customers are allocated their fair share of costs based on the cost to provide service.

5.1.3 Agricultural/Irrigation 2-Tiered Budget Based Rate Structure

As referenced in the statutes in section 4-1, "Allocation-Based Conservation Water Pricing Rate Structure" (commonly referred to as a "Water-Budget Rate Structure") is a form of increasing block rates where the amount of water within the first block or blocks is based on the estimated, efficient water needs of an individual customer. The American Water Works Association Journal defines water budget as "the quantity of water required for an efficient level of water use by that customer" *(Source: American Water Works Association Journal, May 2008, Volume 100, Number 5)*. Therefore each **customer** has their own allocation or water budget.

For Agricultural/Irrigation customers, RFC recommends adjusting the current budget-based rate structure from a 5-tiered rate to a 2-tiered budget-based rate structure. The District previously established budget-based rates for this customer class by determining the amount of water each account needs based upon a review at the account level and the area served by the meter. The water budget changes each month based on weather and Evapotranspiration (ET) information. As such, the District has already determined water efficiency for these customers by providing a unique water budget for each respective account. Therefore, a 2-tiered budget-based rate structure more directly correlates to this defined efficiency, where Tier 1 equals the monthly water budget allotment and Tier 2 is for any usage above the water budget allotment.

Typically, outdoor water budgets (OWB) are determined based on three main variables: irrigable landscape area, weather data and ET Adjustment Factor. The irrigable landscape area, measured as the square footage of landscaped surface on a customer's property, as previously determined and provided by the District. Weather data is based on local estimates of EvapoTranspiration (ET_0), or the amount of water loss to the atmosphere, over a given time period, at specific atmospheric conditions. ET_0 is the amount of water (in inches) needed for a hypothetical reference crop to maintain its health and appearance. The ET Adjustment Factor (ETAF) is a coefficient that adjusts ET_0 values based on plant factor and irrigation efficiency.

The formula to calculate outdoor water budget is as follows:

$$OWB = \left(\frac{\text{Landscape Area} \times Et_o \times ETAF}{1600} + V_{outdoor} \right) \times DF_{outdoor}$$

where

- ET_0 is measured in inches of water during the billing period based on daily data acquired from the California Irrigation Management Information System (CIMIS) station number 153 - Escondido SPV.
- ETAF (% of ET_0) is defined using ETAF for turf grasses in California. Similar to ET_0, ETAF also varies by month.
- Landscape Area (or Irrigable Landscape Area), in square feet, is the measured irrigable landscape area served by a customer's meter.
- $DF_{outdoor}$ – Outdoor drought factor. The percentage of outdoor water budget allotted during drought conditions. The drought factor is subject to the approval of the District's Board of Directors at different drought stages. The outdoor drought factor is currently set at 100% (i.e. no reduction in outdoor water budget).
- $V_{outdoor}$ – 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.
- 1600 is a constant and the conversion unit from inch*ft^2 to the billing unit of 1,000 gallons.

Table 5-2 summarizes the 2-tier rate structure for irrigation customers.

Table 5-2: Irrigation Rate Structure

Customer Class	Tier width / Allotments
Irrigation	
Tier 1	100% of Budget
Tier 2	Above Water Budget

5.2 PROPOSED RATES

5.2.1 Fixed Charges

Currently, the District's fixed monthly water charge generates approximately 25% of total revenue. The new rate structure maintains this revenue split as close as possible as shown earlier in tables 4-2 and 4-3.

The monthly fixed service charge has the following main components: customer related costs, meter (capacity) related costs, Infrastructure Access (SDCWA) costs, and fire protection related to public hydrants and private fire lines. Customer costs are uniform for all customers and include such costs as meter reading, billing, collecting and accounting. **Table 5-3** shows the customer costs allocated evenly over the number of units.

Table 5-3: Customer Cost Component of the Fixed Charge

Customer Costs per Unit	FYE 2016
Total Customer Accounts Costs	$1,812,572
Active Accounts	÷ 7,382
Monthly Charge per Unit	$ 20.47

Capacity costs include maintenance and capital costs, a portion of the capacity related costs and fire protection for the District's 910 public fire hydrants (see Appendix B for cost allocation between public hydrants and private fire lines). RFC utilized the American Water Works Association meter capacity ratios in calculating the meter component of the fixed charge. These costs are assigned based on meter size. Based on these ratios, the total equivalent meters equals 12,397. **Table 5-4** shows capacity and fire protection costs allocated over the number of equivalent meters.

Table 5-4: Capacity Cost Component of the Fixed Charge

Capacity & Fire Protection Costs	FYE 2016
Total Meter Capacity	$1,182,600
Number of Equivalent Meters	÷ 12,397
Monthly Charge per ⅝" Meter	**$7.95**

Table 5-5 summarizes the proposed monthly fixed meter charge over the next 5 fiscal years. The monthly fixed meter charge includes both the customer cost component and the capacity and fire protection component.

Table 5-5: Monthly Fixed Charge (FYE 2016 – FYE 2020)

Meter Size	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
5/8"	$28.42	$30.13	$31.93	$33.85	$35.88
1"	$40.35	$42.77	$45.33	$48.05	$50.93
1 1/2"	$60.22	$63.83	$67.66	$71.72	$76.03
2"	$84.07	$89.11	$94.46	$100.13	$106.14
3"	$159.60	$169.17	$179.32	$190.08	$201.49
4"	$219.22	$232.37	$246.32	$261.09	$276.76
6"	$417.97	$443.05	$469.63	$497.81	$527.68
8"	$656.47	$695.86	$737.61	$781.87	$828.78

Infrastructure access costs which are passed through from SDCWA are recovered based on meter size. RFC utilized the American Water Works Association meter capacity ratios in calculating the equivalent meters. The Infrastructure access costs are assigned based on 12,397 equivalent meters. **Table 5-6** shows the infrastructure access costs allocated evenly over the number of equivalent meters.

Table 5-6: Infrastructure Access Cost Component of the Fixed Charge

Infrastructure Access Costs	FYE 2016
Total Infrastructure Access Charge	$352,192
Number of Equivalent Meters	12,397
Monthly Charge per ⅝" Meter	**$2.37**

Table 5-7 summarizes the infrastructure access charge over the next 5 fiscal years.

Table 5-7: Infrastructure Access Charge (FY 2016 – FY 2020)

Meter Size	Meter Capacity Ratio	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
5/8"	1.00	$2.37	$2.51	$2.66	$2.82	$2.99
1"	2.50	$5.93	$6.28	$6.66	$7.06	$7.48
1 1/2"	5.00	$11.85	$12.56	$13.31	$14.11	$14.96
2"	8.00	$18.96	$20.10	$21.30	$22.58	$23.94
3"	17.50	$41.48	$43.96	$46.60	$49.40	$52.36
4"	25.00	$59.25	$62.81	$66.57	$70.57	$74.80
6"	50.00	$118.50	$125.61	$133.15	$141.14	$149.60
8"	80.00	$189.60	$200.98	$213.03	$225.82	$239.37

5.2.2 Variable Charges

Approximately 75% of the District's revenue requirements are proposed to be recovered from the commodity charges (based on the amount of water used). Variable cost components include water supply costs, treatment costs, SDCWA pass-through costs, delivery costs, peak costs (max day / max hour), conservation costs, and any potential revenue offsets.

For this analysis, consumption and peaking characteristics of customers as well as purchased water supplies of the District were analyzed to appropriately allocate costs between each tier. Variable costs were separated into six discrete components- Water Supply, Pass-Through, Delivery, Tier Demand, Conservation, and Revenue Offset. The sum of each of the variable cost components, equals the rate per unit of water per tier. This approach synchronizes the objectives of Article X (2) and Proposition 218 in developing a cost of service tiered rate structure.

5.2.2.1 Water Supply Costs

The District relies entirely on imported water from the San Diego County Water Authority for their water supply. The import of water could increase substantially in subsequent years and is heavily dependent on whether or not the current drought continues. **Table 5-8** summarizes the current supply costs which consist of the water supply and treatment costs.

Table 5-8: Water Supply Costs

Source of Supply	Production Quantity (Acre Feet)	Water Supply Cost Recovery	Cost per Tgals
SDCWA Imported Water	6,490	$9,532,413	$4.86

5.2.2.2 SDCWA Pass-through Costs

Increases in water supply costs by the SDCWA will be passed-through to customers through a uniform rate per unit of water. The actual pass-through water supply cost will be calculated each year in January after the actual increases are imposed by the SDCWA. As part of projecting future water costs, purchased water was increased by 5% each year and the proposed rates for Fiscal Year 2015-16 reflect the rates with the projected pass-through, however, the actual rate would be calculated each January.

5.2.2.3 Delivery Costs

Delivery costs, also commonly referred to as Base 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. Therefore, delivery costs are spread over all units of water, irrespective of customer classes or tiers, to calculate a uniform rate. **Table 5-9** shows the allocation of delivery costs to each customer class.

Table 5-9: Delivery Costs per Unit of Water

Customer Class	Annual Usage	Percent of Use	Delivery Cost	Unit Rate
Residential	1,417,697	72.2%	893,326	$0.64
Non-Residential	284,320	14.5%	179,157	$0.64
Agricultural/Irrigation	178,878	9.1%	$112,715	$0.64
Construction	82,931	4.2%	$52,257	$0.64
Total	**1,963,825**	**100.0%**	**$1,237,454**	**$0.64**

5.2.2.4 Peak Costs (Max Day / Max Hour) and Conservation Costs

Extra capacity or peaking costs represent those costs incurred to meet customer peak demands for water in excess of a baseline usage. Total extra capacity costs are apportioned between maximum day and maximum hour demands based on the type of expense. The maximum day demand is the maximum amount of water used in a single day in a year. The maximum hour demand is the maximum usage in an hour on the maximum usage day. Different facilities are designed to meet different peaking characteristics. Therefore, extra capacity costs include capital improvements and power related costs, and have been apportioned between base, maximum day, and maximum hour. Costs allocated to base are part of the delivery costs as defined above.

Costs associated with peaking and conservation are first apportioned to each defined customer class based on their total demand (total water used weighted by peak factor). Peaking was calculated for each customer class based on the consumption files, which ensures that accounts within each customer class will only recover the costs allocated to their respective customer class in proportion to the cost of providing service. **Table 5-10 and Table 5-11** show the peak costs and conservation costs allocated between each customer class, respectively.

Table 5-10: Peak Cost Allocation to Customer Class

Customer Class	Annual Usage	Peaking Factor	Weighted Peak Factor	Percentage of Peak	Allocated Peak Costs
Residential	1,417,697	1.31	1,857,038	70.5%	$231,890
Non-Residential	284,320	1.24	352,067	13.4%	$43,963
Agricultural/Irrigation	178,878	1.43	255,960	9.7%	$31,962
Construction	82,931	2.06	170,893	6.5%	$21,340
Total	**1,963,825**		**2,635,958**	**100.0%**	**$329,155**

Table 5-11: Conservation Cost Allocation to Customer Class

Customer Class	Annual Usage	Peaking Factor	Weighted Peak Factor	Percentage of Peak	Allocated Peak Costs
Residential	1,417,697	1.31	1,857,038	70.5%	$37,007
Non-Residential	284,320	1.24	352,067	13.4%	$7,016
Agricultural/Irrigation	178,878	1.43	255,960	9.7%	$5,101
Construction	82,931	2.06	170,893	6.5%	$3,406
Total	**1,963,825**		**2,635,958**	**100.0%**	**$52,530**

Once peak and conservation costs are allocated to each customer class, the next step is to design the most equitable and appropriate rate structure to recover such costs from the corresponding customer class to ensure equity between accounts. The proposed variable rate structure for residential customers is a 3-tiered structure, uniform rate structure for non-residential customers, and 2-tiered budget based rate structure for irrigation customers.

5.2.2.4.1 Peaking and Conservation Cost Allocation by Tiers

Using the defined tiers and allotments from Section 5.1, the functional variable costs are then applied to each tier. Similar to how costs may be apportioned to different groups of customers based on usage characteristics to show proportionality, maximum day and maximum hour costs were apportioned between tiers based on the unique usage characteristics of customers within each tier. As part of our consumption analysis, RFC analyzed the water usage of each and every account for a 12-month period and grouped customers each month based on which tier they fall within ("Tiered Customer Class"). Doing so allowed us to group "like customers" together based on water usage and allocate cost proportionately to each tier and therefore each corresponding Tiered-Customer Class. As such, the cost allocated to each tier is directly related to the demand of the corresponding accounts that fall within each tier, similar to how costs were apportioned between different customer types.

As part of allocating costs between each tier, usage as well as the peaking characteristics of each Tiered Customer Class was analyzed, where Tier 1 is the baseline with a Peak of 1.0. Peaking factors for Tiers 2 and 3 were then calculated by taking the average usage within these tiers compared to the full allotment of Tier 1. **Table 5-12** shows the peaking factors by tier.

Table 5-12: Peaking Factors [1]

Tier	Average number of monthly accounts	Average Usage (per Month)	Peak Factor
Tier 1	2,250	6.00	1.00
Tier 2	3,300	13.53	2.26
Tier 3	1,350	43.56	7.26

[1] Residential tiered allotments have been determined on an account level basis on single-family residential accounts and provides a substantial number of data points to determine the average usage per tier for indoor, outdoor, and excessive use above total water budget (T1 + T2).

Table 5-13 illustrates FY 2016 peak costs allocated between tiers by weighting the peak factors by the total usage in each Tier. Note the respective unit costs derived from this analysis become the tier demand values in the variable rate component in Tables 5-18 and 5-20.

Table 5-13: Residential Allocation of Peak Costs by Tier

Residential/Irrigation Combined	Usage	Peaking Factors	Weighted Peak Factor	Percent of Weighted Peak Factor	Allocated Peak Cost	Unit Rate
Residential/Irrigation Combined						
Tier 1	490,334	1.00	490,334	10.55%	$27,836	$0.06
Tier 2	774,086	2.26	1,746,056	37.57%	$99,121	$0.13
Tier 3	332,155	7.26	2,411,455	51.88%	$136,895	$0.42
Total	**1,596,575**		**4,647,845**	**100.00%**	**$263,852**	

5.2.2.4.2 Non-Residential Peaking Allocation

For non-residential customers, all variable charges including peak costs are summed to derive a uniform rate per Tgals rather than a tiered rate structure. **Table 5-13** presents the non-residential allocation of peak costs.

Table 5-14: Non-Residential Allocation of Demand Costs

Customer Class	Annual Usage	Peaking Factor	Weighted Peak Factor	Percentage of Peak	Allocated Peak Costs	Unit Rate
Non-Residential	284,320	1.24	352,067	13.4%	$43,963	$0.16

5.2.2.5 Conservation Costs

Similar to the allocation of tier demand costs, conservation costs are also allocated by the percentage share of peak using the same peaking factors as in 5.2.2.4. However, conservation costs are only allocated to units of water demanded in tiers 2 and 3, which is the primary usage that will be mitigated through conservation programs. The allocation of conservation costs to the upper tiers encourages efficient use, consistent with District and State of California policy objectives. **Tables 5-15** and **Table 5-16** show the allocation of conservation costs to tiers for each customer class. Note the unit costs derived constitute the conservation variable rate component, in the respective tiers, in Tables 5-18, 5-19, and 5-20.

Table 5-15: Residential / Irrigation Tiered Allocation of Conservation Costs

Residential/Irrigation Combined	Usage	Peaking Factors	Weighted Peak Factor	Percent of Weighted Peak Factor	Allocated Conservation Cost	Unit Rate
Residential/Irrigation Combined						
Tier 1						
Tier 2	774,086	2.26	1,746,056	42.00%	$17,684	$0.03
Tier 3	332,155	7.26	2,411,455	58.00%	$24,424	$0.08
Total	**1,596,575**		**4,157,510**	**100.00%**	**$42,108**	

Table 5-16: Non-Residential Uniform Allocation of Conservation Costs

Customer Class	Annual Usage	Peaking Factor	Weighted Peak Factor	Percentage of Peak	Allocated Peak Costs	Unit Rate
Non-Residential	284,320	1.24	352,067	13.4%	$7,016	$0.03

5.2.2.6 Revenue Offset

In addition to these unit cost component calculations, the District also received property tax revenue, of which, a portion has historically been used as a revenue offset to reward certain efficient water users. To continue to provide affordability for essential use and to further encourage conservation, the proposed rate structure also includes a revenue offset component from property tax revenue. Property tax revenues will help offset the Tier 1, or efficient use, revenue requirements, effectively providing a discount for efficient usage. Through discussions with District Staff, the property tax revenues available to offset Tier 1 rates was set at $500,000. Based on the analysis of historical assessed property values by customer class, $375,000 of the available property tax revenue was attributable to the residential properties and the remaining $125,000 was attributable to the non-residential customers. The offset revenue was spread evenly over each unit of Tier 1 consumption for the respective customer classes. This resulted in an offset of $0.76 per unit for residential customers and $0.43 per unit for non-residential customers.

5.2.2.7 Proposed Variable Rates

Table 5-17 displays the different variable rate components by specific tiers. Note, for example, every tier pays for water supply, delivery and the pass-through component. At the same time, peak cost and conservation are driven by the magnitude of demand each tier and the unit costs reflect the relative financial burden of high consumption.

Table 5-17: Variable Cost Components

	Water Supply	Pass-Through Water Supply	Delivery	Conservation	Peak Demand (T1 = Base)	Revenue Offset (Property Tax)
Tier 1	√	√	√		√	√
Tier 2	√	√	√	√	√	
Tier 3	√	√	√	√	√	

Table 5-18 displays the calculation of residential variable (commodity) rates, by tier. The total is the sum of each component: water supply, pass-through, delivery, conservation, peak demand, less the revenue offset (only tier 1).

Table 5-18: Residential Variable (Commodity) Rates by Tier

	Water Supply	Pass-Through	Delivery	Conservation	Peak Demand (T1 = Base)	Revenue Offset (Property Tax)	Total
Tier 1	$4.86	$0.24	$0.64	$-	$0.06	$(0.76)	$5.04
Tier 2	$4.86	$0.24	$0.64	$0.03	$0.13	$-	$5.90
Tier 3	$4.86	$0.24	$0.64	$0.08	$0.42	$-	$6.24

Table 5-19 displays the non-residential variable rates.

Table 5-19: Non-Residential Variable (Commodity) Rate

	Water Supply	Pass-Through	Delivery	Conservation	Peak Demand	Revenue Offset (Property Tax)	Total
Uniform	$4.86	$0.24	$0.64	$0.03	$0.16	$(0.43)	$5.50

Table 5-20 displays the irrigation / agricultural variable rates by tier and the total blended rate by tier. As discussed earlier, irrigation customers do not receive an indoor allotment and therefore their Tier 1 rate and Tier 2 rate correspond to the residential Tier 2 rate and Tier 3 rate, respectively.

Table 5-20: Irrigation Variable (Commodity) Rate by Tier

	Water Supply	Pass-Through	Delivery	Conservation	Peak Demand (T1 = Base)	Revenue Offset (Property Tax)	Total
Tier 1	$4.86	$0.24	$0.64	$0.03	$0.13	$-	$5.90
Tier 2	$4.86	$0.24	$0.64	$0.08	$0.42	$-	$6.24

Table 5-21 shows five years of proposed rates by customer class.

Table 5-21: Proposed Five-Year Commodity Base Rates (without Pass-Through)

Customer Class	FYE 2016 Rates	FYE 2017 Rates	FYE 2018 Rates	FYE 2019 Rates	FYE 2020 Rates
Residential					
Tier 1	$4.80	$5.19	$5.62	$6.07	$6.57
Tier 2	$5.66	$6.12	$6.62	$7.16	$7.75
Tier 3	$6.00	$6.49	$7.02	$7.59	$8.21
Non-Residential					
Uniform	$5.26	$5.69	$6.15	$6.66	$7.20
Irrigation / Agricultural					
Tier 1	$5.57	$5.97	$6.39	$6.85	$7.34
Tier 2	$6.27	$6.72	$7.20	$7.71	$8.26
Construction[1]					
Uniform	$5.93	$6.41	$6.94	$7.50	$8.12

[1] Construction rates were determined by calculating a uniform rate for the total variable portion of the revenue requirements.

5.2.2.8 Drought Rates

In conjunction with the rate study, District staff has developed drought rate surcharges in response to the drought conditions currently impacting the State. For a complete listing of the proposed drought rate surcharges please see Appendix C. The District will include these proposed drought rates within the Proposition 218 notice and their Drought Ordinance number 14-120.1.

5.3 CUSTOMER IMPACTS

Bill distribution and customer impact analyses reflect the District's policies in terms of promoting the meeting of SB x7-7 targets and the principle of affordability for essential use. **Figure 5-3** shows the relative residential bill impact of the new rates and adjusted rate structure. For purposes of showing potential total impact, the projected pass-through component for Fiscal Year 2015-16, equal to $0.24, is applied to all commodity charges.

Figure 5-3: Residential Bill Impacts

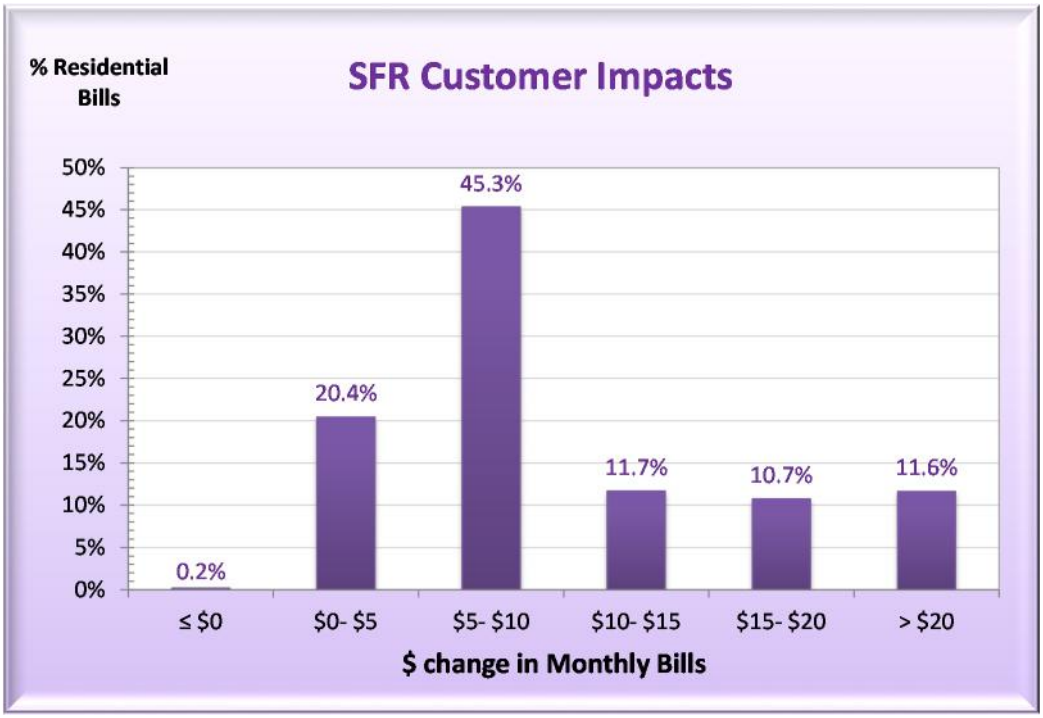
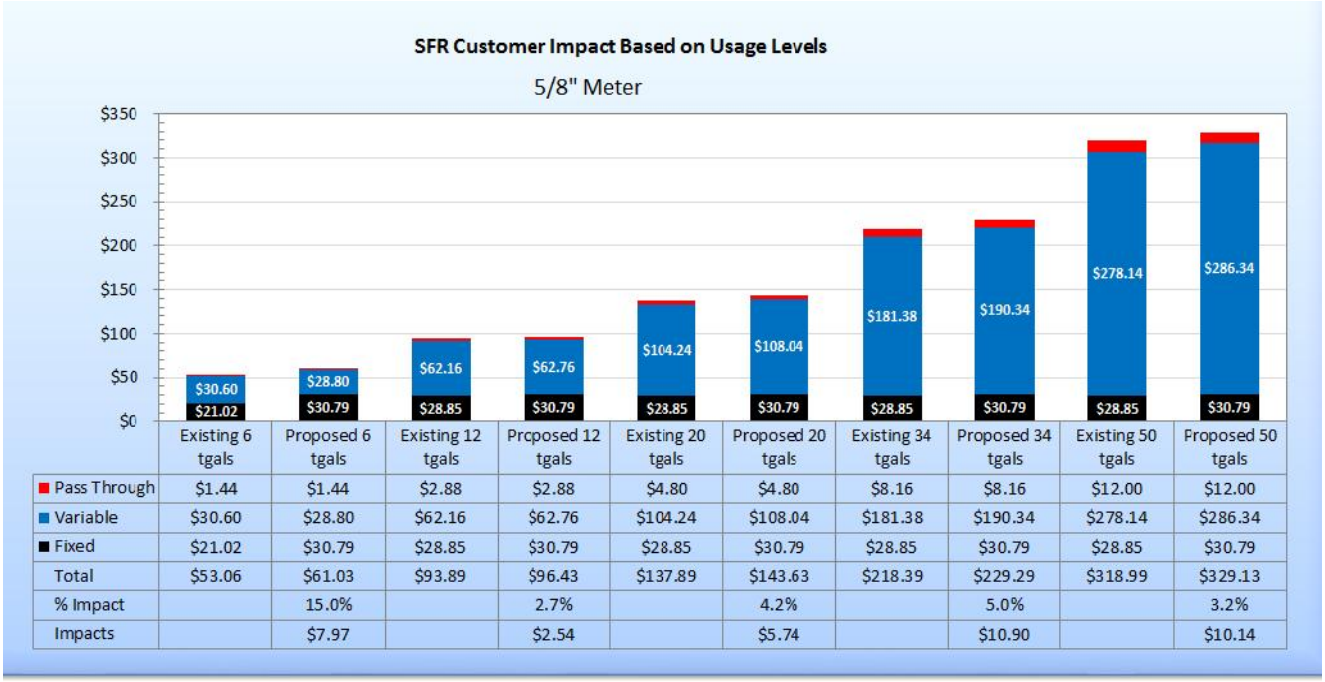


Figure 5-4 shows the residential customer impact of the new proposed rates versus current rates at various levels of usage.

Figure 5-4: SFR Residential Impact



	Existing 6 tgals	Proposed 6 tgals	Existing 12 tgals	Prcposed 12 tgals	Existing 20 tgals	Proposed 20 tgals	Existing 34 tgals	Proposed 34 tgals	Existing 50 tgals	Proposed 50 tgals
Pass Through	$1.44	$1.44	$2.88	$2.88	$4.80	$4.80	$8.16	$8.16	$12.00	$12.00
Variable	$30.60	$28.80	$62.16	$62.76	$104.24	$108.04	$181.38	$190.34	$278.14	$286.34
Fixed	$21.02	$30.79	$28.85	$30.79	$28.85	$30.79	$28.85	$30.79	$28.85	$30.79
Total	$53.06	$61.03	$93.89	$96.43	$137.89	$143.63	$218.39	$229.29	$318.99	$329.13
% Impact		15.0%		2.7%		4.2%		5.0%		3.2%
Impacts		$7.97		$2.54		$5.74		$10.90		$10.14

5.4 PROPOSED RECYCLED RATES

5.4.1 Financial Plan

Similar to potable water, the figures below reflect FY 2015-16 through FY 2019-20 proposed financial plan for recycling (Figures 5-5, 5-6, and 5-7). **Figure 5-5** illustrates the operating position of the Recycled Water Utility, where the expenses, inclusive of reserve funding and debt service, are shown by stacked bars; and total revenues at current rates and proposed rates are shown by the horizontal trend lines. **Figure 5-6** summarizes the projected CIP and its funding sources, either PAYGO, debt financed, or interfund loans. **Figure 5-7** displays the ending operating reserve balance for the recycled water utility, where the horizontal trend line indicates the target reserve balance and the bars indicate ending operating reserve balance.

Figure 5-5: Proposed Operating Financial Plan

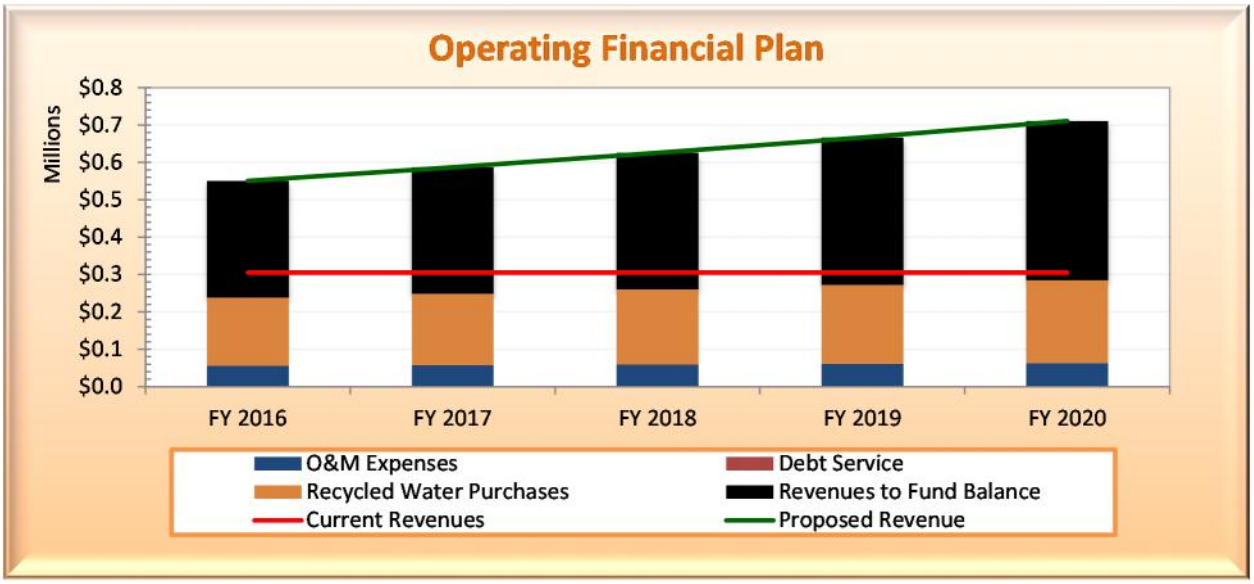


Figure 5-6: Projected CIP and Funding Sources

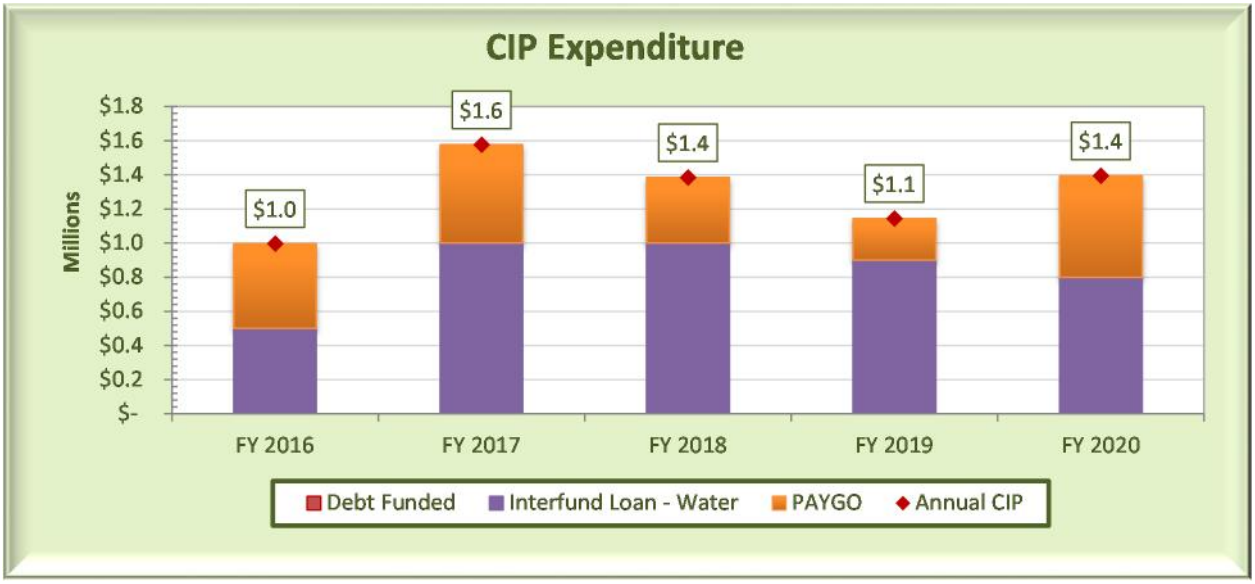
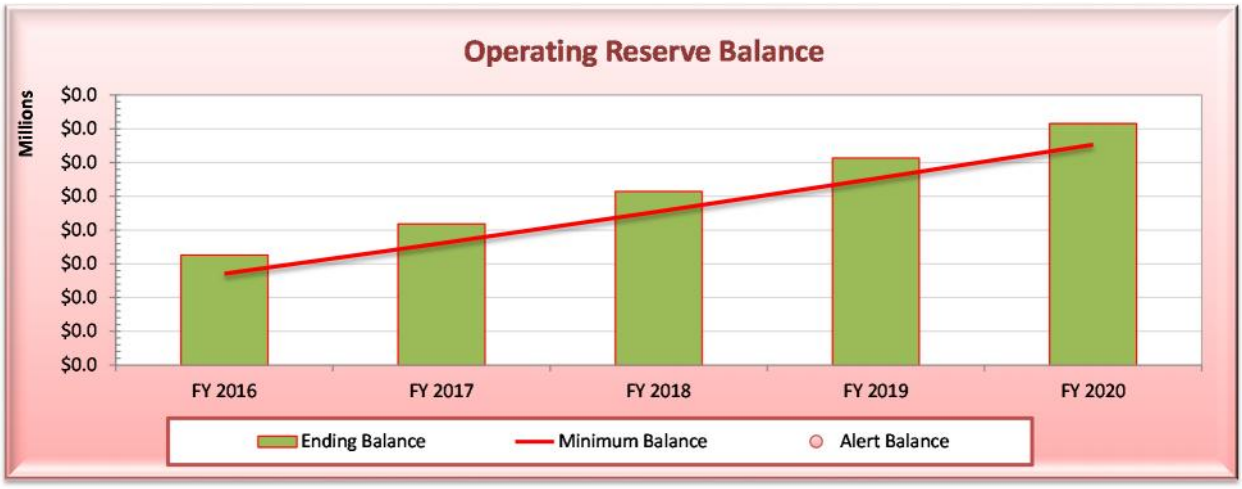


Figure 5-7: Proposed Operating Reserve Ending Balance



5.4.2 Recycled Rates

Currently, the District's recycled fixed revenue is set at half the rates of potable meters, which means that the majority of recycled costs are recovered though the variable charge (approximately 95%). The District wishes to maintain this revenue split between fixed and variable revenue and the corresponding rates are as follows:

Table 5-22: Recycled Water Fixed/Variable Revenue Split

		Fixed	Variable
		Accounts	Commodity
	Percent Allocation	5%	95%
Fiscal Year Ending	Revenue Requirement	5%	95%
FYE 2016	$613,712	$31,862	$581,850

Table 5-23: Fixed Charge per Equivalent 5/8" Meter

Cost of Service - Meters

Accounts Cost Calculations		FY 2016
Total Fixed Cost	$	31,862
Number of Equivilant Meters		187
Monthly Charge per 5/8"	$	14.21

Table 5-23: Fixed Charge by Meter Size

Meter Size	Potable Meter Ratio	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
5/8"	1.00	$ 14.21	$ 15.06	$ 15.97	$ 16.92	$ 17.94
1"	1.42	$ 20.17	$ 21.38	$ 22.67	$ 24.03	$ 25.47
1 1/2"	2.12	$ 30.11	$ 31.92	$ 33.83	$ 35.86	$ 38.01
2"	2.96	$ 42.04	$ 44.56	$ 47.23	$ 50.06	$ 53.07
3"	5.62	$ 79.80	$ 84.59	$ 89.66	$ 95.04	$ 100.74
4"	7.71	$ 109.61	$ 116.19	$ 123.16	$ 130.55	$ 138.38

Table 5-24: Commodity (Variable) Charge

Variable	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Total Variable Costs	$ 581,850	$ 615,830	$ 652,780	$ 691,947	$ 733,463
Recycled Water Usage	125,250	125,250	125,250	125,250	125,250
Uniform Rate	$ 4.65	$ 4.92	$ 5.22	$ 5.53	$ 5.86

APPENDIX A – PROPOSED FINANCIAL PLAN PRO-FORMA

Water Operating Fund	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Revenues					
Revenues under Existing Rates	$13,992,712	$13,894,426	$13,684,625	$13,479,020	$13,277,526
Revenue Adjustments	$583,030	$1,424,179	$2,307,912	$3,218,372	$4,157,129
Other Revenues	$243,057	$243,107	$243,158	$243,210	$243,262
Passthrough Water Supply Costs	$212,866	$679,192	$1,154,159	$1,638,475	$2,121,070
Total Operating Revenues	**$15,031,664**	**$16,240,904**	**$17,389,854**	**$18,579,076**	**$19,798,987**
Operating Expenditures					
Water Purchases	$9,436,067	$9,912,874	$10,259,758	$10,619,764	$10,981,809
Water Syst Op & Maint	$878,539	$890,591	$903,011	$915,809	$928,997
Engineering Services	$77,605	$79,933	$82,331	$84,801	$87,345
Admin Services	$475,064	$489,610	$504,607	$520,069	$536,011
Public Information	$52,530	$54,106	$55,729	$57,401	$59,123
Employee Salaries	$1,447,636	$1,491,066	$1,535,797	$1,581,871	$1,629,328
Employee Benefits	$1,262,099	$1,299,962	$1,338,961	$1,379,130	$1,420,504
Capital Outlay Purchases	$106,605	$109,803	$113,097	$116,490	$119,985
Contingency	$267,612	$267,612	$267,612	$267,612	$267,612
Total Operating Expenditures	**$14,003,757**	**$14,595,556**	**$15,060,903**	**$15,542,948**	**$16,030,713**
Net Revenues	$1,027,907	$1,645,348	$2,328,951	$3,036,128	$3,768,273
Non-Operating Expenditures					
Debt Service					
Proposed New Debt Service	$0	$0	$854,761	$854,761	$854,761
Total Non-Operating Expenditures	**$0**	**$0**	**$854,761**	**$854,761**	**$854,761**
Reserves					
Beginning Balance (Total Reserves)	**$7,692,232**	**$3,634,578**	**$5,279,926**	**$6,754,116**	**$8,935,483**
Operating Reserve Ending Balance	$1,141,923	$1,170,671	$1,200,286	$1,230,796	$1,262,226
Capital R&R Reserve Ending Balance	$1,699,975	$3,117,968	$4,527,854	$6,642,711	$6,811,261
Rate Stabilization Reserve Ending Balance	$792,681	$991,287	$1,025,976	$1,061,976	$1,098,181
Ending Balance (Total Reserves)	**$3,634,578**	**$5,279,926**	**$6,754,116**	**$8,935,483**	**$9,171,668**

[1] CIP is funded through *"Capital R&R Reserve"*

APPENDIX B – PRIVATE FIRE PROTECTION ALLOCATION

Connection Size	Demand Factor (^2.63)	Unit Counts	Fire Equivalent Connections	Percent Allocation	Fire Protection Costs
FYE 2015 Cost					**$483,578**
Public Hydrants				**60%**	**$290,147**
1"	1.00	0	-		
2"	6.19	0	-		
4"	38.32	910	34,871		
6"	111.31	0	-		
12"	689.04	0	-		
			34,871		
Private Fire Lines				**40%**	**$193,431**
1"	1.00	40	40		
2"	6.19	132	817		
4"	38.32	26	996		
6"	111.31	65	7,235		
8"	237.21	46	10,912		
10"	426.58	8	3,413		
Total		317	**23,413**	**100.00%**	**$483,578**

Private Fire Lines	Equivalency Factor	Equivalent Connections	Percent of Equivalent Connections	Private Fire Costs	Monthly Rates
1"	1	40	3%	$6,210	**$12.94**
2"	2	264	21%	$40,684	**$25.87**
4"	4	104	8%	$16,145	**$51.75**
6"	6	390	31%	$60,544	**$77.62**
8"	8	368	30%	$57,129	**$103.49**
10"	10	80	6%	$12,419	**$129.37**
Total		**1,246**	**100%**	**$193,431**	

Private Fire Lines

Meter Size	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
1"	$12.94	$13.71	$14.54	$15.41	$16.33
2"	$25.87	$27.43	$29.07	$30.82	$32.66
4"	$51.75	$54.85	$58.14	$61.63	$65.33
6"	$77.62	$82.28	$87.21	$92.45	$97.99
8"	$103.49	$109.70	$116.29	$123.26	$130.66
10"	$129.37	$137.13	$145.36	$154.08	$163.32

APPENDIX C – DROUGHT RATES

In response to the drought conditions currently impacting the State, this study analyzed the impacts of reduced water use. The proposed rate structure recovers approximately 75% of revenues from variable charges, and as such reductions in usage will have a significant impact on the District's financial health. Therefore, the following proposed drought rates were calculated based on the District's conservation ordinance that described the amount of water reduction for each Conservation level. Rates were determined assuming 4 different levels of water reduction (10% reduction through 40% reduction). These rates would only be implemented as necessary based on the District's adopted Conservation Ordinance.

LEVEL 1 DROUGHT– 10% REDUCTION IN WATER USE

Residential

	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
Tier 1	$ 5.05	$ 5.46	$ 5.91	$ 6.39	$ 6.91
Tier 2	$ 5.92	$ 6.40	$ 6.93	$ 7.49	$ 8.10
Tier 3	$ 6.30	$ 6.81	$ 7.37	$ 7.97	$ 8.62

Non-Residential

	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
Uniform	$ 5.52	$ 5.97	$ 6.46	$ 6.99	$ 7.56

LEVEL 2 DROUGHT– 20% REDUCTION IN WATER USE

Residential

	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
Tier 1	$ 5.37	$ 5.81	$ 6.28	$ 6.80	$ 7.35
Tier 2	$ 6.25	$ 6.76	$ 7.31	$ 7.91	$ 8.55
Tier 3	$ 6.69	$ 7.24	$ 7.83	$ 8.47	$ 9.16

Non-Residential

	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
Uniform	$ 5.86	$ 6.34	$ 6.86	$ 7.42	$ 8.02

LEVEL 3 DROUGHT– 30% REDUCTION IN WATER USE

Residential

	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
Tier 1	$ 5.76	$ 6.23	$ 6.74	$ 7.29	$ 7.88
Tier 2	$ 6.67	$ 7.21	$ 7.80	$ 8.44	$ 9.13
Tier 3	$ 7.16	$ 7.74	$ 8.38	$ 9.06	$ 9.80

Non-Residential

	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
Uniform	$ 6.28	$ 6.79	$ 7.35	$ 7.95	$ 8.60

LEVEL 4 DROUGHT– 40% REDUCTION IN WATER USE

Residential

	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
Tier 1	$ 6.26	$ 6.77	$ 7.32	$ 7.92	$ 8.57
Tier 2	$ 7.18	$ 7.77	$ 8.40	$ 9.09	$ 9.83
Tier 3	$ 7.76	$ 8.39	$ 9.08	$ 9.82	$ 10.62

Non-Residential

	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020
Uniform	$ 6.80	$ 7.36	$ 7.96	$ 8.60	$ 9.31