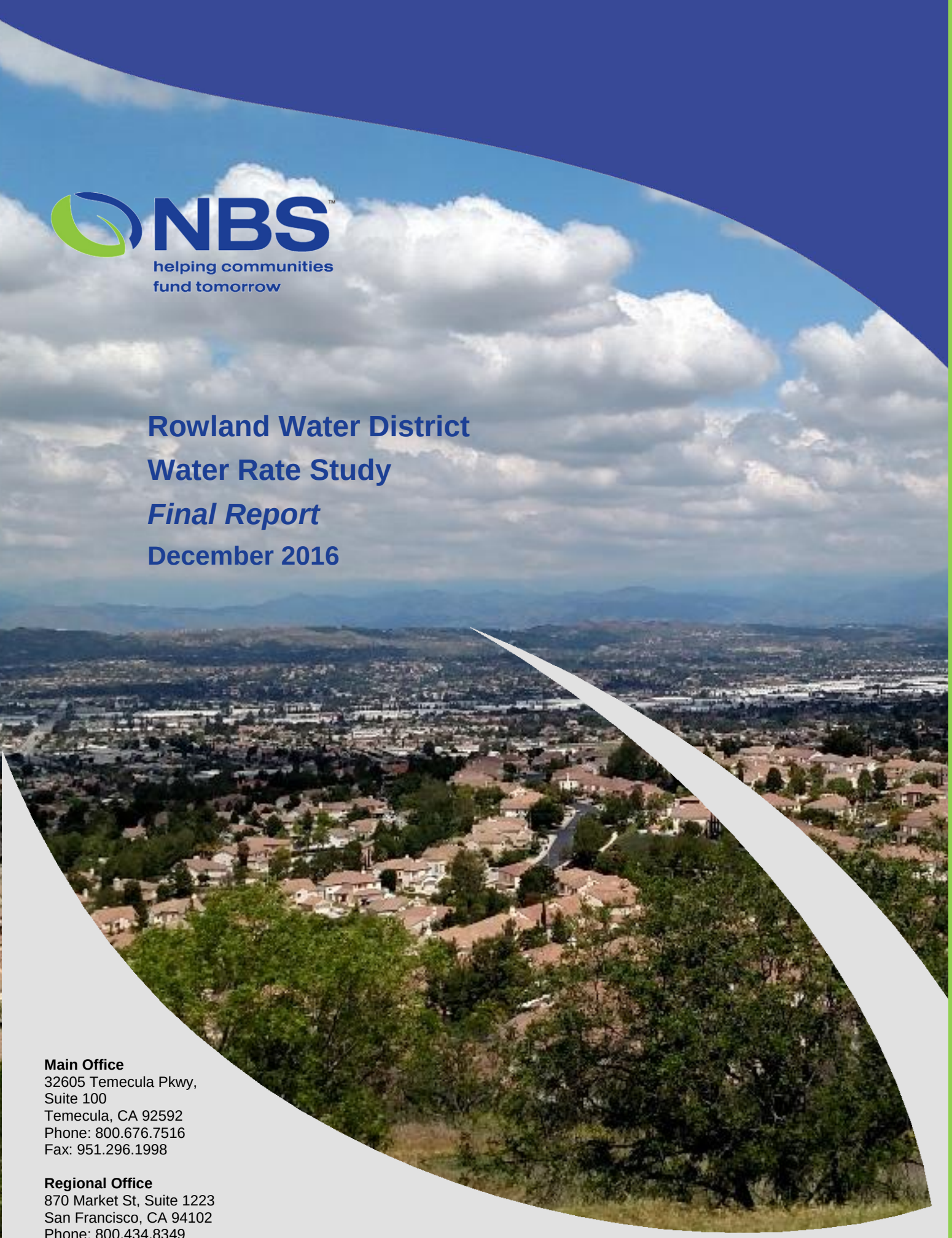

Rowland Water District
Water Rate Study
Final Report
December 2016

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SECTION 1. PURPOSE AND OVERVIEW OF THE STUDY

A. INTRODUCTION

The Rowland Water District's (the "District") service area encompasses approximately 17.2 square miles and includes certain unincorporated areas of southeastern Los Angeles County, including portions of Rowland Heights, La Puente, Hacienda Heights, the City of Industry and the City of West Covina. The District contains residential, commercial, and industrial development. The District's service area has a population of approximately 60,000 persons, and as of August, 2016 provided water service to approximately 13,700 potable and recycled water service connections.

The District owns, operates, and maintains approximately 150 miles of potable water distribution mains, 3,020 fire hydrants, and approximately 13,500 customer service connections. The District's water supply is primarily imported water from the Metropolitan Water District of Southern California (MWD) delivered through its member agency, the Three Valleys Municipal Water District (TVMWD). The potable water imported to the District is delivered through three different transmission connections. The District has 17 potable water storage reservoirs with a total capacity of 48 million gallons (MG) to serve a customer water demand of about 9 million gallons per day (MGD), on average. The groundwater basin underlying the District's service area is the Puente Basin, which is adjudicated between the District, Walnut Valley Water District, the City of Industry, the City of Industry Urban Development Agency, and Los Angeles Royal Vista Golf Course. The Puente Basin is contaminated with volatile organic compounds, high levels of total dissolved solids, and high nitrate concentrations, causing groundwater from the basin to not be usable as a potable water source. However, the District is able to pump groundwater from portions of the Puente Basin for use in its recycled water system.

The District purchased groundwater rights from neighboring groundwater basins and built pipelines to connect to the basins' well fields. In 2013, the District purchased pumping rights in the Central Basin, which lies to the southwest of the District's service area. The groundwater supplies are delivered to the District through a 0.8-mile, 12-inch pipeline and booster pump station connecting the La Habra Heights County Water System to the District. In 2015, the District also built a new 2.8-mile pipeline connecting to the California Domestic Water Company (Cal Domestic) system to deliver stored surface water in the Main San Gabriel Basin (MSGB) through the Cal Domestic connection.

In addition to the potable distribution system, the District owns, operates, and maintains a recycled water system that distributes recycled water to over 120 customer service connections. The non-potable system consists of approximately 20 miles of recycled water distribution mains and one recycled water reservoir with a total storage capacity of 5 MG. The District's primary source of recycled water is treated effluent from the Los Angeles County Sanitation District's San Jose Creek Water Reclamation Plant (WRP). Recycled water is conveyed from the San Jose Creek WRP to the City of Industry's facilities. These facilities include a pumping station used jointly by the City of Industry and the District. Recycled water is pumped from this station to the District's recycled water system for distribution. Additional recycled water supplementary sources are available to provide recycled water to the District's customers. These include:

- Non-potable groundwater pumped from the Puente Basin;
- A combination of groundwater from the Puente Basin and Main San Gabriel Basin produced at an EPA superfund cleanup; and
- An emergency recycled water connection with Walnut Valley Water District.

B. PURPOSE

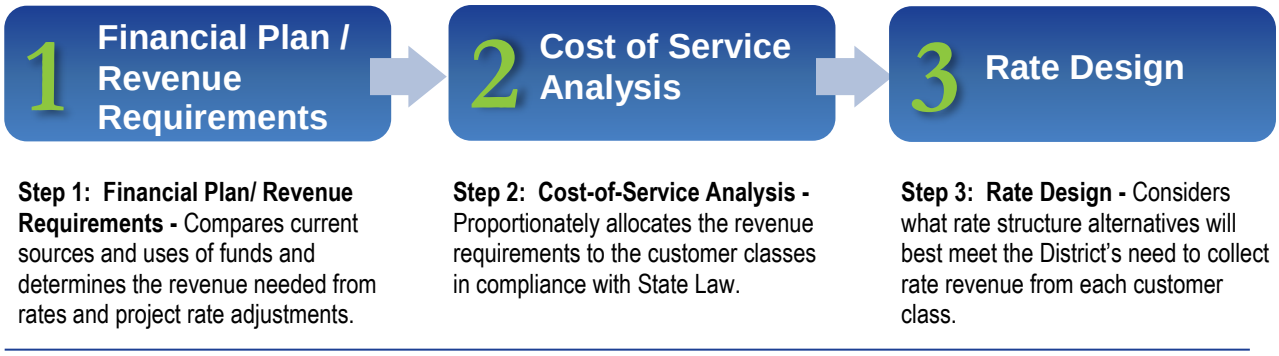
Rowland Water District (District) retained NBS to conduct a comprehensive water rate study for a number of reasons, including meeting revenue requirements, providing greater revenue stability in water rates, providing adequate funding for capital improvements, and complying with certain legal requirements (such as California Constitution article XIII D, section 6, which is commonly referred to as Proposition 218 [Prop 218]). The rates resulting from this study were developed in a manner that is consistent with industry standard cost of service principles. In addition to documenting the rate study methodology, this report is provided with the intent of assisting the District to maintain transparent communications with its residents and businesses.

In developing new water rates, NBS worked cooperatively with District staff in selecting appropriate rate alternatives. Based on input from District staff, NBS proposes the water rates summarized in this report.

C. OVERVIEW OF THE STUDY

Comprehensive rate studies such as this one typically include three components: (1) preparation of a financial plan which identifies the net revenue requirements for the utility; (2) analysis of the cost to serve each customer class, and; (3) the rate structure design. These steps are shown in **Figure 1** and are intended to follow industry standards and reflect the fundamental principles of cost-of-service rate making embodied in the American Water Works Association (AWWA) Principles of Water Rates, Fees, and Charges[1], also referred to as the Manual M1. They also address requirements under Proposition 218 that rates not exceed the cost of providing the service and be proportionate to the cost of providing service for all customers. In terms of the chronology of the study, these three steps represent the order they were performed in this Study.

Figure 1. Primary Components of a Rate Study



As a part of this rate study, NBS projected revenues and expenditures, developed net revenue requirements, performed cost-of-service rate analyses, and prepared new water rates. Rate increases -- or more accurately, increases in the total revenue collected from water rates -- are recommended for the utility. The following sections in this report present an overview of the methodologies, assumptions, and data used along with the financial plans and rates developed during this study. Appendix A provides the rate schedules necessary for Prop 218 notices, and more detailed tables and figures documenting the development of the proposed rates that are provided in Appendix B.

Rate Design Criteria – It is important for the water utility to send proper price signals to its customers about the actual cost of their water usage. This objective is typically addressed through both the magnitude of the

[1] *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, sixth edition, 2012.*

rates and the rate structure design. In other words, both the amount of revenue collected and the way in which the revenue is collected from customers are important.

Several criteria are typically considered in setting rates and developing sound rate structures. The fundamentals of this process have been documented in a number of rate-setting manuals, such as the AWWA Manual M1. The foundation for evaluating rate structures is generally credited to James C. Bonbright in the *Principles of Public Utility Rates*[2] which outlines pricing policies, theories, and economic concepts along with various rate designs. The following is a simplified list of the attributes of a sound structure:

- Rates should be easy to understand from the customer's perspective.
- Rates should be easy to administer from the utility's perspective.
- Rates should promote the efficient allocation of the resource.
- Rates should be equitable and non-discriminating (that is, cost based).
- There should be continuity in the rate making philosophy over time.
- Rates should address other utility policies (for example, encouraging conservation & economic development).
- Rates should provide month-to-month and year-to-year revenue stability.

This section covers basic rate design criteria that NBS and District staff considered as a part of their review of the rate structure alternatives.

Rate Structure Issues – One of the key issues in considering rate structures is the relationship between fixed costs and variable costs. Fixed costs typically do not vary with the amount of water consumed. Debt service payments and personnel costs are examples of fixed costs. In contrast, variable costs such as the cost of purchased water, chemicals, and electricity tend to change with the quantity of water sold. The vast majority of rate structures contain a fixed or minimum charge in combination with a volumetric charge.

Fixed Charges – Fixed charges can be called base charges, minimum monthly charges, customer charges, fixed meter charges, etc. Fixed charges for water utilities typically increase by meter size. For example, a customer with a 2-inch meter has a fixed meter charge that is more than five times greater than the typical residential customer charge (which in the District's case is a 5/8-inch meter which represents 83% of all meters in the potable system) based on the meter's safe operating capacity.[3] Because a large portion of water utility's costs are typically related to meeting capacity requirements, reflecting individual demands for capacity are an important factor in establishing rates for customers.

Volumetric (Consumption-Based) Charges – In contrast to fixed charges, variable costs such as purchased water, the cost of electricity used in pumping water, and the cost of chemicals for treatment tend to change with the quantity of water produced. For a water utility, variable charges are generally based on metered consumption and charged on a dollar-per-unit cost (for example, per 100 cubic feet, or hcf).

Uniform (Single-Tier) Water Rates – There are significant variations in the basic philosophy of variable charge rate structure alternatives. Under a uniform (single tier) rate structure, the cost per unit does not change with consumption, and provides a simple and straightforward approach from the perspective of customer regarding their understanding the rates and for the utility's administration/billing of the rates.

Multi-Tiered Water Rates – In contrast to a uniform tier, an inclining block rate structure attempts to send a price signal to customers that their consumption costs more as more water is consumed, and is generally considered to be a more conservation-oriented rate structure. Tiered water rates are encouraged by state law and regulatory mandates, but are also intended to represent the higher costs for customers that

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[2] *James C. Bonbright; Albert L. Danielsen and David R. Kamerschen, Principles of Public Utility Rates, (Arlington, VA: Public Utilities Report, Inc., Second Edition, 1988), p. 383-384.*

[3] *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, sixth edition, 2012, p. 274.*

contribute more to peak summertime usage and place greater demands on the system. The types of higher costs reflected, for example, in the *highest* tier of the rate structure may include:

- Conservation program costs: intended to encourage customers to eliminate inefficient and wasteful water use, and otherwise reduce consumption during peak periods.
- Replacement Water costs: when consumption exceeds the amount of the District's allocated water rights, the agency incurs additional costs for replacement water in order to meet that increased demand. That replacement water comes at a higher cost.
- Energy costs: during summer months, the District may pay more in electric charges to pump, treat and deliver water, and have a higher percentage of its energy bill in higher electricity "tiers".
- Higher maintenance costs: peak periods tend to have higher numbers of service calls, capacity costs, and system maintenance issues when the water system is running at peak demand.

Drought and Water Conservation – On January 17, 2014, Governor Jerry Brown declared a State of Emergency throughout California due to severe drought conditions. On April 1, 2015, the Governor issued Executive Order B-29-15 mandating statewide water conservation of 25 percent. The specific conservation mandate for each community in California varied from 4 to 36 percent. The District was originally mandated to conserve 20 percent. Beginning in June 2016, communities, like the District, that could "self-certify" that they had sufficient supply to meet customer demand for three years under the current drought conditions, were no longer mandated by the state to achieve a specific conservation target. Although no longer under a mandate, the District continues to ask customers to voluntarily conserve water. While the level of conservation the District is achieving is good from a supply standpoint, it places financial pressure on the utility. Rates proposed in this Study account for various stages of water conservation to allow the District to continue meeting its financial obligations going forward.

Modifications to Rate Structure – NBS recommends that the District make some modifications to the water rate structure. The primary changes are due to the District's decision to maintain a three-tiered rate structure for single-family residential customers. These changes included:

- Establishing new tier breakpoints for single family residential customers.
- Moving 14 customers with meters 1.5 inches and larger previously labelled as single-family to a uniform rate structure, as these customers are a variety of uses (homeowners association, multi-family, commercial, etc.) There are 21 customers remaining, with a meter size of 1.5 inches in the single-family residential class.
- Update the hydraulic capacity factors used to develop monthly fixed meter charges to be consistent with AWWA standards.

NBS believes that these key changes are reasonable, will continue to encourage water conservation, and will collect sufficient revenue to cover costs over the next 5 years.

Key Financial Assumptions – To ensure that future costs are reasonably projected, we made informed assumptions about inflationary factors, growth, and water use. The following are the key financial assumptions used in the water rate analyses:

- **Funding of Water Utility Capital Projects –** The District will fund all planned capital costs using incoming rate revenues and existing reserves. The capital projects listed in the financial plan are from the District's projection of costs through FY 2020/21.
- **Reserve Targets –** The District maintains unrestricted reserves for operations, rate stabilization and capital needs. These reserves consist of the following targets:
    - Operating Reserve – equal to approximately 120 days of operating expenses, or $6 million for FY 2016/17.
    - Rate Stabilization Reserve – equal to $6 million.
    - Capital Improvement Reserve – equal to 6% of Net Capital Assets, or $3.6 million for FY 2016/17.

- **Drought Impact and Future Water Consumption –** Calendar Year 2015 consumption is assumed to be the "new normal," with approximately 9,276 AF of potable water consumed and 733 AF of recycled water consumed. Excluding the impact of new customers, no additional consumption is assumed over the five-year rate period.
- **Inflation and Growth Projections** – Assumptions regarding cost inflation were made in order to project future revenues and expenses for the study period. The following inflation factors were used in the analysis:
  - ✓ Potable Customer growth is based on the number of new connections anticipated by District staff of 0.5 percent annually.
  - ✓ Recycled Customer growth is 3.22 percent for FY 2017/18 through 2019/20, followed by no growth, per District staff planning estimates.
  - ✓ General cost inflation is 2 percent annually.
  - ✓ Labor cost inflation is 2.5 percent annually.
  - ✓ Health Benefits cost inflation is 2.5 percent annually.
  - ✓ Retirement Benefits cost inflation is 9 percent for FY 2017/18, declines gradually to 2.5 percent annually in FY 2022/23.
  - ✓ Chemical cost inflation is 2.5 percent annually.
  - ✓ Energy cost inflation is 4.4 percent annually.
  - ✓ TVMWD purchase cost is 4 percent annually.

The assumptions shown above were incorporated into the five-year financial plan. To develop the financial plan, NBS projected annual expenses and revenues, modeled reserve balances and transfers between funds, and capital expenditures, and calculated debt service coverage ratios to estimate the amount of additional rate revenue needed per year.[4] Except for FY 2016/17, the financial plan modelling assumes the revenue adjustment occurs on January 1 of each year. This means that only half of the planned revenue to be collected from the rate adjustment listed for one fiscal year will be collected in that year.

For example, there is a 7.5 percent increase in rate revenue planned for FY 2017/18; meaning, the rates are developed to recover $22 million, which is a 7.5 percent increase over the expected $20.5 million that would be collected without a rate increase. However, because of the timing for when the rates will go into effect, the Financial Plan results in only $21.3 million in rate revenue for FY 2017/18.

[4] *The complete financial plan is set forth in Appendix B.*

SECTION 2. WATER RATE STUDY

A. KEY WATER RATE STUDY ISSUES

The District's water rate analysis was undertaken with a few specific objectives, including:

- Generating additional revenue needed to meet projected funding requirements.
- Improving revenue stability.
- Developing tiered volumetric rates for single family residential customers.
- Continuing to encourage water conservation by maintaining a three-tiered rate structure.
- Developing drought rates to coincide with the District's Water Conservation & Water Shortage Contingency Plan.
- Directly linking the cost of the District's water supplies to the tiered volumetric rates and new drought rates.
- Updating fixed meter charges to reflect AWWA hydraulic capacity factors, and making the following additional modifications to the fixed meter charges:
    - Specifically, bundling single-family meters of sizes 5/8 through 1 inch to a single charge[5].
    - Using the hydraulic capacity of the 5/8-inch meter as the base for calculating meter equivalency[6].

NBS developed various water rate alternatives as requested by District staff over the course of this Study. All rate structure alternatives relied on industry standards and cost-of-service principles. The rate alternative that will be implemented is ultimately the decision of the District's Board of Directors. The fixed and volume-based charges were calculated based on the net revenue requirements, number of customer accounts, water consumption, and other District-provided information. The following are the basic components included in this analysis:

- **Developing Classifications of Costs:** Costs were classified using the commodity-demand method which is found in the AWWA M1 Manual[7]. In accordance with this method, budgeted potable system costs were reviewed with regard to their functional purposes (such as purchased water, treatment, pumping, etc.) and then "classified" into six categories: (1) commodity (or volume-based) costs; (2) additional supply (recycled water system contribution) costs; (3) zonal costs; (4) demand (or capacity) costs; (5) customer service costs; and (6) fire protection costs.
- **Determining Revenue Requirements by Customer Class:** Costs for each of these classification categories were then allocated to customer classes based on allocation factors, such as water consumption, peaking factors, and number of accounts by meter size. The total revenue collected from each customer class was determined using these classifications and allocation factors. For example:
    - ✓ Volume-related costs are allocated based on the water consumption for each customer class.
    - ✓ Additional Supply-related costs are allocated based on water consumption for each customer class.
    - ✓ Zonal costs are allocated based upon water consumption for customers within each of the elevation zones.
    - ✓ Fixed capacity costs are allocated based on the hydraulic capacity of each size meter connected to the system.

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[5] *As described in Section 2-F of this report.*

[6] *This best represents single-family customers; 5/8-inch meters make up 94% of 5/8-inch to 1-inch residential meters.*

[7] *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, sixth edition, 2012, p. 66.*

- ✓ Customer costs are allocated based on the number of meters.
- ✓ Fire protection costs are allocated based on the hydraulic capacity of each size meter connected to the system.

Once the costs are allocated and the revenue requirement for each customer class is determined, collecting these revenue requirements from each customer class is addressed in the rate design task.

- **Rate Design and Fixed vs. Variable Charges:** The revenue requirements for each customer class are collected from both fixed monthly meter charges and variable commodity charges. Based on direction from District staff, the rates proposed in this report are designed to transition to rates which collect 45 percent of rate revenue from the fixed meter charge and 55 percent from the variable commodity charge[8].

B. POTABLE WATER UTILITY REVENUE REQUIREMENTS

It is important for municipal utilities to maintain reasonable reserves in order to handle emergencies, fund working capital, maintain a good credit rating, and generally follow sound financial management practices. Rate increases are governed by the need to meet operating and capital costs, maintain adequate debt coverage, and build reasonable reserve funds. The current state of the District, with regard to these objectives, is as follows:

- **Meeting Net Revenue Requirements:** For FY 2016/17 through FY 2020/21, the projected net revenue requirement (that is, total annual expenses plus debt service and rate-funded capital costs, less non-rate revenues) for the potable system range from approximately $20 million to $23.7 million. If no rate adjustments are implemented, the water utility is projected to run a $3.2 million deficit in FY 2016/17 (though this is mostly due to a one-time pre-purchase of water). In FY 2017/18, the deficit if no rate increases are implemented, is projected to be $960,000 and increase each year thereafter. Rate increases of 7.5 percent in FY 2016/17 through 2018/19 and 5 percent in FY 2019/20 and FY 2020/21, will be needed in order to fully fund all operating expenses, planned capital projects, debt service obligations and return the reserves to the established reserve fund targets by FY 2021/22. For the recycled water system, the planned rate increases (discussed in Section 2-C of this report) will reduce the required subsidy from a projected $885,000 in FY 2016/17 to approximately $380,000 in FY 2020/21.

- **Building and Maintaining Reserve Funds:** Reserve policies provide a basis for a utility to cope with fiscal emergencies such as revenue shortfalls, asset failure, and natural disasters, among other events. They also provide guidelines for sound financial management, with an overall long-range perspective to maintain financial solvency and mitigate financial risks associated with revenue instability, volatile capital costs, and emergencies. The District plans to achieve a $16 million reserve target by the end of FY 2021/22. The reserve funds for the Utility are considered unrestricted reserves and consist of the following:

[8] *The California Urban Water Conservation Council recommends recovering at least 70 percent of rate revenue through volume-based rates. However, water utilities are allowed to develop their own allocations that accurately reflect their actual cost allocations.*

- **The Operating Reserve** should equal approximately 120 days of operating expenses (approximately $6.1 million for FY 2016/17). An Operating Reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures, such as those caused by weather patterns, the natural inflow and outflow of cash during billing cycles, natural variability in demand-based revenue streams (such as volumetric charges), and – particularly in periods of economic distress – changes or trends in age of receivables.
- **The Rate Stabilization Reserve** has a target balance of $6 million per year, per Board policy. This reserve can be used to further promote financial stability in the event of short-term reductions in rate revenue.
- **The Capital Improvement Reserve** should equal 6 percent of net capital assets (approximately $3.5 million for FY 2016/17), which is set aside to address long-term capital system replacement and rehabilitation needs.

- **Funding Capital Improvement Projects:** The District must also be able to fund necessary capital improvements for the Utility in order to maintain current service levels. District staff has identified roughly $2 to $2.5 million annually in expected capital expenditures for FY 2015/16 through 2017/18, and every year thereafter $2.5 million in capital expenditures are expected (future year value). With the recommended rate increases, these expenditures can be accomplished without draining existing reserves.

- **Maintaining Adequate Bond Coverage:** The District is required by its bond covenants to maintain a debt service coverage ratio of at least 1.1 for the outstanding Revenue Bonds. In order for the District to meet reserve fund targets, proposed rate increase are projected to exceed the minimum debt coverage ratio. The benefit of exceeding the minimum debt coverage ratio is that it strengthens District's credit rating, which can help lower the interest rates for debt-funded capital projects in the future, and in turn reduce annual debt service payments.

Figure 2 summarizes the sources and uses of funds, net revenue requirements, and the recommended annual percent increases in total rate revenue recommended for the next 5 years for the potable system. Due to the expected, significant, increase in the cost of untreated water from TVMVD, District staff has chosen to pre-purchase 5,400 acre feet of such water to be used in future years and reduce the impact of the price increase. Due to the reduction in reserves (primarily driven by the pre-purchase) interest earnings are expected to decline in FY 2017/18.

Figure 2. Summary of Potable Water Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements (1,2)	Budget	Projected			
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Sources of Potable Water Funds					
Rate Revenue Under Prevailing Rates	$ 19,018,083	$ 19,113,173	$ 19,208,739	$ 19,304,783	$ 19,401,306
Other Operating Revenue	757,500	761,288	765,094	768,919	772,764
Interest Earnings	300,000	121,904	115,721	121,034	136,070
Total Sources of Funds	**$ 20,075,583**	**$ 19,996,365**	**$ 20,089,554**	**$ 20,194,736**	**$ 20,310,140**
Uses of Potable Water Funds					
Source of Supply Costs	$ 10,278,000	$ 10,668,220	$ 11,073,631	$ 11,494,832	$ 11,932,446
Pre-Purchase of TVMWD Water	3,267,000	-	-	-	-
Other Potable Operating Expenses	7,735,707	7,960,377	8,187,746	8,423,638	8,638,804
Recycled Water System	884,991	1,166,572	728,458	700,404	381,051
Potable System Debt Service	1,160,650	1,159,250	1,162,250	1,163,900	1,160,500
Rate-Funded Capital Expenses	-	-	132,093	2,185,454	2,476,119
Total Use of Funds	**$ 23,326,348**	**$ 20,954,419**	**$ 21,284,177**	**$ 23,968,228**	**$ 24,588,920**
Surplus/(Deficiency) before Rate Increase	**$ (3,250,766)**	**$ (958,054)**	**$ (1,194,624)**	**$ (3,773,491)**	**$ (4,278,780)**
Additional Revenue from Rate Increases	713,178	2,203,988	3,821,789	5,277,045	6,538,667
Surplus/(Deficiency) after Rate Increase (3)	**$ (2,537,588)**	**$ 1,245,933**	**$ 2,627,165**	**$ 1,503,554**	**$ 2,259,888**
Projected Annual Potable Rate Revenue Increase	***7.50%***	***7.50%***	***7.50%***	***5.00%***	***5.00%***
Net Revenue Requirement - Potable System	**$ 22,268,848**	**$ 20,071,227**	**$ 20,403,363**	**$ 23,078,274**	**$ 23,680,086**
Target Rate Revenue	**$ 20,444,439**	**$ 22,087,660**	**$ 23,862,956**	**$ 25,181,385**	**$ 26,572,656**
Overall Debt Coverage Ratio	***1.65***	***2.14***	***2.46***	***2.87***	***3.07***

1. FY 2015/16 Revenues and expenses are per the District's Annual Operating Budget (Source file: *Revenue-Expense December, 2015.xlsx)*
2. Revenue and expenses in this figure tie to the detail provided in Tables 2 and 14-17 in Appendix B, for the potable water system.
3. Surplus/(Deficiency) in Potable Water Funds is the contribution to, or (use of) reserves.

Figure 3 summarizes the projected reserve fund balances and reserve targets. A summary of the utility's proposed 5-year financial plan is included in Tables 1 through 3 of Appendix B. The appendix tables include revenue requirements, reserve funds, revenue sources, proposed rate increases, and the District's capital improvement program. As can be seen in Figure 3, given proposed rate increases, reserves do not quite meet the minimum target by the end of the five-year rate period; however, it is expected that the District will be well poised to achieve the reserve targets in the following year.

Figure 3. Summary of Water Reserve Funds

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget	Projected			
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Operating Reserve					
Ending Balance	$ 4,472,348	$ 5,718,281	$ 6,510,898	$ 6,731,747	$ 6,951,032
Recommended Minimum Target	*6,091,470*	*6,298,197*	*6,510,898*	*6,731,747*	*6,951,032*
Rate Stabilization Reserve					
Ending Balance	$ -	$ -	$ 1,834,548	$ 3,117,253	$ 5,157,855
Recommended Minimum Target	*6,000,000*	*6,000,000*	*6,000,000*	*6,000,000*	*6,000,000*
Capital Improvement Reserve					
Ending Balance	$ 7,718,097	$ 5,853,797	$ 3,758,000	$ 3,758,000	$ 3,758,000
Recommended Minimum Target	*3,565,000*	*3,652,200*	*3,758,000*	*3,858,200*	*3,972,300*
Total Ending Balance	**$ 12,190,445**	**$ 11,572,078**	**$ 12,103,446**	**$ 13,607,000**	**$ 15,866,887**
Total Recommended Minimum Target	***$ 15,656,470***	***$ 15,950,397***	***$ 16,268,898***	***$ 16,589,947***	***$ 16,923,332***

C. RECYCLED WATER UTILITY REVENUE REQUIREMENTS

A financial plan was developed for the Recycled Water system in the same manner and using the same assumptions (as noted in Section 1-C) as the potable system. Revenue requirements range from approximately $1.7 to $2.2 million over the next five fiscal years, to cover the cost of operating and maintaining the system, debt service payments and capital expenditures. Compared to revenues of approximately $800,000, the Recycled Water system is projected to run an annual deficit of approximately $920,000 to $1.3 million annually. It is a goal of District to see recycled system customers bear a greater portion of their costs. For this reason, rate revenue from the recycled system is proposed to increase by 15.52% in FY 2016/17 and 12% annually thereafter through FY 2020/21.

The recycled water system benefits the District's potable water customers by reducing the demand for potable water. The use of recycled water enables the District to avoid the higher cost of potable water which would be incurred if the District exceeds its Tier I allocation. It is expected that potable water customers will continue to contribute to the recycled system throughout the five-year rate period; however, it will be reduced significantly over time.

Figure 4 summarizes the sources and uses of funds, net revenue requirements, target rate revenue and the recommended annual percent increases in total rate revenue recommended for the next 5 years.

Figure 4. Summary of Recycled Water Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements (1,2)	Budget	Projected			
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Sources of Recycled Water Funds					
Rate Revenue Under Prevailing Rates	$ 761,917	$ 786,415	$ 811,700	$ 837,799	$ 837,799
Other Operating Revenue (Contract Income)	37,500	37,688	37,876	38,065	38,256
Total Uses of Recycled Water Funds	**$ 799,417**	**$ 824,103**	**$ 849,576**	**$ 875,864**	**$ 876,054**
Uses of Recycled Water Funds					
Recycled Operating Expenses	$ 445,293	$ 456,848	$ 468,616	$ 480,762	$ 492,485
Recycled System Debt Service	1,298,244	1,298,394	1,298,094	1,297,344	1,301,144
Recycled System Rate-Funded Capital Expense	-	412,000	106,090	218,545	-
Total Uses of Recycled Water Funds	**$ 1,743,537**	**$ 2,167,242**	**$ 1,872,800**	**$ 1,996,652**	**$ 1,793,629**
Surplus/(Deficiency) before Rate Increase	**$ (944,120)**	**$ (1,343,139)**	**$ (1,023,224)**	**$ (1,120,788)**	**$ (917,574)**
Additional Revenue from Rate Increases	59,128	176,567	294,766	420,383	536,523
Surplus/(Deficiency) after Rate Increase (3)	**$ (884,991)**	**$ (1,166,572)**	**$ (728,458)**	**$ (700,404)**	**$ (381,051)**
Projected Annual Recycled Rate Revenue Increase	***15.52%***	***12.00%***	***12.00%***	***12.00%***	***12.00%***
Net Revenue Requirement - Recycled System	**$ 757,500**	**$ 761,288**	**$ 765,094**	**$ 768,919**	**$ 772,764**
Target Rate Revenue	**$ 880,174**	**$ 1,017,490**	**$ 1,162,727**	**$ 1,316,252**	**$ 1,432,392**

1. FY 2015/16 Revenues and expenses are per the District's Annual Operating Budget (Source file: *Revenue-Expense December, 2015.xlsx)*
2. Revenue and expenses in this figure tie to the detail provided in Tables 1 and 10-13 in Appendix B, for the recycled water system.
3. Amount needed to adequately fund recycled water operations.

D. POTABLE WATER CUSTOMER CLASSES

Customer classes are determined by grouping customers with similar demand characteristics into categories that reflect the cost differentials to serve each type of customer. In this case, in the potable system three customer classes were created: single-family residential, commercial fire meters and all other customers.

All non-SFR customers were grouped together in one customer class because these customers include a wide range of usage characteristics:

- They have higher peaking factors than single-family residential users,
- They are using more water on average per account,
- Their water usage varies greatly among these customers based on the specific type of customer and meter size.

Because of these characteristics, a tiered volumetric rate is not equitable, and a uniform volumetric rates better represents their cost-of-service.

The amount of consumption, the peaking factors, and the number of meters by size are used in the cost-of-service analysis to allocate costs to customer classes, and determine the appropriate rate structures. The District's most recent consumption data is summarized in **Figure 5**, peaking factors in **Figure 6** and **Figure 7**, and number of customers by customer class is shown in **Figure 8**.

The revenue calculated for each of the fiscal years in the financial plan is a function of the number of accounts, customer growth, water use, and existing rates. Like most water purveyors, the District has realized reduced water use due to conservation. In Figure 5, the impact of continued customer conservation has been included. Staff expects that for FY 2016/17, single family residential and non-residential potable water customers will consume *4,040,437 hcf* (9,276 AF) of water, annually. Aside for slight adjustments to consumption which have been made to account for customer growth[9], this figure represents the expected annual consumption over the 5-year rate period.

Commodity related costs are costs associated with the total annual consumption of water by customer class, as shown in Figure 5.

Figure 5. Water Consumption by Customer Class

Rate Group	2015 Volume (hcf)	Percent of Total Volume
Single Family Residential	1,749,046	**43.3%**
All Other Potable Meters (1)	2,291,391	**56.7%**
Total	**4,040,437**	**100%**

1. Some of these meters are serving multiple single-family residences and are therefore not typical SFR users, so they are grouped with all other customers.

Peaking factors for each customer class are shown in Figure 6. A "peaking factor" is the relationship of each customer class' average use to peak (generally summer) use.

Figure 6. Peaking Factors by Customer Class

Rate Group	Average Monthly Use (hcf)	Peak Monthly Use (hcf)	Peak Month Factor	Max Month Capacity Factor
Single Family Residential	145,754	168,002	**1.15**	**42.2%**
All Other Standard Meters	190,949	230,088	**1.20**	**57.8%**
Total	**336,703**	**398,089**	**1.18**	**100.0%**

Additional capacity factors within the single-family residential class are shown in Figure 7. The "additional capacity factor" represents the cumulative peak consumption in each tier. No additional capacity factor is assigned to Tier 1 water use, as this represents a base level of consumption by customers in the lowest tier, therefore no additional supply costs would be incurred if all customers stayed within the Tier 1 threshold.

[9] *The District has realized very low account growth for the past few years and historical account growth was used to project future account growth. See Table 9 in Appendix B for specific growth assumptions.*

Figure 7. Single Family Residential Peak Capacity Allocation Factors

Tier	Description	Monthly Consumption (hcf) (1)	Additional Capacity Required (hcf) (4)	Additional Capacity Factor
Tier 1	Max Tier 1 Capacity (2)	92,064	0	**0.0%**
Tier 2	Peak up to Tier 2 (3)	128,157	36,093	**47.5%**
Tier 3	Peak up to Tier 3 (3)	168,002	39,845	**52.5%**
Total			**75,938**	**100.0%**

1. Consumption is per source file: *Manip. Usage Information 2013-2015.8.5.16.xlsx.*
2. Consumption assigned to Tier 1 is the max Tier 1 water use (Tier 1 breakpoint multiplied by the number 5/8" - 1" SFR customers).
3. This is the cumulative peak consumption up to the tier break; it represents cumulative peak use up to each tier.
4. This is the additional cumulative capacity to meet peak consumption at each tier.

The number of customers for each customer class (also known as customer allocation factors) is shown in Figure 8.

Figure 8. Number of Meters by Customer Class

Rate Group	Number of Meters	Percent of Total
Single Family Residential	11,508	**84.8%**
All Other Standard Meters	1,617	**11.9%**
Fire Service	453	**3.3%**
Total	**13,578**	**100%**

E. COST OF SERVICE ANALYSIS

Once the revenue requirements are determined, as described in Section 2-B of this report, the cost of service analysis proportionately distributes those revenue requirements to each of the customer classes. The cost of service analysis consists of two major components: (1) the classification of expenses, and (2) the allocation of costs to customer classes. Costs are classified corresponding to the function they serve. All costs in the District's budget are allocated to each component of the rates in proportion to the level of service required by customers. The levels of service are related to volumes of peak and non-peak demand, infrastructure capacity, and customer service. Ultimately, a cost-of-service analysis is intended to result in rates that are proportional to the cost of providing service to each customer.

This process is described as follows:

Classification of Costs

Most costs are not typically allocated 100 percent to fixed or variable categories and, therefore, are allocated to multiple functions of water service. Costs were classified using the commodity-demand method which is found in the AWWA M1 Manual[10]. In accordance with this method, budgeted potable system costs were reviewed with regard to their functional purposes (such as purchased water, treatment, pumping, etc.) and then "classified" into six categories that are specific to the District's specific costs and system characteristics: (1) commodity (or volume-based) costs; (2) additional supply (recycled water system contribution) costs; (3) zonal costs; (4) demand (or capacity) costs; (5) customer service costs; and (6) fire protection costs. The classification of costs provides the basis for allocating costs to various customer classes based on the cost causation components described below:

[10] *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, sixth edition, 2012, p. 66.*

- ***Commodity*** related costs are those costs associated with the total consumption of water over a specified period of time (such as annual). The Commodity Allocation Factor is used to allocate commodity related costs to each customer class, as shown in Figure 5.
- ***Additional Supply*** related costs represent the potable water system's contribution to the recycled water system. These costs are allocated to each customer class based on the Commodity Allocation Factor shown in Figure 5, and then allocated to allocated to the Tier 3 volumetric rate for single-family residential customers, and to the uniform volumetric rate for all other customers.
- ***Zonal*** related costs represent the electricity, operations, and maintenance costs for facilities located in the higher elevation zones. These costs are allocated based on water consumption within each zone and are discussed later in this report, in Section 2-K.
- ***Capacity*** related costs are those costs associated with sizing facilities to meet the maximum, or peak demand. Since the District's rate structure is based on meter sizes (vs. single-family, commercial, etc.), both operating costs and capital infrastructure costs incurred to accommodate peak system capacity events are allocated to each meter size according to its potential peak demand placed on the system. This potential demand is reflected in the hydraulic capacity factors for each meter size, which are shown later in this report, in Figure 14 and Figure 15.
- ***Customer*** related costs are costs associated with having a customer on the water system, such as meter reading, postage and billing. Customer costs are allocated to each customer class based on the customer allocation factors shown in Figure 8.
- ***Fire Protection*** costs are those costs associated with providing sufficient capacity in the system for fire meters and other operations and maintenance costs of providing water to properties for private fire service protection.

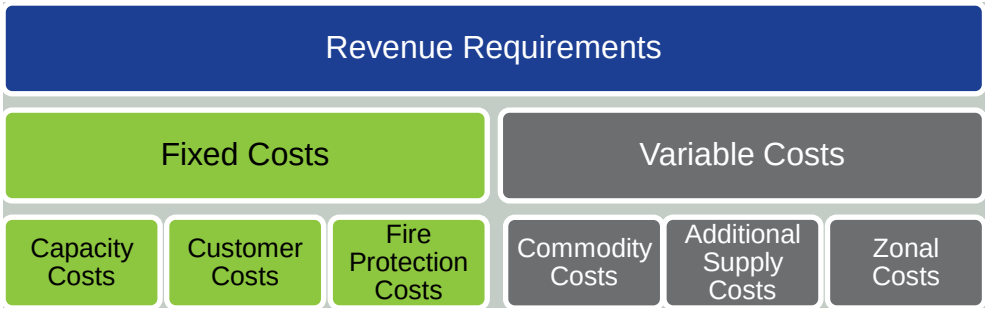
Once costs in the District's budget were reviewed, they were allocated to these cost causation (classification) components which are used as the basis for establishing new water rates and translate to fixed and variable charges. Tables 27 through 30 in Appendix B show how the District's expenses were classified and allocated to these cost causation components.

Fixed costs generally consist of costs that a utility incurs to serve customers irrespective of the amount of water they use. These include: (1) the infrastructure (capacity-related facilities) required to provide service to customers; (2) costs associated with the peaking requirements, or maximum demand which affects the maximum size of the water supply system, treatment and delivery system, operations and maintenance costs; and (3) administrative and billing costs associated with meter reading, postage and billing.

Variable costs are those that change as the volume of water produced and delivered changes. These commonly include the costs of chemicals used in the treatment process, energy related to pumping for transmission and distribution, and source of supply.

Figure 9 below summarizes how cost components are grouped with respect to fixed and variable components.

Figure 9. Cost Classification Summary



Ideally, utilities should recover all of their fixed costs from fixed charges and all of their variable costs from volumetric charges. When this is the case, fluctuations in water sales revenues would be directly offset by reductions or increases in variable expenses. When rates are set in this manner, they provide greater revenue stability for the utility. However, other factors are often considered when designing water rates such as community values, water conservation goals, ease of understanding, and ease of administration.[11] Further, revenue losses resulting from decreased consumption can be mitigated by developing drought or water shortage rates, as was done in this Study.

NBS classified the District's costs into categories that can be more generally grouped into the fixed and variable costs. Based on projected costs and demand patterns, this analysis resulted in a cost distribution that is approximately 50 percent fixed and 50 percent variable[12]. The District's current rate structure is comprised of a fixed meter charge and a variable commodity charge. For single family residential customers, the rates for the commodity charge have three tiers that impose higher rates as the level of consumption increases. For all other customers, the rate for the commodity charge is a uniform rate per unit of metered water consumption. Under the current rate structure, the District collected 33 percent of revenue through its fixed meter charges and 67 percent through its variable commodity charges in FY 2015/16. To improve revenue stability, the District has decided to transition to a rate structure which collects 45 percent of revenue from fixed meter charges and 55 percent of revenue from the variable commodity charges, which much more closely matches the cost of service analysis.

The proposed rates transition from the current revenue allocation of 33% fixed, 67% variable to 45% fixed over the first three years. The transition is shown in **Figure 10**.

Figure 10. Rate Revenue Allocation Transition

Water Revenue	Current Rates	Proposed Rates				
		FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
% Fixed	***33%***	***35%***	***40%***	***45%***	***45%***	***45%***
% Variable	***67%***	***65%***	***60%***	***55%***	***55%***	***55%***

Figure 11 summarizes the percentage of costs allocated to each cost component. In particular, the Section title "Summary of Capacity-Related Costs", shows the percentage of capacity related costs (normally fixed) which have been allocated to volumetric rates. The decline in this allocation follows the rate revenue allocation transition plan in Figure 10. Over the first three years, the transition will bring greater overall stability to the District's rate revenue.

Figure 12 summarizes the resulting target revenue requirements allocated to each cost component. As with Figure 11, the declining capacity related costs to be recovered via the volumetric rate can be observed.

[11] *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, American Water Works Association, Sixth Edition, see pp. 5 and 96.*

[12] *This analysis is presented in Appendix B, Tables 27-30.*

Figure 11. Allocated Percentage Revenue Requirements

Classification Components	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Volumetric-Related Costs					
Commodity	48.1%	48.2%	48.2%	48.2%	48.2%
Addt'l. Supply (1)	3.3%	3.3%	3.3%	3.3%	3.3%
Zonal (2)	1.3%	1.3%	1.2%	1.2%	1.2%
Capacity-Related Costs (volumetric assignment)	12.3%	7.3%	2.3%	2.3%	2.3%
Subtotal: Volumetric Costs	65.0%	60.0%	55.0%	55.0%	55.0%
Capacity-Related Costs (fixed assignment)	31.2%	36.2%	41.2%	41.2%	41.2%
Customer-Related Costs	1.8%	1.8%	1.8%	1.8%	1.8%
Fire Protection-Related Costs	2.0%	2.0%	2.0%	2.0%	2.0%
Subtotal: Fixed Costs	35.0%	40.0%	45.0%	45.0%	45.0%
Target Rate Revenue	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Summary of Capacity-Related Costs					
Capacity-Related Costs (volumetric assignment)	28.3%	16.8%	5.3%	5.3%	5.3%
Capacity-Related Costs (fixed assignment)	71.7%	83.2%	94.7%	94.7%	94.7%
Capacity Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Figure 12. Allocated Net Revenue Requirements

Classification Components	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Volumetric-Related Costs					
Commodity	$ 9,836,955	$ 10,636,226	$ 11,500,143	$ 12,137,665	$ 12,810,504
Addt'l. Supply (1)	668,171	721,876	779,896	822,986	868,456
Zonal (2)	265,144	277,829	291,129	305,075	319,697
Capacity-Related Costs (volumetric assignment)	2,518,615	1,616,666	553,457	584,036	616,304
Subtotal: Volumetric Costs	$ 13,288,885	$ 13,252,596	$ 13,124,626	$ 13,849,761	$ 14,614,961
Capacity-Related Costs (fixed assignment)	$ 6,376,753	$ 7,993,667	$ 9,829,306	$ 10,372,375	$ 10,945,449
Customer-Related Costs	376,777	407,061	439,778	464,076	489,716
Fire Protection-Related Costs	402,024	434,336	469,246	495,172	522,530
Subtotal: Fixed Costs	$ 7,155,554	$ 8,835,064	$ 10,738,330	$ 11,331,623	$ 11,957,695
Target Rate Revenue	**$ 20,444,439**	**$ 22,087,660**	**$ 23,862,956**	**$ 25,181,385**	**$ 26,572,656**

Costs Allocated to Customer Classes

As noted above in Section 2. D., costs are allocated to each customer class based on the customer characteristics of each class in order to reflect the cost differentials to serve each type of customer. The District's potable water system includes three customer classes: single-family residential, commercial fire meters and all other customers (includes: all meters 1.5-inch and larger, multi-family, commercial, irrigation, etc.).

Commodity-related costs are distributed to each customer class based on the percentage of water consumed (previously shown in Figure 5). Capacity-related costs are distributed to customers based on the hydraulic capacity factors for each meter (shown in Figure 14 and Figure 15). Customer related costs are distributed to each customer class based on the number of customers in each customer class (previously shown in Figure 8). A direct allocation is made in the cost classification process to commercial fire which

reflects their share of system-wide costs. **Figure 13** summarizes how each cost classification category is distributed to each customer class.

Figure 13. Cost Allocation Methodology

Capacity Related Costs

- Allocated by hydraulic capacity of meters connected

Customer Related Costs

- Allocated based on the number of meters by customer class

Fire Protected Costs

- Allocated to fire meter customer class

Commodity Costs

- Allocated by consumption by customer class

Additional Supply Costs

- Allocated by consumption by customer class

Zonal Costs

- Allocated by consumption within each elevation zone

F. PROPOSED POTABLE WATER RATE STRUCTURE

The process of evaluating the water rate structure provides the opportunity to incorporate a number of rate-design objectives and policies, including revenue stability, equity among customers, and water conservation.

NBS discussed several water rate alternatives and methodologies with District Staff over the course of this study, such as the percentage of revenue collected from fixed vs. variable charges, differentiating rates by customer class and different methods of implementing tiered rates. Based on direction from District staff, the proposed rate alternative was developed. The following sections describe this process.

Fixed Charges

The fixed meter charge recognizes that the water utility incurs fixed costs regardless of whether customers actually use water. There are two components which comprise the fixed meter charge: the customer component and the capacity component. The customer component is comprised of those costs relating to reading and maintaining meters, customer billing and collection, and other customer service related costs. The customer service costs do not differ among the various meter sizes, therefore, the rate for this component of the fixed meter charge is the same for each meter size.

The capacity component recovers costs associated with constructing and operating the water system to ensure there is sufficient capacity in the system to meet the demand of each meter connected. Meter sizes have different fixed charges based on their capacity requirements: larger meters have the potential to use

more of the system's capacity,[13] compared to smaller meters. The potential capacity demanded is proportional to the maximum hydraulic flow through each meter size as established by the AWWA hydraulic capacity ratios[14]. The AWWA capacity ratios used for this report are shown in the second column of Figure 14 and Figure 15.

As an example, a 2-inch meter has a greater capacity, or potential peak demand than a 5/8-inch meter; therefore, the fixed charge for a 2-inch meter is larger than a 5/8-inch meter based on their proportionate capacity requirements[15]. A "hydraulic capacity factor" is calculated by dividing the maximum capacity or flow of large meters by the capacity of the base meter size, which is typically the most common residential meter size (in this case a 5/8-inch meter).

The ratios shown in Figure 14 and Figure 15 are the ratio of potential flow through each meter size compared to the flow through a 5/8-inch meter[16]. The 5/8-inch meter is the most common meter size for the utility and is used to compare the capacities of the larger meters. For example, column 2 in Figure 14 shows the hydraulic capacity of a two-inch meter is 8 times that of a 5/8-inch meter and therefore the capacity component of the fixed meter charge is 8 times that of the 5/8 inch meter.

The actual number of meters by size is multiplied by the corresponding capacity ratios to calculate the total number of equivalent meters. The number of equivalent meters is used as a proxy for the potential demand that each customer can place on the water system. A significant portion of a water system's peak capacity, and in turn, the utility's fixed operating and capital costs, are related to meeting system capacity requirements.

This calculation is summarized for standard use meters in **Figure 14** and for the fire protection meters in **Figure 15**.

Figure 14. Equivalent Meter Calculation - Standard Meters

Meter Size	Hydraulic Capacity	Number of Meters	Total Equivalent
	a	*b*	*c = (a * b)*
5/8 inch	1.00	10,925	10,925
3/4 inch	1.00	98	98
1 inch	1.00	926	926
1.5 inch	5.00	534	2,670
2 inch	8.00	593	4,744
3 inch	16.00	17	272
4 inch	25.00	13	325
6 inch	50.00	11	550
8 inch	80.00	6	480
10 inch	210.00	2	420
12 inch	265.00	0	0
Total		**13,125**	**21,410**

[13] *System capacity is the system's ability to supply water to all delivery points at the time when demanded. Both operating costs and capital related costs incurred to meet the demand of each meter connected to the water system. Costs associated with system capacity are allocated to customers based upon the hydraulic capacity of each size meter connected to the system.*

[14] *See: American Water Works Association, Principles of Water Rates, Fees and Charges: Manual of Water Supply Practices M1, p. 326, (6th ed. 2012) and American Water Works Association, Water Meters – Selection, Installation, Testing and Maintenance M6, p. 65 (5th ed. 2012).*

[15] *This is reflected in the fixed charge calculations by using the AWWA hydraulic capacity factors to represent the maximum volume each meter size is capable of delivering.*

[16] *Table 39 in Appendix B shows potential flow or meter capacity for each meter size, from which the hydraulic capacity factor was derived.*

Figure 15. Equivalent Meter Calculation - Fire Protection Meters

Meter Size	Hydraulic Capacity	Number of Meters	Total Equivalent
	a	*b*	*c = (a * b)*
1 inch	1.00	1	1
2 inch	8.00	2	16
3 inch	17.50	1	18
4 inch	35.00	51	1,785
6 inch	80.00	164	13,120
8 inch	140.00	179	25,060
10 inch	220.00	53	11,660
12 inch	265.00	2	530
Total		**453**	**52,190**

The two types of meters (standard & fire protection) are kept distinct in this analysis as the District's existing rates have different fixed meter charges for commercial fire meters than for standard water service customers, and new rates will maintain this same structure. Fire service customers differ from other water service customers because their service is more standby in nature, where a readiness-to-serve charge is appropriate. Except in the event of a fire, these users are not intended to use water on a regular basis. However, the District still needs to provide sufficient capacity for fire meters and recover other related operations and maintenance costs. Based on the cost of service analysis and the standby nature of fire meters, the overall cost to serve these users is proportionately less than that of a standard service; therefore, the fixed meter charges are less.

For FY 2016/17, **Figure 16** shows how the fixed monthly meter charges were calculated for standard water meters, for the base meter size (5/8-inch meter), and **Figure 17** shows the same for private fire meters.[17] The customer component of the rate is $2.31 per meter, and does not vary by meter size because it represents costs to the utility for having connections to the water system. Capacity and Fire Protection costs vary by meter size and are based on the hydraulic capacity of each meter size.

Figure 16. Calculation of FY 2016/17 Standard Fixed Meter Charge

Classification	Revenue Requirement	Allocation Metholdology	Allocation	Charge
	a		*b*	*c = (a / b) / 12*
Capacity-Related Costs (fixed assignment)	$ 6,376,753	Equivalent Meters	21,410	$24.82
Customer-Related Costs	$ 364,207	Meters	13,125	$2.31

Figure 17. Calculation of FY 2016/17 Private Fire Protection Meter Fixed Charge

Classification	Revenue Requirement	Allocation Metholdology	Allocation	Charge
	a		*b*	*c = (a / b) / 12*
Fire Protection Related Costs	$ 402,024	Equivalent Meters	52,190	$0.64
Customer-Related Costs	$ 12,570	Meters	453	$2.31

The Capacity and Fire Protection charges developed in Figure 16 and Figure 17 are the monthly charge for the base meter size (5/8 inch), which is multiplied by the Hydraulic Capacity Factor for larger meters

[17] *Details regarding how the fixed charges were calculated for all 5 years in the rate period can be found in Tables 36 – 54 in Appendix B.*

shown in Figure 14 and Figure 15. These calculations are shown in **Figure 18** for Standard Meters and **Figure 19** for Fire Protection meters. The District has decided set the fixed charge for all 5/8 through 1 inch meters to be the same. This is shown in Figure 18 and Figure 19 by adjusting the hydraulic capacity ratio for these meters to 1.0, for the following reasons:

- The desire for a single fixed meter charge across all customer class.
- The overwhelming number of meters between 5/8 inch and 1 inch being single family residential.
- The similar consumption pattern for single family residential customers with meter sizes 5/8 to 1 inch.

Figure 18. FY 2016/17 Standard Fixed Meter Charges

Meter Size	Hydraulic Capacity Factor	Fixed Meter Charge		Total Fixed Meter Charge	Estimated Revenue
		Customer Component	Capacity Component		
5/8 inch	1.00	$2.31	$24.82	$27.13	$ 3,557,060
3/4 inch	1.00	$2.31	$24.82	$27.13	31,908
1 inch	1.00	$2.31	$24.82	$27.13	301,495
1.5 inch	5.00	$2.31	$124.10	$126.41	810,051
2 inch	8.00	$2.31	$198.56	$200.87	1,429,408
3 inch	16.00	$2.31	$397.12	$399.43	81,484
4 inch	25.00	$2.31	$620.50	$622.81	97,159
6 inch	50.00	$2.31	$1,241.00	$1,243.31	164,117
8 inch	80.00	$2.31	$1,985.60	$1,987.91	143,130
10 inch	210.00	$2.31	$5,212.20	$5,214.51	125,148
12 inch	265.00	$2.31	$6,577.30	$6,579.61	-
Total					**$ 6,740,960**

Figure 19. FY 2016/17 Private Fire Protection Meter Fixed Charges

Meter Size	Hydraulic Capacity Factor	Fixed Meter Charge		Total Fixed Meter Charge	Estimated Revenue
		Customer Component	Fire Protection Component		
1 inch	1.00	$2.31	$0.64	$2.95	$ 35
2 inch	8.00	$2.31	$5.14	$7.45	179
3 inch	16.00	$2.31	$11.23	$13.55	163
4 inch	25.00	$2.31	$22.47	$24.78	15,165
6 inch	50.00	$2.31	$51.35	$53.67	105,616
8 inch	80.00	$2.31	$89.87	$92.18	198,008
10 inch	210.00	$2.31	$141.22	$143.54	91,289
12 inch	265.00	$2.31	$170.11	$172.42	4,138
Total					**$ 414,594**

Volumetric Commodity Charge Rates

Currently, the District uses a tiered volumetric rate for single family residential customers, and a uniform volumetric rate for all other customers. The proposed volumetric rates maintain this structure; however, the tier breakpoints have been adjusted to reflect updated consumption statistics. **Figure 20** shows the calculation which assigns volumetric costs to the two customer classes (single-family residential and all other customers) for FY 2016/17.

Figure 20. FY 2016/17 Allocation of Variable Costs

Classification	Revenue Goal	Allocation Methodology	% Allocation SFR	$ Allocation SFR	% Allocation All Others	$ Allocation All Others
	a		*b*	*c - a * b*	*d*	*e - a * d*
Commodity Allocation	$ 9,836,955	Commodity	43.3%	$ 4,258,274	56.7%	$ 5,578,681
Additional Supply Costs	$ 668,171	Commodity	43.3%	$ 289,242	56.7%	$ 378,930
Capacity-Related Costs (volumetric assignment)	$ 2,518,615	Capacity	42.2%	$ 1,062,906	57.8%	$ 1,455,709
Total	**$ 13,023,741**			**$ 5,610,421**		**$ 7,413,320**

Single Family Residential customers are proposed to remain on a tiered volumetric rate. Tier breakpoints were established and expected consumption in each tier was determined. The goals when setting the tier breakpoints were twofold:

1. The breakpoint for the first tier was set to the typical indoor California water use with 4 people using 50 gallons per capita per day in a home.[18]
2. The breakpoint for the second tier was set equal to peak summer consumption by customers in this group. Peak summer consumption is when water consumption is highest for a two-month billing period.

Figure 21 shows resulting tier breakpoints, including projected monthly consumption by tier.

Figure 21. Single Family Residential Tier Breakpoints & Expected Monthly Consumption by Tier

Tier	Monthly Breakpoint	Expected Consumption (1)	Percentage of Total SFR Consumption
Tier 1	8 hcf	970,381	55%
Tier 2	15 hcf	445,764	25%
Tier 3	--	332,901	19%
Total		**1,749,046**	**100%**

1. Consumpiton is per source file; Manip. Usage Information 2013-2015 12.06.16.xlsx

Volumetric assigned capacity costs (shown in Figure 11) represents the extra capacity costs needed to meet peak demand in each tier. These capacity costs are allocated to Single Family residential customers (by peak consumption shown in Figure 6) were further allocated to each tier. Tier 1 was allocated no volumetric assigned capacity costs as all single family residential customers are assumed to be allocated the capacity required to provide Tier 1 water.

To determine the Tier 2 allocation, the amount of capacity required to service single family customers up to the Tier 2 breakpoint was estimated based upon peak consumption. The capacity above and beyond Tier 1 was calculated, and the additional capacity over Tier 1, of 48% was used to allocate volumetric capacity costs to Tier 2.

[18] *Data source: DWR California Water Plan Update 2013 (http://www.water.ca.gov/calendar/materials/vol3_urbanwue_apr_release_16033.pdf).*

Similarly, to determine the Tier 3 allocation, the amount of capacity required to service single family residential customers was estimated based upon peak consumption. The capacity above and beyond what was required through Tier 2 was calculated, and the additional capacity over Tier 2, of 52% was used to allocate volumetric capacity costs to Tier 3.

Figure 22 shows how the percentage of total additional capacity is calculated for each Tier and represents how volumetric capacity costs are allocated, to develop the three-tiered water rates.

Figure 22. Capacity Allocation to Single Family Residential Tiers

Tier	Additional Capacity Required (hcf) (1)	Additional Capacity Factor
Tier 1	0	**0.0%**
Tier 2	36,093	**47.5%**
Tier 3	39,845	**52.5%**
Total	**75,938**	**100.0%**

1. This is the additional cumulative capacity to meet peak consumption in each tier br. More detail can be found in Figure 7.

Additional supply costs that were allocated to single family residential customers were assigned only to the third tier because if no consumption occurred in the third tier, the recycled water offset in potable water use would not be required. Due to the year to year volatility in capital costs and expected increases to recycled water rate revenue, the allocation of costs for the additional supply were leveled out over the 5-year rate period. That is, the total amount of revenue to be collected over the 5-year period to offset additional supply costs is expected to match the revenue requirements overall; however, in any given year the totals may be different.

Using expected consumption by customer class and tier along with the costs allocated to the volumetric rates, the charge per unit of water sold were calculated as show in **Figure 23**. Single-family residential customers will remain on a tiered volumetric rate to encourage water conservation, and all other customers will remain on a uniform volumetric rate. The uniform rate is more than the Tier 1 rate for single-family residential customers, that reflects the cost of providing water service to these customers.

Figure 23. Volumetric Commodity Rates FY 2016/17

Volumetric Rate Type	Consumption	Volumetric Rate Component			Total Allocated Cost	Total Volumetric Charge
		Commodity	Addt'l. Supply	Capacity		
	a	b	c	d	e = b + c + d	f = e / a
Single-Family Residential						
Tier 1	970,381	$ 2,362,515	$ -	$ -	$ 2,362,515	$2.43
Tier 2	445,764	1,085,269	-	505,198	1,590,467	$3.57
Tier 3	332,901	810,490	289,242	557,708	1,657,439	$4.98
All Other Customers						
Uniform	2,291,391	5,578,681	378,930	1,455,709	7,413,320	$3.24
Total		**$ 9,836,955**	**$ 668,171**	**$ 2,518,615**	**$ 13,023,741**	

Similar calculations were made to develop rates for FY 2017/18 and FY 2018/19 (accounting for projected customer growth and assumptions regarding increases in the costs of service) as the allocation to fixed and variable rate revenue was adjusted (according to Figure 10 and Figure 11). See Tables 55-64 in Appendix B for the rate calculations used in FY 2017/18 and beyond.

G. PROPOSED RECYCLED WATER RATE STRUCTURE

The District currently charges recycled water customers the same fixed meter charges as potable customers, and that has been maintained in the updated rate structure, per direction from District staff. The amount of revenue expected to be collected from recycled water fixed charges in FY 2016/17 is shown below in **Figure 24**.

Figure 24. Expected FY 2016/17 Recycled Water System Fixed Charge Revenue

Meter Size	Total Fixed Meter Charge	Number of Meters	Estimated Revenue
5/8 inch	$27.13	0	$ -
3/4 inch	$27.13	1	326
1 inch	$27.13	35	11,396
1.5 inch	$126.41	43	65,229
2 inch	$200.87	30	72,314
3 inch	$399.43	3	14,380
4 inch	$622.81	7	52,316
6 inch	$1,243.31	1	14,920
8 inch	$1,987.91	1	23,855
10 inch	$5,214.51	0	-
12 inch	$6,579.61	1	78,955
Total		**122**	**$ 333,690**

The variable rate was calculated as shown in **Figure 25**. In total, the rates collect the target revenue from recycled water customers as determined in the financial plan, shown previously in Figure 4.

Figure 25. Recycled Water Rate Calculation

Recycled Water Variable Rate Calculation	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Recycled Net Rate Revenue Requirement	$ 880,174	$ 1,017,490	$ 1,162,727	$ 1,316,252	$ 1,432,392
Less: Expected Revenue Fixed Charges (1,2,3)	$ (333,690)	$ (429,001)	$ (541,192)	$ (586,522)	$ (615,848)
Required Variable Revenue	$ 546,484	$ 588,489	$ 621,536	$ 729,730	$ 816,544
Expected Recycled Water Consumption (hcf) (1)	319,290	329,556	340,152	351,088	351,088
Recycled Water Variable Rate	**$1.71**	**$1.79**	**$1.83**	**$2.08**	**$2.33**

1. Meter counts, consumption rates and customer class from Source files: *Manip. Usage Information 2013-2015.xlsx*.
2. Fixed Meter charges for Recycled Water set equal to potable fixed charges.
3. Includes expected customer growth of 3.2% annually in FY 2017/18, FY 2018/19 & FY 2019/20, then 0% thereafter.

H. CURRENT AND PROPOSED WATER RATES

Figure 26 provides a comparison of the current and proposed rate structure for FY 2016/17 through 2020/21 for each meter size[19]. More detailed tables on the development of the proposed water rates are documented in Appendix B.

Figure 26. Current and Proposed Water Rates[20]

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Fixed Service Charge						
Monthly Fixed Service Charge						
Standard Meters:						
5/8 inch	$25.12	$27.13	$33.44	$40.55	$42.58	$44.71
3/4 inch	$25.12	$27.13	$33.44	$40.55	$42.58	$44.71
1 inch	$41.73	$27.13	$33.44	$40.55	$42.58	$44.71
1.5 inch	$83.24	$126.41	$157.28	$192.06	$201.67	$211.75
2 inch	$133.05	$200.87	$250.16	$305.70	$320.99	$337.03
3 inch	$249.28	$399.43	$497.82	$608.73	$639.16	$671.12
4 inch	$415.33	$622.81	$776.45	$949.63	$997.12	$1,046.97
6 inch	$830.44	$1,243.31	$1,550.42	$1,896.60	$1,991.43	$2,091.00
8 inch	$1,328.58	$1,987.91	$2,479.18	$3,032.95	$3,184.60	$3,343.83
10 inch	$1,909.73	$5,214.51	$6,503.80	$7,957.16	$8,355.02	$8,772.77
12 inch	$3,570.18	$6,579.61	$8,206.53	$10,040.48	$10,542.50	$11,069.62
Monthly Fixed Service Charge						
Fire Service Meters:						
1 inch	--	$2.95	$3.18	$3.41	$3.58	$3.76
2 inch	$9.96	$7.45	$8.01	$8.61	$9.04	$9.49
3 inch	$14.44	$13.55	$14.56	$15.65	$16.44	$17.26
4 inch	$18.38	$24.78	$26.64	$28.64	$30.07	$31.57
6 inch	$36.75	$53.67	$57.69	$62.02	$65.12	$68.38
8 inch	$84.89	$92.18	$99.10	$106.53	$111.85	$117.45
10 inch	$152.66	$143.54	$154.30	$165.87	$174.17	$182.88
12 inch	$246.58	$172.42	$185.36	$199.26	$209.22	$219.68
Potable Water Commodity Charges						
Single-Family Residential:						
Current / Proposed						
Tier 1 1-16 hcf / 1-8 hcf	$2.77	$2.43	$2.62	$2.82	$2.96	$3.11
Tier 2 17-23 hcf / 9-15 hcf	$3.19	$3.57	$3.34	$3.06	$3.22	$3.38
Tier 3 24+ hcf / 16+ hcf	$4.02	$4.98	$4.62	$4.19	$4.40	$4.62
All Other Customers:						
Uniform Rate	$2.97	$3.24	$3.20	$3.15	$3.31	$3.47
Recycled Water Commodity Charges						
Uniform Rate	$1.71	$1.71	$1.79	$1.83	$2.08	$2.33

The increases in rate revenue, shown in Figure 2 and Figure 4, will be accomplished by implementing the proposed water rates shown in Figure 26. The primary change is the increased percentage of rate revenue that will be collected from the fixed charges over the first three years. For fixed charges, the hydraulic capacity factors were updated to be consistent with industry standards as described in Section 2-E of this report, and shown previously in Figure 14 and Figure 15. This has resulted in a greater spread in monthly fixed charges between small and large meter sizes. For the volumetric commodity charge rates, the differences between the tiered rates have increased when compared to current rates. With the tier breakpoints lowered, customer bills generally will have a larger amount of consumption in the higher tiers.

[19] *Following the initial adjustment which is schedule to be effective March 1st, 2017, all rate future adjustments are scheduled to be effective on January 1st.*

[20] *New tier breakpoints for each size meter are shown in Figure 21 of this report.*

I. COMPARISON OF CURRENT AND PROPOSED WATER BILLS

Figure 27 and **Figure 28** compare a range of monthly water bills for the current and proposed water rates as a result of the initial rate adjustment for single-family residential (SFR) customers (with up to a 1-inch meter) and non-single family residential customers (the bill comparison for a commercial customer with a 2-inch meter is used as an example in Figure 28) . These monthly bills are based on typical meter sizes, and the average consumption levels for each customer class are highlighted.

Figure 27. Monthly Water Bill Comparison for Single-Family Customers

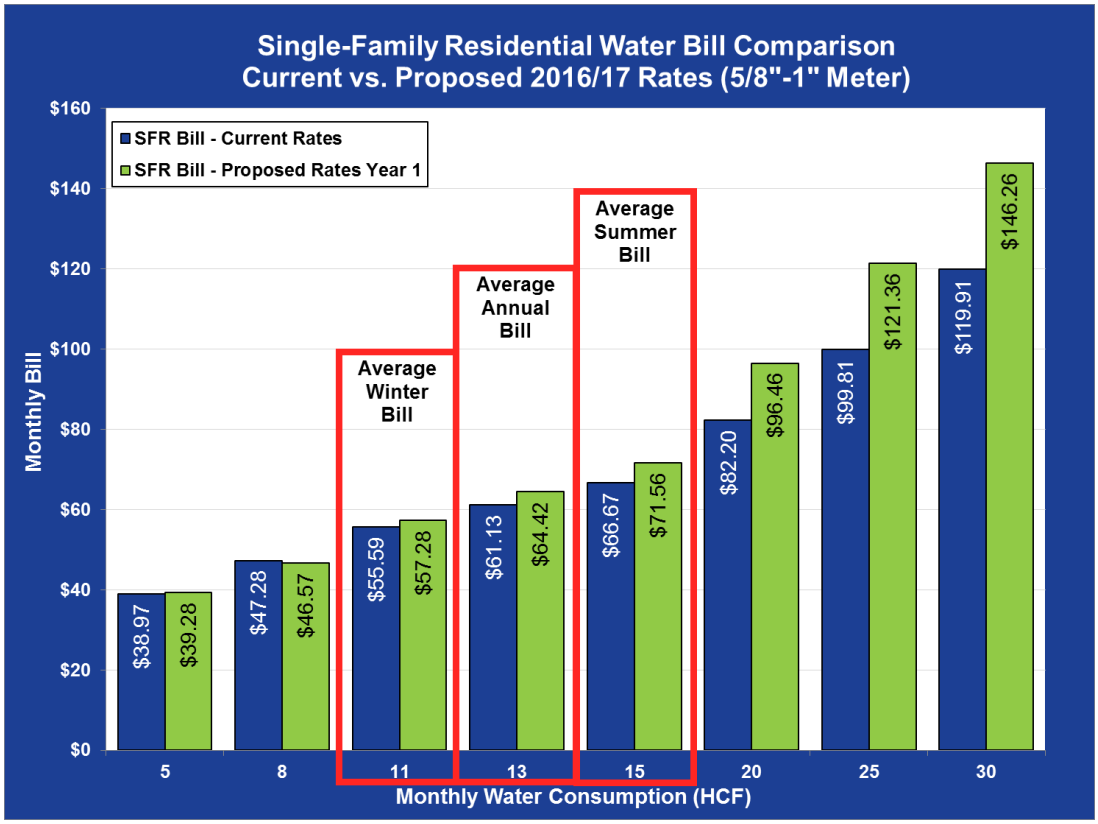
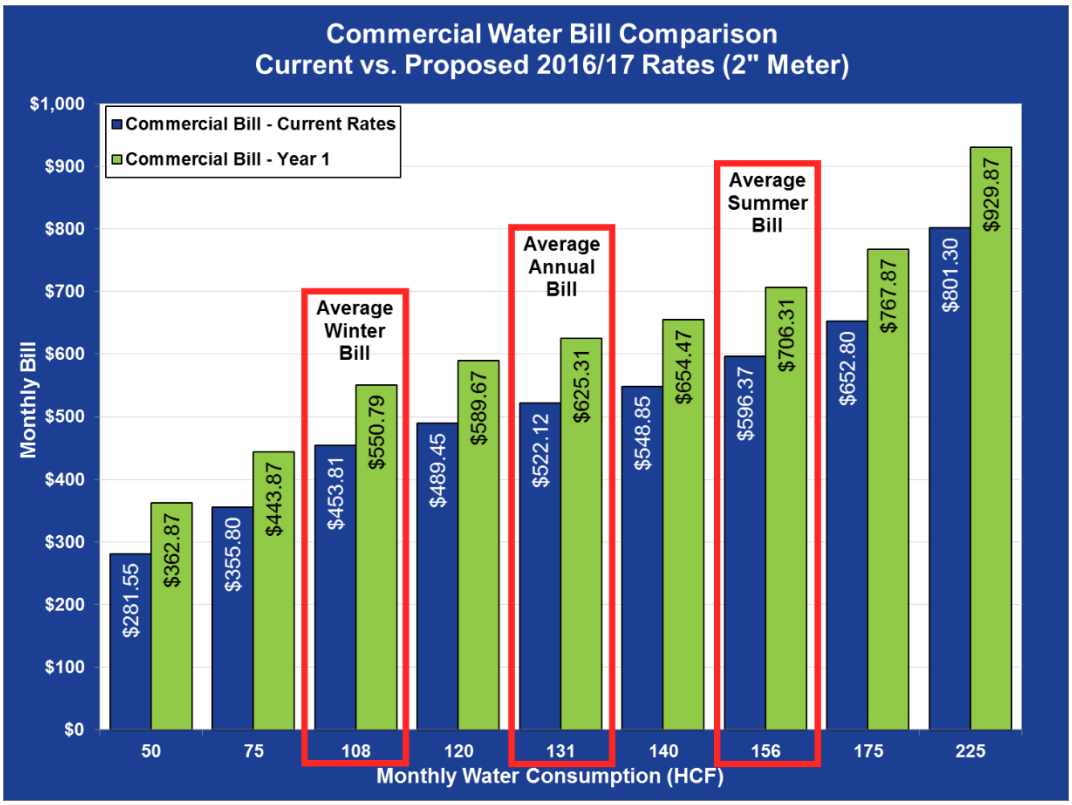


Figure 28. Monthly Water Bill Comparison for a Commercial Customer with a 2-inch Meter[21]



J. DROUGHT RATES

Should conservation increase beyond currently expected levels, the District is still obligated to meet its annual net revenue requirements. To this end, drought rates have been developed so that if total consumption should decrease further due to an increase in conservation required by the state, another regulatory agency, or if the Board of Directors declares that it is in more severe drought stages, the District would still be kept whole. In the event that consumption decreases beyond projected baseline consumption levels, some costs will also decrease and the proposed drought rates have taken this reduced revenue need into consideration[22]. **Figure 29** shows baseline consumption and consumption at each increased declared drought level. For FY 2016/17, **Figure 30** calculates expected savings due to conservation.[23] The conservation impact on consumption in the three tiers for SFR customers is the most difficult to predict. To develop drought rates, the monthly consumption for each SFR customer was reduced by the expected conservation and the consumption by tier was recalculated. **Figure 31** shows how drought rates were developed for FY 2016/17 at 10% conservation. The rates for each increased stage of drought (20% through 60%) were developed in the same manner.

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[21] *Bill comparison for a commercial customer with a 2-inch meter is for illustration purposes only.*

[22] *Details regarding the calculation of the drought rates can be found in Appendix B, Tables 73-113.*

[23] *Only the Expenses for Water Purchases – TVMWD, Pumping Power and Chemicals are expected to be impacted by conservation.*

Figure 29. Projected Consumption at Baseline and Each Successive Drought Stage

Drought Level	Conservation Percentage	Total Expected Consumption FY 2016/17	Total Expected Consumption FY 2017/18	Total Expected Consumption FY 2018/19	Total Expected Consumption FY 2019/20	Total Expected Consumption FY 2020/21
Baseline	0%	4,040,437 hcf	4,060,639 hcf	4,080,942 hcf	4,101,347 hcf	4,121,854 hcf
Level 1	10%	3,636,393 hcf	3,654,575 hcf	3,672,848 hcf	3,691,212 hcf	3,709,668 hcf
Level 2	20%	3,232,350 hcf	3,248,511 hcf	3,264,754 hcf	3,281,078 hcf	3,297,483 hcf
Level 3	30%	2,828,306 hcf	2,842,447 hcf	2,856,660 hcf	2,870,943 hcf	2,885,298 hcf
Level 4	40%	2,424,262 hcf	2,436,384 hcf	2,448,565 hcf	2,460,808 hcf	2,473,112 hcf
Level 5	50%	2,020,219 hcf	2,030,320 hcf	2,040,471 hcf	2,050,674 hcf	2,060,927 hcf
Level 6	60%	1,616,175 hcf	1,624,256 hcf	1,632,377 hcf	1,640,539 hcf	1,648,742 hcf

Figure 30. FY 2016/17 Impact of Conservation on Expected Commodity Expenditures

Year 1 Potable Net Revenue Requirements (35% Fixed / 65% Variable)					
Conservation Percentage	Total Expected Consumption FY 2016/17 (1)	Base Commodity Cost	Impacted Commodity Costs	Savings	Updated Commodity Cost
a		*b*	*c*	*d = (-a) * c*	e = b + c
Baseline	4,040,437 ccf	$ 9,836,955	$ 9,383,000	$ -	$ 9,836,955
10%	3,636,393 ccf	$ 9,836,955	$ 9,383,000	$ (938,300)	$ 8,898,655
20%	3,232,350 ccf	$ 9,836,955	$ 9,383,000	$ (1,876,600)	$ 7,960,355
30%	2,828,306 ccf	$ 9,836,955	$ 9,383,000	$ (2,814,900)	$ 7,022,055
40%	2,424,262 ccf	$ 9,836,955	$ 9,383,000	$ (3,753,200)	$ 6,083,755
50%	2,020,219 ccf	$ 9,836,955	$ 9,383,000	$ (4,691,500)	$ 5,145,455
60%	1,616,175 ccf	$ 9,836,955	$ 9,383,000	$ (5,629,800)	$ 4,207,155

Figure 31. FY 2016/17 Adjustment to Volumetric Rate at 10% Conservation

Rate Structure Type	Water Consumption (hcf/yr.)	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Target Capacity Rev. Req't from Vol. Charges	Total Allocated Cost	Drought Rates
	a	b	c	d	e = b + c + d	f = e / a
Single-Family Residential						
Tiered Potable Commodity Rate						
Tier 1	943,511	$ 2,308,875	$ -	$ -	$ 2,308,875	$2.45
Tier 2	384,516	$ 940,954	$ -	$ 505,198	$ 1,446,152	$3.76
Tier 3	246,114	$ 602,269	$ 289,242	$ 557,708	$ 1,449,218	$5.89
All Other Potable Customers						
Uniform Commodity Rate	2,062,252	$ 5,046,558	$ 378,930	$ 1,455,709	$ 6,881,197	$3.34
Total	**3,636,393**	**$ 8,898,655**	**$ 668,171**	**$ 2,518,615**	**$ 12,085,441**	

Figure 32 shows the proposed drought rates at each increased stage of drought through FY 2020/21.

Figure 32. Proposed Drought Rates

Water Rate Schedule Drought Rates (1)	Proposed Rates				
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Drought Rates - Level 1 - 10% Conservation Goal					
Single-Family Residential:					
Proposed					
Tier 1 1-8 hcf	$2.45	$2.64	$2.84	$3.00	$3.16
Tier 2 9-15 hcf	$3.76	$3.48	$3.13	$3.30	$3.47
Tier 3 16+ hcf	$5.89	$5.35	$4.69	$4.95	$5.20
All Other Customers:					
Uniform Rate	$3.34	$3.29	$3.21	$3.39	$3.56
Drought Rates - Level 2 - 20% Conservation Goal					
Single-Family Residential:					
Proposed					
Tier 1 1-8 hcf	$2.46	$2.67	$2.88	$3.06	$3.22
Tier 2 9-15 hcf	$4.05	$3.69	$3.22	$3.42	$3.60
Tier 3 16+ hcf	$7.38	$6.54	$5.52	$5.83	$6.13
All Other Customers:					
Uniform Rate	$3.46	$3.40	$3.29	$3.49	$3.67
Drought Rates - Level 3 - 30% Conservation Goal					
Single-Family Residential:					
Proposed					
Tier 1 1-8 hcf	$2.48	$2.71	$2.92	$3.12	$3.30
Tier 2 9-15 hcf	$4.53	$4.02	$3.36	$3.59	$3.79
Tier 3 16+ hcf	$9.99	$8.62	$6.95	$7.36	$7.75
All Other Customers:					
Uniform Rate	$3.63	$3.55	$3.39	$3.62	$3.82
Drought Rates - Level 4 - 40% Conservation Goal					
Single-Family Residential:					
Proposed					
Tier 1 1-8 hcf	$2.51	$2.76	$2.97	$3.22	$3.40
Tier 2 9+ hcf	$8.04	$6.81	$5.29	$5.64	$5.95
All Other Customers:					
Uniform Rate	$3.84	$3.74	$3.52	$3.79	$4.01
Drought Rates - Level 5 - 50% Conservation Goal					
Single-Family Residential:					
Proposed					
Tier 1 1-8 hcf	$2.55	$2.84	$3.05	$3.35	$3.55
Tier 2 9+ hcf	$11.70	$9.54	$6.88	$7.36	$7.77
All Other Customers:					
Uniform Rate	$4.15	$4.00	$3.71	$4.04	$4.28
Drought Rates - Level 6 - 60% Conservation Goal					
Single-Family Residential:					
Proposed					
Tier 1 1-8 hcf	$2.60	$2.94	$3.17	$3.54	$3.78
Tier 2 9+ hcf	$20.63	$16.14	$10.70	$11.45	$12.09
All Other Customers:					
Uniform Rate	$4.60	$4.40	$3.99	$4.40	$4.68

1. Drought rates replace the standard tiered or uniform volumetric rates, in each successive conservation target.

K. ZONAL SURCHARGE

The District has customers located in elevation zones for the potable water system, where customers are at higher elevation zones and it costs more to pump water to these customers. As part of this study, NBS evaluated the cost to serve customers in each zone, including annual power and maintenance costs, and developed zonal surcharges for these customers.

The rates for the zonal surcharges for each zone were calculated based on the costs allocated to each zone and allocated by the amount of water that flows through each zone. **Figure 33** shows the summary calculation for FY 2016/17.

Figure 33. Calculation of FY 2016/17 Zonal Surcharge

Zone	2015 Consumption by Zone (1)	Non-Cumulative Electricity Surcharge ($/hcf)	Non-Cumulative O&M Surcharge ($/hcf)	Cumulative Total Surcharge ($/hcf) FY 2016/17	Revenue From Surcharges
Zone 2	610,210	$0.144	$0.007	**$0.15**	$ 91,988
Zone 3	148,368	$0.152	$0.013	**$0.32**	46,820
Zone 4	41,663	$0.421	$0.023	**$0.76**	31,656
Zone 5	29,903	$0.274	$0.026	**$1.06**	31,697
Zone 6	41,751	$0.411	$0.038	**$1.51**	62,983
Total	**871,895**				**$ 265,144**

1. Zonal consumption from rate (Source: *Mainp. Usage Information 2013-2015.3.29.16.xlsx*).

A five-year projection of costs was prepared as part of the zonal surcharge rate analysis, in order to provide a five-year schedule of rates that is consistent with the rate schedules prepared in this Study. **Figure 34** shows the five-year rate schedule of zonal surcharges. Please refer to Tables 67 – 72 in Appendix B of this report, which show the detail of how the surcharges were calculated.

Figure 34. Five-Year Schedule of Water Zonal Elevation Surcharges

Zone	Proposed Surcharges ($/hcf)				
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Zone 2	$0.15	$0.16	$0.16	$0.17	$0.18
Zone 3	$0.32	$0.33	$0.34	$0.36	$0.37
Zone 4	$0.76	$0.79	$0.83	$0.86	$0.90
Zone 5	$1.06	$1.10	$1.15	$1.20	$1.25
Zone 6	$1.51	$1.57	$1.64	$1.71	$1.78

SECTION 3. RECOMMENDATIONS AND NEXT STEPS

A. CONSULTANT RECOMMENDATIONS

NBS recommends District take the following actions:

- **Approve and Accept this Study:** NBS recommends the District Board formally approve and adopt this Study and its recommendations, and proceed with the next steps outlined below to implement the proposed rates. This will provide documentation of the rate study analyses and the basis for analyzing potential changes to future rates.

Implement Recommended Levels of Rate Increases and Proposed Rates: Based on successfully meeting the Proposition 218 procedural requirements, the District Board should proceed with implementing the 5 year schedule of proposed rates (including drought rates and zonal surcharges) and rate increases[24] previously shown in Figure 26, Figure 32 and Figure 34. This will help ensure the continued financial health of District's water utility.

B. NEXT STEPS

- **Annually Review Rates and Revenue –** Any time an agency adopts new utility rates or rate structures, those new rates should be closely monitored over the next several years to ensure the revenue generated is sufficient to meet the annual revenue requirements. Changing economic and water consumption patterns underscore the need for this review, as well as potential and unseen changing revenue requirements—particularly those related to environmental regulations that can significantly affect capital improvements and repair and replacement costs.

Note: The attached Technical Appendices provide more detailed information on the analysis of the water revenue requirements, cost-of-service analysis and cost allocations, and the rate design analyses that have been summarized in this report.

C. NBS' PRINCIPAL ASSUMPTIONS AND CONSIDERATIONS

In preparing this report and the opinions and recommendations included herein, NBS has relied on a number of principal assumptions and considerations with regard to financial matters, conditions, and events that may occur in the future. This information and these assumptions, including District's budgets, capital improvement costs, and information from District staff were provided by sources we believe to be reliable, although NBS has not independently verified this data.

While we believe NBS' use of such information and assumptions is reasonable for the purpose of this report and its recommendations, some assumptions will invariably not materialize as stated herein and may vary significantly due to unanticipated events and circumstances. Therefore, the actual results can be expected to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others.

[24] *A full rate schedule for Prop 218 purposes is shown in Appendix A at the end of this report.*

TECHNICAL APPENDICES

APPENDIX A – PROP 218 RATE TABLES

Standard Water Rates:

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Fixed Service Charge						
Monthly Fixed Service Charge						
Standard Meters:						
5/8 inch	$25.12	$27.13	$33.44	$40.55	$42.58	$44.71
3/4 inch	$25.12	$27.13	$33.44	$40.55	$42.58	$44.71
1 inch	$41.73	$27.13	$33.44	$40.55	$42.58	$44.71
1.5 inch	$83.24	$126.41	$157.28	$192.06	$201.67	$211.75
2 inch	$133.05	$200.87	$250.16	$305.70	$320.99	$337.03
3 inch	$249.28	$399.43	$497.82	$608.73	$639.16	$671.12
4 inch	$415.33	$622.81	$776.45	$949.63	$997.12	$1,046.97
6 inch	$830.44	$1,243.31	$1,550.42	$1,896.60	$1,991.43	$2,091.00
8 inch	$1,328.58	$1,987.91	$2,479.18	$3,032.95	$3,184.60	$3,343.83
10 inch	$1,909.73	$5,214.51	$6,503.80	$7,957.16	$8,355.02	$8,772.77
12 inch	$3,570.18	$6,579.61	$8,206.53	$10,040.48	$10,542.50	$11,069.62
Monthly Fixed Service Charge						
Fire Service Meters:						
1 inch	--	$2.95	$3.18	$3.41	$3.58	$3.76
2 inch	$9.96	$7.45	$8.01	$8.61	$9.04	$9.49
3 inch	$14.44	$13.55	$14.56	$15.65	$16.44	$17.26
4 inch	$18.38	$24.78	$26.64	$28.64	$30.07	$31.57
6 inch	$36.75	$53.67	$57.69	$62.02	$65.12	$68.38
8 inch	$84.89	$92.18	$99.10	$106.53	$111.85	$117.45
10 inch	$152.66	$143.54	$154.30	$165.87	$174.17	$182.88
12 inch	$246.58	$172.42	$185.36	$199.26	$209.22	$219.68
Potable Water Commodity Charges						
Single-Family Residential:						
Current / Proposed						
Tier 1 1-16 hcf / 1-8 hcf	$2.77	$2.43	$2.62	$2.82	$2.96	$3.11
Tier 2 17-23 hcf / 9-15 hcf	$3.19	$3.57	$3.34	$3.06	$3.22	$3.38
Tier 3 24+ hcf / 16+ hcf	$4.02	$4.98	$4.62	$4.19	$4.40	$4.62
All Other Customers:						
Uniform Rate	$2.97	$3.24	$3.20	$3.15	$3.31	$3.47
Recycled Water Commodity Charges						
Uniform Rate	$1.71	$1.71	$1.79	$1.83	$2.08	$2.33

Zonal Surcharge Rates:

Water Rate Schedule - Zonal Surcharges	Current Rates	Proposed Surcharge				
		FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Additional Cost Per hcf of Water Consumed (1):						
Zone 2	$0.21	$0.15	$0.16	$0.16	$0.17	$0.18
Zone 3	$0.51	$0.32	$0.33	$0.34	$0.36	$0.37
Zone 4	$1.43	$0.76	$0.79	$0.83	$0.86	$0.90
Zone 5	$2.06	$1.06	$1.10	$1.15	$1.20	$1.25
Zone 6	$2.42	$1.51	$1.57	$1.64	$1.71	$1.78

1. Zonal surcharges are in addition to standard tiered or uniform volumetric rates.

Zonal Surcharge + Standard Rates:

Water Rates by Zone	Current Rates	Proposed Rates				
		FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Cost Per hcf of Water Consumed:						
Zone 1 -- Tier 1	$2.77	$2.43	$2.62	$2.82	$2.96	$3.11
Zone 1 -- Tier 2	$3.19	$3.57	$3.34	$3.06	$3.22	$3.38
Zone 1 -- Tier 3	$4.02	$4.98	$4.62	$4.19	$4.40	$4.62
Zone 1 -- Uniform Rate	$2.97	$3.24	$3.20	$3.15	$3.31	$3.47
Zone 2 -- Tier 1	$2.98	$2.59	$2.78	$2.98	$3.13	$3.29
Zone 2 -- Tier 2	$3.40	$3.72	$3.50	$3.23	$3.39	$3.56
Zone 2 -- Tier 3	$4.23	$5.13	$4.78	$4.35	$4.57	$4.80
Zone 2 -- Uniform Rate	$3.18	$3.39	$3.36	$3.31	$3.48	$3.65
Zone 3 -- Tier 1	$3.28	$2.75	$2.95	$3.16	$3.32	$3.48
Zone 3 -- Tier 2	$3.70	$3.88	$3.67	$3.41	$3.58	$3.75
Zone 3 -- Tier 3	$4.53	$5.29	$4.95	$4.53	$4.75	$4.99
Zone 3 -- Uniform Rate	$3.48	$3.55	$3.53	$3.49	$3.66	$3.84
Zone 4 -- Tier 1	$4.20	$3.19	$3.41	$3.64	$3.82	$4.01
Zone 4 -- Tier 2	$4.62	$4.33	$4.14	$3.89	$4.08	$4.28
Zone 4 -- Tier 3	$5.45	$5.74	$5.42	$5.01	$5.26	$5.51
Zone 4 -- Uniform Rate	$4.40	$4.00	$4.00	$3.97	$4.17	$4.37
Zone 5 -- Tier 1	$4.83	$3.49	$3.72	$3.97	$4.16	$4.36
Zone 5 -- Tier 2	$5.25	$4.63	$4.45	$4.22	$4.42	$4.63
Zone 5 -- Tier 3	$6.08	$6.04	$5.73	$5.34	$5.60	$5.87
Zone 5 -- Uniform Rate	$5.03	$4.30	$4.31	$4.30	$4.51	$4.72
Zone 6 -- Tier 1	$5.19	$3.94	$4.19	$4.46	$4.67	$4.89
Zone 6 -- Tier 2	$5.61	$5.08	$4.92	$4.70	$4.93	$5.16
Zone 6 -- Tier 3	$6.44	$6.49	$6.20	$5.83	$6.10	$6.40
Zone 6 -- Uniform Rate	$5.39	$4.74	$4.78	$4.79	$5.01	$5.25

Drought Rates:

Water Rate Schedule Drought Rates (1)	Proposed Rates				
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Drought Rates - Level 1 - 10% Conservation Goal					
Single-Family Residential:					
Proposed					
Tier 1 1-8 hcf	$2.45	$2.64	$2.84	$3.00	$3.16
Tier 2 9-15 hcf	$3.76	$3.48	$3.13	$3.30	$3.47
Tier 3 16+ hcf	$5.89	$5.35	$4.69	$4.95	$5.20
All Other Customers:					
Uniform Rate	$3.34	$3.29	$3.21	$3.39	$3.56
Drought Rates - Level 2 - 20% Conservation Goal					
Single-Family Residential:					
Proposed					
Tier 1 1-8 hcf	$2.46	$2.67	$2.88	$3.06	$3.22
Tier 2 9-15 hcf	$4.05	$3.69	$3.22	$3.42	$3.60
Tier 3 16+ hcf	$7.38	$6.54	$5.52	$5.83	$6.13
All Other Customers:					
Uniform Rate	$3.46	$3.40	$3.29	$3.49	$3.67
Drought Rates - Level 3 - 30% Conservation Goal					
Single-Family Residential:					
Proposed					
Tier 1 1-8 hcf	$2.48	$2.71	$2.92	$3.12	$3.30
Tier 2 9-15 hcf	$4.53	$4.02	$3.36	$3.59	$3.79
Tier 3 16+ hcf	$9.99	$8.62	$6.95	$7.36	$7.75
All Other Customers:					
Uniform Rate	$3.63	$3.55	$3.39	$3.62	$3.82
Drought Rates - Level 4 - 40% Conservation Goal					
Single-Family Residential:					
Proposed					
Tier 1 1-8 hcf	$2.51	$2.76	$2.97	$3.22	$3.40
Tier 2 9+ hcf	$8.04	$6.81	$5.29	$5.64	$5.95
All Other Customers:					
Uniform Rate	$3.84	$3.74	$3.52	$3.79	$4.01
Drought Rates - Level 5 - 50% Conservation Goal					
Single-Family Residential:					
Proposed					
Tier 1 1-8 hcf	$2.55	$2.84	$3.05	$3.35	$3.55
Tier 2 9+ hcf	$11.70	$9.54	$6.88	$7.36	$7.77
All Other Customers:					
Uniform Rate	$4.15	$4.00	$3.71	$4.04	$4.28
Drought Rates - Level 6 - 60% Conservation Goal					
Single-Family Residential:					
Proposed					
Tier 1 1-8 hcf	$2.60	$2.94	$3.17	$3.54	$3.78
Tier 2 9+ hcf	$20.63	$16.14	$10.70	$11.45	$12.09
All Other Customers:					
Uniform Rate	$4.60	$4.40	$3.99	$4.40	$4.68

1. Drought rates replace the standard tiered or uniform volumetric rates, in each successive conservation target.

APPENDIX B - DETAILED WATER RATE STUDY TABLES & FIGURES

TABLE 1
RECYCLED WATER: FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Estimated	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Sources of Recycled Water Funds						
Rate Revenue Under Existing Rates (1)	$ 961,917	$ 761,917	$ 786,415	$ 811,700	$ 837,799	$ 837,799
Other Operating Revenue (Contract Income)	37,500	37,500	37,688	37,876	38,065	38,256
Potable System Contribution	684,097	884,974	1,166,554	728,439	700,385	381,031
Total Sources of Funds	**$ 1,683,514**	**$ 1,684,392**	**$ 1,990,657**	**$ 1,578,015**	**$ 1,576,249**	**$ 1,257,086**
Uses of Recycled Water Funds						
Water Operating Expenses (1)	$ 385,571	$ 445,276	$ 456,830	$ 468,598	$ 480,743	$ 492,465
Existing Debt Service	1,297,944	1,298,244	1,298,394	1,298,094	1,297,344	1,301,144
Capital Projects	-	-	412,000	106,090	218,545	-
Total Uses of Water Funds	**$ 1,683,514**	**$ 1,743,520**	**$ 2,167,224**	**$ 1,872,781**	**$ 1,996,632**	**$ 1,793,609**
plus: Revenue from Rate Increases (2)	-	59,128	176,567	294,766	420,383	536,523
Increase/Decrease to Reserves	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Net Revenue Reqt. *(Total Uses less Non-Rate Revenue)*	**$ 1,683,514**	**$ 1,743,520**	**$ 2,167,224**	**$ 1,872,781**	**$ 1,996,632**	**$ 1,793,609**
Total Rate Revenue After Rate Increases	**$ 961,917**	**$ 821,046**	**$ 962,982**	**$ 1,106,466**	**$ 1,258,182**	**$ 1,374,322**
Projected Annual Recycled Rate Revenue Increase	***0.00%***	***15.52%***	***12.00%***	***12.00%***	***12.00%***	***12.00%***
Cumulative Increase from Annual Revenue Increases	*0.00%*	*15.52%*	*29.38%*	*44.91%*	*62.30%*	*81.77%*

1. FY 2015/16 Revenues and expenses are per the District's Annual Operating Budget (Source file: *Revenue-Expense December, 2015.xlsx).*
   FY 2016/17 Revenues and Expenses are from the approved budget (Source files: *FY 2016-2017 Approved Budget.xlsx).*
2. Rate increases are anticipated to be effective January 1st each year.

TABLE 2
POTABLE WATER: FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Estimated	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Sources of Potable Water Funds						
Rate Revenue Under Existing Rates (1)	$ 18,688,083	$ 19,018,083	$ 19,113,173	$ 19,208,739	$ 19,304,783	$ 19,401,306
Other Operating Revenue	817,500	757,500	761,288	765,094	768,919	772,764
Interest Earnings (3)	300,000	300,000	121,904	115,721	121,034	136,070
Total Sources of Funds	**$ 19,805,583**	**$ 20,075,583**	**$ 19,996,365**	**$ 20,089,554**	**$ 20,194,736**	**$ 20,310,140**
Uses of Potable Water Funds						
Operating Expenses (1):						
Budgeted	$ 18,475,429	$ 18,013,724	$ 18,628,615	$ 19,261,395	$ 19,918,489	$ 20,571,269
Pre-Purchase of Water	-	3,267,000	-	-	-	-
Recycled Water System	684,097	884,974	1,166,554	728,439	700,385	381,031
Subtotal: Operating Expenses	$ 19,159,526	$ 22,165,698	$ 19,795,169	$ 19,989,834	$ 20,618,874	$ 20,952,301
Other Expenditures:						
Existing Debt Service	$ 1,157,500	$ 1,160,650	$ 1,159,250	$ 1,162,250	$ 1,163,900	$ 1,160,500
New Debt Service	-	-	-	-	-	-
Rate-Funded Capital Expenses	-	-	-	132,093	2,185,454	2,476,119
Subtotal: Other Expenditures	$ 1,157,500	$ 1,160,650	$ 1,159,250	$ 1,294,343	$ 3,349,354	$ 3,636,619
Total Uses of Water Funds	**$ 20,317,026**	**$ 23,326,348**	**$ 20,954,419**	**$ 21,284,177**	**$ 23,968,228**	**$ 24,588,920**
plus: Revenue from Rate Increases (2,4)	-	713,178	2,203,988	3,821,789	5,277,045	6,538,667
Increase/Decrease to Reserves	**$ (511,444)**	**$ (2,537,588)**	**$ 1,245,933**	**$ 2,627,165**	**$ 1,503,554**	**$ 2,259,888**
Net Revenue Reqt. *(Total Uses less Non-Rate Revenue)*	**$ 19,199,526**	**$ 22,268,848**	**$ 20,071,227**	**$ 20,403,363**	**$ 23,078,274**	**$ 23,680,086**
Total Rate Revenue After Rate Increases	**$ 18,688,083**	**$ 19,731,261**	**$ 21,317,161**	**$ 23,030,528**	**$ 24,581,828**	**$ 25,939,974**
Projected Annual Potable Rate Revenue Increase	***0.00%***	***7.50%***	***7.50%***	***7.50%***	***5.00%***	***5.00%***
Cumulative Increase from Annual Revenue Increases	*0.00%*	*7.50%*	*15.56%*	*24.23%*	*30.44%*	*36.96%*
Debt Coverage Without Rate Increase	*1.07*	*1.34*	*1.18*	*0.78*	*0.55*	*0.20*
Debt Coverage After Rate Increase (5)	*1.07*	*1.65*	*2.14*	*2.46*	*2.87*	*3.07*

1. FY 2015/16 Revenues and expenses are per the District's Annual Operating Budget (Source file: *Revenue-Expense December, 2015.xlsx).*
   FY 2016/17 Revenues and Expenses are from the approved budget (Source files: *FY 2016-2017 Approved Budget.xlsx).*
2. Rate increases are anticipated to be effective January 1st each year.
3. Interest income is budgeted for FY15-16 and calculated in this table for all future years.
4. This is the projected increase to potable water consumption and water service charges.
5. The District must have net revenues that are at least equal to 1.1 times the annual debt service payment.
   (Source files: Rowland Water District 2014A OS Statement.pdf, page 8 & Rowland Water District 2012A OS Statement.pdf, page 15)

TABLE 3
RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY	Estimated	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Total Beginning Cash (1)	**$ 18,439,476**					
Operating Reserve						
Beginning Reserve Balance (2)	$ 3,621,379	$ 6,224,130	$ 4,472,348	$ 5,718,281	$ 6,510,898	$ 6,731,747
Plus: Net Cash Flow (After Rate Increases)	(511,444)	(2,537,588)	1,245,933	2,627,165	1,503,554	2,259,888
Plus: Transfer of Debt Reserve Surplus	-	-	-	-	-	-
Net: Transfer (Out) / From Rate Stabilization Reserve	3,114,195	785,805	-	(1,834,548)	(1,282,705)	(2,040,602)
Less: Transfer Out to Capital Replacement Reserve	-	-	-	-	-	-
Ending Operating Reserve Balance	***$ 6,224,130***	***$ 4,472,348***	***$ 5,718,281***	***$ 6,510,898***	***$ 6,731,747***	***$ 6,951,032***
Target Ending Balance (120-days of O&M Costs) (3)	*$ 6,224,130*	*$ 6,091,470*	*$ 6,298,197*	*$ 6,510,898*	*$ 6,731,747*	*$ 6,951,032*
Rate Stabilization Reserve						
Beginning Reserve Balance (2)	$ 3,900,000	$ 785,805	$ -	$ -	$ 1,834,548	$ 3,117,253
Net: Transfer (Out) / From Operating Reserve Surplus	(3,114,195)	(785,805)	-	1,834,548	1,282,705	2,040,602
Ending Rate Stabilization Reserve Balance	***$ 785,805***	***$ -***	***$ -***	***$ 1,834,548***	***$ 3,117,253***	***$ 5,157,855***
Target Ending Balance (4)	*$ 6,000,000*	*$ 6,000,000*	*$ 6,000,000*	*$ 6,000,000*	*$ 6,000,000*	*$ 6,000,000*
Capital Improvement Reserve						
Beginning Reserve Balance (2)	$ 10,918,097	$ 9,773,097	$ 7,718,097	$ 5,853,797	$ 3,758,000	$ 3,758,000
Plus: Grant Proceeds	-	-	-	-	-	-
Plus: Transfer of Operating Reserve Surplus	-	-	-	-	-	-
Less: Use of Reserves for Capital Projects	(1,145,000)	(2,055,000)	(1,864,300)	(2,095,797)	-	-
Ending Capital Rehabilitation & Replacement Reserve Balance	***$ 9,773,097***	***$ 7,718,097***	***$ 5,853,797***	***$ 3,758,000***	***$ 3,758,000***	***$ 3,758,000***
Target Ending Balance (6% of Net Capital Assets) (5)	*$ 3,463,500*	*$ 3,565,000*	*$ 3,652,200*	*$ 3,758,000*	*$ 3,858,200*	*$ 3,972,300*
Ending Balance - Excludes Restricted Reserves	**$ 16,783,032**	**$ 12,190,445**	**$ 11,572,078**	**$ 12,103,446**	**$ 13,607,000**	**$ 15,866,887**
Suggested Minimum Target Ending Balance	**$ 15,687,630**	**$ 15,656,470**	**$ 15,950,397**	**$ 16,268,898**	**$ 16,589,947**	**$ 16,923,332**
Ending Surplus/(Deficit) Compared to Minimum Reserve Targets	***$ 1,095,402***	***$ (3,466,025)***	***$ (4,378,319)***	***$ (4,165,452)***	***$ (2,982,947)***	***$ (1,056,445)***
Days Cash on Hand	***302***	***191***	***202***	***209***	***229***	***262***
Restricted Reserves (6):						
Expansion Reserve						
Beginning Reserve Balance (7)	$ -	$ 10,000	$ 20,100	$ 30,351	$ 40,755	$ 51,313
Plus: Acreage Supply Fee Revenue	10,000	10,000	10,050	10,100	10,151	10,202
Plus: Interest Earnings	-	100	201	304	408	513
Less: Use of Reserves for Capital Projects	-	-	-	-	-	-
Ending Expansion Fund Balance	***$ 10,000***	***$ 20,100***	***$ 30,351***	***$ 40,755***	***$ 51,313***	***$ 62,028***
Annual Interest Earnings Rate (8)	*1.00%*	*1.00%*	*1.00%*	*1.00%*	*1.00%*	*1.00%*

1. Beginning cash balance for Fiscal Year 2015-2016 is per *FY 2014/15 CAFR*, page 34. This does not included $10,406,254 in restricted cash (used to funds projects excluded in this study).
2. Operating reserve balance from *FY 2014/15 CAFR* , page 60.
3. Reserve target set to 4-months or 120-days of O&M costs.
4. Rate Stabilization Reserve target set to $6 milliion per the District's adopted Reserve Policy.
5. NBS recommends setting the Capital Rehabilitation & Replacement Reserve target to 6% of net assets.
6. No reserve requirements on current debt.
7. The Water Utility does not currently maintain a separate connection fee reserve. All future collections are set aside in a reserve, for purposes of this analysis.
   To comply the with California's Mitigation Fee Act, fees collected should be set aside in a dedicated reserve to enable clear expenditure of proceeds for the intended purpose.
8. Per Rowland Water District Staff, interest earnings are approximately 1% annually.

CHART 1

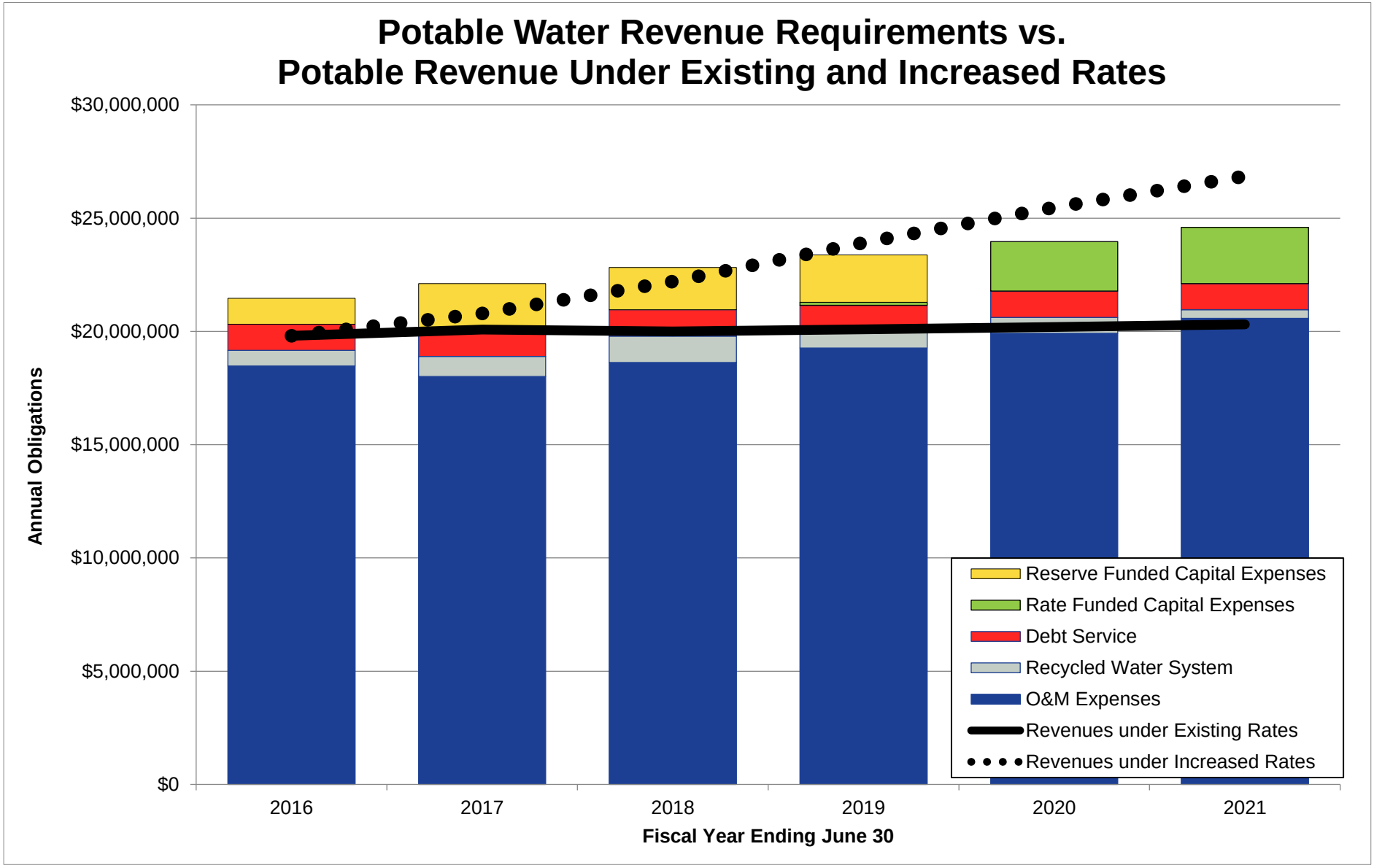

Potable Water Revenue Requirements vs.
Potable Revenue Under Existing and Increased Rates
$30,000,000
$25,000,000
$20,000,000
$15,000,000
$10,000,000
$5,000,000
$0
Annual Obligations
2016
2017
2018
2019
2020
2021
Fiscal Year Ending June 30
Reserve Funded Capital Expenses
Rate Funded Capital Expenses
Debt Service
Recycled Water System
O&M Expenses
Revenues under Existing Rates
Revenues under Increased Rates

CHART 2

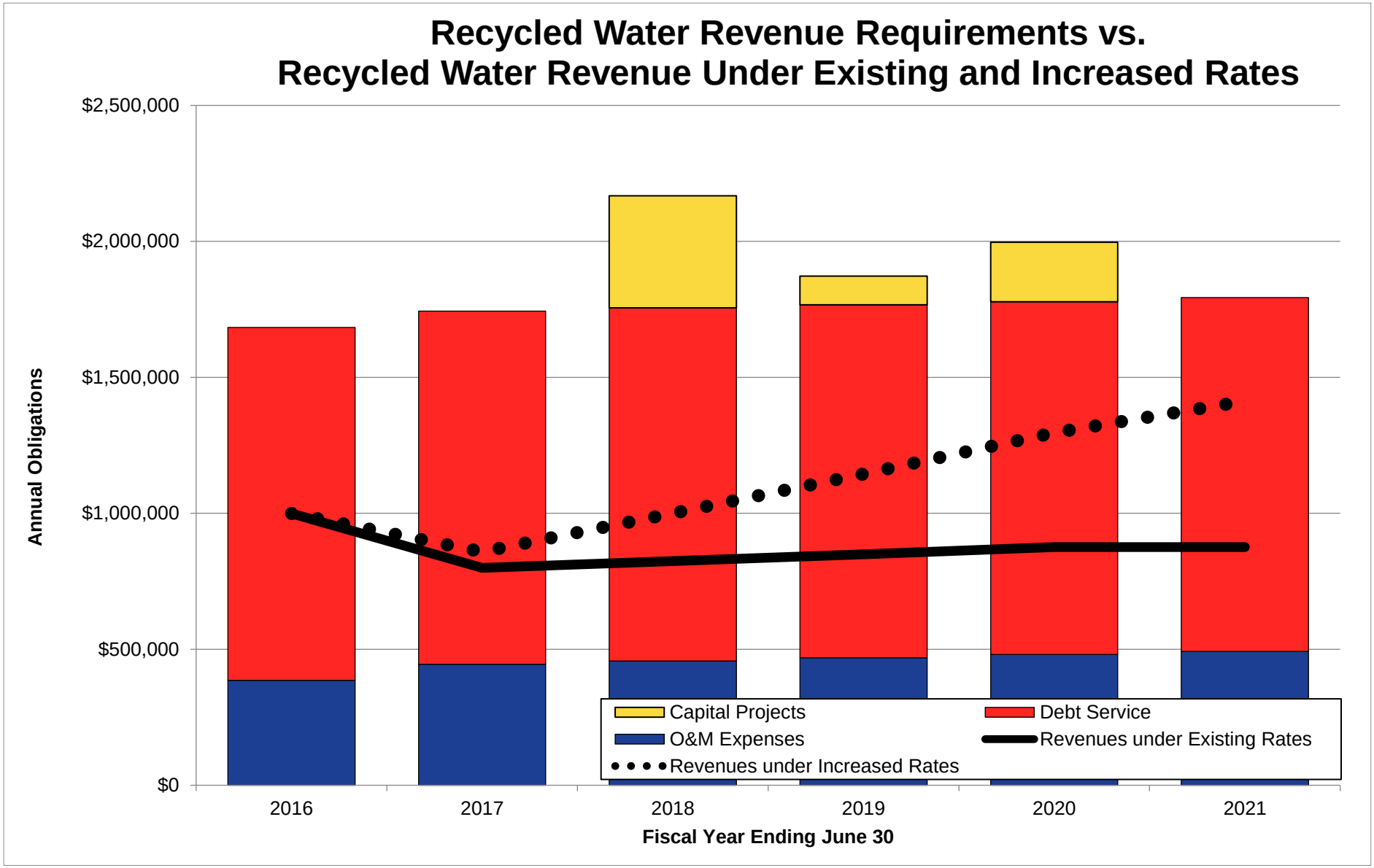

Recycled Water Revenue Requirements vs.
Recycled Water Revenue Under Existing and Increased Rates
$2,500,000
$2,000,000
$1,500,000
$1,000,000
$500,000
$0
Annual Obligations
2016
2017
2018
2019
2020
2021
Fiscal Year Ending June 30
Capital Projects
Debt Service
O&M Expenses
Revenues under Existing Rates
Revenues under Increased Rates

CHART 3

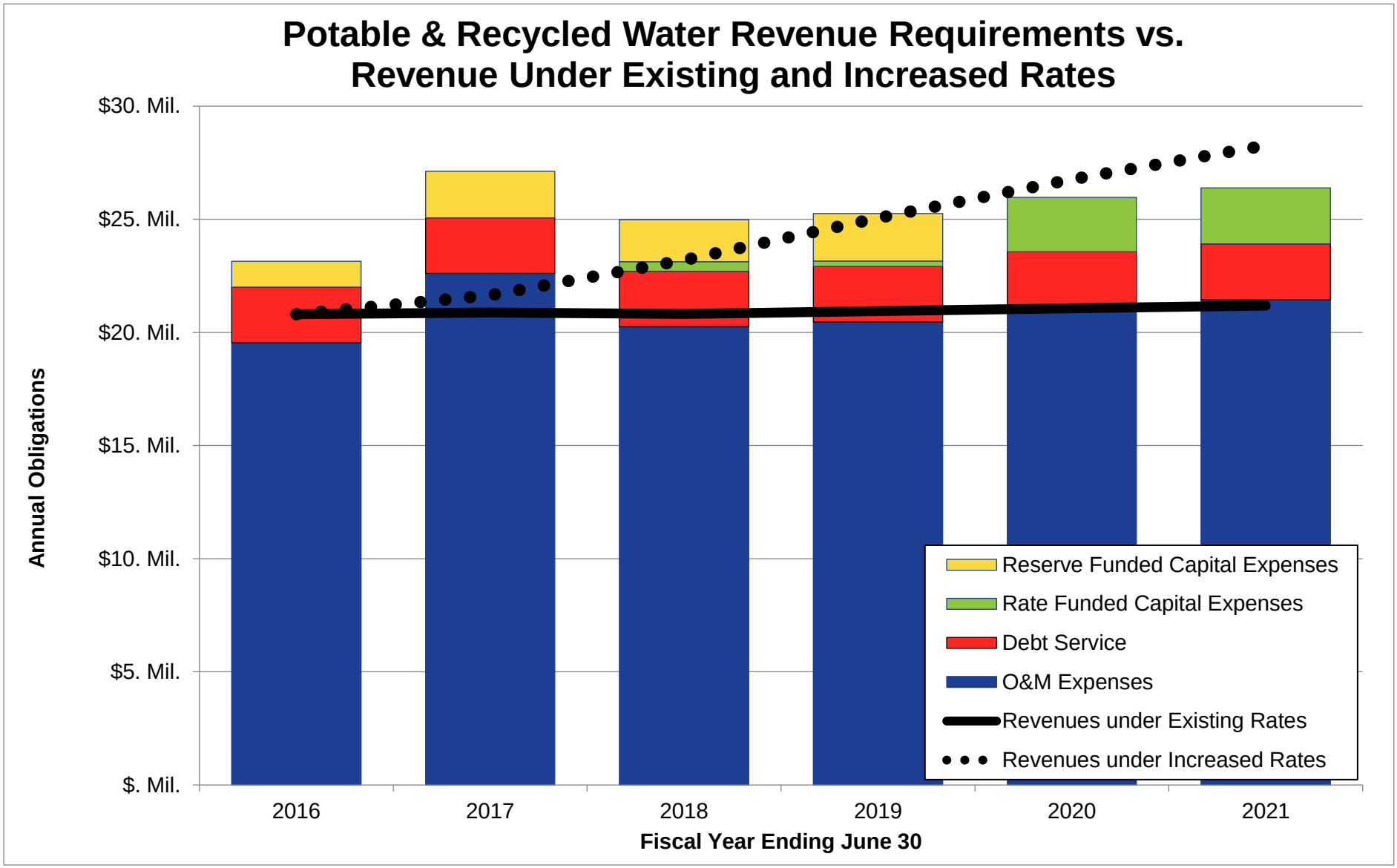

Potable & Recycled Water Revenue Requirements vs.
Revenue Under Existing and Increased Rates
$30. Mil.
$25. Mil.
$20. Mil.
$15. Mil.
$10. Mil.
$5. Mil.
$. Mil.
Annual Obligations
2016
2017
2018
2019
2020
2021
Fiscal Year Ending June 30
Reserve Funded Capital Expenses
Rate Funded Capital Expenses
Debt Service
O&M Expenses
Revenues under Existing Rates
Revenues under Increased Rates

CHART 4

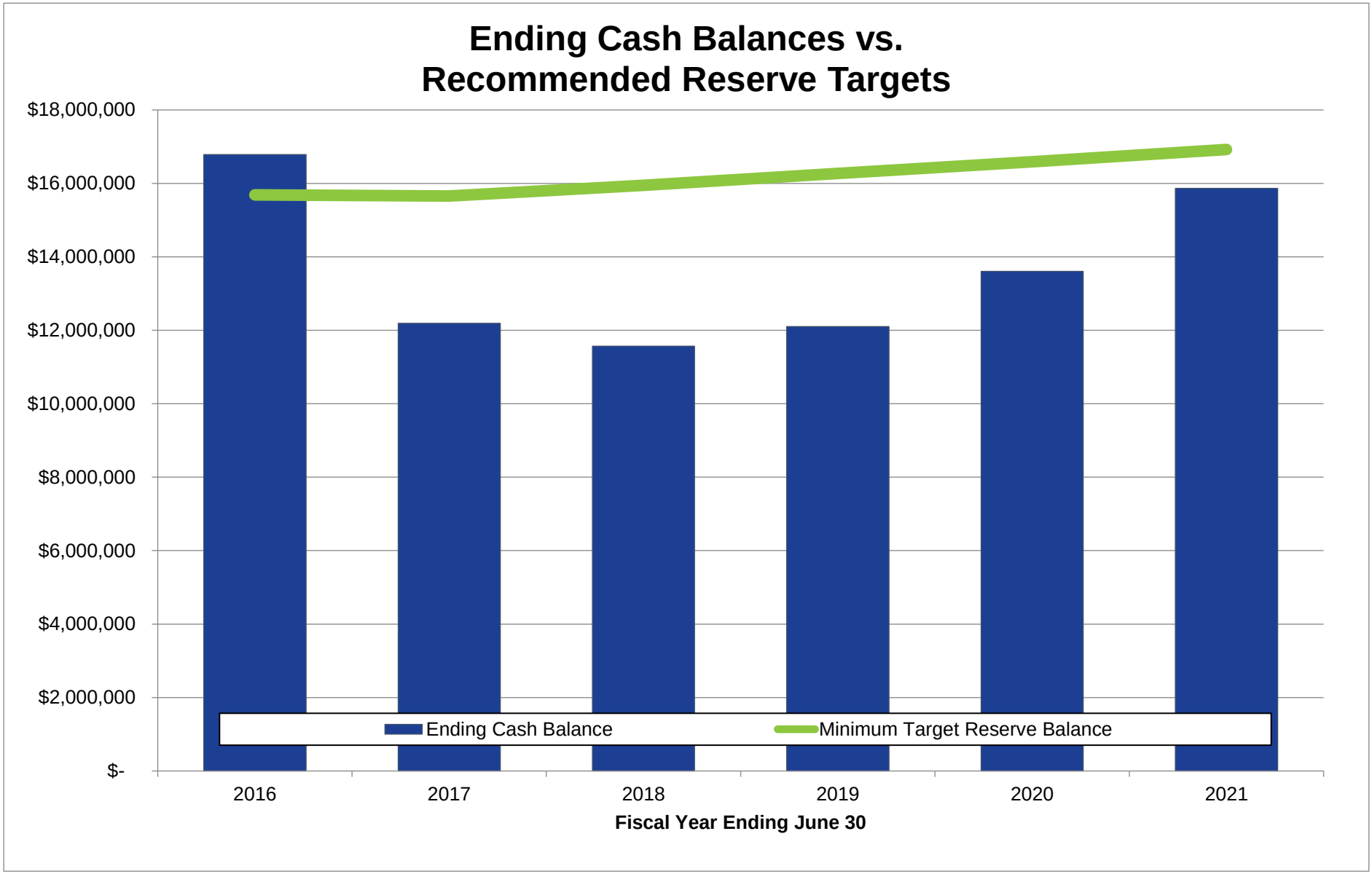

Ending Cash Balances vs.
Recommended Reserve Targets
$18,000,000
$16,000,000
$14,000,000
$12,000,000
$10,000,000
$8,000,000
$6,000,000
$4,000,000
$2,000,000
$-
Ending Cash Balance
Minimum Target Reserve Balance
2016
2017
2018
2019
2020
2021
Fiscal Year Ending June 30

CHART 5

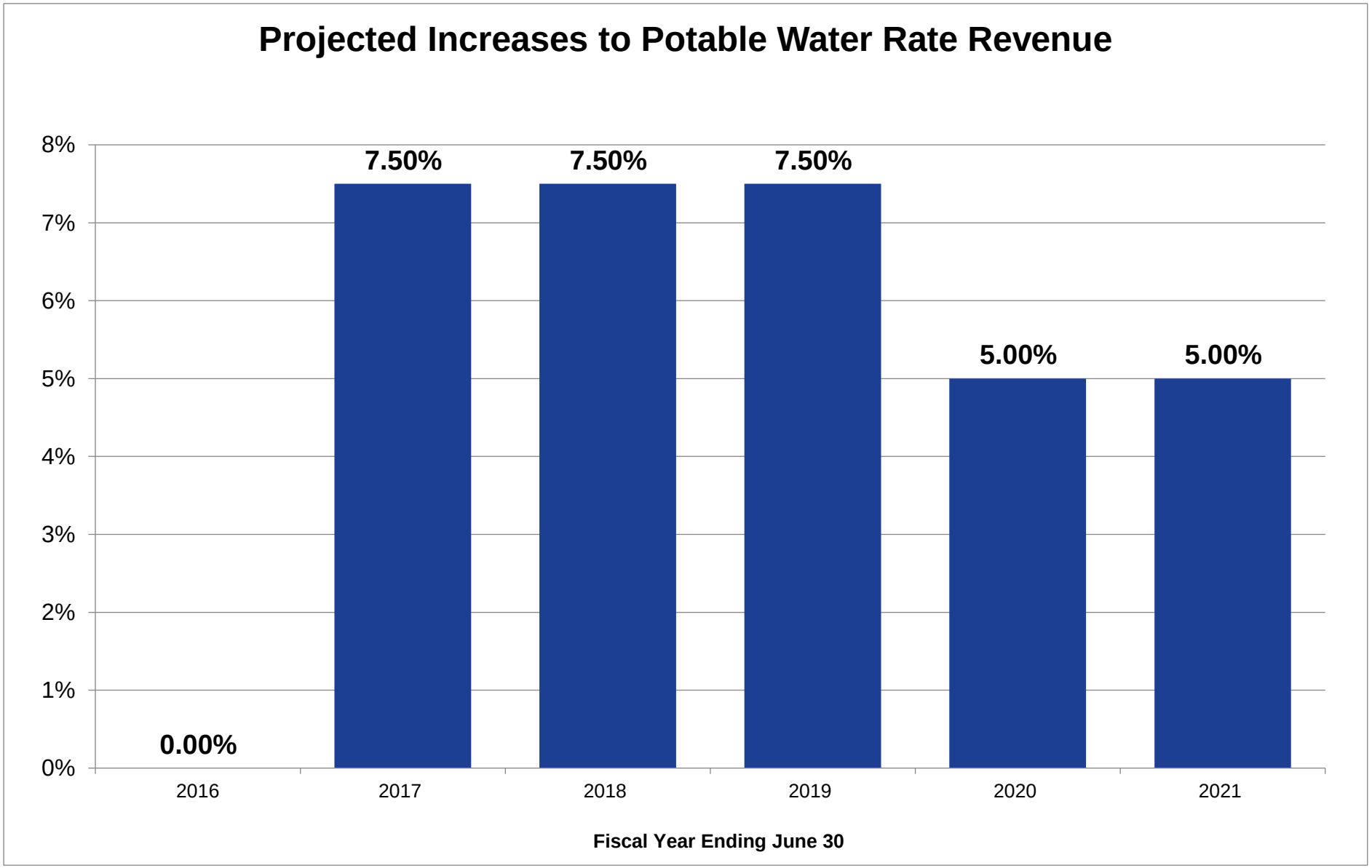

Projected Increases to Potable Water Rate Revenue
8%
7%
6%
5%
4%
3%
2%
1%
0%
0.00%
7.50%
7.50%
7.50%
5.00%
5.00%
2016
2017
2018
2019
2020
2021
Fiscal Year Ending June 30

CHART 6

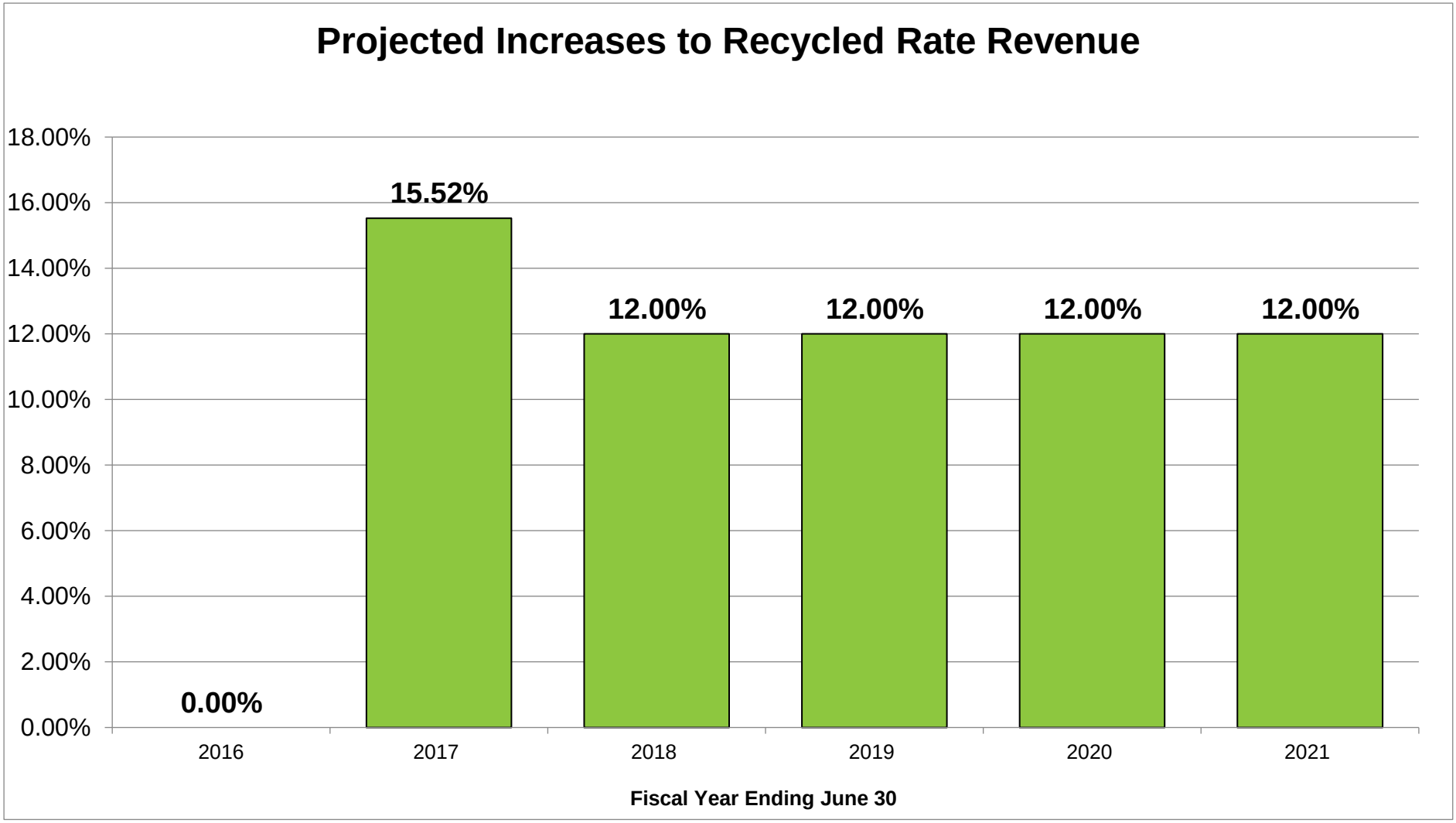

Projected Increases to Recycled Rate Revenue
18.00%
16.00%
14.00%
12.00%
10.00%
8.00%
6.00%
4.00%
2.00%
0.00%
0.00%
15.52%
12.00%
12.00%
12.00%
12.00%
2016
2017
2018
2019
2020
2021
Fiscal Year Ending June 30

CHART 7

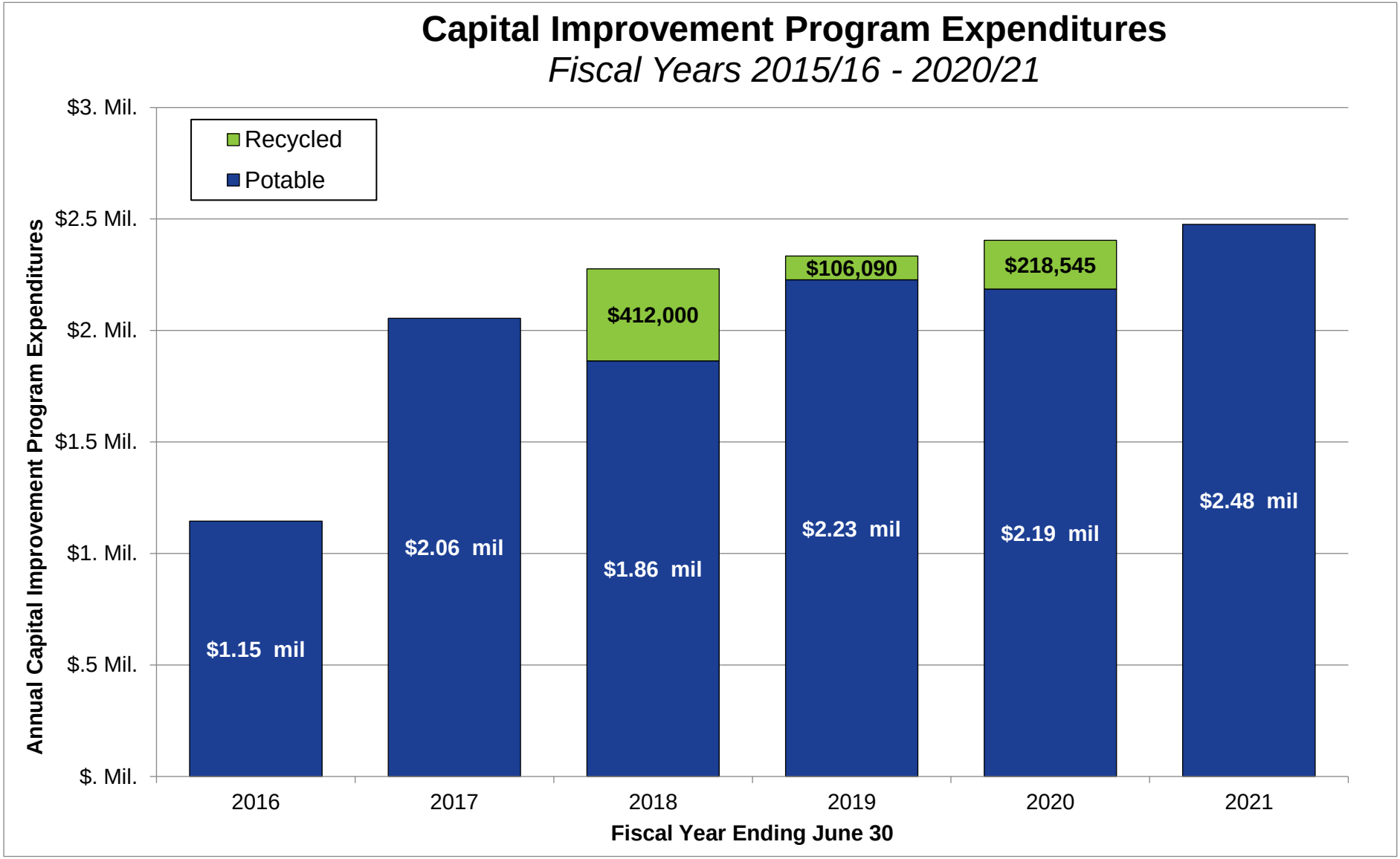

Capital Improvement Program Expenditures
Fiscal Years 2015/16 - 2020/21
Recycled
Potable
Annual Capital Improvement Program Expenditures
$3. Mil.
$2.5 Mil.
$2. Mil.
$1.5 Mil.
$1. Mil.
$.5 Mil.
$. Mil.
$1.15 mil
$2.06 mil
$412,000
$1.86 mil
$106,090
$2.23 mil
$218,545
$2.19 mil
$2.48 mil
2016
2017
2018
2019
2020
2021
Fiscal Year Ending June 30

CHART 8

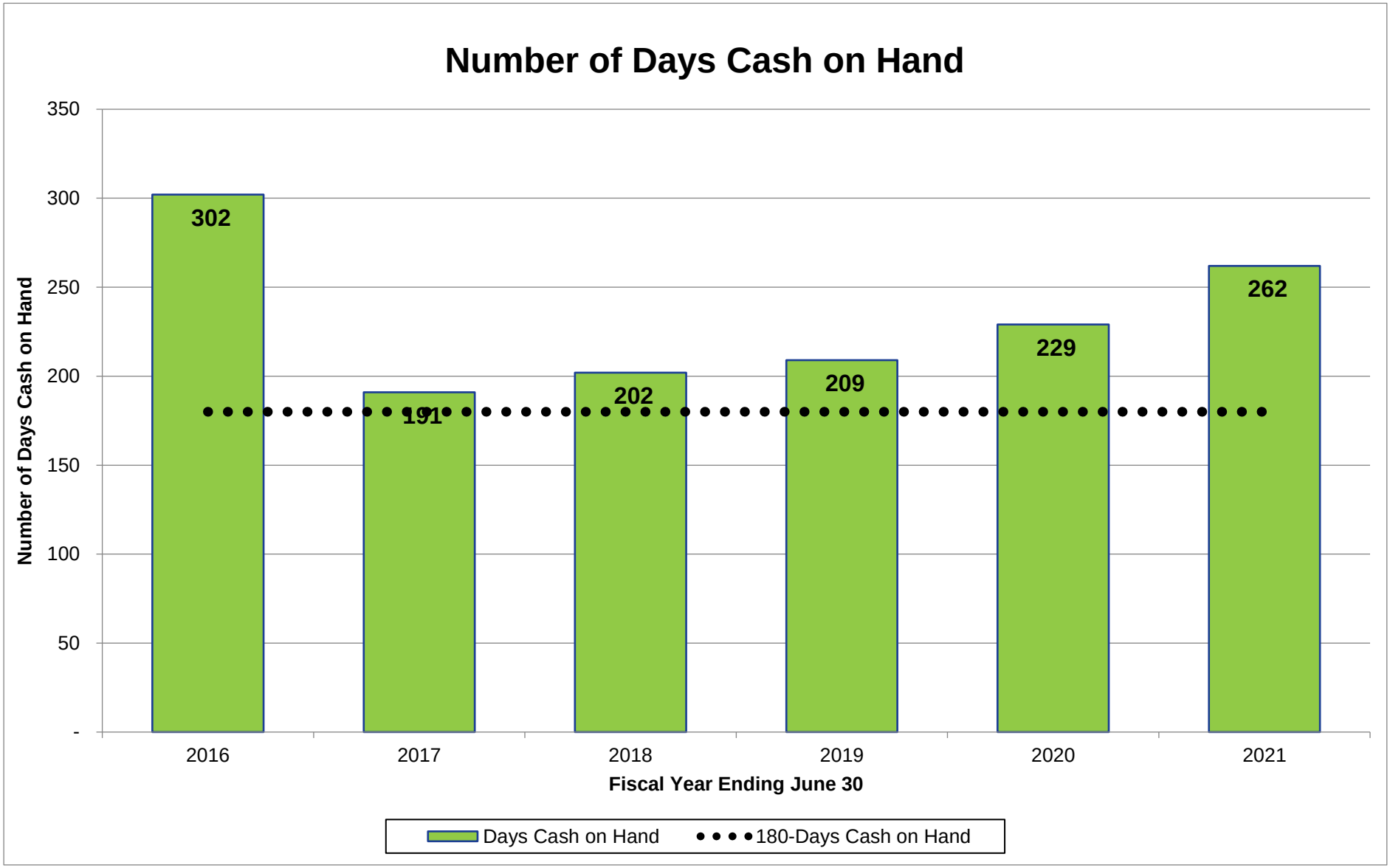

Number of Days Cash on Hand
350
300
250
200
150
100
50
-
Number of Days Cash on Hand
302
191
202
209
229
262
2016
2017
2018
2019
2020
2021
Fiscal Year Ending June 30
Days Cash on Hand
180-Days Cash on Hand

TABLE 4
REVENUE FORECAST (1)

SOURCES OF REVENUE		% PW	% RW	Basis	2016	2017	2018	2019	2020	2021
41110-0	SALES-RESIDENTIAL	100%	0%	1	$ 7,100,000	$ 7,500,000	$ 7,537,500	$ 7,575,188	$ 7,613,063	$ 7,651,129
41210-0	SALES-BUSINESS	100%	0%	1	$ 5,200,000	$ 5,130,000	$ 5,155,650	$ 5,181,428	$ 5,207,335	$ 5,233,372
41310-0	SALES/PUBLIC/GOVT ENTITIES	100%	0%	1	$ 200,000	$ 200,000	$ 201,000	$ 202,005	$ 203,015	$ 204,030
41311-0	INDUSTRIAL-SURCHARGE WATER	100%	0%	1	$ 15,000	$ 10,000	$ 10,050	$ 10,100	$ 10,151	$ 10,202
41710-0	SALES-CONSTRUCTION	100%	0%	1	$ 15,000	$ 10,000	$ 10,050	$ 10,100	$ 10,151	$ 10,202
41810-0	SALES-CONSTRUCTION INVOICES	100%	0%	1	$ 10,000	$ 15,000	$ 15,075	$ 15,150	$ 15,226	$ 15,302
41910-0	RWD LABOR SALES/REIMBURSEMENT	100%	0%	1	$ 10,000	$ 15,000	$ 15,075	$ 15,150	$ 15,226	$ 15,302
42310-0	CUSTOMER PENALTIES	100%	0%	1	$ 190,000	$ 190,000	$ 190,950	$ 191,905	$ 192,864	$ 193,829
42313-0	NEW SERVICE CONNECTIONS	100%	0%	1	$ 50,000	$ 50,000	$ 50,250	$ 50,501	$ 50,754	$ 51,008
42316-0	OTHER WATER COMPANIES	100%	0%	1	$ 50,000	$ -	$ -	$ -	$ -	$ -
42317-0	SALES-RECLAIMED WATER	0%	100%	8	$ 750,000	$ 550,000	$ 567,684	$ 585,936	$ 604,776	$ 604,776
42318-0	FLOW TESTS	100%	0%	1	$ 5,000	$ 10,000	$ 10,050	$ 10,100	$ 10,151	$ 10,202
42319-0	WATER SERVICE CHARGE	96.7%	3.3%	1	$ 6,400,000	$ 6,400,000	$ 6,437,754	$ 6,475,882	$ 6,514,391	$ 6,545,798
42340-0	RECONNECTION FEES	100%	0%	1	$ 20,000	$ 20,000	$ 20,100	$ 20,201	$ 20,302	$ 20,403
42360-0	NON-REF SERVICE CONNECTIONS	100%	0%	1	$ 40,000	$ 40,000	$ 40,200	$ 40,401	$ 40,603	$ 40,806
42370-0	RETURN CHECK FEES	100%	0%	1	$ 5,000	$ 5,000	$ 5,025	$ 5,050	$ 5,075	$ 5,101
42380-0	CONTRACT INCOME	75%	25%	1	$ 150,000	$ 150,000	$ 150,750	$ 151,504	$ 152,261	$ 153,023
42390-0	SHARED SERVICES	100%	0%	1	$ 25,000	$ 10,000	$ 10,050	$ 10,100	$ 10,151	$ 10,202
49210-0	INTEREST INCOME (2)	100%	0%	Calc'd	$ 300,000	$ 300,000	$ -	$ -	$ -	$ -
49310-0	COUNTY TAX CONTRIBUTIONS	100%	0%	1	$ 250,000	$ 250,000	$ 251,250	$ 252,506	$ 253,769	$ 255,038
49325-0	ACREAGE SUPPLY FEES	100%	0%	1	$ 10,000	$ 10,000	$ 10,050	$ 10,100	$ 10,151	$ 10,202
49510-0	MISCELLANEOUS INCOME	100%	0%	1	$ 20,000	$ 20,000	$ 20,100	$ 20,201	$ 20,302	$ 20,403
49511-0	GAIN ON SALE OF ASSETS	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL: REVENUE					**$ 20,815,000**	**$ 20,885,000**	**$ 20,708,613**	**$ 20,833,509**	**$ 20,959,717**	**$ 21,060,326**

TABLE 5

REVENUE SUMMARY	2016	2017	2018	2019	2020	2021
Variable Water Rate Revenue	$ 13,250,000	$ 13,380,000	$ 13,461,834	$ 13,544,557	$ 13,628,190	$ 13,693,307
Fixed Water Rate Revenue	$ 6,400,000	$ 6,400,000	$ 6,437,754	$ 6,475,882	$ 6,514,391	$ 6,545,798
Expansion Revenue	$ 10,000	$ 10,000	$ 10,050	$ 10,100	$ 10,151	$ 10,202
Other Operating Revenue	$ 855,000	$ 795,000	$ 798,975	$ 802,970	$ 806,985	$ 811,020
Interest Income	$ 300,000	$ 300,000	$ -	$ -	$ -	$ -
TOTAL: REVENUE	**$ 20,815,000**	**$ 20,885,000**	**$ 20,708,613**	**$ 20,833,509**	**$ 20,959,717**	**$ 21,060,326**

TABLE 6
OPERATING EXPENSE FORECAST (1):

EXPENSES		% PW	% RW	Basis	2016	2017	2018	2019	2020	2021
51110-0	WATER PURCHASES - CDWC	100%	0%	2	$ 500,000	$ 875,000	$ 892,500	$ 910,350	$ 928,557	$ 947,128
51210-0	WATER PURCHASES - LHH	100%	0%	2	$ 410,000	$ 95,000	$ 96,900	$ 98,838	$ 100,815	$ 102,831
51310-0	WATER PURCHASES - TVMWD	100%	0%	9	$ 9,550,000	$ 9,233,000	$ 9,602,320	$ 9,986,413	$ 10,385,869	$ 10,801,304
51410-0	WATER PURCHASES - WRD	100%	0%	2	$ 240,000	$ 75,000	$ 76,500	$ 78,030	$ 79,591	$ 81,182
	Pre-Purchase of TVMWD Water	100%	0%	2	$ -	$ 3,267,000	$ -	$ -	$ -	$ -
51410-1	IMPORT WATER USE CHARGE	100%	0%	2	$ 50,000	$ 40,000	$ 40,800	$ 41,616	$ 42,448	$ 43,297
51410-2	CONNECTED CAPACITY CHARGE	100%	0%	2	$ 40,000	$ 35,000	$ 35,700	$ 36,414	$ 37,142	$ 37,885
51410-3	EQUIVALENT SMALL METER CHARGE	100%	0%	2	$ 20,000	$ 35,000	$ 35,700	$ 36,414	$ 37,142	$ 37,885
51410-5	CAPACITY RESERVATION CHG (CRC)	100%	0%	2	$ 265,000	$ 205,000	$ 209,100	$ 213,282	$ 217,548	$ 221,899
51510-0	WATER PURCHASES-RECLAIMED	0%	100%	2	$ 200,000	$ 250,000	$ 255,000	$ 260,100	$ 265,302	$ 270,608
51610-0	FIXED CHARGES - PBWA	100%	0%	2	$ 20,000	$ 15,000	$ 15,300	$ 15,606	$ 15,918	$ 16,236
51810-0	OPERATING ASSESSMENTS	100%	0%	2	$ 80,000	$ 80,000	$ 81,600	$ 83,232	$ 84,897	$ 86,595
51910-0	OPERATING ASSESSMENTS - PBWA	100%	0%	2	$ 120,000	$ 100,000	$ 102,000	$ 104,040	$ 106,121	$ 108,243
52210-0	PUMPING MAINTENANCE	100%	0%	2	$ 50,000	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122
52310-0	PUMPING POWER	90%	10%	7	$ 350,000	$ 400,000	$ 417,600	$ 435,974	$ 455,157	$ 475,184
53110-0	WAGES-WATER TREATMENT	100%	0%	3	$ 630,000	$ 630,000	$ 645,750	$ 661,894	$ 678,441	$ 695,402
53110-1	WATER TREATMENT/STANDBY HRS	100%	0%	3	$ 45,000	$ 45,000	$ 46,125	$ 47,278	$ 48,460	$ 49,672
53110-2	WATER TREATMENT/OVERTIME HRS	100%	0%	3	$ 10,000	$ 10,000	$ 10,250	$ 10,506	$ 10,769	$ 11,038
54110-0	WAGES-MAINS & SERVICES (3)	98%	2%	3	$ 730,000	$ 730,000	$ 748,250	$ 766,956	$ 786,130	$ 805,783
54110-1	MAINS & SERVICES/STANDBY HRS (3)	98%	2%	3	$ 25,000	$ 25,000	$ 25,625	$ 26,266	$ 26,922	$ 27,595
54110-2	MAINS & SERVICES/OVERTIME HRS (3)	98%	2%	3	$ 20,000	$ 20,000	$ 20,500	$ 21,013	$ 21,538	$ 22,076
54209-0	TRANS & DIST-RECYCLED WATER	0%	100%	2	$ 5,000	$ 15,000	$ 15,300	$ 15,606	$ 15,918	$ 16,236
54210-0	TRANS & DIST-MAINS	100%	0%	2	$ 50,000	$ 40,000	$ 40,800	$ 41,616	$ 42,448	$ 43,297
54211-0	TRANS & DIST-SERVICES	100%	0%	2	$ 60,000	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122
54212-0	TRANS & DIST-METERS	100%	0%	2	$ 30,000	$ 40,000	$ 40,800	$ 41,616	$ 42,448	$ 43,297
54213-0	TRANS & DIST-RESERVOIRS	100%	0%	2	$ 30,000	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122
54214-0	TRANS & DIST-VALVES	100%	0%	2	$ 30,000	$ 30,000	$ 30,600	$ 31,212	$ 31,836	$ 32,473
54215-0	TRANS & DIST-HYDRANTS	100%	0%	2	$ 20,000	$ 100,000	$ 102,000	$ 104,040	$ 106,121	$ 108,243
54216-0	TRANS & DIST-TELEMETRY SYSTEM	100%	0%	2	$ 25,000	$ 25,000	$ 25,500	$ 26,010	$ 26,530	$ 27,061
54217-0	CHEMICALS	100%	0%	6	$ -	$ 40,000	$ 41,000	$ 42,025	$ 43,076	$ 44,153
54218-0	COI - RECYCLED SYSTEM	0%	100%	2	$ 5,000	$ 5,000	$ 5,100	$ 5,202	$ 5,306	$ 5,412
54219-0	PROJECT EXPENSE (PBWA)	100%	0%	2	$ 50,000	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122
55110-0	WAGES-CUSTOMER ACCOUNTS (4)	99%	1%	3	$ 135,000	$ 135,000	$ 138,375	$ 141,834	$ 145,380	$ 149,015
55110-1	CUSTOMER SERVICE/STANDBY HRS (4)	99%	1%	3	$ 10,000	$ 10,000	$ 10,250	$ 10,506	$ 10,769	$ 11,038
55110-2	CUSTOMER ACCTS/OVERTIME HRS (4)	99%	1%	3	$ 10,000	$ 10,000	$ 10,250	$ 10,506	$ 10,769	$ 11,038
55210-0	UNCOLLECTABLE ACCOUNTS	100%	0%	2	$ 30,000	$ 30,000	$ 30,600	$ 31,212	$ 31,836	$ 32,473
56110-0	WAGES-ADMINISTRATIVE (5)	95%	5%	3	$ 1,100,000	$ 1,100,000	$ 1,127,500	$ 1,155,688	$ 1,184,580	$ 1,214,194
56210-0	VEHICLE EXPENSE (3)	98%	2%	2	$ 70,000	$ 70,000	$ 71,400	$ 72,828	$ 74,285	$ 75,770
56211-0	BANK / MANAGEMENT FEES (5)	95%	5%	2	$ 100,000	$ 105,000	$ 107,100	$ 109,242	$ 111,427	$ 113,655
56212-0	BOOKS & SUBSCRIPTIONS	100%	0%	2	$ 1,000	$ 1,000	$ 1,020	$ 1,040	$ 1,061	$ 1,082
56214-0	OFFICE SUPPLIES & EXPENSE	100%	0%	2	$ 15,000	$ 15,000	$ 15,300	$ 15,606	$ 15,918	$ 16,236
56215-0	MEMBERSHIP, ASSOCIATION & DUES	100%	0%	2	$ 45,000	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122
Sub-Total					**$ 15,176,000**	**$ 18,186,000**	**$ 15,425,415**	**$ 15,950,111**	**$ 16,493,778**	**$ 17,057,129**

TABLE 7

EXPENSES		% PW	% RW	Basis	2016	2017	2018	2019	2020	2021
56216-0	POSTAGE, PRINTING & STATIONARY	100%	0%	2	$ 15,000	$ 15,000	$ 15,300	$ 15,606	$ 15,918	$ 16,236
56217-0	TRAVEL EXPENSE	100%	0%	2	$ 4,000	$ 4,000	$ 4,080	$ 4,162	$ 4,245	$ 4,330
56218-0	LEGAL EXPENSE	100%	0%	2	$ 75,000	$ 75,000	$ 76,500	$ 78,030	$ 79,591	$ 81,182
56218-1	LEGAL FEES - PBWA	100%	0%	2	$ 20,000	$ 20,000	$ 20,400	$ 20,808	$ 21,224	$ 21,649
56218-2	LEGAL FEES-PWAG	100%	0%	2	$ 5,000	$ 5,000	$ 5,100	$ 5,202	$ 5,306	$ 5,412
56219-0	UTILITY SERVICES	100%	0%	2	$ 90,000	$ 80,000	$ 81,600	$ 83,232	$ 84,897	$ 86,595
56220-0	IT SUPPORT SERVICES	100%	0%	2	$ 160,000	$ 150,000	$ 153,000	$ 156,060	$ 159,181	$ 162,365
56221-0	COMMUNITY OUTREACH	100%	0%	2	$ 100,000	$ 120,000	$ 122,400	$ 124,848	$ 127,345	$ 129,892
56223-0	CONFERENCE & MEETINGS	100%	0%	2	$ 60,000	$ 60,000	$ 61,200	$ 62,424	$ 63,672	$ 64,946
56310-0	INSURANCE-LIABILITY	100%	0%	2	$ 130,000	$ 125,000	$ 127,500	$ 130,050	$ 132,651	$ 135,304
56311-0	INSURANCE-WORKERS' COMP	100%	0%	2	$ 65,000	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122
56312-0	SERVICE CONTRACTS	100%	0%	2	$ 250,000	$ 275,000	$ 280,500	$ 286,110	$ 291,832	$ 297,669
56320-0	SEMINAR & TRAINING EXPENSES	100%	0%	2	$ 60,000	$ 70,000	$ 71,400	$ 72,828	$ 74,285	$ 75,770
56410-0	PAYROLL TAXES (6)	97%	3%	3	$ 200,000	$ 180,000	$ 184,500	$ 189,113	$ 193,840	$ 198,686
56411-0	HEALTH INSURANCE (6)	97%	3%	4	$ 550,000	$ 485,000	$ 497,125	$ 509,553	$ 522,292	$ 535,349
56412-0	PENSION CONTRIBUTIONS (6)	97%	3%	5	$ 650,000	$ 600,000	$ 654,000	$ 706,320	$ 762,826	$ 793,339
56413-0	DENTAL INSURANCE (6)	97%	3%	4	$ 55,000	$ 40,000	$ 41,000	$ 42,025	$ 43,076	$ 44,153
56414-0	STATE UNEMPLOYMENT INSURANCE (6)	97%	3%	3	$ 20,000	$ 15,000	$ 15,375	$ 15,759	$ 16,153	$ 16,557
56415-0	VISION INSURANCE PLAN (6)	97%	3%	4	$ 10,000	$ 10,000	$ 10,250	$ 10,506	$ 10,769	$ 11,038
56416-0	LIFE INSURANCE PLAN (6)	97%	3%	4	$ 5,000	$ 5,000	$ 5,125	$ 5,253	$ 5,384	$ 5,519
56417-0	RETIREES HEALTH BENEFITS (6)	97%	3%	4	$ 135,000	$ 150,000	$ 153,750	$ 157,594	$ 161,534	$ 165,572
56418-0	DISABILITY INSURANCE (6)	97%	3%	4	$ 15,000	$ 15,000	$ 15,375	$ 15,759	$ 16,153	$ 16,557
56419-0	EMP ASSISTANCE PROGRAM (EAP) (6)	97%	3%	4	$ 1,000	$ 1,000	$ 1,025	$ 1,051	$ 1,077	$ 1,104
56420-0	PARS PAYMENT (OPEB) (6)	97%	3%	4	$ 420,000	$ 420,000	$ 430,500	$ 441,263	$ 452,294	$ 463,601
56421-0	DIRECTORS BENEFITS (6)	97%	3%	4	$ 100,000	$ 90,000	$ 92,250	$ 94,556	$ 96,920	$ 99,343
56510-0	TAXES, PERMITS, FEES	100%	0%	2	$ 10,000	$ 10,000	$ 10,200	$ 10,404	$ 10,612	$ 10,824
56710-0	EQUIPMENT EXPENSE	100%	0%	2	$ 20,000	$ 25,000	$ 25,500	$ 26,010	$ 26,530	$ 27,061
56810-0	DIRECTORS' COMPENSATION (5)	95%	5%	3	$ 65,000	$ 35,000	$ 35,875	$ 36,772	$ 37,691	$ 38,633
56811-0	AUDITING & ACCOUNTING FEES	100%	0%	2	$ 25,000	$ 30,000	$ 30,600	$ 31,212	$ 31,836	$ 32,473
56812-0	MISCELLANEOUS GENERAL EXPENSE	100%	0%	2	$ 40,000	$ 40,000	$ 40,800	$ 41,616	$ 42,448	$ 43,297
57310-0	MISCELLANEOUS ENGINEERING	100%	0%	2	$ 20,000	$ 20,000	$ 20,400	$ 20,808	$ 21,224	$ 21,649
57312-0	TOOLS & SUPPLIES	100%	0%	2	$ 25,000	$ 30,000	$ 30,600	$ 31,212	$ 31,836	$ 32,473
57314-0	MAINTENANCE & OPERATION	100%	0%	2	$ 30,000	$ 30,000	$ 30,600	$ 31,212	$ 31,836	$ 32,473
57315-0	WATER TESTS	100%	0%	2	$ 30,000	$ 25,000	$ 25,500	$ 26,010	$ 26,530	$ 27,061
57316-0	WATER SUPPLY PLAN. & DEVELP.	100%	0%	2	$ 150,000	$ 150,000	$ 153,000	$ 156,060	$ 159,181	$ 162,365
57319-0	WATER CONSERVATION PROGRAMS	100%	0%	2	$ 10,000	$ 20,000	$ 20,400	$ 20,808	$ 21,224	$ 21,649
57320-0	COMPLIANCE-CERTIFICATIONS	100%	0%	2	$ 5,000	$ 5,000	$ 5,100	$ 5,202	$ 5,306	$ 5,412
57321-0	COMPLIANCE-FEES	100%	0%	2	$ 50,000	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122
57322-0	COMPLIANCE-PERMITS	100%	0%	2	$ 5,000	$ 5,000	$ 5,100	$ 5,202	$ 5,306	$ 5,412
57323-0	COMPLIANCE-EQUIPMENT MAINT	100%	0%	2	$ 5,000	$ 5,000	$ 5,100	$ 5,202	$ 5,306	$ 5,412
Sub-Total					**$ 3,685,000**	**$ 3,540,000**	**$ 3,660,030**	**$ 3,779,881**	**$ 3,905,454**	**$ 4,006,606**
Total: Budget					**$ 18,861,000**	**$ 21,726,000**	**$ 19,085,445**	**$ 19,729,993**	**$ 20,399,232**	**$ 21,063,734**

TABLE 8
Budgeted Items but not Included, Show for Reference Purposes:

Annual Debt Service Expense (1)			Basis	2016	2017	2018	2019	2020	2021
56225-0 DEBT SERVICE EXPENSE	--	--	See Ex 3	$ 2,450,000	$ 2,450,000	$ -	$ -	$ -	$ -
Total: Annual Debt Service Expense				**$ 2,450,000**	**$ 2,450,000**	**$ -**	**$ -**	**$ -**	**$ -**

TABLE 9
FORECASTING ASSUMPTIONS:

ECONOMIC VARIABLES	Basis	2016	2017	2018	2019	2020	2021
Potable Customer Growth	1	--	--	0.50%	0.50%	0.50%	0.50%
General Cost Inflation (7)	2	--	--	2.00%	2.00%	2.00%	2.00%
Labor Cost Inflation	3	--	--	2.50%	2.50%	2.50%	2.50%
Health Benefits Cost Inflation	4	--	--	2.50%	2.50%	2.50%	2.50%
Retirement Benefits Cost Inflation (8)	5	--	--	9.00%	8.00%	8.00%	4.00%
Chemicals	6	--	--	2.50%	2.50%	2.50%	2.50%
Energy (9)	7	--	--	4.40%	4.40%	4.40%	4.40%
Recycled Water Customer Growth (10)	8	--	--	3.22%	3.22%	3.22%	0.00%
Three Valley Municipal Water District Water Inflation (11)	9	--	--	4.00%	4.00%	4.00%	4.00%
No Escalation	10	--	--	0.00%	0.00%	0.00%	0.00%

1. FY 2015/16 Revenues and Expenses are per the District's Annual Operating Budget (Source file: *Revenue-Expense December, 2015.xlsx).*
   Some items have been updated from budgeted values by staff, these changes were communicated on 4/4/16 via email & conference call.
   FY 2016/17 Revenues and Expenses are from the approved budget (Source files: *FY 2016-2017 Approved Budget.xlsx).*
2. Interest income is budgeted for FY15-16 and calculated in the Financial Plan, Table 1 for all future years.
3. Allocated to Recycled System based on percentage of Transmission & Distribution costs allocated to the recycled system (accounts 542109-54216).
4. Allocated to Recycled System based on percentage total accounts which are recycled water accounts.
5. Allocated to Recycled System based on percentage of budgeted rate revenue assigned to recycled water accounts.
6. Allocated to Recycled System based on percentage of Wages allocated to the recycled system (accounts 53110-0 through 54110-2; 55110-0 through 55110-2 & 56110-0).
7. General Cost Inflation assumed to be 2%, as the five-year average CPI increase has be 1.67% in the Los Angles-Riverside-Orange County area.
8. Retirement Cost Inflation Estimated based upon CalPERS Valuation Report 2015.
9. Estimated energy cost inflation provided by a University of California Davis report:
   The Future of Electricity Prices in California: Understanding Market Drivers and Forecasting Prices to 2040," by Johnathan Cook, Ph.D., page 31, Table 7.
10. Customer Growth based upon staff estimate of an additional 100AF of service by FY2019/20.
11. Staff confirmed a 4% growth in TVMWD costs for FY2017/18 (per conference call 9/21/2016).

TABLE 10
REVENUE FORECAST (1)

SOURCES OF REVENUE	% PW	% RW	Basis	2016	2017	2018	2019	2020	2021
41110-0 SALES-RESIDENTIAL	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
41210-0 SALES-BUSINESS	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
41310-0 SALES/PUBLIC/GOVT ENTITIES	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
41311-0 INDUSTRIAL-SURCHARGE WATER	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
41710-0 SALES-CONSTRUCTION	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
41810-0 SALES-CONSTRUCTION INVOICES	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
41910-0 RWD LABOR SALES/REIMBURSEMENT	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
42310-0 CUSTOMER PENALTIES	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
42313-0 NEW SERVICE CONNECTIONS	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
42316-0 OTHER WATER COMPANIES	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
42317-0 SALES-RECLAIMED WATER	0%	100%	8	$ 750,000	$ 550,000	$ 567,684	$ 585,936	$ 604,776	$ 604,776
42318-0 FLOW TESTS	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
42319-0 WATER SERVICE CHARGE	97%	3%	8	$ 211,917	$ 211,917	$ 218,731	$ 225,764	$ 233,023	$ 233,023
42340-0 RECONNECTION FEES	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
42360-0 NON-REF SERVICE CONNECTIONS	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
42370-0 RETURN CHECK FEES	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
42380-0 CONTRACT INCOME	75%	25%	1	$ 37,500	$ 37,500	$ 37,688	$ 37,876	$ 38,065	$ 38,256
42390-0 SHARED SERVICES	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
49210-0 INTEREST INCOME (2)	100%	0%	Calc'd	$ -	$ -	$ -	$ -	$ -	$ -
49310-0 COUNTY TAX CONTRIBUTIONS	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
49325-0 ACREAGE SUPPLY FEES	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
49510-0 MISCELLANEOUS INCOME	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
49511-0 GAIN ON SALE OF ASSETS	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL: REVENUE				**$ 999,417**	**$ 799,417**	**$ 824,103**	**$ 849,576**	**$ 875,864**	**$ 876,054**

TABLE 11

REVENUE SUMMARY	2016	2017	2018	2019	2020	2021
Variable Water Rate Revenue	$ 750,000	$ 550,000	$ 567,684	$ 585,936	$ 604,776	$ 604,776
Fixed Water Rate Revenue	$ 211,917	$ 211,917	$ 218,731	$ 225,764	$ 233,023	$ 233,023
Expansion Revenue	$ -	$ -	$ -	$ -	$ -	$ -
Other Operating Revenue	$ 37,500	$ 37,500	$ 37,688	$ 37,876	$ 38,065	$ 38,256
Interest Income	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL: REVENUE	**$ 999,417**	**$ 799,417**	**$ 824,103**	**$ 849,576**	**$ 875,864**	**$ 876,054**

TABLE 12
OPERATING EXPENSE FORECAST (1):

EXPENSES		% PW	% RW	Basis	2016	2017	2018	2019	2020	2021
51110-0	WATER PURCHASES - CDWC	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
51210-0	WATER PURCHASES - LHH	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
51310-0	WATER PURCHASES - TVMWD	100%	0%	9	$ -	$ -	$ -	$ -	$ -	$ -
51410-0	WATER PURCHASES - WRD	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
51410-0	Pre-Purchase of TVMWD Water	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
51410-1	IMPORT WATER USE CHARGE	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
51410-2	CONNECTED CAPACITY CHARGE	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
51410-3	EQUIVALENT SMALL METER CHARGE	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
51410-5	CAPACITY RESERVATION CHG (CRC)	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
51510-0	WATER PURCHASES-RECLAIMED	0%	100%	2	$ 200,000	$ 250,000	$ 255,000	$ 260,100	$ 265,302	$ 270,608
51610-0	FIXED CHARGES - PBWA	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
51810-0	OPERATING ASSESSMENTS	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
51910-0	OPERATING ASSESSMENTS - PBWA	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
52210-0	PUMPING MAINTENANCE	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
52310-0	PUMPING POWER	90%	10%	7	$ 35,000	$ 40,000	$ 41,760	$ 43,597	$ 45,516	$ 47,518
53110-0	WAGES-WATER TREATMENT	100%	0%	3	$ -	$ -	$ -	$ -	$ -	$ -
53110-1	WATER TREATMENT/STANDBY HRS	100%	0%	3	$ -	$ -	$ -	$ -	$ -	$ -
53110-2	WATER TREATMENT/OVERTIME HRS	100%	0%	3	$ -	$ -	$ -	$ -	$ -	$ -
54110-0	WAGES-MAINS & SERVICES (3)	98%	2%	3	$ 14,600	$ 14,600	$ 14,965	$ 15,339	$ 15,723	$ 16,116
54110-1	MAINS & SERVICES/STANDBY HRS (3)	98%	2%	3	$ 500	$ 500	$ 513	$ 525	$ 538	$ 552
54110-2	MAINS & SERVICES/OVERTIME HRS (3)	98%	2%	3	$ 400	$ 400	$ 410	$ 420	$ 431	$ 442
54209-0	TRANS & DIST-RECYCLED WATER	0%	100%	2	$ 5,000	$ 15,000	$ 15,300	$ 15,606	$ 15,918	$ 16,236
54210-0	TRANS & DIST-MAINS	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
54211-0	TRANS & DIST-SERVICES	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
54212-0	TRANS & DIST-METERS	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
54213-0	TRANS & DIST-RESERVOIRS	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
54214-0	TRANS & DIST-VALVES	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
54215-0	TRANS & DIST-HYDRANTS	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
54216-0	TRANS & DIST-TELEMETRY SYSTEM	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
54217-0	CHEMICALS	100%	0%	6	$ -	$ -	$ -	$ -	$ -	$ -
54218-0	COI - RECYCLED SYSTEM	0%	100%	2	$ 5,000	$ 5,000	$ 5,100	$ 5,202	$ 5,306	$ 5,412
54219-0	PROJECT EXPENSE (PBWA)	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
55110-0	WAGES-CUSTOMER ACCOUNTS (4)	99%	1%	3	$ 1,195	$ 1,195	$ 1,224	$ 1,255	$ 1,286	$ 1,319
55110-1	CUSTOMER SERVICE/STANDBY HRS (4)	99%	1%	3	$ 88	$ 88	$ 91	$ 93	$ 95	$ 98
55110-2	CUSTOMER ACCTS/OVERTIME HRS (4)	99%	1%	3	$ 88	$ 88	$ 91	$ 93	$ 95	$ 98
55210-0	UNCOLLECTABLE ACCOUNTS	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56110-0	WAGES-ADMINISTRATIVE (5)	95%	5%	3	$ 55,947	$ 55,947	$ 57,346	$ 58,779	$ 60,249	$ 61,755
56210-0	VEHICLE EXPENSE (3)	98%	2%	2	$ 1,400	$ 1,400	$ 1,428	$ 1,457	$ 1,486	$ 1,515
56211-0	BANK / MANAGEMENT FEES (5)	95%	5%	2	$ 5,086	$ 5,340	$ 5,447	$ 5,556	$ 5,667	$ 5,781
56212-0	BOOKS & SUBSCRIPTIONS	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56214-0	OFFICE SUPPLIES & EXPENSE	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56215-0	MEMBERSHIP, ASSOCIATION & DUES	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
Sub-Total					**$ 324,305**	**$ 389,559**	**$ 398,674**	**$ 408,023**	**$ 417,613**	**$ 427,449**

TABLE 13

EXPENSES		% PW	% RW	Basis	2016	2017	2018	2019	2020	2021
56216-0	POSTAGE, PRINTING & STATIONARY	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56217-0	TRAVEL EXPENSE	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56218-0	LEGAL EXPENSE	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56218-1	LEGAL FEES - PBWA	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56218-2	LEGAL FEES-PWAG	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56219-0	UTILITY SERVICES	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56220-0	IT SUPPORT SERVICES	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56221-0	COMMUNITY OUTREACH	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56223-0	CONFERENCE & MEETINGS	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56310-0	INSURANCE-LIABILITY	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56311-0	INSURANCE-WORKERS' COMP	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56312-0	SERVICE CONTRACTS	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56320-0	SEMINAR & TRAINING EXPENSES	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56410-0	PAYROLL TAXES (6)	97%	3%	3	$ 5,364	$ 4,828	$ 4,948	$ 5,072	$ 5,199	$ 5,329
56411-0	HEALTH INSURANCE (6)	97%	3%	4	$ 14,751	$ 13,008	$ 13,333	$ 13,667	$ 14,008	$ 14,359
56412-0	PENSION CONTRIBUTIONS (6)	97%	3%	5	$ 17,434	$ 16,093	$ 17,541	$ 18,944	$ 20,460	$ 21,278
56413-0	DENTAL INSURANCE (6)	97%	3%	4	$ 1,475	$ 1,073	$ 1,100	$ 1,127	$ 1,155	$ 1,184
56414-0	STATE UNEMPLOYMENT INSURANCE (6)	97%	3%	3	$ 536	$ 402	$ 412	$ 423	$ 433	$ 444
56415-0	VISION INSURANCE PLAN (6)	97%	3%	4	$ 268	$ 268	$ 275	$ 282	$ 289	$ 296
56416-0	LIFE INSURANCE PLAN (6)	97%	3%	4	$ 134	$ 134	$ 137	$ 141	$ 144	$ 148
56417-0	RETIREES HEALTH BENEFITS (6)	97%	3%	4	$ 3,621	$ 4,023	$ 4,124	$ 4,227	$ 4,332	$ 4,441
56418-0	DISABILITY INSURANCE (6)	97%	3%	4	$ 402	$ 402	$ 412	$ 423	$ 433	$ 444
56419-0	EMP ASSISTANCE PROGRAM (EAP) (6)	97%	3%	4	$ 27	$ 27	$ 27	$ 28	$ 29	$ 30
56420-0	PARS PAYMENT (OPEB) (6)	97%	3%	4	$ 11,265	$ 11,265	$ 11,546	$ 11,835	$ 12,131	$ 12,434
56421-0	DIRECTORS BENEFITS (6)	97%	3%	4	$ 2,682	$ 2,414	$ 2,474	$ 2,536	$ 2,599	$ 2,664
56510-0	TAXES, PERMITS, FEES	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56710-0	EQUIPMENT EXPENSE	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56810-0	DIRECTORS' COMPENSATION (5)	95%	5%	3	$ 3,306	$ 1,780	$ 1,825	$ 1,870	$ 1,917	$ 1,965
56811-0	AUDITING & ACCOUNTING FEES	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
56812-0	MISCELLANEOUS GENERAL EXPENSE	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
57310-0	MISCELLANEOUS ENGINEERING	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
57312-0	TOOLS & SUPPLIES	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
57314-0	MAINTENANCE & OPERATION	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
57315-0	WATER TESTS	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
57316-0	WATER SUPPLY PLAN. & DEVELP.	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
57319-0	WATER CONSERVATION PROGRAMS	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
57320-0	COMPLIANCE-CERTIFICATIONS	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
57321-0	COMPLIANCE-FEES	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
57322-0	COMPLIANCE-PERMITS	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
57323-0	COMPLIANCE-EQUIPMENT MAINT	100%	0%	2	$ -	$ -	$ -	$ -	$ -	$ -
Sub-Total					**$ 61,266**	**$ 55,717**	**$ 58,156**	**$ 60,574**	**$ 63,131**	**$ 65,016**
Total: Budget					**$ 385,571**	**$ 445,276**	**$ 456,830**	**$ 468,598**	**$ 480,743**	**$ 492,465**

TABLE 14
REVENUE FORECAST (1)

SOURCES OF REVENUE		% PW	% RW	Basis	2016	2017	2018	2019	2020	2021
41110-0	SALES-RESIDENTIAL	100%	0%	1	$ 7,100,000	$ 7,500,000	$ 7,537,500	$ 7,575,188	$ 7,613,063	$ 7,651,129
41210-0	SALES-BUSINESS	100%	0%	1	$ 5,200,000	$ 5,130,000	$ 5,155,650	$ 5,181,428	$ 5,207,335	$ 5,233,372
41310-0	SALES/PUBLIC/GOVT ENTITIES	100%	0%	1	$ 200,000	$ 200,000	$ 201,000	$ 202,005	$ 203,015	$ 204,030
41311-0	INDUSTRIAL-SURCHARGE WATER	100%	0%	1	$ 15,000	$ 10,000	$ 10,050	$ 10,100	$ 10,151	$ 10,202
41710-0	SALES-CONSTRUCTION	100%	0%	1	$ 15,000	$ 10,000	$ 10,050	$ 10,100	$ 10,151	$ 10,202
41810-0	SALES-CONSTRUCTION INVOICES	100%	0%	1	$ 10,000	$ 15,000	$ 15,075	$ 15,150	$ 15,226	$ 15,302
41910-0	RWD LABOR SALES/REIMBURSEMENT	100%	0%	1	$ 10,000	$ 15,000	$ 15,075	$ 15,150	$ 15,226	$ 15,302
42310-0	CUSTOMER PENALTIES	100%	0%	1	$ 190,000	$ 190,000	$ 190,950	$ 191,905	$ 192,864	$ 193,829
42313-0	NEW SERVICE CONNECTIONS	100%	0%	1	$ 50,000	$ 50,000	$ 50,250	$ 50,501	$ 50,754	$ 51,008
42316-0	OTHER WATER COMPANIES	100%	0%	1	$ 50,000	$ -	$ -	$ -	$ -	$ -
42317-0	SALES-RECLAIMED WATER	0%	100%	8	$ -	$ -	$ -	$ -	$ -	$ -
42318-0	FLOW TESTS	100%	0%	1	$ 5,000	$ 10,000	$ 10,050	$ 10,100	$ 10,151	$ 10,202
42319-0	WATER SERVICE CHARGE	97%	3%	1	$ 6,188,083	$ 6,188,083	$ 6,219,023	$ 6,250,118	$ 6,281,369	$ 6,312,776
42340-0	RECONNECTION FEES	100%	0%	1	$ 20,000	$ 20,000	$ 20,100	$ 20,201	$ 20,302	$ 20,403
42360-0	NON-REF SERVICE CONNECTIONS	100%	0%	1	$ 40,000	$ 40,000	$ 40,200	$ 40,401	$ 40,603	$ 40,806
42370-0	RETURN CHECK FEES	100%	0%	1	$ 5,000	$ 5,000	$ 5,025	$ 5,050	$ 5,075	$ 5,101
42380-0	CONTRACT INCOME	75%	25%	1	$ 112,500	$ 112,500	$ 113,063	$ 113,628	$ 114,196	$ 114,767
42390-0	SHARED SERVICES	100%	0%	1	$ 25,000	$ 10,000	$ 10,050	$ 10,100	$ 10,151	$ 10,202
49210-0	INTEREST INCOME (2)	100%	0%	Calc'd	$ 300,000	$ 300,000	$ -	$ -	$ -	$ -
49310-0	COUNTY TAX CONTRIBUTIONS	100%	0%	1	$ 250,000	$ 250,000	$ 251,250	$ 252,506	$ 253,769	$ 255,038
49325-0	ACREAGE SUPPLY FEES	100%	0%	1	$ 10,000	$ 10,000	$ 10,050	$ 10,100	$ 10,151	$ 10,202
49510-0	MISCELLANEOUS INCOME	100%	0%	1	$ 20,000	$ 20,000	$ 20,100	$ 20,201	$ 20,302	$ 20,403
49511-0	GAIN ON SALE OF ASSETS	100%	0%	1	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL: REVENUE					**$19,815,583**	**$20,085,583**	**$19,884,510**	**$19,983,933**	**$20,083,853**	**$20,184,272**

TABLE 15

REVENUE SUMMARY	2016	2017	2018	2019	2020	2021
Variable Water Rate Revenue	$12,500,000	$12,830,000	$12,894,150	$12,958,621	$13,023,414	$13,088,531
Fixed Water Rate Revenue	$ 6,188,083	$ 6,188,083	$ 6,219,023	$ 6,250,118	$ 6,281,369	$ 6,312,776
Expansion Revenue	$ 10,000	$ 10,000	$ 10,050	$ 10,100	$ 10,151	$ 10,202
Other Operating Revenue	$ 817,500	$ 757,500	$ 761,288	$ 765,094	$ 768,919	$ 772,764
Interest Income	$ 300,000	$ 300,000	$ -	$ -	$ -	$ -
TOTAL: REVENUE	**$19,815,583**	**$20,085,583**	**$19,884,510**	**$19,983,933**	**$20,083,853**	**$20,184,272**

TABLE 16
OPERATING EXPENSE FORECAST (1):

EXPENSES		% PW	% RW	Basis	2016	2017	2018	2019	2020	2021
51110-0	WATER PURCHASES - CDWC	100%	0%	2	$ 500,000	$ 875,000	$ 892,500	$ 910,350	$ 928,557	$ 947,128
51210-0	WATER PURCHASES - LHH	100%	0%	2	$ 410,000	$ 95,000	$ 96,900	$ 98,838	$ 100,815	$ 102,831
51310-0	WATER PURCHASES - TVMWD	100%	0%	9	$ 9,550,000	$ 9,233,000	$ 9,602,320	$ 9,986,413	$10,385,869	$10,801,304
51410-0	WATER PURCHASES - WRD	100%	0%	2	$ 240,000	$ 75,000	$ 76,500	$ 78,030	$ 79,591	$ 81,182
0	Pre-Purchase of TVMWD Water	100%	0%	2	$ -	$ 3,267,000	$ -	$ -	$ -	$ -
51410-1	IMPORT WATER USE CHARGE	100%	0%	2	$ 50,000	$ 40,000	$ 40,800	$ 41,616	$ 42,448	$ 43,297
51410-2	CONNECTED CAPACITY CHARGE	100%	0%	2	$ 40,000	$ 35,000	$ 35,700	$ 36,414	$ 37,142	$ 37,885
51410-3	EQUIVALENT SMALL METER CHARGE	100%	0%	2	$ 20,000	$ 35,000	$ 35,700	$ 36,414	$ 37,142	$ 37,885
51410-5	CAPACITY RESERVATION CHG (CRC)	100%	0%	2	$ 265,000	$ 205,000	$ 209,100	$ 213,282	$ 217,548	$ 221,899
51510-0	WATER PURCHASES-RECLAIMED	0%	100%	2	$ -	$ -	$ -	$ -	$ -	$ -
51610-0	FIXED CHARGES - PBWA	100%	0%	2	$ 20,000	$ 15,000	$ 15,300	$ 15,606	$ 15,918	$ 16,236
51810-0	OPERATING ASSESSMENTS	100%	0%	2	$ 80,000	$ 80,000	$ 81,600	$ 83,232	$ 84,897	$ 86,595
51910-0	OPERATING ASSESSMENTS - PBWA	100%	0%	2	$ 120,000	$ 100,000	$ 102,000	$ 104,040	$ 106,121	$ 108,243
52210-0	PUMPING MAINTENANCE	100%	0%	2	$ 50,000	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122
52310-0	PUMPING POWER	90%	10%	7	$ 315,000	$ 360,000	$ 375,840	$ 392,377	$ 409,642	$ 427,666
53110-0	WAGES-WATER TREATMENT	100%	0%	3	$ 630,000	$ 630,000	$ 645,750	$ 661,894	$ 678,441	$ 695,402
53110-1	WATER TREATMENT/STANDBY HRS	100%	0%	3	$ 45,000	$ 45,000	$ 46,125	$ 47,278	$ 48,460	$ 49,672
53110-2	WATER TREATMENT/OVERTIME HRS	100%	0%	3	$ 10,000	$ 10,000	$ 10,250	$ 10,506	$ 10,769	$ 11,038
54110-0	WAGES-MAINS & SERVICES (3)	98%	2%	3	$ 715,400	$ 715,400	$ 733,285	$ 751,617	$ 770,408	$ 789,668
54110-1	MAINS & SERVICES/STANDBY HRS (3)	98%	2%	3	$ 24,500	$ 24,500	$ 25,113	$ 25,740	$ 26,384	$ 27,043
54110-2	MAINS & SERVICES/OVERTIME HRS (3)	98%	2%	3	$ 19,600	$ 19,600	$ 20,090	$ 20,592	$ 21,107	$ 21,635
54209-0	TRANS & DIST-RECYCLED WATER	0%	100%	2	$ -	$ -	$ -	$ -	$ -	$ -
54210-0	TRANS & DIST-MAINS	100%	0%	2	$ 50,000	$ 40,000	$ 40,800	$ 41,616	$ 42,448	$ 43,297
54211-0	TRANS & DIST-SERVICES	100%	0%	2	$ 60,000	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122
54212-0	TRANS & DIST-METERS	100%	0%	2	$ 30,000	$ 40,000	$ 40,800	$ 41,616	$ 42,448	$ 43,297
54213-0	TRANS & DIST-RESERVOIRS	100%	0%	2	$ 30,000	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122
54214-0	TRANS & DIST-VALVES	100%	0%	2	$ 30,000	$ 30,000	$ 30,600	$ 31,212	$ 31,836	$ 32,473
54215-0	TRANS & DIST-HYDRANTS	100%	0%	2	$ 20,000	$ 100,000	$ 102,000	$ 104,040	$ 106,121	$ 108,243
54216-0	TRANS & DIST-TELEMETRY SYSTEM	100%	0%	2	$ 25,000	$ 25,000	$ 25,500	$ 26,010	$ 26,530	$ 27,061
54217-0	CHEMICALS	100%	0%	6	$ -	$ 40,000	$ 41,000	$ 42,025	$ 43,076	$ 44,153
54218-0	COI - RECYCLED SYSTEM	0%	100%	2	$ -	$ -	$ -	$ -	$ -	$ -
54219-0	PROJECT EXPENSE (PBWA)	100%	0%	2	$ 50,000	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122
55110-0	WAGES-CUSTOMER ACCOUNTS (4)	99%	1%	3	$ 133,805	$ 133,805	$ 137,151	$ 140,579	$ 144,094	$ 147,696
55110-1	CUSTOMER SERVICE/STANDBY HRS (4)	99%	1%	3	$ 9,912	$ 9,912	$ 10,159	$ 10,413	$ 10,674	$ 10,940
55110-2	CUSTOMER ACCTS/OVERTIME HRS (4)	99%	1%	3	$ 9,912	$ 9,912	$ 10,159	$ 10,413	$ 10,674	$ 10,940
55210-0	UNCOLLECTABLE ACCOUNTS	100%	0%	2	$ 30,000	$ 30,000	$ 30,600	$ 31,212	$ 31,836	$ 32,473
56110-0	WAGES-ADMINISTRATIVE (5)	95%	5%	3	$ 1,044,053	$ 1,044,053	$ 1,070,154	$ 1,096,908	$ 1,124,331	$ 1,152,439
56210-0	VEHICLE EXPENSE (3)	98%	2%	2	$ 68,600	$ 68,600	$ 69,972	$ 71,371	$ 72,799	$ 74,255
56211-0	BANK / MANAGEMENT FEES (5)	95%	5%	2	$ 94,914	$ 99,660	$ 101,653	$ 103,686	$ 105,760	$ 107,875
56212-0	BOOKS & SUBSCRIPTIONS	100%	0%	2	$ 1,000	$ 1,000	$ 1,020	$ 1,040	$ 1,061	$ 1,082
56214-0	OFFICE SUPPLIES & EXPENSE	100%	0%	2	$ 15,000	$ 15,000	$ 15,300	$ 15,606	$ 15,918	$ 16,236
56215-0	MEMBERSHIP, ASSOCIATION & DUES	100%	0%	2	$ 45,000	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122
Sub-Total					**$14,851,695**	**$17,796,441**	**$15,026,741**	**$15,542,088**	**$16,076,165**	**$16,629,679**

TABLE 17

EXPENSES		% PW	% RW	Basis	2016	2017	2018	2019	2020	2021
56216-0	POSTAGE, PRINTING & STATIONARY	100%	0%	2	$ 15,000	$ 15,000	$ 15,300	$ 15,606	$ 15,918	$ 16,236
56217-0	TRAVEL EXPENSE	100%	0%	2	$ 4,000	$ 4,000	$ 4,080	$ 4,162	$ 4,245	$ 4,330
56218-0	LEGAL EXPENSE	100%	0%	2	$ 75,000	$ 75,000	$ 76,500	$ 78,030	$ 79,591	$ 81,182
56218-1	LEGAL FEES - PBWA	100%	0%	2	$ 20,000	$ 20,000	$ 20,400	$ 20,808	$ 21,224	$ 21,649
56218-2	LEGAL FEES-PWAG	100%	0%	2	$ 5,000	$ 5,000	$ 5,100	$ 5,202	$ 5,306	$ 5,412
56219-0	UTILITY SERVICES	100%	0%	2	$ 90,000	$ 80,000	$ 81,600	$ 83,232	$ 84,897	$ 86,595
56220-0	IT SUPPORT SERVICES	100%	0%	2	$ 160,000	$ 150,000	$ 153,000	$ 156,060	$ 159,181	$ 162,365
56221-0	COMMUNITY OUTREACH	100%	0%	2	$ 100,000	$ 120,000	$ 122,400	$ 124,848	$ 127,345	$ 129,892
56223-0	CONFERENCE & MEETINGS	100%	0%	2	$ 60,000	$ 60,000	$ 61,200	$ 62,424	$ 63,672	$ 64,946
56310-0	INSURANCE-LIABILITY	100%	0%	2	$ 130,000	$ 125,000	$ 127,500	$ 130,050	$ 132,651	$ 135,304
56311-0	INSURANCE-WORKERS' COMP	100%	0%	2	$ 65,000	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122
56312-0	SERVICE CONTRACTS	100%	0%	2	$ 250,000	$ 275,000	$ 280,500	$ 286,110	$ 291,832	$ 297,669
56320-0	SEMINAR & TRAINING EXPENSES	100%	0%	2	$ 60,000	$ 70,000	$ 71,400	$ 72,828	$ 74,285	$ 75,770
56410-0	PAYROLL TAXES (6)	97%	3%	3	$ 194,636	$ 175,172	$ 179,552	$ 184,040	$ 188,641	$ 193,357
56411-0	HEALTH INSURANCE (6)	97%	3%	4	$ 535,249	$ 471,992	$ 483,792	$ 495,886	$ 508,284	$ 520,991
56412-0	PENSION CONTRIBUTIONS (6)	97%	3%	5	$ 632,566	$ 583,907	$ 636,459	$ 687,376	$ 742,366	$ 772,061
56413-0	DENTAL INSURANCE (6)	97%	3%	4	$ 53,525	$ 38,927	$ 39,900	$ 40,898	$ 41,920	$ 42,968
56414-0	STATE UNEMPLOYMENT INSURANCE (6)	97%	3%	3	$ 19,464	$ 14,598	$ 14,963	$ 15,337	$ 15,720	$ 16,113
56415-0	VISION INSURANCE PLAN (6)	97%	3%	4	$ 9,732	$ 9,732	$ 9,975	$ 10,224	$ 10,480	$ 10,742
56416-0	LIFE INSURANCE PLAN (6)	97%	3%	4	$ 4,866	$ 4,866	$ 4,988	$ 5,112	$ 5,240	$ 5,371
56417-0	RETIREES HEALTH BENEFITS (6)	97%	3%	4	$ 131,379	$ 145,977	$ 149,626	$ 153,367	$ 157,201	$ 161,131
56418-0	DISABILITY INSURANCE (6)	97%	3%	4	$ 14,598	$ 14,598	$ 14,963	$ 15,337	$ 15,720	$ 16,113
56419-0	EMP ASSISTANCE PROGRAM (EAP) (6)	97%	3%	4	$ 973	$ 973	$ 998	$ 1,022	$ 1,048	$ 1,074
56420-0	PARS PAYMENT (OPEB) (6)	97%	3%	4	$ 408,735	$ 408,735	$ 418,954	$ 429,427	$ 440,163	$ 451,167
56421-0	DIRECTORS BENEFITS (6)	97%	3%	4	$ 97,318	$ 87,586	$ 89,776	$ 92,020	$ 94,321	$ 96,679
56510-0	TAXES, PERMITS, FEES	100%	0%	2	$ 10,000	$ 10,000	$ 10,200	$ 10,404	$ 10,612	$ 10,824
56710-0	EQUIPMENT EXPENSE	100%	0%	2	$ 20,000	$ 25,000	$ 25,500	$ 26,010	$ 26,530	$ 27,061
56810-0	DIRECTORS' COMPENSATION (5)	95%	5%	3	$ 61,694	$ 33,220	$ 34,050	$ 34,902	$ 35,774	$ 36,669
56811-0	AUDITING & ACCOUNTING FEES	100%	0%	2	$ 25,000	$ 30,000	$ 30,600	$ 31,212	$ 31,836	$ 32,473
56812-0	MISCELLANEOUS GENERAL EXPENSE	100%	0%	2	$ 40,000	$ 40,000	$ 40,800	$ 41,616	$ 42,448	$ 43,297
57310-0	MISCELLANEOUS ENGINEERING	100%	0%	2	$ 20,000	$ 20,000	$ 20,400	$ 20,808	$ 21,224	$ 21,649
57312-0	TOOLS & SUPPLIES	100%	0%	2	$ 25,000	$ 30,000	$ 30,600	$ 31,212	$ 31,836	$ 32,473
57314-0	MAINTENANCE & OPERATION	100%	0%	2	$ 30,000	$ 30,000	$ 30,600	$ 31,212	$ 31,836	$ 32,473
57315-0	WATER TESTS	100%	0%	2	$ 30,000	$ 25,000	$ 25,500	$ 26,010	$ 26,530	$ 27,061
57316-0	WATER SUPPLY PLAN. & DEVELP.	100%	0%	2	$ 150,000	$ 150,000	$ 153,000	$ 156,060	$ 159,181	$ 162,365
57319-0	WATER CONSERVATION PROGRAMS	100%	0%	2	$ 10,000	$ 20,000	$ 20,400	$ 20,808	$ 21,224	$ 21,649
57320-0	COMPLIANCE-CERTIFICATIONS	100%	0%	2	$ 5,000	$ 5,000	$ 5,100	$ 5,202	$ 5,306	$ 5,412
57321-0	COMPLIANCE-FEES	100%	0%	2	$ 50,000	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122
57322-0	COMPLIANCE-PERMITS	100%	0%	2	$ 5,000	$ 5,000	$ 5,100	$ 5,202	$ 5,306	$ 5,412
57323-0	COMPLIANCE-EQUIPMENT MAINT	100%	0%	2	$ 5,000	$ 5,000	$ 5,100	$ 5,202	$ 5,306	$ 5,412
Sub-Total					**$ 3,623,734**	**$ 3,484,283**	**$ 3,601,874**	**$ 3,719,307**	**$ 3,842,323**	**$ 3,941,590**
Total: Potable					**$18,475,429**	**$21,280,724**	**$18,628,615**	**$19,261,395**	**$19,918,489**	**$20,571,269**

TABLE 18
CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST	Estimated	Budget	Projected			
Funding Sources:	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Grants	$ -	$ -	$ -	$ -	$ -	$ -
Use of Expansion Reserve	$ -	$ -	$ -	$ -	$ -	$ -
SRF Loan Funding	$ -	$ -	$ -	$ -	$ -	$ -
Use of New Revenue Bond Proceeds	$ -	$ -	$ -	$ -	$ -	$ -
Recycled Water System	$ -	$ -	$ 412,000	$ 106,090	$ 218,545	$ -
Use of Capital Rehabilitation and Replacement Reserve	$ 1,145,000	$ 2,055,000	$ 1,864,300	$ 2,095,797	$ -	$ -
Rate Revenue	$ -	$ -	$ -	$ 132,093	$ 2,185,454	$ 2,476,119
Total Sources of Capital Funds	**$ 1,145,000**	**$ 2,055,000**	**$ 2,276,300**	**$ 2,333,980**	**$ 2,403,999**	**$ 2,476,119**
Uses of Capital Funds:						
Total Project Costs	$ 1,145,000	$ 2,055,000	$ 2,276,300	$ 2,333,980	$ 2,403,999	$ 2,476,119
Capital Funding Surplus (Deficiency)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

CAPITAL IMPROVEMENT PROGRAM

TABLE 19
Capital Improvement Program Costs (*in Current-Year Dollars*) (1):

Project Description	2016	2017	2018	2019	2020	2021
Office Equipment						
Office Furniture	$ -	$ 50,000	$ -	$ -	$ 50,000	$ -
WIMS Server?	$ -	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000
Telemetry System Upgrade	$ 180,000	$ 800,000	$ 150,000	$ -	$ -	$ -
Wims Water Sample Software	$ 30,000	$ -	$ -	$ -	$ -	$ -
Kiosk Payment Center	$ -	$ -	$ -	$ -	$ -	$ 200,000
Facilities						
Office Building HVAC Improvements	$ 40,000	$ -	$ -	$ -	$ -	$ -
Retaining Wall for Reservoir's 1, 5 and 11	$ -	$ -	$ -	$ -	$ -	$ 300,000
District Office Improvements	$ -	$ 50,000	$ -	$ -	$ -	$ -
Panic Alarm System	$ 7,000	$ -	$ -	$ -	$ -	$ -
Retrofit Monument Sign	$ 10,000	$ -	$ -	$ -	$ -	$ -
Reservoirs No. 8, 14, and 15 Fixed RMS	$ 125,000	$ -	$ -	$ -	$ -	$ -
RCS System	$ -	$ 55,000	$ -	$ -	$ -	$ -
RCS Structure	$ -	$ 100,000	$ 200,000	$ 200,000	$ -	$ -
PAX Mixer	$ -	$ -	$ 70,000	$ 70,000	$ 70,000	$ 35,000
Cathodic Repairs- To be done ASAP	$ 40,500	$ -	$ -	$ -	$ -	$ -
Reservoir Vent Rehabs- To be done ASAP	$ 17,500	$ -	$ -	$ -	$ -	$ -
Asphalt Repair- Reservoir Sites	$ -	$ -	$ 40,000	$ 30,000	$ 30,000	$ 30,000
Tomich BS MCC Upgrade	$ 200,000	$ -	$ -	$ -	$ -	$ -
Sub-Total: Capital Improvement Program Costs *(Current-Year Dollars)*	**$ 650,000**	**$ 1,065,000**	**$ 470,000**	**$ 310,000**	**$ 160,000**	**$ 575,000**

ROWLAND WATER DISTRICT
WATER RATE STUDY
Capital Improvement Plan Expenditures

EXHIBIT 2

TABLE 20

Project Description	2016	2017	2018	2019	2020	2021
Reservoir Rehabs						
JL 1 Rehab	$ -	$ -	$ -	$ -	$ -	$ -
JL 2 Rehab	$ -	$ -	$ -	$ -	$ -	$ -
Reservoir 1	$ -	$ -	$ -	$ -	$ -	$ -
Reservoir 3	$ -	$ -	$ -	$ -	$ -	$ 400,000
Res. 5 Rehab	$ -	$ -	$ -	$ -	$ -	$ -
Reservoir No. 6	$ -	$ -	$ -	$ -	$ 330,000	$ -
Reservoir No. 7	$ -	$ -	$ 395,000	$ -	$ -	$ -
Reservoir No. 8	$ -	$ -	$ -	$ 240,000	$ -	$ -
Res. 9	$ -	$ -	$ -	$ -	$ -	$ -
Reservoir No. 10	$ -	$ -	$ -	$ 440,000	$ -	$ -
Res. 11 Rehab	$ -	$ -	$ -	$ -	$ -	$ -
Res. 12 Rehab	$ -	$ -	$ -	$ -	$ -	$ -
Res. 14 Rehab	$ -	$ -	$ -	$ -	$ -	$ -
Cuatro Booster Rehab	$ -	$ -	$ -	$ -	$ 150,000	$ -
Reservoir CL2 Analyzer	$ -	$ -	$ 30,000	$ 30,000	$ 30,000	$ 30,000
Res. 6 Landscape	$ -	$ -	$ -	$ -	$ 30,000	$ -
Res. Tree Trimming	$ -	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000
Replace BS Mag Meters	$ -	$ -	$ -	$ 150,000	$ 150,000	$ 150,000
Reservoir Security	$ -	$ -	$ 115,000	$ -	$ -	$ -
Warehouse/storage upgrade	$ -	$ -	$ -	$ -	$ 250,000	$ -
Office Landscaping	$ -	$ -	$ 150,000	$ -	$ -	$ -
Distribution System						
Valve Replacement (La Seda, Cantaria, Altario, Galleano, Johnson, Bixby)	$ 80,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000
Large meter replacements	$ -	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000
Recycled Water Expansion Projects	$ -	$ -	$ 400,000	$ 100,000	$ 200,000	$ -
Mainline Replacement (Native and Desire)	$ -	$ 400,000	$ -	$ 400,000	$ 400,000	$ -
Preventative Pump- FBS- 1, HBS-1	$ -	$ 80,000	$ 80,000	$ 80,000	$ 80,000	$ 80,000
Vault Rehab (PM9, PM22, etc.)	$ -	$ 20,000	$ -	$ -	$ -	$ -
Sentous- Replace Valves, remove top, etc.	$ -	$ -	$ 75,000	$ -	$ -	$ -
AMR Conversion and Large Meter Expansion	$ 165,000	$ 150,000	$ 150,000	$ 180,000	$ 165,000	$ 155,000
Vehicles						
Emergency Generators	$ -	$ -	$ 150,000	$ -	$ -	$ -
John Deere Flatbed Cart	$ -	$ -	$ -	$ 20,000	$ -	$ -
550 Crew Truck	$ -	$ -	$ -	$ -	$ -	$ 150,000
Field Trucks (#3, #14, #16, #17, #9, #11, #18, Crew cab)	$ -	$ 150,000	$ 35,000	$ 70,000	$ 105,000	$ 60,000
Tools and Equipment						
Portable RMS System	$ 250,000	$ -	$ -	$ -	$ -	$ -
Portable Booster Pump- Coordinate W/Walnut for Emergency Use	$ -	$ -	$ -	$ -	$ -	$ -
Vactor Truck	$ -	$ -	$ -	$ -	$ -	$ 275,000
Valve Truck (w/ arrow board)	$ -	$ -	$ -	$ -	$ -	$ 175,000
Fork Lift	$ -	$ -	$ -	$ 30,000	$ -	$ -
Meter Reader laptop	$ -	$ -	$ 10,000	$ -	$ -	$ -
Air Compressor	$ -	$ 40,000	$ -	$ -	$ -	$ -
Average of 5 Year CIP's for Estimated Future CIP's	$ -	$ -	$ -	$ -	$ -	$ -
Sub-Total: Capital Improvement Program Costs *(Current-Year Dollars)*	**$ 495,000**	**$ 990,000**	**$ 1,740,000**	**$ 1,890,000**	**$ 2,040,000**	**$ 1,625,000**
Total: Capital Improvement Program Costs *(Current-Year Dollars)*	**$ 1,145,000**	**$ 2,055,000**	**$ 2,210,000**	**$ 2,200,000**	**$ 2,200,000**	**$ 2,200,000**

Prepared by NBS for Rowland Water District

TABLE 21
Capital Improvement Program Costs (*in Future-Year Dollars*):

Project Description		2016	2017	2018	2019	2020	2021
Office Equipment							
--	Office Furniture	$ -	$ 50,000	$ -	$ -	$ 54,636	$ -
--	WIMS Server?	$ -	$ 10,000	$ 10,300	$ 10,609	$ 10,927	$ 11,255
--	Telemetry System Upgrade	$ 180,000	$ 800,000	$ 154,500	$ -	$ -	$ -
--	Wims Water Sample Software	$ 30,000	$ -	$ -	$ -	$ -	$ -
--	Kiosk Payment Center	$ -	$ -	$ -	$ -	$ -	$ 225,102
Facilities							
--	Office Building HVAC Improvements	$ 40,000	$ -	$ -	$ -	$ -	$ -
--	Retaining Wall for Reservoir's 1, 5 and 11	$ -	$ -	$ -	$ -	$ -	$ 337,653
--	District Office Improvements	$ -	$ 50,000	$ -	$ -	$ -	$ -
--	Panic Alarm System	$ 7,000	$ -	$ -	$ -	$ -	$ -
--	Retrofit Monument Sign	$ 10,000	$ -	$ -	$ -	$ -	$ -
--	Reservoirs No. 8, 14, and 15 Fixed RMS	$ 125,000	$ -	$ -	$ -	$ -	$ -
--	RCS System	$ -	$ 55,000	$ -	$ -	$ -	$ -
--	RCS Structure	$ -	$ 100,000	$ 206,000	$ 212,180	$ -	$ -
--	PAX Mixer	$ -	$ -	$ 72,100	$ 74,263	$ 76,491	$ 39,393
--	Cathodic Repairs- To be done ASAP	$ 40,500	$ -	$ -	$ -	$ -	$ -
--	Reservoir Vent Rehabs- To be done ASAP	$ 17,500	$ -	$ -	$ -	$ -	$ -
--	Asphalt Repair- Reservoir Sites	$ -	$ -	$ 41,200	$ 31,827	$ 32,782	$ 33,765
--	Tomich BS MCC Upgrade	$ 200,000	$ -	$ -	$ -	$ -	$ -
Reservoir Rehabs							
--	JL 1 Rehab	$ -	$ -	$ -	$ -	$ -	$ -
--	JL 2 Rehab	$ -	$ -	$ -	$ -	$ -	$ -
--	Reservoir 1	$ -	$ -	$ -	$ -	$ -	$ -
--	Reservoir 3	$ -	$ -	$ -	$ -	$ -	$ 450,204
--	Res. 5 Rehab	$ -	$ -	$ -	$ -	$ -	$ -
--	Reservoir No. 6	$ -	$ -	$ -	$ -	$ 360,600	$ -
--	Reservoir No. 7	$ -	$ -	$ 406,850	$ -	$ -	$ -
--	Reservoir No. 8	$ -	$ -	$ -	$ 254,616	$ -	$ -
--	Res. 9	$ -	$ -	$ -	$ -	$ -	$ -
--	Reservoir No. 10	$ -	$ -	$ -	$ 466,796	$ -	$ -
--	Res. 11 Rehab	$ -	$ -	$ -	$ -	$ -	$ -
--	Res. 12 Rehab	$ -	$ -	$ -	$ -	$ -	$ -
--	Res. 14 Rehab	$ -	$ -	$ -	$ -	$ -	$ -
--	Cuatro Booster Rehab	$ -	$ -	$ -	$ -	$ 163,909	$ -
--	Reservoir CL2 Analyzer	$ -	$ -	$ 30,900	$ 31,827	$ 32,782	$ 33,765
--	Res. 6 Landscape	$ -	$ -	$ -	$ -	$ 32,782	$ -
--	Res. Tree Trimming	$ -	$ 20,000	$ 20,600	$ 21,218	$ 21,855	$ 22,510
--	Replace BS Mag Meters	$ -	$ -	$ -	$ 159,135	$ 163,909	$ 168,826
--	Reservoir Security	$ -	$ -	$ 118,450	$ -	$ -	$ -
--	Warehouse/storage upgrade	$ -	$ -	$ -	$ -	$ 273,182	$ -
--	Office Landscaping	$ -	$ -	$ 154,500	$ -	$ -	$ -
Sub-Total: Capital Improvement Program Costs *(Future-Year Dollars)*		**$ 650,000**	**$ 1,085,000**	**$ 1,215,400**	**$ 1,262,471**	**$ 1,223,854**	**$ 1,322,473**

ROWLAND WATER DISTRICT
WATER RATE STUDY
Capital Improvement Plan Expenditures

EXHIBIT 2

TABLE 22

Project Description	2016	2017	2018	2019	2020	2021
Distribution System						
-- Valve Replacement (La Seda, Cantaria, Altario, Galleano, Johnson, Bixby)	$ 80,000	$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551
-- Large meter replacements	$ -	$ 30,000	$ 30,900	$ 31,827	$ 32,782	$ 33,765
-- Recycled Water Expansion Projects	$ -	$ -	$ 412,000	$ 106,090	$ 218,545	$ -
-- Mainline Replacement (Native and Desire)	$ -	$ 400,000	$ -	$ 424,360	$ 437,091	$ -
-- Preventative Pump- FBS- 1, HBS-1	$ -	$ 80,000	$ 82,400	$ 84,872	$ 87,418	$ 90,041
-- Vault Rehab (PM9, PM22, etc.)	$ -	$ 20,000	$ -	$ -	$ -	$ -
-- Sentous- Replace Valves, remove top, etc.	$ -	$ -	$ 77,250	$ -	$ -	$ -
-- AMR Conversion and Large Meter Expansion	$ 165,000	$ 150,000	$ 154,500	$ 190,962	$ 180,300	$ 174,454
Vehicles						
-- Emergency Generators	$ -	$ -	$ 154,500	$ -	$ -	$ -
-- John Deere Flatbed Cart	$ -	$ -	$ -	$ 21,218	$ -	$ -
-- 550 Crew Truck	$ -	$ -	$ -	$ -	$ -	$ 168,826
-- Field Trucks (#3, #14, #16, #17, #9, #11, #18, Crew cab)	$ -	$ 150,000	$ 36,050	$ 74,263	$ 114,736	$ 67,531
Tools and Equipment						
-- Portable RMS System	$ 250,000	$ -	$ -	$ -	$ -	$ -
-- Portable Booster Pump- Coordinate W/Walnut for Emergency Use	$ -	$ -	$ -	$ -	$ -	$ -
-- Vactor Truck	$ -	$ -	$ -	$ -	$ -	$ 309,515
-- Valve Truck (w/ arrow board)	$ -	$ -	$ -	$ -	$ -	$ 196,964
-- Fork Lift	$ -	$ -	$ -	$ 31,827	$ -	$ -
-- Meter Reader laptop	$ -	$ -	$ 10,300	$ -	$ -	$ -
-- Air Compressor	$ -	$ 40,000	$ -	$ -	$ -	$ -
Average of 5 Year CIP's for Estimated Future CIP's	$ -	$ -	$ -	$ -	$ -	$ -
Sub-Total: Capital Improvement Program Costs *(Future-Year Dollars)*	**$ 495,000**	**$ 970,000**	**$ 1,060,900**	**$ 1,071,509**	**$ 1,180,145**	**$ 1,153,647**
Total: Capital Improvement Program Costs *(Future-Year Dollars)*	**$ 1,145,000**	**$ 2,055,000**	**$ 2,276,300**	**$ 2,333,980**	**$ 2,403,999**	**$ 2,476,119**

TABLE 23
FORECASTING ASSUMPTIONS:

Economic Variables	2016	2017	2018	2019	2020	2021
Annual Construction Cost Inflation, Per Engineering News Record (2, 3)	*0.00%*	*0.00%*	*3.00%*	*3.00%*	*3.00%*	*3.00%*
Cumulative Construction Cost Multiplier from 2016	*1.00*	*1.00*	*1.03*	*1.06*	*1.09*	*1.13*

1. FY 2015/16 - FY 2019/20 Capital projects are per source file: *Five Year Capital Improvements.xlsx updated 5/31/16* . The following years are an average of those five years CIP totals.
   Further, all CIP projects are for the potable water system (confirmed via 4.22.16email from staff)
2. Project costs are inflated by 3% per year, Engineering News Record estimates of construction cost inflation.
3. For reference purposes, the annual Construction Cost Inflation percentage is the 10 year average change in the Construction Cost Index for 2005-2015. Source: Engineering News Record website (htt

TABLE 24

EXISTING DEBT OBLIGATIONS ROWLAND WATER DISTRICT - RECYCLED WATER	Estimated	Budget	Projected			
Annual Repayment Schedules:	**FY 2015/16**	**FY 2016/17**	**FY 2017/18**	**FY 2018/19**	**FY 2019/20**	**FY 2020/21**
Water Revenue Refinance Bonds - 2014A - $23,246,366 (1)						
Principal Payment (2)	$ 485,000	$ 495,000	$ 510,000	$ 525,000	$ 540,000	$ 560,000
Interest Payment	$ 812,944	$ 803,244	$ 788,394	$ 773,094	$ 757,344	$ 741,144
Subtotal: Annual Debt Service	**$ 1,297,944**	**$ 1,298,244**	**$ 1,298,394**	**$ 1,298,094**	**$ 1,297,344**	**$ 1,301,144**
Coverage Requirement (%-Amnt above annual payment) (3)	110%	110%	110%	110%	110%	110%
Reserve Requirement (total fund balance) (4)	$ -	$ -	$ -	$ -	$ -	$ -

TABLE 25

EXISTING DEBT OBLIGATIONS PUENTE BASIN WATER AGENCY - POTABLE WATER	Estimated	Budget	Projected			
Annual Repayment Schedules:	**FY 2015/16**	**FY 2016/17**	**FY 2017/18**	**FY 2018/19**	**FY 2019/20**	**FY 2020/21**
Water Revenue Bonds $19,835,000 (5)						
Principal Payment (6)	$ 395,000	$ 410,000	$ 425,000	$ 445,000	$ 460,000	$ 475,000
Interest Payment	$ 762,500	$ 750,650	$ 734,250	$ 717,250	$ 703,900	$ 685,500
Subtotal: Annual Debt Service	**$ 1,157,500**	**$ 1,160,650**	**$ 1,159,250**	**$ 1,162,250**	**$ 1,163,900**	**$ 1,160,500**
Coverage Requirement (%-Amnt above annual payment) (7)	110%	110%	110%	110%	110%	110%
Reserve Requirement (total fund balance) (8)	$ -	$ -	$ -	$ -	$ -	$ -

TABLE 26

Grand Total: Existing Annual Debt Service	**$ 2,455,444**	**$ 2,458,894**	**$ 2,457,644**	**$ 2,460,344**	**$ 2,461,244**	**$ 2,461,644**
Grand Total: Existing Annual Coverage Requirement	**110%**	**110%**	**110%**	**110%**	**110%**	**110%**
Grand Total: Existing Debt Reserve Target	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

1. 2014A Bonds - Official Statement describes the bond was used primarily to refund 2008 Installment Purchase Contract; source file: *Rowland Water District 2014A OS Statement.pdf, page 10.*
   Financing from the 2008 Installment Purchase Contract installed the recycled water system and the payments have been included as part of the recycled water system cost.
2. 2014A Bonds - Official Statement Debt Service Schedule; source file: *Rowland Water District 2014A OS Statement.pdf, page 10* .
3. The City must have net revenues that are at least equal to 1.1 times the annual debt service payment; source file: *Rowland Water District 2014A OS Statement.pdf, page 8.*
4. There are no reserve fund requirements for this debt issuance; source file: *Rowland Water District 2014A OS Statement.pdf, page 14.*
5. 2012 Bonds - Office Statement describes the bonds as used primarily for capital improvements for the water system; source file: *Rowland Water District 2012 OS Statement, page 4.*
6. 2012 Bonds - Official Statement Debt Service Schedule; source file: *Rowland Water District 2012 OS Statement.pdf, page 10* .
   Puente Basin Water Agency collects from Rowland Water District to make these payments.
7. The District must have net revenues that are at least equal to 1.1 times the annual debt service payment; *source file: Rowland Water District 2012 OS Statement, page 15.*
8. 2012 Bonds - Following the refunding of the 2008 bonds, RWD is no longer obligated to maintain a reserve fund*; source file: Rowland Water District 2012 OS Statement, page 18.*

TABLE 27

Classification of Expenses - Potable System			Volumetric			Fixed			Basis of Classification					
Budget Items		Total Revenue	Commodity	Addt'l. Supply	Zonal	Capacity	Customer	Fire Protection						
		FY 2016/17	COM	Addt'l. SUP	ZON	CAP	CA	FP	COM	CONS	ZON	CAP	CA	FP
51110-0	WATER PURCHASES - CDWC	$ 875,000	$ 656,250	$ -	$ -	$ 218,750	$ -	$ -	75%	0%	0%	25%	0%	0%
51210-0	WATER PURCHASES - LHH	$ 95,000	$ 71,250	$ -	$ -	$ 23,750	$ -	$ -	75%	0%	0%	25%	0%	0%
51310-0	WATER PURCHASES - TVMWD	$ 9,233,000	$ 9,233,000	$ -	$ -	$ -	$ -	$ -	100%	0%	0%	0%	0%	0%
51410-0	WATER PURCHASES - WRD	$ 75,000	$ 56,250	$ -	$ -	$ 18,750	$ -	$ -	75%	0%	0%	25%	0%	0%
---	Pre-Purchase of TVMWD Water	$ 3,267,000	$ -	$ -	$ -	$ 3,267,000	$ -	$ -	0%	0%	0%	100%	0%	0%
51410-1	IMPORT WATER USE CHARGE	$ 40,000	$ 40,000	$ -	$ -	$ -	$ -	$ -	100%	0%	0%	0%	0%	0%
51410-2	CONNECTED CAPACITY CHARGE	$ 35,000	$ 35,000	$ -	$ -	$ -	$ -	$ -	100%	0%	0%	0%	0%	0%
51410-3	EQUIVALENT SMALL METER CHARGE	$ 35,000	$ 35,000	$ -	$ -	$ -	$ -	$ -	100%	0%	0%	0%	0%	0%
51410-5	CAPACITY RESERVATION CHG (CRC)	$ 205,000	$ 205,000	$ -	$ -	$ -	$ -	$ -	100%	0%	0%	0%	0%	0%
51510-0	WATER PURCHASES-RECLAIMED	$ -	$ -	$ -	$ -	$ -	$ -	$ -	100%	0%	0%	0%	0%	0%
51610-0	FIXED CHARGES - PBWA	$ 15,000	$ 15,000	$ -	$ -	$ -	$ -	$ -	100%	0%	0%	0%	0%	0%
51810-0	OPERATING ASSESSMENTS	$ 80,000	$ -	$ -	$ -	$ 80,000	$ -	$ -	0%	0%	0%	100%	0%	0%
51910-0	OPERATING ASSESSMENTS - PBWA	$ 100,000	$ 100,000	$ -	$ -	$ -	$ -	$ -	100%	0%	0%	0%	0%	0%
52210-0	PUMPING MAINTENANCE	$ 50,000	$ 2,500	$ -	$ 1,672	$ 40,198	$ 2,500	$ 3,130	5%	0%	3%	80%	5%	6%
52310-0	PUMPING POWER	$ 360,000	$ 110,000	$ -	$ 250,000	$ -	$ -	$ -	31%	0%	69%	0%	0%	0%
53110-0	WAGES-WATER TREATMENT	$ 630,000	$ 31,500	$ -	$ -	$ 527,561	$ 31,500	$ 39,439	5%	0%	0%	84%	5%	6%
53110-1	WATER TREATMENT/STANDBY HRS	$ 45,000	$ 2,250	$ -	$ -	$ 37,683	$ 2,250	$ 2,817	5%	0%	0%	84%	5%	6%
53110-2	WATER TREATMENT/OVERTIME HRS	$ 10,000	$ 500	$ -	$ -	$ 8,374	$ 500	$ 626	5%	0%	0%	84%	5%	6%
54110-0	WAGES-MAINS & SERVICES (3)	$ 715,400	$ 35,770	$ -	$ -	$ 599,074	$ 35,770	$ 44,786	5%	0%	0%	84%	5%	6%
54110-1	MAINS & SERVICES/STANDBY HRS (3)	$ 24,500	$ 1,225	$ -	$ -	$ 20,516	$ 1,225	$ 1,534	5%	0%	0%	84%	5%	6%
54110-2	MAINS & SERVICES/OVERTIME HRS (3)	$ 19,600	$ 980	$ -	$ -	$ 16,413	$ 980	$ 1,227	5%	0%	0%	84%	5%	6%
54209-0	TRANS & DIST-RECYCLED WATER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	5%	0%	0%	84%	5%	6%
54210-0	TRANS & DIST-MAINS	$ 40,000	$ 2,000	$ -	$ -	$ 33,496	$ 2,000	$ 2,504	5%	0%	0%	84%	5%	6%
54211-0	TRANS & DIST-SERVICES	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000	$ -	0%	0%	0%	0%	100%	0%
54212-0	TRANS & DIST-METERS	$ 40,000	$ -	$ -	$ -	$ -	$ 40,000	$ -	0%	0%	0%	0%	100%	0%
54213-0	TRANS & DIST-RESERVOIRS	$ 50,000	$ 2,500	$ -	$ 10,661	$ 31,209	$ 2,500	$ 3,130	5%	0%	21%	62%	5%	6%
54214-0	TRANS & DIST-VALVES	$ 30,000	$ 1,500	$ -	$ -	$ 25,122	$ 1,500	$ 1,878	5%	0%	0%	84%	5%	6%
54215-0	TRANS & DIST-HYDRANTS	$ 100,000	$ 5,000	$ -	$ -	$ 83,740	$ 5,000	$ 6,260	5%	0%	0%	84%	5%	6%
54216-0	TRANS & DIST-TELEMETRY SYSTEM	$ 25,000	$ 1,250	$ -	$ 2,720	$ 18,215	$ 1,250	$ 1,565	5%	0%	11%	73%	5%	6%
54217-0	CHEMICALS	$ 40,000	$ 40,000	$ -	$ -	$ -	$ -	$ -	100%	0%	0%	0%	0%	0%
54218-0	COI - RECYCLED SYSTEM	$ -	$ -	$ -	$ -	$ -	$ -	$ -	5%	0%	0%	84%	5%	6%
54219-0	PROJECT EXPENSE (PBWA)	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	100%	0%	0%	0%	0%	0%
55110-0	WAGES-CUSTOMER ACCOUNTS (4)	$ 133,805	$ -	$ -	$ -	$ -	$ 133,805	$ -	0%	0%	0%	0%	100%	0%
55110-1	CUSTOMER SERVICE/STANDBY HRS (4)	$ 9,912	$ 496	$ -	$ -	$ 8,300	$ 496	$ 620	5%	0%	0%	84%	5%	6%
55110-2	CUSTOMER ACCTS/OVERTIME HRS (4)	$ 9,912	$ 496	$ -	$ -	$ 8,300	$ 496	$ 620	5%	0%	0%	84%	5%	6%
55210-0	UNCOLLECTABLE ACCOUNTS	$ 30,000	$ 1,500	$ -	$ -	$ 25,122	$ 1,500	$ 1,878	5%	0%	0%	84%	5%	6%
56110-0	WAGES-ADMINISTRATIVE (5)	$ 1,044,053	$ 52,203	$ -	$ -	$ 874,288	$ 52,203	$ 65,360	5%	0%	0%	84%	5%	6%
56210-0	VEHICLE EXPENSE (3)	$ 68,600	$ 3,430	$ -	$ -	$ 57,445	$ 3,430	$ 4,295	5%	0%	0%	84%	5%	6%
56211-0	BANK / MANAGEMENT FEES (5)	$ 99,660	$ 4,983	$ -	$ -	$ 83,455	$ 4,983	$ 6,239	5%	0%	0%	84%	5%	6%
56212-0	BOOKS & SUBSCRIPTIONS	$ 1,000	$ 50	$ -	$ -	$ 837	$ 50	$ 63	5%	0%	0%	84%	5%	6%
56214-0	OFFICE SUPPLIES & EXPENSE	$ 15,000	$ 750	$ -	$ -	$ 12,561	$ 750	$ 939	5%	0%	0%	84%	5%	6%
56215-0	MEMBERSHIP, ASSOCIATION & DUES	$ 50,000	$ 2,500	$ -	$ -	$ 41,870	$ 2,500	$ 3,130	5%	0%	0%	84%	5%	6%
Sub-Total:		**$ 17,796,441**	**$ 10,800,132**	**$ -**	**$ 265,053**	**$ 6,162,029**	**$ 377,187**	**$ 192,041**	**60.7%**	**60.7%**	**1.5%**	**34.6%**	**2.1%**	**1.1%**

TABLE 28

Classification of Expenses - Potable System, continued			Volumetric			Fixed			Basis of Classification					
Budget Categories		Total Revenue	Base Commodity	Addt'l. Supply	Zonal	Capacity	Customer	Fire Protection						
		FY 2016/17	COM	Addt'l. SUP	ZON	CAP	CA	FP	COM	CONS	ZON	CAP	CA	FP
56216-0	POSTAGE, PRINTING & STATIONARY	$ 15,000	$ 750	$ -	$ -	$ 12,518	$ 750	$ 983	5%	0%	0%	83%	5%	7%
56217-0	TRAVEL EXPENSE	$ 4,000	$ 200	$ -	$ -	$ 3,338	$ 200	$ 262	5%	0%	0%	83%	5%	7%
56218-0	LEGAL EXPENSE	$ 75,000	$ 3,750	$ -	$ -	$ 62,588	$ 3,750	$ 4,913	5%	0%	0%	83%	5%	7%
56218-1	LEGAL FEES - PBWA	$ 20,000	$ 1,000	$ -	$ -	$ 16,690	$ 1,000	$ 1,310	5%	0%	0%	83%	5%	7%
56218-2	LEGAL FEES-PWAG	$ 5,000	$ 250	$ -	$ -	$ 4,173	$ 250	$ 328	5%	0%	0%	83%	5%	7%
56219-0	UTILITY SERVICES	$ 80,000	$ 4,000	$ -	$ -	$ 66,760	$ 4,000	$ 5,240	5%	0%	0%	83%	5%	7%
56220-0	IT SUPPORT SERVICES	$ 150,000	$ 7,500	$ -	$ -	$ 125,175	$ 7,500	$ 9,825	5%	0%	0%	83%	5%	7%
56221-0	COMMUNITY OUTREACH	$ 120,000	$ 6,000	$ -	$ -	$ 100,140	$ 6,000	$ 7,860	5%	0%	0%	83%	5%	7%
56223-0	CONFERENCE & MEETINGS	$ 60,000	$ 3,000	$ -	$ -	$ 50,070	$ 3,000	$ 3,930	5%	0%	0%	83%	5%	7%
56310-0	INSURANCE-LIABILITY	$ 125,000	$ 6,250	$ -	$ -	$ 104,313	$ 6,250	$ 8,188	5%	0%	0%	83%	5%	7%
56311-0	INSURANCE-WORKERS' COMP	$ 50,000	$ 2,500	$ -	$ -	$ 41,725	$ 2,500	$ 3,275	5%	0%	0%	83%	5%	7%
56312-0	SERVICE CONTRACTS	$ 275,000	$ 13,750	$ -	$ -	$ 229,488	$ 13,750	$ 18,013	5%	0%	0%	83%	5%	7%
56320-0	SEMINAR & TRAINING EXPENSES	$ 70,000	$ 3,500	$ -	$ -	$ 58,415	$ 3,500	$ 4,585	5%	0%	0%	83%	5%	7%
56410-0	PAYROLL TAXES (6)	$ 175,172	$ 8,759	$ -	$ -	$ 146,181	$ 8,759	$ 11,474	5%	0%	0%	83%	5%	7%
56411-0	HEALTH INSURANCE (6)	$ 471,992	$ 23,600	$ -	$ -	$ 393,877	$ 23,600	$ 30,915	5%	0%	0%	83%	5%	7%
56412-0	PENSION CONTRIBUTIONS (6)	$ 583,907	$ 29,195	$ -	$ -	$ 487,271	$ 29,195	$ 38,246	5%	0%	0%	83%	5%	7%
56413-0	DENTAL INSURANCE (6)	$ 38,927	$ 1,946	$ -	$ -	$ 32,485	$ 1,946	$ 2,550	5%	0%	0%	83%	5%	7%
56414-0	STATE UNEMPLOYMENT INSURANCE	$ 14,598	$ 730	$ -	$ -	$ 12,182	$ 730	$ 956	5%	0%	0%	83%	5%	7%
56415-0	VISION INSURANCE PLAN (6)	$ 9,732	$ 487	$ -	$ -	$ 8,121	$ 487	$ 637	5%	0%	0%	83%	5%	7%
56416-0	LIFE INSURANCE PLAN (6)	$ 4,866	$ 243	$ -	$ -	$ 4,061	$ 243	$ 319	5%	0%	0%	83%	5%	7%
56417-0	RETIREES HEALTH BENEFITS (6)	$ 145,977	$ 7,299	$ -	$ -	$ 121,818	$ 7,299	$ 9,561	5%	0%	0%	83%	5%	7%
56418-0	DISABILITY INSURANCE (6)	$ 14,598	$ 730	$ -	$ -	$ 12,182	$ 730	$ 956	5%	0%	0%	83%	5%	7%
56419-0	EMP ASSISTANCE PROGRAM (EAP) (6)	$ 973	$ 49	$ -	$ -	$ 812	$ 49	$ 64	5%	0%	0%	83%	5%	7%
56420-0	PARS PAYMENT (OPEB) (6)	$ 408,735	$ 20,437	$ -	$ -	$ 341,090	$ 20,437	$ 26,772	5%	0%	0%	83%	5%	7%
56421-0	DIRECTORS BENEFITS (6)	$ 87,586	$ 4,379	$ -	$ -	$ 73,091	$ 4,379	$ 5,737	5%	0%	0%	83%	5%	7%
56510-0	TAXES, PERMITS, FEES	$ 10,000	$ 500	$ -	$ -	$ 8,345	$ 500	$ 655	5%	0%	0%	83%	5%	7%
56710-0	EQUIPMENT EXPENSE	$ 25,000	$ 1,250	$ -	$ -	$ 20,863	$ 1,250	$ 1,638	5%	0%	0%	83%	5%	7%
56810-0	DIRECTORS' COMPENSATION (5)	$ 33,220	$ 1,661	$ -	$ -	$ 27,722	$ 1,661	$ 2,176	5%	0%	0%	83%	5%	7%
56811-0	AUDITING & ACCOUNTING FEES	$ 30,000	$ 1,500	$ -	$ -	$ 25,035	$ 1,500	$ 1,965	5%	0%	0%	83%	5%	7%
56812-0	MISCELLANEOUS GENERAL EXPENSE	$ 40,000	$ 2,000	$ -	$ -	$ 33,380	$ 2,000	$ 2,620	5%	0%	0%	83%	5%	7%
57310-0	MISCELLANEOUS ENGINEERING	$ 20,000	$ 1,000	$ -	$ 60	$ 16,630	$ 1,000	$ 1,310	5%	0%	0%	83%	5%	7%
57312-0	TOOLS & SUPPLIES	$ 30,000	$ 1,500	$ -	$ -	$ 25,035	$ 1,500	$ 1,965	5%	0%	0%	83%	5%	7%
57314-0	MAINTENANCE & OPERATION	$ 30,000	$ 1,500	$ -	$ 31	$ 25,004	$ 1,500	$ 1,965	5%	0%	0%	83%	5%	7%
57315-0	WATER TESTS	$ 25,000	$ 1,250	$ -	$ -	$ 20,863	$ 1,250	$ 1,638	5%	0%	0%	83%	5%	7%
57316-0	WATER SUPPLY PLAN. & DEVELP.	$ 150,000	$ 7,500	$ -	$ -	$ 125,175	$ 7,500	$ 9,825	5%	0%	0%	83%	5%	7%
57319-0	WATER CONSERVATION PROGRAMS	$ 20,000	$ 20,000	$ -	$ -	$ -	$ -	$ -	100%	0%	0%	0%	0%	0%
57320-0	COMPLIANCE-CERTIFICATIONS	$ 5,000	$ 250	$ -	$ -	$ 4,173	$ 250	$ 328	5%	0%	0%	83%	5%	7%
57321-0	COMPLIANCE-FEES	$ 50,000	$ 2,500	$ -	$ -	$ 41,725	$ 2,500	$ 3,275	5%	0%	0%	83%	5%	7%
57322-0	COMPLIANCE-PERMITS	$ 5,000	$ 250	$ -	$ -	$ 4,173	$ 250	$ 328	5%	0%	0%	83%	5%	7%
57323-0	COMPLIANCE-EQUIPMENT MAINT	$ 5,000	$ 250	$ -	$ -	$ 4,173	$ 250	$ 328	5%	0%	0%	83%	5%	7%
Sub-Total:		**$ 3,484,283**	**$ 193,214**	**$ -**	**$ 91**	**$ 2,890,853**	**$ 173,214**	**$ 226,911**	**5.5%**	**5.5%**	**0.0%**	**83.0%**	**5.0%**	**6.5%**
Grand Total: Water Fund Operations		**$ 21,280,724**	**$ 10,993,346**	**$ -**	**$ 265,144**	**$ 9,052,882**	**$ 550,401**	**$ 418,951**	**52%**	**52%**	**1%**	**43%**	**3%**	**2%**

TABLE 29

Classification of Expenses - Potable System, continued		Volumetric			Fixed			Basis of Classification					
Budget Categories	Total Revenue	Base Commodity	Addt'l. Supply	Zonal	Capacity	Customer	Fire Protection						
	FY 2016/17	COM	Addt'l. SUP	ZON	CAP	CA	FP	COM	CONS	ZON	CAP	CA	FP
Debt Service Payments													
Water Revenue Bonds $19,835,000	$ 1,160,650	$ -	$ -	$ -	$ 1,160,650	$ -	$ -	0%	0%	0%	100%	0%	0%
Recycled Water Subsidy													
Recycled Water Subsidy	$ 884,974	$ -	$ 884,974	$ -	$ -	$ -	$ -	0%	100%	0%	0%	0%	0%
Capital Expenditures													
Rate Funded Capital Expenses	$ -	$ -	$ -	$ -	$ -	$ -	$ -	0%	0%	0%	100%	0%	0%
TOTAL REVENUE REQUIREMENTS	**$ 23,326,348**	**$ 10,993,346**	**$ 884,974**	**$ 265,144**	**$ 10,213,532**	**$ 550,401**	**$ 418,951**	**47%**	**47%**	**1%**	**44%**	**2%**	**2%**
41110-0 SALES-RESIDENTIAL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	0%	0%	0%	0%	0%	0%
41210-0 SALES-BUSINESS	$ -	$ -	$ -	$ -	$ -	$ -	$ -	0%	0%	0%	0%	0%	0%
41310-0 SALES/PUBLIC/GOVT ENTITIES	$ -	$ -	$ -	$ -	$ -	$ -	$ -	0%	0%	0%	0%	0%	0%
41311-0 INDUSTRIAL-SURCHARGE WATER	$ (10,000)	$ (4,713)	$ -	$ -	$ (4,872)	$ (236)	$ (180)	47%	0%	0%	49%	2%	2%
41710-0 SALES-CONSTRUCTION	$ (10,000)	$ (4,713)	$ -	$ -	$ (4,872)	$ (236)	$ (180)	47%	0%	0%	49%	2%	2%
41810-0 SALES-CONSTRUCTION INVOICES	$ (15,000)	$ (7,069)	$ -	$ -	$ (7,307)	$ (354)	$ (269)	47%	0%	0%	49%	2%	2%
41910-0 RWD LABOR SALES/REIMBURSEMENT	$ (15,000)	$ (7,069)	$ -	$ -	$ (7,307)	$ (354)	$ (269)	47%	0%	0%	49%	2%	2%
42310-0 CUSTOMER PENALTIES	$ (190,000)	$ (89,544)	$ -	$ -	$ (92,560)	$ (4,483)	$ (3,412)	47%	0%	0%	49%	2%	2%
42313-0 NEW SERVICE CONNECTIONS	$ (50,000)	$ -	$ -	$ -	$ -	$ (50,000)	$ -	0%	0%	0%	0%	100%	0%
42316-0 OTHER WATER COMPANIES	$ -	$ -	$ -	$ -	$ -	$ -	$ -	47%	0%	0%	49%	2%	2%
42317-0 SALES-RECLAIMED WATER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	0%	0%	0%	0%	0%	0%
42318-0 FLOW TESTS	$ (10,000)	$ (4,713)	$ -	$ -	$ (4,872)	$ (236)	$ (180)	47%	0%	0%	49%	2%	2%
42319-0 WATER SERVICE CHARGE	$ -	$ -	$ -	$ -	$ -	$ -	$ -	0%	0%	0%	0%	0%	0%
42340-0 RECONNECTION FEES	$ (20,000)	$ -	$ -	$ -	$ -	$ (20,000)	$ -	0%	0%	0%	0%	100%	0%
42360-0 NON-REF SERVICE CONNECTIONS	$ (40,000)	$ -	$ -	$ -	$ -	$ (40,000)	$ -	0%	0%	0%	0%	100%	0%
42370-0 RETURN CHECK FEES	$ (5,000)	$ -	$ -	$ -	$ -	$ (5,000)	$ -	0%	0%	0%	0%	100%	0%
42380-0 CONTRACT INCOME	$ (112,500)	$ (53,020)	$ -	$ -	$ (54,805)	$ (2,655)	$ (2,021)	47%	0%	0%	49%	2%	2%
42390-0 SHARED SERVICES	$ (10,000)	$ (4,713)	$ -	$ -	$ (4,872)	$ (236)	$ (180)	47%	0%	0%	49%	2%	2%
49210-0 INTEREST INCOME (2)	$ (300,000)	$ (141,385)	$ -	$ -	$ (146,148)	$ (7,079)	$ (5,388)	47%	0%	0%	49%	2%	2%
49310-0 COUNTY TAX CONTRIBUTIONS	$ (250,000)	$ (117,821)	$ -	$ -	$ (121,790)	$ (5,899)	$ (4,490)	47%	0%	0%	49%	2%	2%
49325-0 ACREAGE SUPPLY FEES	$ -	$ -	$ -	$ -	$ -	$ -	$ -	47%	0%	1%	44%	2%	2%
49510-0 MISCELLANEOUS INCOME	$ (20,000)	$ (9,426)	$ -	$ -	$ (9,743)	$ (472)	$ (359)	47%	0%	0%	49%	2%	2%
49511-0 GAIN ON SALE OF ASSETS	$ -	$ -	$ -	$ -	$ -	$ -	$ -	47%	0%	0%	49%	2%	2%
NET REVENUE REQUIREMENTS	**$ 22,268,848**	**$ 10,549,160**	**$ 884,974**	**$ 265,144**	**$ 9,754,384**	**$ 413,162**	**$ 402,024**						
Allocation of Revenue Requirements	**100.0%**	**47.4%**	**4.0%**	**1.2%**	**43.8%**	**1.9%**	**1.8%**						
check to Financial Plan	$ -												

TABLE 30

Classification of Expenses - Potable System, continued Adjustments to Classification of Expenses							
Adjustment for Current Rate Level:	**Total**	**COM**	**Addt'l. SUP**	**ZON**	**CAP**	**CA**	**FP**
Target Rate Rev. After Rate Increases**	*$ 20,444,439*						
Projected Rate Revenue at Current Rates	*$ 19,018,083*						
Rate Increase *(FY 2016/17)*	*7.5%*						
Target Rate / Adjusted Net Revenue - Requirement	**$ 20,444,439**	**$ 9,620,152**	**$ 884,974**	**$ 265,144**	**$ 8,895,368**	**$ 376,777**	**$ 402,024**
Percent of Revenue		*47.1%*	*4.3%*	*1.3%*	*43.5%*	*1.8%*	*2.0%*

*** Proposed FY 2016/17 rates are effective January 1, 2017.*

TABLE 31

Development of the COMMODITY Allocation Factor		
Customer Class	**2015 Volume (hcf) (1)**	**Percent of Total Volume**
Single Family Residential	1,749,046	**43.3%**
Other Mixed Use (> 1") (2)	11,294	**0.3%**
Multi-Family (3)	449,789	**11.1%**
Mobile Park	45,830	**1.1%**
Business	1,572,651	**38.9%**
Public/Government	69,971	**1.7%**
Irrigation	140,208	**3.5%**
Fire Service	1,648	**0.0%**
Total	**4,040,437**	**100%**
Total in Acre Feet	**9,276 AF**	
Construction	4,355	**N/A**
Recycled (4)	319,290	**N/A**
District Meters	10,764	**N/A**
Grand Total	**4,374,846**	
Grand Total in Acre Feet	**10,043 AF**	

1. Consumption in hcf and customer class from 2015 Source file:
   Manip. Usage Information 2013-2015.3.29.16.xlsx.
2. Other Mixed use (>1") represents customers who were billed as SFR in 2015 and have since been reclassed.
3. Multi-Family customer class includes Apartment & Condominium customers.
4. Recycled Consumption Reduced from 2015 volume by 27% per staff request.

Commodity Related Costs: *These costs are associated with the total consumption (flow) of water over a specified period of time (e.g. annual).*

TABLE 32

Development of the PEAK CAPACITY (MAX MONTH) Allocation Factors				
Customer Class	**Average Monthly Use (hcf)**	**Peak Monthly Use (1) (hcf)**	**Peak Month Factor**	**Max Month Capacity Factor**
Single Family Residential	145,754	168,002	**1.15**	**42.2%**
Other Mixed Use (> 1")	941	1,113	**1.18**	**0.3%**
Multi-Family	37,482	43,005	**1.15**	**10.8%**
Mobile Park	3,819	4,568	**1.20**	**1.1%**
Business	131,054	157,578	**1.20**	**39.6%**
Public/Government	5,831	8,439	**1.45**	**2.1%**
Irrigation	11,684	15,385	**1.32**	**3.9%**
Total	**336,566**	**398,089**	**1.18**	**100.0%**
Total in Acre Feet	**773 AF**	**914 AF**		
Fire Service (2)	137	184	**1.34**	**N/A**
Construction	363	1,019	**2.81**	**N/A**
Recycled	26,607	51,365	**1.93**	**N/A**
District Meters	897	8,506	**9.48**	**N/A**
Grand Total	**365,343**	**460,077**	**1.26**	
Grand Total in Acre Feet	**839 AF**	**1,056 AF**		

1. Based on peak monthly / bi-monthly data (peak day data not available).
2. Capacity used by Fire Service meters is collected through the Fire Protection Allocation.

Capacity Related Costs: *Costs associated with the maximum demand required at one point in time or the maximum size of facilities required to meet this demand.*

TABLE 33

Development of the CUSTOMER ALLOCATION Factor		
Customer Class	**Number of Meters (1)**	**Percent of Total**
Single Family Residential	11,508	**84.8%**
Other Mixed Use (> 1")	14	**0.1%**
Multi-Family	388	**2.9%**
Mobile Park	3	**0.0%**
Business	1,046	**7.7%**
Public/Government	41	**0.3%**
Irrigation	125	**0.9%**
Fire Service	453	**3.3%**
Total	**13,578**	**100%**
Construction	N/A	**N/A**
Recycled (4)	122	**N/A**
District Meters	13	**N/A**
Grand Total	**13,713**	

1. Meter counts and customer class from July & August 2016. Source file: *Manip. Usage Information 2013-2015.3.29.16.xlsx.*

Customer Related Costs *: Costs associated with having a customer on the water system. These costs vary with the addition or deletion of customers on the system. Examples: Meter-reading, Postage and billing.*

DEVELOPMENT OF ADDITIONAL CAPACITY FACTORS FOR SINGLE FAMILY RESIDENTIAL CUSTOMERS FY 2016/17:

TABLE 34

Consumption by Tier			
Tier	**Monthly Breakpoint (1)**	**Expected Consumption (2)**	**Percentage of Total SFR Consumption**
Tier 1	8 hcf	970,381	55%
Tier 2	15 hcf	445,764	25%
Tier 3	--	332,901	19%
Total		**1,749,046**	**100%**

1. Tier 1 break point set to assumed domestic consumption for a typical SFR customer using 50 gpcd with 4 people per home.
   Data source: DWR California Water Plan Update 2013 (http://www.water.ca.gov/calendar/materials/vol3_urbanwue_apr_release_16033.pdf).
   Tier 2 break point set to average summer consumption for SFR customers with 5/8" - 1" meters.
2. Consumption is per source file: *Manip. Usage Information 2013-2015.8.5.16.xlsx.*

TABLE 35

Development of the Single Family Residential PEAK CAPACITY (MAX MONTH) Allocation Factors				
Tier	**Description**	**Monthly Consumption (hcf) (1)**	**Additional Capacity Required (hcf) (4)**	**Additional Capacity Factor**
Tier 1	Max Tier 1 Capacity (2)	92,064	0	**0.0%**
Tier 2	Peak up to Tier 2 (3)	128,157	36,093	**47.5%**
Tier 3	Peak up to Tier 3 (3)	168,002	39,845	**52.5%**
Total			**75,938**	**100.0%**

1. Consumption is per source file: *Manip. Usage Information 2013-2015.8.5.16.xlsx.*
2. Consumption assigned to Tier 1 is the max Tier 1 water use (Tier 1 breakpoint multiplied by the number 5/8" - 1" SFR customers).
3. This is the cumulative peak consumption up to the tier break; it represents cumulative peak use up to each tier.
4. This is the additional cumulative capacity to meet peak consumption at each tier.

TABLE 36
ALLOCATION OF WATER REVENUE REQUIREMENTS:

Classification Components	Adjusted Net Revenue Requirements (2016/17)	
Volumetric-Related Costs		
Commodity	$ 9,620,152	*47.1%*
Additional Supply Costs	884,974	*4.3%*
Zonal (1)	265,144	*1.3%*
Subtotal: Volumetric Costs	*$10,770,270*	*52.7%*
Capacity-Related Costs	$ 8,895,368	*43.5%*
Customer-Related Costs	376,777	*1.8%*
Fire Protection-Related Costs	402,024	*2.0%*
Subtotal: Capacity Costs	9,674,169	*47.3%*
Net Revenue Requirement	**$ 20,444,439**	***100%***

1. Zonal Cost of Service is recovered through a separate zonal surcharge.

	Unadjusted Net Rev. Req'ts.
total variable	*53%*
total fixed	*47%*

TABLE 37
Allocation of Net Revenue Requirements By Customer Class - FY 2016/17

Customer Class	Cost Classification Components						Cost of Service Net Rev. Reqts	% of COS Net Revenue Reqts
	Commodity (1)	Addt'l. Supply Costs (1)	Zonal (2)	Capacity (3)	Customer (4)	Fire Protection (5)		
Residential	$ 4,164,423	$ 383,092	$ -	$ 3,754,023	$ 319,337	$ -	$ 8,620,875	*42.2%*
Other Mixed Use (>1")	26,891	2,474	-	24,870	388	-	54,623	*0.3%*
Multi-Family	1,070,933	98,517	-	960,954	10,767	-	2,141,171	*10.5%*
Mobile Park	109,120	10,038	-	102,073	83	-	221,314	*1.1%*
Business	3,744,432	344,457	-	3,521,108	29,026	-	7,639,022	*37.4%*
Public/Government	166,599	15,326	-	188,560	1,138	-	371,622	*1.8%*
Irrigation	333,831	30,710	-	343,780	3,469	-	711,790	*3.5%*
Fire Service	3,924	361	-	-	12,570	402,024	418,879	*2.0%*
Zonal	-	-	265,144	-	-	-	265,144	*1.3%*
Total	**$ 9,620,152**	**$ 884,974**	**$ 265,144**	**$ 8,895,368**	**$ 376,777**	**$ 402,024**	**$ 20,444,439**	***100.0%***

1. Commodity & Conservation Costs are allocated based upon percentage of expected consumption.
2. Zonal Costs are allocated based upon the amount of consumption expected by customers in each zone.
3. Capacity Costs are allocated based upon Max Month Capacity Factor.
4. Customer Costs are allocated based upon Percentage of Total Accounts.
5. Fire Protection Costs are allocated to Private Fire Meters.

TABLE 38
ALLOCATION OF WATER REVENUE REQUIREMENTS:

Classification Components	Year 1 Potable Net Revenue Requirements (35% Fixed / 65% Variable)		Year 2 Potable Net Revenue Requirements (40% Fixed / 60% Variable)		Year 3 Potable Net Revenue Requirements (45% Fixed / 55% Variable)		Year 4 Potable Net Revenue Requirements (45% Fixed / 55% Variable)		Year 5 Potable Net Revenue Requirements (45% Fixed / 55% Variable)	
	Adjusted Net Revenue Requirements *(2016/17)*		Adjusted Net Revenue Requirements *(2017/18)*		Adjusted Net Revenue Requirements *(2018/19)*		Adjusted Net Revenue Requirements *(2019/20)*		Adjusted Net Revenue Requirements *(2020/21)*	
Volumetric-Related Costs										
Commodity	$ 9,836,955	*48.1%*	$10,636,226	*48.2%*	$11,500,143	*48.2%*	$12,137,665	*48.2%*	$12,810,504	*48.2%*
Addt'l. Supply (1)	668,171	*3.3%*	721,876	*3.3%*	779,896	*3.3%*	822,986	*3.3%*	868,456	*3.3%*
Zonal (2)	265,144	*1.3%*	277,829	*1.3%*	291,129	*1.2%*	305,075	*1.2%*	319,697	*1.2%*
Capacity-Related Costs *(volumetric assignment)*	2,518,615	*12.32%*	1,616,666	*7.32%*	553,457	*2.32%*	584,036	*2.32%*	616,304	*2.32%*
Subtotal: Volumetric Costs	*13,288,885*	*65.0%*	*13,252,596*	*60.0%*	*13,124,626*	*55.0%*	*13,849,761*	*55.0%*	*14,614,961*	*55.0%*
Capacity-Related Costs *(fixed assignment)*	$ 6,376,753	*31.2%*	$ 7,993,667	*36.2%*	$ 9,829,306	*41.2%*	$ 10,372,375	*41.2%*	$ 10,945,449	*41.2%*
Customer-Related Costs	376,777	*1.8%*	407,061	*1.8%*	439,778	*1.8%*	464,076	*1.8%*	489,716	*1.8%*
Fire Protection-Related Costs	402,024	*2.0%*	434,336	*2.0%*	469,246	*2.0%*	495,172	*2.0%*	522,530	*2.0%*
Subtotal: Fixed Costs	*7,155,554*	*35.0%*	*8,835,064*	*40.0%*	*10,738,330*	*45.0%*	*11,331,623*	*45.0%*	*11,957,695*	*45.0%*
Target Rate Revenue	**$ 20,444,439**	***100%***	**$ 22,087,660**	***100%***	**$ 23,862,956**	***100%***	**$ 25,181,385**	***100%***	**$ 26,572,656**	***100%***
Summary of Capacity-Related Costs										
Capacity-Related Costs *(volumetric assignment)*	$ 2,518,615	*28.3%*	$ 1,616,666	*16.8%*	$ 553,457	*5.3%*	$ 584,036	*5.3%*	$ 616,304	*5.3%*
Capacity-Related Costs *(fixed assignment)*	6,376,753	*71.7%*	7,993,667	*83.2%*	9,829,306	*94.7%*	10,372,375	*94.7%*	10,945,449	*94.7%*
Capacity Total	8,895,368	*100.0%*	9,610,333	*100%*	10,382,763	*100.0%*	10,956,411	*100.0%*	11,561,753	*100.0%*

1. To reduce volatility in Additional Supply costs (due to recycled system capital expenditures), revenue assigned to this cost classification has been leveled-out over the five-year period. Though leveled-out, total revenue collected by this allocation is designed to match total expenses over the five-year rate period.
2. Zonal Cost of Service is recovered through a separate zonal surcharge.

TABLE 39
Meter Equivalency Factors Used in Fixed Charges Calculations:

Meter Size	Standard Meters		Fire Meters	
	Meter Capacity (gpm) (1)	Meter Equivalency (2)	Meter Capacity (gpm) (3)	Meter Equivalency (2)
	Displacement Meters		*Displacement Meters*	
5/8 inch	20	1.00	20	1.00
3/4 inch	30	1.00	30	1.00
1 inch	50	1.00	50	1.00
1.5 inch	100	5.00	100	5.00
2 inch	160	8.00	160	8.00
	Compound Class I Meters		*Fire Service Type I & II Meters*	
3 inch	320	16.00	350	17.50
4 inch	500	25.00	700	35.00
6 inch	1,000	50.00	1,600	80.00
8 inch	1,600	80.00	2,800	140.00
	Turbine Class II Meters			
10 inch	4,200	210.00	4,400	220.00
12 inch	5,300	265.00	5,300	265.00

1. Per *AWWA M-1, Table B-1.*
2. Meter equivalency factor is based on 5/8-inch meters as the base meter size.
3. Per *AWWA M-6, Table 5-3.*

TABLE 40
ALLOCATION OF WATER REVENUE REQUIREMENTS:

Year 1 Potable Net Revenue Requirements (35% Fixed / 65% Variable)

Customer Class	Cost Classification Components							Cost of Service Net Rev. Reqts	% of COS Net Revenue Reqts
	Commodity	Addt'l. Supply	Zonal	Volumetric Capacity	Fixed Capacity	Customer	Fire Protection		
Residential	$ 4,164,423	$ 383,092	$ -	$ 1,062,906	$ 2,691,117	$ 319,337	$ -	$ 8,620,875	*42.2%*
Other Mixed Use (>1")	26,891	2,474	-	7,042	17,828	388	-	54,623	*0.3%*
Multi-Family	1,070,933	98,517	-	272,082	688,872	10,767	-	2,141,171	*10.5%*
Mobile Park	109,120	10,038	-	28,901	73,172	83	-	221,314	*1.1%*
Business	3,744,432	344,457	-	996,959	2,524,149	29,026	-	7,639,022	*37.4%*
Public/Government	166,599	15,326	-	53,388	135,171	1,138	-	371,622	*1.8%*
Irrigation	333,831	30,710	-	97,337	246,443	3,469	-	711,790	*3.5%*
Fire Service	3,924	361	-	-	-	12,570	402,024	418,879	*2.0%*
Zonal	-	-	265,144	-	-	-	-	265,144	*1.3%*
Total	**$ 9,620,152**	**$ 884,974**	**$ 265,144**	**$ 2,518,615**	**$ 6,376,753**	**$ 376,777**	**$ 402,024**	**$ 20,444,439**	***100.0%***

TABLE 41
CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES FOR FY 2016/17:

Year 1 Potable Net Revenue Requirements (35% Fixed / 65% Variable)

Number of Meters by Class and Size (1)	FY 2016/17											Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Residential	10,790	97	600	21	-	-	-	-	-	-	-	11,508
Other Mixed Use (>1")	-	-	-	9	5	-	-	-	-	-	-	14
Multi-Family	2	-	164	156	55	-	1	5	4	1	-	388
Mobile Park	-	-	-	-	1	-	1	-	1	-	-	3
Business	129	1	141	320	428	12	10	3	1	1	-	1,046
Public/Government	2	-	8	3	20	4	1	3	-	-	-	41
Irrigation	2	-	13	25	84	1	-	-	-	-	-	125
Total Meters/Accounts	**10,925**	**98**	**926**	**534**	**593**	**17**	**13**	**11**	**6**	**2**	**-**	**13,125**
Hydraulic Capacity Factor (2)	*1.00*	*1.00*	*1.00*	*5.00*	*8.00*	*16.00*	*25.00*	*50.00*	*80.00*	*210.00*	*265.00*	
Total Equivalent Meters	**10,925**	**98**	**926**	**2,670**	**4,744**	**272**	**325**	**550**	**480**	**420**	**-**	**21,410**
Monthly Fixed Service Charges												
Customer Costs ($/Acct/mo.) (3)	$2.31	$2.31	$2.31	$2.31	$2.31	$2.31	$2.31	$2.31	$2.31	$2.31	$2.31	
Capacity Costs ($/Acct/mo.) (4)	$24.82	$24.82	$24.82	$124.10	$198.56	$397.12	$620.50	$1,241.00	$1,985.60	$5,212.20	$6,577.30	
Total Monthly Meter Charge	**$27.13**	**$27.13**	**$27.13**	**$126.41**	**$200.87**	**$399.43**	**$622.81**	**$1,243.31**	**$1,987.91**	**$5,214.51**	**$6,579.61**	
Annual Fixed Costs Allocated to Monthly Meter Charges												
Customer Costs		$ 364,207										
Capacity Costs		6,376,753										
Total Fixed Meter Costs		$ 6,740,960										
Annual Revenue from Monthly Meter Charges												
Customer Charges	$ 303,159	$ 2,719	$ 25,696	$ 14,818	$ 16,455	$ 472	$ 361	$ 305	$ 166	$ 55	$ -	**$ 364,207**
Capacity Charges	$ 3,253,901	$ 29,188	$ 275,800	$ 795,233	$ 1,412,953	$ 81,012	$ 96,798	$ 163,812	$ 142,963	$ 125,093	$ -	**6,376,753**
Total Monthly Meter Charge Revenue	**$ 3,557,060**	**$ 31,908**	**$ 301,495**	**$ 810,051**	**$ 1,429,408**	**$ 81,484**	**$ 97,159**	**$ 164,117**	**$ 143,130**	**$ 125,148**	**$ -**	**$ 6,740,960**

1. Meter counts, consumption rates and customer class from Source files: *Manip. Usage Information 2013-2015.xlsx.*
2. Source: AWWA Manual M1, "Principles of Water Rates, Fees and Charges", Table VI.2-5. Assumes displacement meters for 5/8 through 2 inch meters, Compound for 3 - 8 inch meters, Turbine for 10 & 12 inch, unless noted otherwise.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

TABLE 42
ALLOCATION OF WATER REVENUE REQUIREMENTS:

Year 2 Potable Net Revenue Requirements (40% Fixed / 60% Variable)

Customer Class	Cost Classification Components							Cost of Service Net Rev. Reqts	% of COS Net Revenue Reqts
	Commodity	Addt'l. Supply	Zonal	Volumetric Capacity	Fixed Capacity	Customer	Fire Protection		
Residential	$ 4,604,266	$ 312,489	$ -	$ 682,265	$ 3,373,487	$ 345,003	$ -	$ 9,317,511	*42.2%*
Other Mixed Use (>1")	29,731	2,018	-	4,520	22,349	420	-	59,037	*0.3%*
Multi-Family	1,184,045	80,361	-	174,646	863,545	11,632	-	2,314,228	*10.5%*
Mobile Park	120,645	8,188	-	18,551	91,726	90	-	239,200	*1.1%*
Business	4,139,916	280,974	-	639,935	3,164,182	31,358	-	8,256,366	*37.4%*
Public/Government	184,195	12,501	-	34,269	169,446	1,229	-	401,640	*1.8%*
Irrigation	369,090	25,050	-	62,480	308,932	3,747	-	769,299	*3.5%*
Fire Service	4,338	294	-	-	-	13,581	434,336	452,550	*2.0%*
Zonal	-	-	277,829	-	-	-	-	277,829	*1.3%*
Total	**$ 10,636,226**	**$ 721,876**	**$ 277,829**	**$ 1,616,666**	**$ 7,993,667**	**$ 407,061**	**$ 434,336**	**$ 22,087,660**	***100.0%***

TABLE 43
CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES FOR FY 2017/18:

Year 2 Potable Net Revenue Requirements (40% Fixed / 60% Variable)

Number of Meters by Class and Size (1)	FY 2016/17											Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Residential	10,844	97	603	21	-	-	-	-	-	-	-	11,566
Other Mixed Use (>1")	-	-	-	9	5	-	-	-	-	-	-	14
Multi-Family	2	-	165	157	55	-	1	5	4	1	-	390
Mobile Park	-	-	-	-	1	-	1	-	1	-	-	3
Business	130	1	142	322	430	12	10	3	1	1	-	1,051
Public/Government	2	-	8	3	20	4	1	3	-	-	-	41
Irrigation	2	-	13	25	84	1	-	-	-	-	-	126
Total Meters/Accounts	**10,980**	**98**	**931**	**537**	**596**	**17**	**13**	**11**	**6**	**2**	**-**	**13,191**
Hydraulic Capacity Factor (2)	*1.00*	*1.00*	*1.00*	*5.00*	*8.00*	*16.00*	*25.00*	*50.00*	*80.00*	*210.00*	*265.00*	
Total Equivalent Meters	**10,980**	**98**	**931**	**2,683**	**4,768**	**273**	**327**	**553**	**482**	**422**	**-**	**21,517**
Monthly Fixed Service Charges												
Customer Costs ($/Acct/mo.) (3)	$2.49	$2.49	$2.49	$2.49	$2.49	$2.49	$2.49	$2.49	$2.49	$2.49	$2.49	
Capacity Costs ($/Acct/mo.) (4)	$30.96	$30.96	$30.96	$154.79	$247.67	$495.34	$773.97	$1,547.93	$2,476.69	$6,501.32	$8,204.04	
Total Monthly Meter Charge	**$33.44**	**$33.44**	**$33.44**	**$157.28**	**$250.16**	**$497.82**	**$776.45**	**$1,550.42**	**$2,479.18**	**$6,503.80**	**$8,206.53**	
Annual Fixed Costs Allocated to Monthly Meter Charges												
Customer Costs		$ 393,480										
Capacity Costs		7,993,667										
Total Fixed Meter Costs		$ 8,387,147										
Annual Revenue from Monthly Meter Charges												
Customer Charges	$ 327,525	$ 2,938	$ 27,761	$ 16,009	$ 17,778	$ 510	$ 390	$ 330	$ 180	$ 60	$ -	**$ 393,480**
Capacity Charges	$ 4,078,973	$ 36,589	$ 345,733	$ 996,875	$ 1,771,226	$ 101,554	$ 121,342	$ 205,349	$ 179,213	$ 156,812	$ -	**7,993,667**
Total Monthly Meter Charge Revenue	**$ 4,406,498**	**$ 39,527**	**$ 373,494**	**$ 1,012,884**	**$ 1,789,004**	**$ 102,064**	**$ 121,732**	**$ 205,679**	**$ 179,393**	**$ 156,872**	**$ -**	**$ 8,387,147**

1. Meter counts, consumption rates and customer class increased to account for expected customer growth. FY 2017/18 is 0.5% as shown in Table 9.
2. Source: AWWA Manual M1, "Principles of Water Rates, Fees and Charges", Table VI.2-5. Assumes displacement meters for 5/8 through 2 inch meters, Compound for 3 - 8 inch meters, Turbine for 10 & 12 inch, unless noted otherwise.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

TABLE 44
ALLOCATION OF WATER REVENUE REQUIREMENTS:

Year 3 Potable Net Revenue Requirements (45% Fixed / 55% Variable)

Customer Class	Cost Classification Components							Cost of Service Net Rev. Reqts	% of COS Net Revenue Reqts
	Commodity	Addt'l. Supply	Zonal	Volumetric Capacity	Fixed Capacity	Customer	Fire Protection		
Residential	$ 4,978,243	$ 337,606	$ -	$ 233,570	$ 4,148,163	$ 372,733	$ -	$ 10,070,315	*42.2%*
Other Mixed Use (>1")	32,146	2,180	-	1,547	27,481	453	-	63,808	*0.3%*
Multi-Family	1,280,217	86,820	-	59,789	1,061,846	12,567	-	2,501,239	*10.5%*
Mobile Park	130,444	8,846	-	6,351	112,790	97	-	258,528	*1.1%*
Business	4,476,177	303,557	-	219,078	3,890,794	33,879	-	8,923,486	*37.4%*
Public/Government	199,156	13,506	-	11,732	208,357	1,328	-	434,079	*1.8%*
Irrigation	399,069	27,063	-	21,390	379,875	4,049	-	831,445	*3.5%*
Fire Service	4,691	318	-	-	-	14,672	469,246	488,927	*2.0%*
Zonal	-	-	291,129	-	-	-	-	291,129	*1.2%*
Total	**$ 11,500,143**	**$ 779,896**	**$ 291,129**	**$ 553,457**	**$ 9,829,306**	**$ 439,778**	**$ 469,246**	**$ 23,862,956**	***100.0%***

TABLE 45
CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES FOR FY 2018/19:

Year 3 Potable Net Revenue Requirements (45% Fixed / 55% Variable)

Number of Meters by Class and Size (1)	FY 2016/17											Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Residential	10,898	98	606	21	-	-	-	-	-	-	-	11,623
Other Mixed Use (>1")	-	-	-	9	5	-	-	-	-	-	-	14
Multi-Family	2	-	166	158	56	-	1	5	4	1	-	392
Mobile Park	-	-	-	-	1	-	1	-	1	-	-	3
Business	130	1	142	323	432	12	10	3	1	1	-	1,056
Public/Government	2	-	8	3	20	4	1	3	-	-	-	41
Irrigation	2	-	13	25	85	1	-	-	-	-	-	126
Total Meters/Accounts	**11,035**	**99**	**935**	**539**	**599**	**17**	**13**	**11**	**6**	**2**	**-**	**13,257**
Hydraulic Capacity Factor (2)	*1.00*	*1.00*	*1.00*	*5.00*	*8.00*	*16.00*	*25.00*	*50.00*	*80.00*	*210.00*	*265.00*	
Total Equivalent Meters	**11,035**	**99**	**935**	**2,697**	**4,792**	**275**	**328**	**556**	**485**	**424**	**-**	**21,625**
Monthly Fixed Service Charges												
Customer Costs ($/Acct/mo.) (3)	$2.67	$2.67	$2.67	$2.67	$2.67	$2.67	$2.67	$2.67	$2.67	$2.67	$2.67	
Capacity Costs ($/Acct/mo.) (4)	$37.88	$37.88	$37.88	$189.39	$303.03	$606.06	$946.96	$1,893.93	$3,030.28	$7,954.49	$10,037.80	
Total Monthly Meter Charge	**$40.55**	**$40.55**	**$40.55**	**$192.06**	**$305.70**	**$608.73**	**$949.63**	**$1,896.60**	**$3,032.95**	**$7,957.16**	**$10,040.48**	
Annual Fixed Costs Allocated to Monthly Meter Charges												
Customer Costs		$ 425,106										
Capacity Costs		9,829,306										
Total Fixed Meter Costs		$10,254,412										
Annual Revenue from Monthly Meter Charges												
Customer Charges	$ 353,850	$ 3,174	$ 29,992	$ 17,296	$ 19,207	$ 551	$ 421	$ 356	$ 194	$ 65	$ -	**$ 425,106**
Capacity Charges	$ 5,015,655	$ 44,992	$ 425,126	$ 1,225,794	$ 2,177,965	$ 124,875	$ 149,207	$ 252,504	$ 220,367	$ 192,822	$ -	**9,829,306**
Total Monthly Meter Charge Revenue	**$ 5,369,505**	**$ 48,166**	**$ 455,118**	**$ 1,243,090**	**$ 2,197,172**	**$ 125,425**	**$ 149,628**	**$ 252,861**	**$ 220,562**	**$ 192,886**	**$ -**	**$ 10,254,412**

1. Meter counts, consumption rates and customer class increased to account for expected customer growth. FY 2018/19 is 0.5% as shown in Table 9.
2. Source: AWWA Manual M1, "Principles of Water Rates, Fees and Charges", Table VI.2-5. Assumes displacement meters for 5/8 through 2 inch meters, Compound for 3 - 8 inch meters, Turbine for 10 & 12 inch, unless noted otherwise.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

TABLE 46
ALLOCATION OF WATER REVENUE REQUIREMENTS:

Year 4 Potable Net Revenue Requirements (45% Fixed / 55% Variable)

Customer Class	Cost Classification Components							Cost of Service Net Rev. Reqts	% of COS Net Revenue Reqts
	Commodity	Addt'l. Supply	Zonal	Volumetric Capacity	Fixed Capacity	Customer	Fire Protection		
Residential	$ 5,254,217	$ 356,258	$ -	$ 246,475	$ 4,377,349	$ 393,327	$ -	$ 10,627,627	*42.2%*
Other Mixed Use (>1")	33,928	2,300	-	1,633	29,000	478	-	67,339	*0.3%*
Multi-Family	1,351,188	91,616	-	63,093	1,120,513	13,261	-	2,639,671	*10.5%*
Mobile Park	137,676	9,335	-	6,702	119,021	103	-	272,836	*1.1%*
Business	4,724,319	320,329	-	231,183	4,105,761	35,751	-	9,417,341	*37.4%*
Public/Government	210,196	14,252	-	12,380	219,869	1,401	-	458,098	*1.8%*
Irrigation	421,192	28,559	-	22,571	400,863	4,272	-	877,456	*3.5%*
Fire Service	4,951	336	-	-	-	15,483	495,172	515,941	*2.0%*
Zonal	-	-	305,075	-	-	-	-	305,075	*1.2%*
Total	**$ 12,137,665**	**$ 822,986**	**$ 305,075**	**$ 584,036**	**$ 10,372,375**	**$ 464,076**	**$ 495,172**	**$ 25,181,385**	***100.0%***

TABLE 47
CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES FOR FY 2019/20:

Year 4 Potable Net Revenue Requirements (45% Fixed / 55% Variable)

Number of Meters by Class and Size (1)	FY 2016/17											Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Residential	10,953	98	609	21	-	-	-	-	-	-	-	11,681
Other Mixed Use (>1")	-	-	-	9	5	-	-	-	-	-	-	14
Multi-Family	2	-	166	158	56	-	1	5	4	1	-	394
Mobile Park	-	-	-	-	1	-	1	-	1	-	-	3
Business	131	1	143	325	434	12	10	3	1	1	-	1,062
Public/Government	2	-	8	3	20	4	1	3	-	-	-	42
Irrigation	2	-	13	25	85	1	-	-	-	-	-	127
Total Meters/Accounts	**11,090**	**99**	**940**	**542**	**602**	**17**	**13**	**11**	**6**	**2**	**-**	**13,323**
Hydraulic Capacity Factor (2)	*1.00*	*1.00*	*1.00*	*5.00*	*8.00*	*16.00*	*25.00*	*50.00*	*80.00*	*210.00*	*265.00*	
Total Equivalent Meters	**11,090**	**99**	**940**	**2,710**	**4,816**	**276**	**330**	**558**	**487**	**426**	**-**	**21,733**
Monthly Fixed Service Charges												
Customer Costs ($/Acct/mo.) (3)	$2.81	$2.81	$2.81	$2.81	$2.81	$2.81	$2.81	$2.81	$2.81	$2.81	$2.81	
Capacity Costs ($/Acct/mo.) (4)	$39.77	$39.77	$39.77	$198.86	$318.18	$636.36	$994.31	$1,988.62	$3,181.79	$8,352.21	$10,539.69	
Total Monthly Meter Charge	**$42.58**	**$42.58**	**$42.58**	**$201.67**	**$320.99**	**$639.16**	**$997.12**	**$1,991.43**	**$3,184.60**	**$8,355.02**	**$10,542.50**	
Annual Fixed Costs Allocated to Monthly Meter Charges												
Customer Costs		$ 448,593										
Capacity Costs		10,372,375										
Total Fixed Meter Costs		$10,820,968										
Annual Revenue from Monthly Meter Charges												
Customer Charges	$ 373,400	$ 3,349	$ 31,649	$ 18,251	$ 20,268	$ 581	$ 444	$ 376	$ 205	$ 68	$ -	**$ 448,593**
Capacity Charges	$ 5,292,770	$ 47,477	$ 448,614	$ 1,293,519	$ 2,298,297	$ 131,774	$ 157,451	$ 266,455	$ 232,543	$ 203,475	$ -	**10,372,375**
Total Monthly Meter Charge Revenue	**$ 5,666,170**	**$ 50,827**	**$ 480,263**	**$ 1,311,770**	**$ 2,318,565**	**$ 132,355**	**$ 157,895**	**$ 266,831**	**$ 232,748**	**$ 203,543**	**$ -**	**$ 10,820,968**

1. Meter counts, consumption rates and customer class increased to account for expected customer growth. FY 2018/19 is 0.5% as shown in Table 9.
2. Source: AWWA Manual M1, "Principles of Water Rates, Fees and Charges", Table VI.2-5. Assumes displacement meters for 5/8 through 2 inch meters, Compound for 3 - 8 inch meters, Turbine for 10 & 12 inch, unless noted otherwise.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

TABLE 48
ALLOCATION OF WATER REVENUE REQUIREMENTS: ***Year 5 Potable Net Revenue Requirements (45% Fixed / 55% Variable)***

Customer Class	Cost Classification Components							Cost of Service Net Rev. Reqts	% of COS Net Revenue Reqts
	Commodity	Addt'l. Supply	Zonal	Volumetric Capacity	Fixed Capacity	Customer	Fire Protection		
Residential	$ 5,545,480	$ 375,942	$ -	$ 260,093	$ 4,619,198	$ 415,058	$ -	$ 11,215,770	*42.2%*
Other Mixed Use (>1")	35,808	2,428	-	1,723	30,602	505	-	71,066	*0.3%*
Multi-Family	1,426,089	96,678	-	66,578	1,182,422	13,994	-	2,785,761	*10.5%*
Mobile Park	145,307	9,851	-	7,072	125,597	108	-	287,935	*1.1%*
Business	4,986,206	338,027	-	243,955	4,332,604	37,726	-	9,938,519	*37.4%*
Public/Government	221,848	15,040	-	13,064	232,016	1,479	-	483,447	*1.8%*
Irrigation	444,540	30,136	-	23,818	423,010	4,508	-	926,013	*3.5%*
Fire Service	5,225	354	-	-	-	16,338	522,530	544,448	*2.0%*
Zonal	-	-	319,697	-	-	-	-	319,697	*1.2%*
Total	**$ 12,810,504**	**$ 868,456**	**$ 319,697**	**$ 616,304**	**$ 10,945,449**	**$ 489,716**	**$ 522,530**	**$ 26,572,656**	***100.0%***

TABLE 49
CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES FOR FY 2020/21: ***Year 5 Potable Net Revenue Requirements (45% Fixed / 55% Variable)***

Number of Meters by Class and Size (1)	FY 2016/17											Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Residential	11,007	99	612	21	-	-	-	-	-	-	-	11,740
Other Mixed Use (>1")	-	-	-	9	5	-	-	-	-	-	-	14
Multi-Family	2	-	167	159	56	-	1	5	4	1	-	396
Mobile Park	-	-	-	-	1	-	1	-	1	-	-	3
Business	132	1	144	326	437	12	10	3	1	1	-	1,067
Public/Government	2	-	8	3	20	4	1	3	-	-	-	42
Irrigation	2	-	13	26	86	1	-	-	-	-	-	128
Total Meters/Accounts	**11,145**	**100**	**945**	**545**	**605**	**17**	**13**	**11**	**6**	**2**	**-**	**13,389**
Hydraulic Capacity Factor (2)	*1.00*	*1.00*	*1.00*	*5.00*	*8.00*	*16.00*	*25.00*	*50.00*	*80.00*	*210.00*	*265.00*	
Total Equivalent Meters	**11,145**	**100**	**945**	**2,724**	**4,840**	**277**	**332**	**561**	**490**	**428**	**-**	**21,841**
Monthly Fixed Service Charges												
Customer Costs ($/Acct/mo.) (3)	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	
Capacity Costs ($/Acct/mo.) (4)	$41.76	$41.76	$41.76	$208.81	$334.09	$668.18	$1,044.03	$2,088.05	$3,340.88	$8,769.82	$11,066.68	
Total Monthly Meter Charge	**$44.71**	**$44.71**	**$44.71**	**$211.75**	**$337.03**	**$671.12**	**$1,046.97**	**$2,091.00**	**$3,343.83**	**$8,772.77**	**$11,069.62**	
Annual Fixed Costs Allocated to Monthly Meter Charges												
Customer Costs		$ 473,378										
Capacity Costs		10,945,449										
Total Fixed Meter Costs		$11,418,827										
Annual Revenue from Monthly Meter Charges												
Customer Charges	$ 394,031	$ 3,535	$ 33,398	$ 19,260	$ 21,388	$ 613	$ 469	$ 397	$ 216	$ 72	$ -	**$ 473,378**
Capacity Charges	$ 5,585,195	$ 50,101	$ 473,400	$ 1,364,986	$ 2,425,278	$ 139,055	$ 166,150	$ 281,177	$ 245,391	$ 214,717	$ -	**10,945,449**
Total Monthly Meter Charge Revenue	**$ 5,979,226**	**$ 53,635**	**$ 506,798**	**$ 1,384,246**	**$ 2,446,666**	**$ 139,668**	**$ 166,619**	**$ 281,574**	**$ 245,607**	**$ 214,789**	**$ -**	**$ 11,418,827**

1. Meter counts, consumption rates and customer class increased to account for expected customer growth. FY 2018/19 is 0.5% as shown in Table 9.
2. Source: AWWA Manual M1, "Principles of Water Rates, Fees and Charges", Table VI.2-5. Assumes displacement meters for 5/8 through 2 inch meters, Compound for 3 - 8 inch meters, Turbine for 10 & 12 inch, unless noted otherwise.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

TABLE 50
CALCULATION OF MONTHLY FIXED FIRE METER SERVICE CHARGES FOR FY 2016/17:

Number of Meters by Class and Size (1)	FY 2016/17											Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Fire Service	-	-	1	-	2	1	51	164	179	53	2	453
Total Meters/Accounts	**-**	**-**	**1**	**-**	**2**	**1**	**51**	**164**	**179**	**53**	**2**	**453**
Hydraulic Capacity Factor (2)	*1.00*	*1.00*	*1.00*	*5.00*	*8.00*	*17.50*	*35.00*	*80.00*	*140.00*	*220.00*	*265.00*	
Total Equivalent Meters	**-**	**-**	**1**	**-**	**16**	**18**	**1,785**	**13,120**	**25,060**	**11,660**	**530**	**52,190**
Monthly Fixed Service Charges												
Customer Costs ($/Acct/mo.) (3)	$2.31	$2.31	$2.31	$2.31	$2.31	$2.31	$2.31	$2.31	$2.31	$2.31	$2.31	
Capacity Costs ($/Acct/mo.) (4)	$0.64	$0.64	$0.64	$3.21	$5.14	$11.23	$22.47	$51.35	$89.87	$141.22	$170.11	
Total Monthly Meter Charge	**$2.95**	**$2.95**	**$2.95**	**$5.52**	**$7.45**	**$13.55**	**$24.78**	**$53.67**	**$92.18**	**$143.54**	**$172.42**	
Annual Fixed Costs Allocated to Monthly Meter Charges												
Customer Costs		$ 12,570										
Fire Costs		402,024										
Total Fixed Meter Costs		$ 414,594										
Annual Revenue from Monthly Meter Charges												
Customer Charges	$ -	$ -	$ 28	$ -	$ 55	$ 28	$ 1,415	$ 4,551	$ 4,967	$ 1,471	$ 55	**$ 12,570**
Capacity Charges	$ -	$ -	$ 8	$ -	$ 123	$ 135	$ 13,750	$ 101,065	$ 193,041	$ 89,819	$ 4,083	**402,024**
Total Monthly Meter Charge Revenue	**$ -**	**$ -**	**$ 35**	**$ -**	**$ 179**	**$ 163**	**$ 15,165**	**$ 105,616**	**$ 198,008**	**$ 91,289**	**$ 4,138**	**$ 414,594**

TABLE 51
CALCULATION OF MONTHLY FIXED FIRE METER SERVICE CHARGES FOR FY 2017/18:

Number of Meters by Class and Size (1)	FY 2017/18											Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Fire Service	-	-	1	-	2	1	51	165	180	53	2	455
Total Meters/Accounts	**-**	**-**	**1**	**-**	**2**	**1**	**51**	**165**	**180**	**53**	**2**	**455**
Hydraulic Capacity Factor (2)	*1.00*	*1.00*	*1.00*	*5.00*	*8.00*	*17.50*	*35.00*	*80.00*	*140.00*	*220.00*	*265.00*	
Total Equivalent Meters	**-**	**-**	**1**	**-**	**16**	**18**	**1,794**	**13,186**	**25,185**	**11,718**	**533**	**52,450**
Monthly Fixed Service Charges												
Customer Costs ($/Acct/mo.) (3)	$2.49	$2.49	$2.49	$2.49	$2.49	$2.49	$2.49	$2.49	$2.49	$2.49	$2.49	
Capacity Costs ($/Acct/mo.) (4)	$0.69	$0.69	$0.69	$3.45	$5.52	$12.08	$24.15	$55.21	$96.61	$151.82	$182.87	
Total Monthly Meter Charge	**$3.18**	**$3.18**	**$3.18**	**$5.94**	**$8.01**	**$14.56**	**$26.64**	**$57.69**	**$99.10**	**$154.30**	**$185.36**	
Annual Fixed Costs Allocated to Monthly Meter Charges												
Customer Costs		$ 13,581										
Fire Costs		434,336										
Total Fixed Meter Costs		$ 447,917										
Annual Revenue from Monthly Meter Charges												
Customer Charges	$ -	$ -	$ 30	$ -	$ 60	$ 30	$ 1,529	$ 4,917	$ 5,366	$ 1,589	$ 60	**$ 13,581**
Capacity Charges	$ -	$ -	$ 8	$ -	$ 133	$ 146	$ 14,855	$ 109,188	$ 208,557	$ 97,038	$ 4,411	**434,336**
Total Monthly Meter Charge Revenue	**$ -**	**$ -**	**$ 38**	**$ -**	**$ 193**	**$ 176**	**$ 16,384**	**$ 114,105**	**$ 213,923**	**$ 98,627**	**$ 4,471**	**$ 447,917**

TABLE 52
CALCULATION OF MONTHLY FIXED FIRE METER SERVICE CHARGES FOR FY 2018/19:

Number of Meters by Class and Size (1)	FY 2018/19											Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Fire Service	-	-	1	-	2	1	52	166	181	54	2	458
Total Meters/Accounts	**-**	**-**	**1**	**-**	**2**	**1**	**52**	**166**	**181**	**54**	**2**	**458**
Hydraulic Capacity Factor (2)	*1.00*	*1.00*	*1.00*	*5.00*	*8.00*	*17.50*	*35.00*	*80.00*	*140.00*	*220.00*	*265.00*	
Total Equivalent Meters	**-**	**-**	**1**	**-**	**16**	**18**	**1,803**	**13,252**	**25,311**	**11,777**	**535**	**52,713**
Monthly Fixed Service Charges												
Customer Costs ($/Acct/mo.) (3)	$2.67	$2.67	$2.67	$2.67	$2.67	$2.67	$2.67	$2.67	$2.67	$2.67	$2.67	
Capacity Costs ($/Acct/mo.) (4)	$0.74	$0.74	$0.74	$3.71	$5.93	$12.98	$25.96	$59.35	$103.86	$163.20	$196.58	
Total Monthly Meter Charge	**$3.41**	**$3.41**	**$3.41**	**$6.38**	**$8.61**	**$15.65**	**$28.64**	**$62.02**	**$106.53**	**$165.87**	**$199.26**	
Annual Fixed Costs Allocated to Monthly Meter Charges												
Customer Costs		$ 14,672										
Fire Costs		469,246										
Total Fixed Meter Costs		$ 483,918										
Annual Revenue from Monthly Meter Charges												
Customer Charges	$ -	$ -	$ 32	$ -	$ 65	$ 32	$ 1,652	$ 5,312	$ 5,798	$ 1,717	$ 65	**$ 14,672**
Capacity Charges	$ -	$ -	$ 9	$ -	$ 144	$ 157	$ 16,049	$ 117,964	$ 225,319	$ 104,837	$ 4,765	**469,246**
Total Monthly Meter Charge Revenue	**$ -**	**$ -**	**$ 41**	**$ -**	**$ 209**	**$ 190**	**$ 17,701**	**$ 123,276**	**$ 231,117**	**$ 106,554**	**$ 4,830**	**$ 483,918**

TABLE 53
CALCULATION OF MONTHLY FIXED FIRE METER SERVICE CHARGES FOR FY 2019/20:

Number of Meters by Class and Size (1)	FY 2018/19											Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Fire Service	-	-	1	-	2	1	52	166	182	54	2	460
Total Meters/Accounts	**-**	**-**	**1**	**-**	**2**	**1**	**52**	**166**	**182**	**54**	**2**	**460**
Hydraulic Capacity Factor (2)	*1.00*	*1.00*	*1.00*	*5.00*	*8.00*	*17.50*	*35.00*	*80.00*	*140.00*	*220.00*	*265.00*	
Total Equivalent Meters	**-**	**-**	**1**	**-**	**16**	**18**	**1,812**	**13,318**	**25,438**	**11,836**	**538**	**52,976**
Monthly Fixed Service Charges												
Customer Costs ($/Acct/mo.) (3)	$2.81	$2.81	$2.81	$2.81	$2.81	$2.81	$2.81	$2.81	$2.81	$2.81	$2.81	
Capacity Costs ($/Acct/mo.) (4)	$0.78	$0.78	$0.78	$3.89	$6.23	$13.63	$27.26	$62.31	$109.05	$171.36	$206.41	
Total Monthly Meter Charge	**$3.58**	**$3.58**	**$3.58**	**$6.70**	**$9.04**	**$16.44**	**$30.07**	**$65.12**	**$111.85**	**$174.17**	**$209.22**	
Annual Fixed Costs Allocated to Monthly Meter Charges												
Customer Costs		$ 15,483										
Fire Costs		495,172										
Total Fixed Meter Costs		$ 510,655										
Annual Revenue from Monthly Meter Charges												
Customer Charges	$ -	$ -	$ 34	$ -	$ 68	$ 34	$ 1,743	$ 5,605	$ 6,118	$ 1,811	$ 68	**$ 15,483**
Capacity Charges	$ -	$ -	$ 9	$ -	$ 152	$ 166	$ 16,936	$ 124,482	$ 237,768	$ 110,630	$ 5,029	**495,172**
Total Monthly Meter Charge Revenue	**$ -**	**$ -**	**$ 44**	**$ -**	**$ 220**	**$ 200**	**$ 18,679**	**$ 130,087**	**$ 243,886**	**$ 112,441**	**$ 5,097**	**$ 510,655**

TABLE 54
CALCULATION OF MONTHLY FIXED FIRE METER SERVICE CHARGES FOR FY 2020/21:

Number of Meters by Class and Size (1)	FY 2018/19											Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Fire Service	-	-	1	-	2	1	52	167	183	54	2	462
Total Meters/Accounts	**-**	**-**	**1**	**-**	**2**	**1**	**52**	**167**	**183**	**54**	**2**	**462**
Hydraulic Capacity Factor (2)	*1.00*	*1.00*	*1.00*	*5.00*	*8.00*	*17.50*	*35.00*	*80.00*	*140.00*	*220.00*	*265.00*	
Total Equivalent Meters	**-**	**-**	**1**	**-**	**16**	**18**	**1,821**	**13,384**	**25,565**	**11,895**	**541**	**53,241**
Monthly Fixed Service Charges												
Customer Costs ($/Acct/mo.) (3)	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	
Capacity Costs ($/Acct/mo.) (4)	$0.82	$0.82	$0.82	$4.09	$6.54	$14.31	$28.63	$65.43	$114.50	$179.93	$216.73	
Total Monthly Meter Charge	**$3.76**	**$3.76**	**$3.76**	**$7.04**	**$9.49**	**$17.26**	**$31.57**	**$68.38**	**$117.45**	**$182.88**	**$219.68**	
Annual Fixed Costs Allocated to Monthly Meter Charges												
Customer Costs		$ 16,338										
Fire Costs		522,530										
Total Fixed Meter Costs		$ 538,868										
Annual Revenue from Monthly Meter Charges												
Customer Charges	$ -	$ -	$ 36	$ -	$ 72	$ 36	$ 1,839	$ 5,915	$ 6,456	$ 1,912	$ 72	**$ 16,338**
Capacity Charges	$ -	$ -	$ 10	$ -	$ 160	$ 175	$ 17,872	$ 131,360	$ 250,905	$ 116,742	$ 5,306	**522,530**
Total Monthly Meter Charge Revenue	**$ -**	**$ -**	**$ 46**	**$ -**	**$ 232**	**$ 211**	**$ 19,711**	**$ 137,275**	**$ 257,361**	**$ 118,653**	**$ 5,379**	**$ 538,868**

PROPOSED POTABLE VOLUMETRIC CHARGES FOR FY 2016/17:

TABLE 55

Year 1 Potable Net Revenue Requirements (35% Fixed / 65% Variable)

Rate Structure Type	Number of Meters (1)	Water Consumption *(hcf/yr.)*	Commodity Allocation	Commodity Costs	Additional Supply Costs	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Uniform Rate
Tiered Potable Commodity Rate (SFR)	11,508	1,749,046	43%	$ 4,258,274	$ 289,242	42%	$ 1,062,906	**N/A**
Uniform Potable Commodity Rate (All Other Meters)	2,070	2,291,391	57%	$ 5,578,681	$ 378,930	58%	$ 1,455,709	**$3.24**
Total Potable	**13,578**	**4,040,437**	**100%**	**$ 9,836,955**	**$ 668,171**	**100%**	**$ 2,518,615**	

1. Meter counts, consumption rates and customer class from Source files: *Manip. Usage Information 2013-2015.xlsx.*

TABLE 56

Year 1 - PROPOSED 3-TIERED VOLUMETRIC CHARGES FOR CUSTOMERS FOR FY 2016/17:

Rate Structure Type	Tier Break	Water Consumption *(hcf/yr.)*	Percentage of Water Consumption	Commodity Costs	Additional Supply Costs	Capacity Allocation	Volumetric Capacity Costs	Tier Rate
Tier 1	8 hcf	970,381	55%	$ 2,362,515	$ -	0%	$ -	**$2.43**
Tier 2	15 hcf	445,764	25%	$ 1,085,269	$ -	48%	$ 505,198	**$3.57**
Tier 3		332,901	19%	$ 810,490	$ 289,242	52%	$ 557,708	**$4.98**
Total		**1,749,046**	**100%**	**$ 4,258,274**	**$ 289,242**	**100%**	**$ 1,062,906**	

TABLE 57

Year 2 Potable Net Revenue Requirements (40% Fixed / 60% Variable)

Rate Structure Type	Number of Meters (1)	Water Consumption *(hcf/yr.)*	Commodity Allocation	Commodity Costs	Additional Supply Costs	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Uniform Rate
Tiered Potable Commodity Rate (SFR)	11,566	1,757,791	43%	$ 4,604,266	$ 312,489	42%	$ 682,265	**N/A**
Uniform Potable Commodity Rate (All Other Meters)	2,080	2,302,848	57%	$ 6,031,960	$ 409,386	58%	$ 934,401	**$3.20**
Total Potable	**13,646**	**4,060,639**	**100%**	**$ 10,636,226**	**$ 721,876**		**$ 1,616,666**	

1. Meter counts, consumption rates and customer class from Source files: *Manip. Usage Information 2013-2015.xlsx.*

PROPOSED POTABLE VOLUMETRIC CHARGES FOR FY 2016/17:

TABLE 58

Year 2 - PROPOSED 3-TIERED VOLUMETRIC CHARGES FOR CUSTOMERS FOR FY 2017/18:								
Rate Structure Type	Tier Break	Water Consumption *(hcf/yr.)*	Percentage of Water Consumption	Commodity Costs	Additional Supply Costs	Capacity Allocation	Volumetric Capacity Costs	Tier Rate
Tier 1	8 hcf	975,233	55%	$ 2,554,474	$ -	0%	$ -	**$2.62**
Tier 2	15 hcf	447,993	25%	$ 1,173,449	$ -	48%	$ 324,280	**$3.34**
Tier 3		334,566	19%	$ 876,343	$ 312,489	52%	$ 357,985	**$4.62**
Total		**1,757,791**	**100%**	**$ 4,604,266**	**$ 312,489**	**100%**	**$ 682,265**	

TABLE 59

Year 3 Potable Net Revenue Requirements (45% Fixed / 55% Variable)								
Rate Structure Type	Number of Meters (1)	Water Consumption *(hcf/yr.)*	Commodity Allocation	Commodity Costs	Additional Supply Costs	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Uniform Rate
Tiered Potable Commodity Rate (SFR)	11,623	1,766,580	43%	$ 4,978,243	$ 337,606	42%	$ 233,570	**N/A**
Uniform Potable Commodity Rate (All Other Meters)	2,091	2,314,362	57%	$ 6,521,900	$ 442,291	58%	$ 319,887	**$3.15**
Total Potable	**13,714**	**4,080,942**	**100%**	**$ 11,500,143**	**$ 779,896**		**$ 553,457**	

1. Meter counts, consumption rates and customer class from Source files: *Manip. Usage Information 2013-2015.xlsx.*

TABLE 60

Year 3 - PROPOSED 3-TIERED VOLUMETRIC CHARGES FOR CUSTOMERS FOR FY 2018/19:								
Rate Structure Type	Tier Break	Water Consumption *(hcf/yr.)*	Percentage of Water Consumption	Commodity Costs	Additional Supply Costs	Capacity Allocation	Volumetric Capacity Costs	Combined Tiered Rate
Tier 1	8 hcf	980,109	55%	$ 2,761,959	$ -	0%	$ -	**$2.82**
Tier 2	15 hcf	450,233	25%	$ 1,268,761	$ -	48%	$ 111,016	**$3.06**
Tier 3		336,238	19%	$ 947,524	$ 337,606	52%	$ 122,555	**$4.19**
Total		**1,766,580**	**100%**	**$ 4,978,243**	**$ 337,606**		**$ 233,570**	

PROPOSED POTABLE VOLUMETRIC CHARGES FOR FY 2016/17:

TABLE 61

Year 4 Potable Net Revenue Requirements (45% Fixed / 55% Variable)

Rate Structure Type	Number of Meters (1)	Water Consumption *(hcf/yr.)*	Commodity Allocation	Commodity Costs	Additional Supply Costs	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Uniform Rate
Tiered Potable Commodity Rate (SFR)	11,681	1,775,413	43%	$ 5,254,217	$ 356,258	42%	$ 246,475	**N/A**
Uniform Potable Commodity Rate (All Other Meters)	2,101	2,325,934	57%	$ 6,883,448	$ 466,727	58%	$ 337,561	**$3.31**
Total Potable	**13,783**	**4,101,347**	**100%**	**$ 12,137,665**	**$ 822,986**		**$ 584,036**	

1. Meter counts, consumption rates and customer class from Source files: *Manip. Usage Information 2013-2015.xlsx.*

TABLE 62

Year 4 - PROPOSED 3-TIERED VOLUMETRIC CHARGES FOR CUSTOMERS FOR FY 2019/20:

Rate Structure Type	Tier Break	Water Consumption *(hcf/yr.)*	Percentage of Water Consumption	Commodity Costs	Additional Supply Costs	Capacity Allocation	Volumetric Capacity Costs	Combined Tiered Rate
Tier 1	8 hcf	985,010	55%	$ 2,915,071	$ -	0%	$ -	**$2.96**
Tier 2	15 hcf	452,484	25%	$ 1,339,096	$ -	48%	$ 117,149	**$3.22**
Tier 3		337,920	19%	$ 1,000,050	$ 356,258	52%	$ 129,326	**$4.40**
Total		**1,775,413**	**100%**	**$ 5,254,217**	**$ 356,258**		**$ 246,475**	

TABLE 63

Year 5 Potable Net Revenue Requirements (45% Fixed / 55% Variable)

Rate Structure Type	Number of Meters (1)	Water Consumption *(hcf/yr.)*	Commodity Allocation	Commodity Costs	Additional Supply Costs	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Uniform Rate
Tiered Potable Commodity Rate (SFR)	11,740	1,784,290	43%	$ 5,545,480	$ 375,942	42%	$ 260,093	**N/A**
Uniform Potable Commodity Rate (All Other Meters)	2,112	2,337,564	57%	$ 7,265,025	$ 492,514	58%	$ 356,211	**$3.47**
Total Potable	**13,852**	**4,121,854**	**100%**	**$ 12,810,504**	**$ 868,456**		**$ 616,304**	

1. Meter counts, consumption rates and customer class from Source files: *Manip. Usage Information 2013-2015.xlsx.*

TABLE 64

Year 5 - PROPOSED 3-TIERED VOLUMETRIC CHARGES FOR CUSTOMERS FOR FY 2020/21:

Rate Structure Type	Tier Break	Water Consumption *(hcf/yr.)*	Percentage of Water Consumption	Commodity Costs	Additional Supply Costs	Capacity Allocation	Volumetric Capacity Costs	Combined Tiered Rate
Tier 1	8 hcf	989,935	55%	$ 3,076,665	$ -	0%	$ -	**$3.11**
Tier 2	15 hcf	454,746	25%	$ 1,413,328	$ -	48%	$ 123,622	**$3.38**
Tier 3		339,609	19%	$ 1,055,487	$ 375,942	52%	$ 136,471	**$4.62**
Total		**1,784,290**	**100%**	**$ 5,545,480**	**$ 375,942**		**$ 260,093**	

PROPOSED RECYCLED VOLUMETRIC CHARGES:

TABLE 65
CALCULATION OF EXPECTED ANNUAL REVENUE FROM FIXED CHARGES FOR RECYCLED WATER METERS, FY 2016/17 - 2018/19:

Number of Meters by Class and Size (1)	2015											Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	
Recycled Water Meters	0	1	35	43	30	3	7	1	1	0	1	**122**
Year 1 Rate (2)	$27.13	$27.13	$27.13	$126.41	$200.87	$399.43	$622.81	$1,243.31	$1,987.91	$5,214.51	$6,579.61	
Expected Revenue	$ -	$ 326	$ 11,396	$ 65,229	$ 72,314	$ 14,380	$ 52,316	$ 14,920	$ 23,855	$ -	$ 78,955	**$ 333,690**
Year 2 Rate (2)	$33.44	$33.44	$33.44	$157.28	$250.16	$497.82	$776.45	$1,550.42	$2,479.18	$6,503.80	$8,206.53	
Expected Revenue (3)	$ -	$ 414	$ 14,498	$ 83,765	$ 92,951	$ 18,498	$ 67,319	$ 19,203	$ 30,707	$ -	$ 101,645	**$ 429,001**
Year 3 Rate (2)	$40.55	$40.55	$40.55	$192.06	$305.70	$608.73	$949.63	$1,896.60	$3,032.95	$7,957.16	$10,040.48	
Expected Revenue (3)	$ -	$ 518	$ 18,144	$ 105,581	$ 117,243	$ 23,346	$ 84,981	$ 24,246	$ 38,773	$ -	$ 128,358	**$ 541,192**
Year 4 Rate (2)	$42.58	$42.58	$42.58	$201.67	$320.99	$639.16	$997.12	$1,991.43	$3,184.60	$8,355.02	$10,542.50	
Expected Revenue (3)	$ -	$ 562	$ 19,664	$ 114,424	$ 127,063	$ 25,302	$ 92,099	$ 26,277	$ 42,021	$ -	$ 139,109	**$ 586,522**
Year 5 Rate (2)	$44.71	$44.71	$44.71	$211.75	$337.03	$671.12	$1,046.97	$2,091.00	$3,343.83	$8,772.77	$11,069.62	
Expected Revenue (3)	$ -	$ 590	$ 20,647	$ 120,146	$ 133,416	$ 26,567	$ 96,704	$ 27,591	$ 44,122	$ -	$ 146,065	**$ 615,848**

TABLE 66

Recycled Water Variable Rate Calculation	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Recycled Net Rate Revenue Requirement	$ 880,174	$1,017,490	$1,162,727	$1,316,252	$1,432,392
Less: Expected Revenue Fixed Charges (1,2,3)	$ (333,690)	$ (429,001)	$ (541,192)	$ (586,522)	$ (615,848)
Required Variable Revenue	$ 546,484	$ 588,489	$ 621,536	$ 729,730	$ 816,544
Expected Recycled Water Consumption (hcf) (1)	319,290	329,556	340,152	351,088	351,088
Recycled Water Variable Rate	**$1.71**	**$1.79**	**$1.83**	**$2.08**	**$2.33**

1. Meter counts, consumption rates and customer class from Source files: *Manip. Usage Information 2013-2015.xlsx.*
2. Fixed Meter charges for Recycled Water set equal to potable fixed charges.
3. Includes expected customer growth of 3.2% annually in FY2017/18, FY2018/19 & FY2019/20, then 0% thereafter.

TABLE 67

Calculation of Zonal Electrical Surcharges:

Zone	2015 Consumption Subject to Zonal Charge (1)	2015 Expense (2)	2016/17 Expense (3)	Non-Cumulative Electricity Surcharge ($/hcf)
Zone 2	610,210	$ 101,650	$ 125,656	$0.14
Zone 3	148,368	32,178	39,777	$0.15
Zone 4	41,663	38,637	47,762	$0.42
Zone 5	29,903	15,904	19,660	$0.27
Zone 6	41,751	13,870	17,145	$0.41
Total:	**871,895**	**$ 202,238**	**$ 250,000**	

1. Zonal consumption from rate code. (Source: *Mainp. Usage Information 2013-2015.3.29.16.xlsx*).
2. Expenses based on 2015 Edison Charges.
3. FY 2016/17 electricity expense is allocated to each zone based on the percentage of total FY 2015/16 electricity costs for each zone.

TABLE 68

Calculation of Zonal O&M Surcharges:

Zone	2015 Consumption by Zone (1)	2016/17 Expense (2)	Non-Cumulative O&M Surcharge ($/hcf)
Zone 2	610,210	$ 5,780	$0.007
Zone 3	148,368	3,353	$0.013
Zone 4	41,663	2,579	$0.023
Zone 5	29,903	1,849	$0.026
Zone 6	41,751	1,583	$0.038
Total:	**871,895**	**$ 15,144**	

1. Zonal consumption from rate (Source: *Mainp. Usage Information 2013-2015.3.29.16.xlsx*).
2. Zonal Expense based upon 5 year average.

TABLE 69

Calculation of Zonal O&M Surcharges:

Zone	2015 Consumption by Zone (1)	Non-Cumulative Electricity Surcharge ($/hcf)	Non-Cumulative O&M Surcharge ($/hcf)	Cumulative Total Surcharge ($/hcf) FY 2016/17	Revenue From Surcharges
Zone 2	610,210	$0.144	$0.007	**$0.15**	$ 91,988
Zone 3	148,368	$0.152	$0.013	**$0.32**	46,820
Zone 4	41,663	$0.421	$0.023	**$0.76**	31,656
Zone 5	29,903	$0.274	$0.026	**$1.06**	31,697
Zone 6	41,751	$0.411	$0.038	**$1.51**	62,983
Total	**871,895**				**$ 265,144**

1. Zonal consumption from rate (Source: *Mainp. Usage Information 2013-2015.3.29.16.xlsx*).

TABLE 70
Five-Year Schedule of Zonal Electrical Surcharges:

Zone	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Electricity Cost Inflation		*4.40%*	*4.40%*	*4.40%*	*4.40%*
Zone 2	$0.14	$0.15	$0.16	$0.16	$0.17
Zone 3	$0.15	$0.16	$0.17	$0.17	$0.18
Zone 4	$0.42	$0.44	$0.46	$0.48	$0.50
Zone 5	$0.27	$0.29	$0.30	$0.31	$0.33
Zone 6	$0.41	$0.43	$0.45	$0.47	$0.49

TABLE 71
Five-Year Schedule of Zonal O&M Surcharges:

Zone	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
O&M Cost Inflation		*2.00%*	*2.00%*	*2.00%*	*2.00%*
Zone 2	$0.01	$0.01	$0.01	$0.01	$0.01
Zone 3	$0.01	$0.01	$0.01	$0.01	$0.01
Zone 4	$0.02	$0.02	$0.02	$0.02	$0.02
Zone 5	$0.03	$0.03	$0.03	$0.03	$0.03
Zone 6	$0.04	$0.04	$0.04	$0.04	$0.04

TABLE 72
Five-Year Schedule of Zone Surcharges:

Zone	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Zone 2	$0.15	$0.16	$0.16	$0.17	$0.18
Zone 3	$0.32	$0.33	$0.34	$0.36	$0.37
Zone 4	$0.76	$0.79	$0.83	$0.86	$0.90
Zone 5	$1.06	$1.10	$1.15	$1.20	$1.25
Zone 6	$1.51	$1.57	$1.64	$1.71	$1.78

TABLE 73
Drought Rates:

Expenses Directly Effected By Consumption Changes						
Object Code	Expense Name	Commodity Costs (1)				
		FY 2016/17	FY 2017/18	FY 2018/19	FY 2018/20	FY 2018/21
51310-0	WATER PURCHASES - TVMWD	$ 9,233,000	$ 9,602,320	$ 9,986,413	$ 10,385,869	$ 10,801,304
52310-0	PUMPING POWER	$ 110,000	$ 114,840	$ 119,893	$ 125,168	$ 130,676
54217-0	CHEMICALS	$ 40,000	$ 41,000	$ 42,025	$ 43,076	$ 44,153
Total		**$ 9,383,000**	**$ 9,758,160**	**$ 10,148,331**	**$ 10,554,113**	**$ 10,976,132**

1. Costs change due to expected inflation.

TABLE 74

Year 1 Potable Net Revenue Requirements (35% Fixed / 65% Variable)					
Percentage Of Conservation	Total Expected Consumption FY 2016/17 (1)	Base Commodity Cost	Impacted Commodity Costs	Savings	Updated Commodity Cost
a		*b*	*c*	*d = (-a) * c*	e = b + c
0%	4,040,437 ccf	$ 9,836,955	$ 9,383,000	$ -	$ 9,836,955
10%	3,636,393 ccf	$ 9,836,955	$ 9,383,000	$ (938,300)	$ 8,898,655
20%	3,232,350 ccf	$ 9,836,955	$ 9,383,000	$ (1,876,600)	$ 7,960,355
30%	2,828,306 ccf	$ 9,836,955	$ 9,383,000	$ (2,814,900)	$ 7,022,055
40%	2,424,262 ccf	$ 9,836,955	$ 9,383,000	$ (3,753,200)	$ 6,083,755
50%	2,020,219 ccf	$ 9,836,955	$ 9,383,000	$ (4,691,500)	$ 5,145,455
60%	1,616,175 ccf	$ 9,836,955	$ 9,383,000	$ (5,629,800)	$ 4,207,155

TABLE 75

Year 1 Potable Net Revenue Requirements (35% Fixed / 65% Variable)					
Drought Level	Level Of Conservation	Tier 1 Rate	Tier 2 Rate	Tier 3 Rate	Uniform Rate
No Level	**Baseline (1)**	**$2.43**	**$3.57**	**$4.98**	**$3.24**
Level 1	10%	$2.45	$3.76	$5.89	$3.34
Level 2	20%	$2.46	$4.05	$7.38	$3.46
Level 3	30%	$2.48	$4.53	$9.99	$3.63
Level 4	40%	$2.51	$8.04	--	$3.84
Level 5	50%	$2.55	$11.70	--	$4.15
Level 6	60%	$2.60	$20.63	--	$4.60

1. Baseline level of consumption assumes 2015 consumption.

TABLE 76
Level 1 - 10% Conservation Goal

Rate Structure Type		Water Consumption (hcf/yr.)	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
				Year 1 Potable Net Revenue Requirements (35% Fixed / 65% Variable)				
Tiered Potable Commodity Rate (SFR)	Tier 1	943,511	25.9%	$ 2,308,875	$ -	0.0%	$ -	$2.45
	Tier 2	384,516	10.6%	$ 940,954	$ -	20.1%	$ 505,198	$3.76
	Tier 3	246,114	6.8%	$ 602,269	$ 289,242	22.1%	$ 557,708	$5.89
Uniform Potable Commodity Rate (All Other Meters)		2,062,252	56.7%	$ 5,046,558	$ 378,930	57.8%	$ 1,455,709	$3.34
Total		**3,636,393**	**100.0%**	**$ 8,898,655**	**$ 668,171**	**100.0%**	**$ 2,518,615**	
		0		*TRUE*				

TABLE 77
Level 2 - 20% Conservation Goal

Rate Structure Type		Water Consumption (hcf/yr.)	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
				Year 1 Potable Net Revenue Requirements (35% Fixed / 65% Variable)				
Tiered Potable Commodity Rate (SFR)	Tier 1	909,356	28.1%	$ 2,239,484	$ -	0.0%	$ -	$2.46
	Tier 2	317,497	9.8%	$ 781,906	$ -	20.1%	$ 505,198	$4.05
	Tier 3	172,383	5.3%	$ 424,531	$ 289,242	22.1%	$ 557,708	$7.38
Uniform Potable Commodity Rate (All Other Meters)		1,833,113	56.7%	$ 4,514,434	$ 378,930	57.8%	$ 1,455,709	$3.46
Total		**3,232,350**	**100.0%**	**$ 7,960,355**	**$ 668,171**	**100.0%**	**$ 2,518,615**	
		0		*TRUE*				

TABLE 78
Level 3 - 30% Conservation Goal

Rate Structure Type		Water Consumption (hcf/yr.)	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
				Year 1 Potable Net Revenue Requirements (35% Fixed / 65% Variable)				
Tiered Potable Commodity Rate (SFR)	Tier 1	864,196	30.6%	$ 2,145,606	$ -	0.0%	$ -	$2.48
	Tier 2	247,293	8.7%	$ 613,973	$ -	20.1%	$ 505,198	$4.53
	Tier 3	112,844	4.0%	$ 280,166	$ 289,242	22.1%	$ 557,708	$9.99
Uniform Potable Commodity Rate (All Other Meters)		1,603,974	56.7%	$ 3,982,310	$ 378,930	57.8%	$ 1,455,709	$3.63
Total		**2,828,306**	**100.0%**	**$ 7,022,055**	**$ 668,171**	**100.0%**	**$ 2,518,615**	
		0		*TRUE*				

TABLE 79
Level 4 - 40% Conservation Goal

Rate Structure Type		Water Consumption *(hcf/yr.)*	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
				Year 1 Potable Net Revenue Requirements (35% Fixed / 65% Variable)				
Tiered Potable	Tier 1	804,882	33.2%	$ 2,019,873	$ -	0.0%	$ -	$2.51
Commodity Rate (SFR)	Tier 2 (1)	244,546	10.1%	$ 613,695	$ 289,242	22.1%	$ 1,062,906	$8.04
Uniform Potable Commodity Rate (All Other Meters)		1,374,835	56.7%	$ 3,450,187	$ 378,930	57.8%	$ 1,455,709	$3.84
Total		**2,424,262**	**100.0%**	**$ 6,083,755**	**$ 668,171**	**79.9%**	**$ 2,518,615**	

1. Due to conservation, Tier 3 is eliminated. *0* *TRUE*

TABLE 80
Level 5 - 50% Conservation Goal

Rate Structure Type		Water Consumption *(hcf/yr.)*	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
				Year 1 Potable Net Revenue Requirements (35% Fixed / 65% Variable)				
Tiered Potable	Tier 1	726,790	36.0%	$ 1,851,118	$ -	0.0%	$ -	$2.55
Commodity Rate	Tier 2 (1)	147,734	7.3%	$ 376,275	$ 289,242	42.2%	$ 1,062,906	$11.70
Uniform Potable Commodity Rate (All Other Meters)		1,145,696	56.7%	$ 2,918,061	$ 378,930	57.8%	$ 1,455,709	$4.15
Total		**2,020,220**	**100.0%**	**$ 5,145,455**	**$ 668,171**	**100.0%**	**$ 2,518,615**	

1. Due to conservation, Tier 3 is eliminated. *2* *TRUE*

TABLE 81
Level 6 - 60% Conservation Goal

Rate Structure Type		Water Consumption *(hcf/yr.)*	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
				Year 1 Potable Net Revenue Requirements (35% Fixed / 65% Variable)				
Tiered Potable	Tier 1	624,599	38.6%	$ 1,625,929	$ -	0.0%	$ -	$2.60
Commodity Rate	Tier 2 (1)	75,019	4.6%	$ 195,286	$ 289,242	42.2%	$ 1,062,906	$20.63
Uniform Potable Commodity Rate (All Other Meters)		916,556	56.7%	$ 2,385,940	$ 378,930	57.8%	$ 1,455,709	$4.60
Total		**1,616,175**	**100.0%**	**$ 4,207,155**	**$ 668,171**	**100.0%**	**$ 2,518,615**	

1. Due to conservation, Tier 3 is eliminated. *0* *TRUE*

TABLE 82

Year 2 Potable Net Revenue Requirements (40% Fixed / 60% Variable)					
Percentage Of Conservation	Total Expected Consumption FY 2017/18 (1)	Base Commodity Cost	Impacted Commodity Costs	Savings	Updated Commodity Cost
a		*b*	*c*	*d = (-a) * c*	e = b + c
0%	4,060,639 ccf	$ 10,636,226	$ 9,758,160	$ -	$ 10,636,226
10%	3,654,575 ccf	$ 10,636,226	$ 9,758,160	$ (975,816)	$ 9,660,410
20%	3,248,511 ccf	$ 10,636,226	$ 9,758,160	$ (1,951,632)	$ 8,684,594
30%	2,842,447 ccf	$ 10,636,226	$ 9,758,160	$ (2,927,448)	$ 7,708,778
40%	2,436,384 ccf	$ 10,636,226	$ 9,758,160	$ (3,903,264)	$ 6,732,962
50%	2,030,320 ccf	$ 10,636,226	$ 9,758,160	$ (4,879,080)	$ 5,757,146
60%	1,624,256 ccf	$ 10,636,226	$ 9,758,160	$ (5,854,896)	$ 4,781,330

TABLE 83

Year 2 Potable Net Revenue Requirements (40% Fixed / 60% Variable)					
Drought Level	Level Of Conservation	Tier 1 Rate	Tier 2 Rate	Tier 3 Rate	Uniform Rate
No Level	Baseline (1)	$2.62	$3.34	$4.62	$3.20
Level 1	10%	$2.64	$3.48	$5.35	$3.29
Level 2	20%	$2.67	$3.69	$6.54	$3.40
Level 3	30%	$2.71	$4.02	$8.62	$3.55
Level 4	40%	$2.76	$6.81	--	$3.74
Level 5	50%	$2.84	$9.54	--	$4.00
Level 6	60%	$2.94	$16.14	--	$4.40

1. Baseline level of consumption assumes 2015 consumption with 0.5% customer growth.

TABLE 84
Level 1 - 10% Conservation Goal

Rate Structure Type		Water Consumption *(hcf/yr.) (1)*	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
				Year 2 Potable Net Revenue Requirements (40% Fixed / 60% Variable)				
Tiered Potable Commodity Rate (SFR)	Tier 1	948,228	25.9%	$ 2,506,522	$ -	0.0%	$ -	$2.64
	Tier 2	386,439	10.6%	$ 1,021,503	$ -	20.1%	$ 324,280	$3.48
	Tier 3	247,345	6.8%	$ 653,825	$ 312,489	22.1%	$ 357,985	$5.35
Uniform Potable Commodity Rate (All Other Meters)		2,072,563	56.7%	$ 5,478,560	$ 409,386	57.8%	$ 934,401	$3.29
Total		**3,654,575**	**100.0%**	**$ 9,660,410**	**$ 721,876**	**100.0%**	**$ 1,616,666**	

1. Consumption assumes Year 1 consumption with 0.5% customer growth.

TRUE

TABLE 85
Level 2 - 20% Conservation Goal

Rate Structure Type		Water Consumption (hcf/yr.) (1)	Percentage of Water Consumption	Year 2 Potable Net Revenue Requirements (40% Fixed / 60% Variable): Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	913,903	28.1%	$ 2,443,234	$ -	0.0%	$ -	$2.67
	Tier 2	319,085	9.8%	$ 853,044	$ -	20.1%	$ 324,280	$3.69
	Tier 3	173,245	5.3%	$ 463,155	$ 312,489	22.1%	$ 357,985	$6.54
Uniform Potable Commodity Rate (All Other Meters)		1,842,278	56.7%	$ 4,925,161	$ 409,386	57.8%	$ 934,401	$3.40
Total		**3,248,511**	**100.0%**	**$ 8,684,594**	**$ 721,876**	**100.0%**	**$ 1,616,666**	

1. Consumption assumes Year 1 consumption with 0.5% customer growth. *TRUE*

TABLE 86
Level 3 - 30% Conservation Goal

Rate Structure Type		Water Consumption (hcf/yr.) (1)	Percentage of Water Consumption	Year 2 Potable Net Revenue Requirements (40% Fixed / 60% Variable): Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	868,517	30.6%	$ 2,355,435	$ -	0.0%	$ -	$2.71
	Tier 2	248,529	8.7%	$ 674,017	$ -	20.1%	$ 324,280	$4.02
	Tier 3	113,408	4.0%	$ 307,565	$ 312,489	22.1%	$ 357,985	$8.62
Uniform Potable Commodity Rate (All Other Meters)		1,611,994	56.7%	$ 4,371,761	$ 409,386	57.8%	$ 934,401	$3.55
Total		**2,842,447**	**100.0%**	**$ 7,708,778**	**$ 721,876**	**100.0%**	**$ 1,616,666**	

1. Consumption assumes Year 1 consumption with 0.5% customer growth. *TRUE*

TABLE 87
Level 4 - 40% Conservation Goal

Rate Structure Type		Water Consumption (hcf/yr.) (1)	Percentage of Water Consumption	Year 2 Potable Net Revenue Requirements (40% Fixed / 60% Variable): Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	808,906	33.2%	$ 2,235,417	$ -	0.0%	$ -	$2.76
	Tier 2	245,769	10.1%	$ 679,184	$ 312,489	22.1%	$ 682,265	$6.81
Uniform Potable Commodity Rate (All Other Meters)		1,381,709	56.7%	$ 3,818,361	$ 409,386	57.8%	$ 934,401	$3.74
Total		**2,436,384**	**100.0%**	**$ 6,732,962**	**$ 721,876**	**79.9%**	**$ 1,616,666**	

1. Consumption assumes Year 1 consumption with 0.5% customer growth. *TRUE*

TABLE 88
Level 5 - 50% Conservation Goal

Rate Structure Type		Water Consumption *(hcf/yr.) (1)*	Percentage of Water Consumption	Year 2 Potable Net Revenue Requirements (40% Fixed / 60% Variable): Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable	Tier 1	730,424	36.0%	$ 2,071,179	$ -	0.0%	$ -	$2.84
Commodity Rate (SFR)	Tier 2	148,473	7.3%	$ 421,007	$ 312,489	20.1%	$ 682,265	$9.54
Uniform Potable Commodity Rate (All Other Meters)		1,151,424	56.7%	$ 3,264,960	$ 409,386	57.8%	$ 934,401	$4.00
Total		**2,030,321**	**100.0%**	**$ 5,757,146**	**$ 721,876**	**77.9%**	**$ 1,616,666**	

1. Consumption assumes Year 1 consumption with 0.5% customer growth.

TRUE

TABLE 89
Level 6 - 60% Conservation Goal

Rate Structure Type		Water Consumption *(hcf/yr.) (1)*	Percentage of Water Consumption	Year 2 Potable Net Revenue Requirements (40% Fixed / 60% Variable): Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable	Tier 1	627,722	38.6%	$ 1,847,829	$ -	0.0%	$ -	$2.94
Commodity Rate (SFR)	Tier 2	75,394	4.6%	$ 221,938	$ 312,489	20.1%	$ 682,265	$16.14
Uniform Potable Commodity Rate (All Other Meters)		921,139	56.7%	$ 2,711,563	$ 409,386	57.8%	$ 934,401	$4.40
Total		**1,624,255**	**100.0%**	**$ 4,781,330**	**$ 721,876**	**77.9%**	**$ 1,616,666**	

1. Consumption assumes Year 1 consumption with 0.5% customer growth.

TRUE

TABLE 90

Year 3 Potable Net Revenue Requirements (45% Fixed / 55% Variable)					
Percentage Of Conservation	Total Expected Consumption FY 2018/19 (1)	Base Commodity Cost	Impacted Commodity Costs	Savings	Updated Commodity Cost
a		*b*	*c*	*d = (-a) * c*	e = b + c
0%	4,080,942 ccf	$ 11,500,143	$ 10,554,113	$ -	$ 11,500,143
10%	3,672,848 ccf	$ 11,500,143	$ 10,554,113	$ (1,055,411)	$ 10,444,732
20%	3,264,754 ccf	$ 11,500,143	$ 10,554,113	$ (2,110,823)	$ 9,389,320
30%	2,856,660 ccf	$ 11,500,143	$ 10,554,113	$ (3,166,234)	$ 8,333,909
40%	2,448,565 ccf	$ 11,500,143	$ 10,554,113	$ (4,221,645)	$ 7,278,498
50%	2,040,471 ccf	$ 11,500,143	$ 10,554,113	$ (5,277,057)	$ 6,223,086
60%	1,632,377 ccf	$ 11,500,143	$ 10,554,113	$ (6,332,468)	$ 5,167,675

TABLE 91

Year 3 Potable Net Revenue Requirements (45% Fixed / 55% Variable)					
Drought Level	Level Of Conservation	Tier 1 Rate	Tier 2 Rate	Tier 3 Rate	Uniform Rate
No Level	**Baseline (1)**	**$2.82**	**$3.06**	**$4.19**	**$3.15**
Level 1	10%	$2.84	$3.13	$4.69	$3.21
Level 2	20%	$2.88	$3.22	$5.52	$3.29
Level 3	30%	$2.92	$3.36	$6.95	$3.39
Level 4	40%	$2.97	$5.29	--	$3.52
Level 5	50%	$3.05	$6.88	--	$3.71
Level 6	60%	$3.17	$10.70	--	$3.99

1. Baseline level of consumption assumes 2015 consumption with 2 years of 0.5% customer growth.

TABLE 92

Level 1 - 10% Conservation Goal

				Year 3 Potable Net Revenue Requirements (45% Fixed / 55% Variable)				
Rate Structure Type		Water Consumption (hcf/yr.) (1)	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	952,969	25.9%	$ 2,710,025	$ -	0.0%	$ -	$2.84
	Tier 2	388,371	10.6%	$ 1,104,438	$ -	20.1%	$ 111,016	$3.13
	Tier 3	248,582	6.8%	$ 706,909	$ 337,606	22.1%	$ 122,555	$4.69
Uniform Potable Commodity Rate (All Other Meters)		2,082,926	56.7%	$ 5,923,360	$ 442,291	57.8%	$ 319,887	$3.21
Total		**3,672,848**	**100.0%**	**$ 10,444,732**	**$ 779,896**	**100.0%**	**$ 553,457**	

1. Consumption assumes Year 2 consumption with 0.5% customer growth.

TRUE

TABLE 93
Level 2 - 20% Conservation Goal

Year 3 Potable Net Revenue Requirements (45% Fixed / 55% Variable)

Rate Structure Type		Water Consumption *(hcf/yr.) (1)*	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	918,472	28.1%	$ 2,641,495	$ -	0.0%	$ -	$2.88
	Tier 2	320,680	9.8%	$ 922,266	$ -	20.1%	$ 111,016	$3.22
	Tier 3	174,112	5.3%	$ 500,739	$ 337,606	22.1%	$ 122,555	$5.52
Uniform Potable Commodity Rate (All Other Meters)		1,851,490	56.7%	$ 5,324,821	$ 442,291	57.8%	$ 319,887	$3.29
Total		**3,264,754**	**100.0%**	**$ 9,389,320**	**$ 779,896**	**100.0%**	**$ 553,457**	

1. Consumption assumes Year 2 consumption with 0.5% customer growth. *TRUE*

TABLE 94
Level 3 - 30% Conservation Goal

Year 3 Potable Net Revenue Requirements (45% Fixed / 55% Variable)

Rate Structure Type		Water Consumption *(hcf/yr.) (1)*	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	872,859	30.6%	$ 2,546,446	$ -	0.0%	$ -	$2.92
	Tier 2	249,772	8.7%	$ 728,675	$ -	20.1%	$ 111,016	$3.36
	Tier 3	113,975	4.0%	$ 332,506	$ 337,606	22.1%	$ 122,555	$6.95
Uniform Potable Commodity Rate (All Other Meters)		1,620,054	56.7%	$ 4,726,282	$ 442,291	57.8%	$ 319,887	$3.39
Total		**2,856,660**	**100.0%**	**$ 8,333,909**	**$ 779,896**	**100.0%**	**$ 553,457**	

1. Consumption assumes Year 2 consumption with 0.5% customer growth. *TRUE*

TABLE 95
Level 4 - 40% Conservation Goal

Year 3 Potable Net Revenue Requirements (45% Fixed / 55% Variable)

Rate Structure Type		Water Consumption *(hcf/yr.) (1)*	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	812,951	33.2%	$ 2,416,541	$ -	0.0%	$ -	$2.97
	Tier 2	246,998	10.1%	$ 734,214	$ 337,606	22.1%	$ 233,570	$5.29
Uniform Potable Commodity Rate (All Other Meters)		1,388,617	56.7%	$ 4,127,743	$ 442,291	57.8%	$ 319,887	$3.52
Total		**2,448,565**	**100.0%**	**$ 7,278,498**	**$ 779,896**	**79.9%**	**$ 553,457**	

1. Consumption assumes Year 2 consumption with 0.5% customer growth. *TRUE*

TABLE 96
Level 5 - 50% Conservation Goal

Rate Structure Type		Water Consumption (hcf/yr.) (1)	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
				Year 3 Potable Net Revenue Requirements (45% Fixed / 55% Variable)				
Tiered Potable	Tier 1	734,076	36.0%	$ 2,238,805	$ -	0.0%	$ -	$3.05
Commodity Rate	Tier 2	149,215	7.3%	$ 455,080	$ 337,606	20.1%	$ 233,570	$6.88
Uniform Potable Commodity Rate (All Other Meters)		1,157,181	56.7%	$ 3,529,202	$ 442,291	57.8%	$ 319,887	$3.71
Total		**2,040,472**	**100.0%**	**$ 6,223,086**	**$ 779,896**	**77.9%**	**$ 553,457**	

1. Consumption assumes Year 2 consumption with 0.5% customer growth. *TRUE*

TABLE 97
Level 6 - 60% Conservation Goal

Rate Structure Type		Water Consumption (hcf/yr.) (1)	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
				Year 3 Potable Net Revenue Requirements (45% Fixed / 55% Variable)				
Tiered Potable	Tier 1	630,861	38.6%	$ 1,997,139	$ -	0.0%	$ -	$3.17
Commodity Rate	Tier 2	75,771	4.6%	$ 239,871	$ 337,606	20.1%	$ 233,570	$10.70
Uniform Potable Commodity Rate (All Other Meters)		925,745	56.7%	$ 2,930,665	$ 442,291	57.8%	$ 319,887	$3.99
Total		**1,632,377**	**100.0%**	**$ 5,167,675**	**$ 779,896**	**77.9%**	**$ 553,457**	

1. Consumption assumes Year 2 consumption with 0.5% customer growth. *TRUE*

TABLE 98

Year 4 Potable Net Revenue Requirements (45% Fixed / 55% Variable)					
Percentage Of Conservation	Total Expected Consumption FY 2019/20 (1)	Base Commodity Cost	Impacted Commodity Costs	Savings	Updated Commodity Cost
a		*b*	*c*	*d = (-a) * c*	e = b + c
0%	4,101,347 ccf	$ 12,137,665	$ 10,554,113	$ -	$ 12,137,665
10%	3,691,212 ccf	$ 12,137,665	$ 10,554,113	$ (1,055,411)	$ 11,082,254
20%	3,281,078 ccf	$ 12,137,665	$ 10,554,113	$ (2,110,823)	$ 10,026,843
30%	2,870,943 ccf	$ 12,137,665	$ 10,554,113	$ (3,166,234)	$ 8,971,431
40%	2,460,808 ccf	$ 12,137,665	$ 10,554,113	$ (4,221,645)	$ 7,916,020
50%	2,050,674 ccf	$ 12,137,665	$ 10,554,113	$ (5,277,057)	$ 6,860,609
60%	1,640,539 ccf	$ 12,137,665	$ 10,554,113	$ (6,332,468)	$ 5,805,197

TABLE 99

Year 4 Potable Net Revenue Requirements (45% Fixed / 55% Variable)					
Drought Level	Level Of Conservation	Tier 1 Rate	Tier 2 Rate	Tier 3 Rate	Uniform Rate
No Level	Baseline (1)	$2.96	$3.22	$4.40	$3.31
Level 1	10%	$3.00	$3.30	$4.95	$3.39
Level 2	20%	$3.06	$3.42	$5.83	$3.49
Level 3	30%	$3.12	$3.59	$7.36	$3.62
Level 4	40%	$3.22	$5.64	--	$3.79
Level 5	50%	$3.35	$7.36	--	$4.04
Level 6	60%	$3.54	$11.45	--	$4.40

1. Baseline level of consumption assumes 2015 consumption with 3 years of 0.5% customer growth.

TABLE 100
Level 1 - 10% Conservation Goal

Rate Structure Type		Water Consumption (hcf/yr.) (1)	Percentage of Water Consumption	Year 4 Potable Net Revenue Requirements (45% Fixed / 55% Variable): Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	957,734	25.9%	$ 2,875,439	$ -	0.0%	$ -	$3.00
	Tier 2	390,313	10.6%	$ 1,171,850	$ -	20.1%	$ 117,149	$3.30
	Tier 3	249,825	6.8%	$ 750,057	$ 356,258	22.1%	$ 129,326	$4.95
Uniform Potable Commodity Rate (All Other Meters)		2,093,341	56.7%	$ 6,284,908	$ 466,727	57.8%	$ 337,561	$3.39
Total		**3,691,212**	**100.0%**	**$ 11,082,254**	**$ 822,986**	**100.0%**	**$ 584,036**	

1. Consumption assumes Year 3 consumption with 0.5% customer growth.

TRUE

TABLE 101
Level 2 - 20% Conservation Goal

Rate Structure Type		Water Consumption *(hcf/yr.) (1)*	Percentage of Water Consumption	Year 4 Potable Net Revenue Requirements (45% Fixed / 55% Variable): Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	923,065	28.1%	$ 2,820,849	$ -	0.0%	$ -	$3.06
	Tier 2	322,284	9.8%	$ 984,886	$ -	20.1%	$ 117,149	$3.42
	Tier 3	174,982	5.3%	$ 534,738	$ 356,258	22.1%	$ 129,326	$5.83
Uniform Potable Commodity Rate (All Other Meters)		1,860,747	56.7%	$ 5,686,369	$ 466,727	57.8%	$ 337,561	$3.49
Total		**3,281,078**	**100.0%**	**$ 10,026,843**	**$ 822,986**	**100.0%**	**$ 584,036**	

1. Consumption assumes Year 3 consumption with 0.5% customer growth. *TRUE*

TABLE 102
Level 3 - 30% Conservation Goal

Rate Structure Type		Water Consumption *(hcf/yr.) (1)*	Percentage of Water Consumption	Year 4 Potable Net Revenue Requirements (45% Fixed / 55% Variable): Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	877,223	30.6%	$ 2,741,242	$ -	0.0%	$ -	$3.12
	Tier 2	251,021	8.7%	$ 784,417	$ -	20.1%	$ 117,149	$3.59
	Tier 3	114,545	4.0%	$ 357,942	$ 356,258	22.1%	$ 129,326	$7.36
Uniform Potable Commodity Rate (All Other Meters)		1,628,154	56.7%	$ 5,087,830	$ 466,727	57.8%	$ 337,561	$3.62
Total		**2,870,943**	**100.0%**	**$ 8,971,431**	**$ 822,986**	**100.0%**	**$ 584,036**	

1. Consumption assumes Year 3 consumption with 0.5% customer growth. *TRUE*

TABLE 103
Level 4 - 40% Conservation Goal

Rate Structure Type		Water Consumption *(hcf/yr.) (1)*	Percentage of Water Consumption	Year 4 Potable Net Revenue Requirements (45% Fixed / 55% Variable): Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	817,015	33.2%	$ 2,628,205	$ -	0.0%	$ -	$3.22
	Tier 2	248,233	10.1%	$ 798,524	$ 356,258	22.1%	$ 246,475	$5.64
Uniform Potable Commodity Rate (All Other Meters)		1,395,560	56.7%	$ 4,489,291	$ 466,727	57.8%	$ 337,561	$3.79
Total		**2,460,808**	**100.0%**	**$ 7,916,020**	**$ 822,986**	**79.9%**	**$ 584,036**	

1. Consumption assumes Year 3 consumption with 0.5% customer growth. *TRUE*

TABLE 104
Level 5 - 50% Conservation Goal

Rate Structure Type		Water Consumption (hcf/yr.) (1)	Percentage of Water Consumption	Year 4 Potable Net Revenue Requirements (45% Fixed / 55% Variable): Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable	Tier 1	737,746	36.0%	$ 2,468,158	$ -	0.0%	$ -	$3.35
Commodity Rate	Tier 2	149,961	7.3%	$ 501,701	$ 356,258	20.1%	$ 246,475	$7.36
Uniform Potable Commodity Rate (All Other Meters)		1,162,967	56.7%	$ 3,890,750	$ 466,727	57.8%	$ 337,561	$4.04
Total		**2,050,675**	**100.0%**	**$ 6,860,609**	**$ 822,986**	**77.9%**	**$ 584,036**	

1. Consumption assumes Year 3 consumption with 0.5% customer growth.

TRUE

TABLE 105
Level 6 - 60% Conservation Goal

Rate Structure Type		Water Consumption (hcf/yr.) (1)	Percentage of Water Consumption	Year 4 Potable Net Revenue Requirements (45% Fixed / 55% Variable): Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable	Tier 1	634,015	38.6%	$ 2,243,521	$ -	0.0%	$ -	$3.54
Commodity Rate	Tier 2	76,150	4.6%	$ 269,464	$ 356,258	20.1%	$ 246,475	$11.45
Uniform Potable Commodity Rate (All Other Meters)		930,374	56.7%	$ 3,292,213	$ 466,727	57.8%	$ 337,561	$4.40
Total		**1,640,539**	**100.0%**	**$ 5,805,197**	**$ 822,986**	**77.9%**	**$ 584,036**	

1. Consumption assumes Year 3 consumption with 0.5% customer growth.

TRUE

TABLE 106

Year 5 Potable Net Revenue Requirements (45% Fixed / 55% Variable)					
Percentage Of Conservation	Total Expected Consumption FY 2020/21 (1)	Base Commodity Cost	Impacted Commodity Costs	Savings	Updated Commodity Cost
a		*b*	*c*	*d = (-a) * c*	e = b + c
0%	4,121,854 ccf	$ 12,810,504	$ 10,976,132	$ -	$ 12,810,504
10%	3,709,668 ccf	$ 12,810,504	$ 10,976,132	$ (1,097,613)	$ 11,712,891
20%	3,297,483 ccf	$ 12,810,504	$ 10,976,132	$ (2,195,226)	$ 10,615,278
30%	2,885,298 ccf	$ 12,810,504	$ 10,976,132	$ (3,292,840)	$ 9,517,665
40%	2,473,112 ccf	$ 12,810,504	$ 10,976,132	$ (4,390,453)	$ 8,420,051
50%	2,060,927 ccf	$ 12,810,504	$ 10,976,132	$ (5,488,066)	$ 7,322,438
60%	1,648,742 ccf	$ 12,810,504	$ 10,976,132	$ (6,585,679)	$ 6,224,825

TABLE 107

Year 5 Potable Net Revenue Requirements (45% Fixed / 55% Variable)					
Drought Level	Level Of Conservation	Tier 1 Rate	Tier 2 Rate	Tier 3 Rate	Uniform Rate
No Level	**Baseline (1)**	**$3.11**	**$3.38**	**$4.62**	**$3.47**
Level 1	10%	$3.16	$3.47	$5.20	$3.56
Level 2	20%	$3.22	$3.60	$6.13	$3.67
Level 3	30%	$3.30	$3.79	$7.75	$3.82
Level 4	40%	$3.40	$5.95	--	$4.01
Level 5	50%	$3.55	$7.77	--	$4.28
Level 6	60%	$3.78	$12.09	--	$4.68

1. Baseline level of consumption assumes 2015 consumption with 4 years of 0.5% customer growth.

TABLE 108

Level 1 - 10% Conservation Goal

Rate Structure Type		Water Consumption (hcf/yr.) (1)	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
				Year 5 Potable Net Revenue Requirements (45% Fixed / 55% Variable)				
Tiered Potable Commodity Rate (SFR)	Tier 1	962,523	25.9%	$ 3,039,066	$ -	0.0%	$ -	$3.16
	Tier 2	392,264	10.6%	$ 1,238,534	$ -	20.1%	$ 123,622	$3.47
	Tier 3	251,074	6.8%	$ 792,739	$ 375,942	22.1%	$ 136,471	$5.20
Uniform Potable Commodity Rate (All Other Meters)		2,103,807	56.7%	$ 6,642,552	$ 492,514	57.8%	$ 356,211	$3.56
Total		**3,709,668**	**100.0%**	**$ 11,712,891**	**$ 868,456**	**100.0%**	**$ 616,304**	

1. Consumption assumes Year 4 consumption with 0.5% customer growth.

TRUE

TABLE 109
Level 2 - 20% Conservation Goal

Year 5 Potable Net Revenue Requirements (45% Fixed / 55% Variable)

Rate Structure Type		Water Consumption *(hcf/yr.) (1)*	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	927,680	28.1%	$ 2,986,393	$ -	0.0%	$ -	$3.22
	Tier 2	323,895	9.8%	$ 1,042,685	$ -	20.1%	$ 123,622	$3.60
	Tier 3	175,857	5.3%	$ 566,120	$ 375,942	22.1%	$ 136,471	$6.13
Uniform Potable Commodity Rate (All Other Meters)		1,870,051	56.7%	$ 6,020,080	$ 492,514	57.8%	$ 356,211	$3.67
Total		**3,297,483**	**100.0%**	**$ 10,615,278**	**$ 868,456**	**100.0%**	**$ 616,304**	

1. Consumption assumes Year 4 consumption with 0.5% customer growth. *TRUE*

TABLE 110
Level 3 - 30% Conservation Goal

Year 5 Potable Net Revenue Requirements (45% Fixed / 55% Variable)

Rate Structure Type		Water Consumption *(hcf/yr.) (1)*	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	881,610	30.6%	$ 2,908,145	$ -	0.0%	$ -	$3.30
	Tier 2	252,276	8.7%	$ 832,177	$ -	20.1%	$ 123,622	$3.79
	Tier 3	115,118	4.0%	$ 379,736	$ 375,942	22.1%	$ 136,471	$7.75
Uniform Potable Commodity Rate (All Other Meters)		1,636,295	56.7%	$ 5,397,607	$ 492,514	57.8%	$ 356,211	$3.82
Total		**2,885,298**	**100.0%**	**$ 9,517,665**	**$ 868,456**	**100.0%**	**$ 616,304**	

1. Consumption assumes Year 4 consumption with 0.5% customer growth. *TRUE*

TABLE 111
Level 4 - 40% Conservation Goal

Year 5 Potable Net Revenue Requirements (45% Fixed / 55% Variable)

Rate Structure Type		Water Consumption *(hcf/yr.) (1)*	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable Commodity Rate (SFR)	Tier 1	821,100	33.2%	$ 2,795,549	$ -	0.0%	$ -	$3.40
	Tier 2	249,474	10.1%	$ 849,368	$ 375,942	22.1%	$ 260,093	$5.95
Uniform Potable Commodity Rate (All Other Meters)		1,402,538	56.7%	$ 4,775,134	$ 492,514	57.8%	$ 356,211	$4.01
Total		**2,473,112**	**100.0%**	**$ 8,420,051**	**$ 868,456**	**79.9%**	**$ 616,304**	

1. Consumption assumes Year 4 consumption with 0.5% customer growth. *TRUE*

TABLE 112
Level 5 - 50% Conservation Goal

Year 5 Potable Net Revenue Requirements (45% Fixed / 55% Variable)

Rate Structure Type		Water Consumption (hcf/yr.) (1)	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable	Tier 1	741,435	36.0%	$ 2,634,305	$ -	0.0%	$ -	$3.55
Commodity Rate	Tier 2	150,711	7.3%	$ 535,473	$ 375,942	20.1%	$ 260,093	$7.77
Uniform Potable Commodity Rate (All Other Meters)		1,168,782	56.7%	$ 4,152,660	$ 492,514	57.8%	$ 356,211	$4.28
Total		**2,060,928**	**100.0%**	**$ 7,322,438**	**$ 868,456**	**77.9%**	**$ 616,304**	

1. Consumption assumes Year 4 consumption with 0.5% customer growth. *TRUE*

TABLE 113
Level 6 - 60% Conservation Goal

Year 5 Potable Net Revenue Requirements (45% Fixed / 55% Variable)

Rate Structure Type		Water Consumption (hcf/yr.) (1)	Percentage of Water Consumption	Updated Commodity Cost	Additional Supply Costs Allocated to Volumetric	Capacity Allocation	Target Capacity Rev. Req't from Vol. Charges	Drought Rates
Tiered Potable	Tier 1	637,185	38.6%	$ 2,405,693	$ -	0.0%	$ -	$3.78
Commodity Rate	Tier 2	76,531	4.6%	$ 288,942	$ 375,942	20.1%	$ 260,093	$12.09
Uniform Potable Commodity Rate (All Other Meters)		935,025	56.7%	$ 3,530,190	$ 492,514	57.8%	$ 356,211	$4.68
Total		**1,648,741**	**100.0%**	**$ 6,224,825**	**$ 868,456**	**77.9%**	**$ 616,304**	

1. Consumption assumes Year 4 consumption with 0.5% customer growth. *TRUE*

CURRENT VS. PROPOSED WATER RATES:

TABLE 114

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Fixed Service Charge						
Monthly Fixed Service Charge						
Standard Meters:						
5/8 inch	$25.12	$27.13	$33.44	$40.55	$42.58	$44.71
3/4 inch	$25.12	$27.13	$33.44	$40.55	$42.58	$44.71
1 inch	$41.73	$27.13	$33.44	$40.55	$42.58	$44.71
1.5 inch	$83.24	$126.41	$157.28	$192.06	$201.67	$211.75
2 inch	$133.05	$200.87	$250.16	$305.70	$320.99	$337.03
3 inch	$249.28	$399.43	$497.82	$608.73	$639.16	$671.12
4 inch	$415.33	$622.81	$776.45	$949.63	$997.12	$1,046.97
6 inch	$830.44	$1,243.31	$1,550.42	$1,896.60	$1,991.43	$2,091.00
8 inch	$1,328.58	$1,987.91	$2,479.18	$3,032.95	$3,184.60	$3,343.83
10 inch	$1,909.73	$5,214.51	$6,503.80	$7,957.16	$8,355.02	$8,772.77
12 inch	$3,570.18	$6,579.61	$8,206.53	$10,040.48	$10,542.50	$11,069.62
Monthly Fixed Service Charge						
Fire Service Meters:						
1 inch	--	$2.95	$3.18	$3.41	$3.58	$3.76
2 inch	$9.96	$7.45	$8.01	$8.61	$9.04	$9.49
3 inch	$14.44	$13.55	$14.56	$15.65	$16.44	$17.26
4 inch	$18.38	$24.78	$26.64	$28.64	$30.07	$31.57
6 inch	$36.75	$53.67	$57.69	$62.02	$65.12	$68.38
8 inch	$84.89	$92.18	$99.10	$106.53	$111.85	$117.45
10 inch	$152.66	$143.54	$154.30	$165.87	$174.17	$182.88
12 inch	$246.58	$172.42	$185.36	$199.26	$209.22	$219.68
Potable Water Commodity Charges						
Single-Family Residential :						
Current / Proposed						
Tier 1 1-16 hcf / 1-8 hcf	$2.77	$2.43	$2.62	$2.82	$2.96	$3.11
Tier 2 17-23 hcf / 9-15 hc	$3.19	$3.57	$3.34	$3.06	$3.22	$3.38
Tier 3 24+ hcf / 16+ hcf	$4.02	$4.98	$4.62	$4.19	$4.40	$4.62
All Other Customers:						
Uniform Rate	$2.97	$3.24	$3.20	$3.15	$3.31	$3.47
Recycled Water Commodity Charges						
Uniform Rate	$1.71	$1.71	$1.79	$1.83	$2.08	$2.33

CURRENT VS. PROPOSED WATER RATES:

TABLE 115

Water Rate Schedule - Zonal Surcharges	Current Rates	Proposed Surcharge				
		FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Additional Cost Per hcf of Water Consumed (1):						
Zone 2	$0.21	$0.15	$0.16	$0.16	$0.17	$0.18
Zone 3	$0.51	$0.32	$0.33	$0.34	$0.36	$0.37
Zone 4	$1.43	$0.76	$0.79	$0.83	$0.86	$0.90
Zone 5	$2.06	$1.06	$1.10	$1.15	$1.20	$1.25
Zone 6	$2.42	$1.51	$1.57	$1.64	$1.71	$1.78

1. Zonal surcharges are in addition to standard tiered or uniform volumetric rates.

TABLE 116

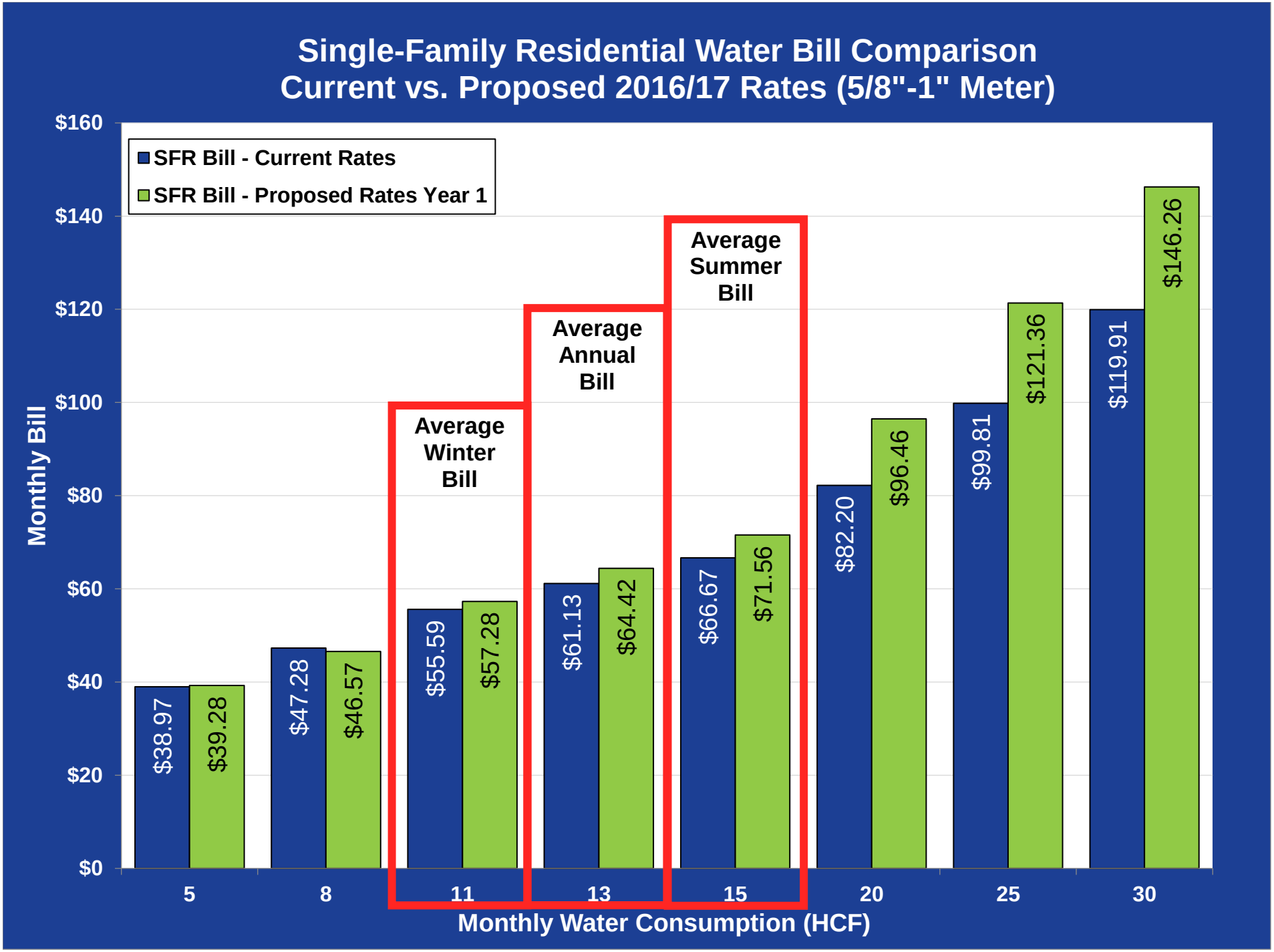
Water Rate Schedule Drought Rates (1)	Current Rates	Proposed Rates				
		FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Drought Rates - Level 1 - 10% Conservation Goal						
Single-Family Residential:						
Proposed	--					
Tier 1 1-8 hcf	--	$2.45	$2.64	$2.84	$3.00	$3.16
Tier 2 9-15 hcf	--	$3.76	$3.48	$3.13	$3.30	$3.47
Tier 3 16+ hcf	--	$5.89	$5.35	$4.69	$4.95	$5.20
All Other Customers:						
Uniform Rate	--	$3.34	$3.29	$3.21	$3.39	$3.56
Drought Rates - Level 2 - 20% Conservation Goal						
Single-Family Residential:						
Proposed	--					
Tier 1 1-8 hcf	--	$2.46	$2.67	$2.88	$3.06	$3.22
Tier 2 9-15 hcf	--	$4.05	$3.69	$3.22	$3.42	$3.60
Tier 3 16+ hcf	--	$7.38	$6.54	$5.52	$5.83	$6.13
All Other Customers:						
Uniform Rate	--	$3.46	$3.40	$3.29	$3.49	$3.67
Drought Rates - Level 3 - 30% Conservation Goal						
Single-Family Residential:						
Proposed	--					
Tier 1 1-8 hcf	--	$2.48	$2.71	$2.92	$3.12	$3.30
Tier 2 9-15 hcf	--	$4.53	$4.02	$3.36	$3.59	$3.79
Tier 3 16+ hcf	--	$9.99	$8.62	$6.95	$7.36	$7.75
All Other Customers:						
Uniform Rate	--	$3.63	$3.55	$3.39	$3.62	$3.82

CURRENT VS. PROPOSED WATER RATES:

TABLE 117

Water Rate Schedule Drought Rates (1), cont'd.	Current Rates	Proposed Rates				
		FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Drought Rates - Level 4 - 40% Conservation Goal						
Single-Family Residential:						
Proposed	--					
Tier 1 1-8 hcf	--	$2.51	$2.76	$2.97	$3.22	$3.40
Tier 2 9+ hcf	--	$8.04	$6.81	$5.29	$5.64	$5.95
All Other Customers:						
Uniform Rate	--	$3.84	$3.74	$3.52	$3.79	$4.01
Drought Rates - Level 5 - 50% Conservation Goal						
Single-Family Residential:						
Proposed	--					
Tier 1 1-8 hcf	--	$2.55	$2.84	$3.05	$3.35	$3.55
Tier 2 9+ hcf	--	$11.70	$9.54	$6.88	$7.36	$7.77
All Other Customers:						
Uniform Rate	--	$4.15	$4.00	$3.71	$4.04	$4.28
Drought Rates - Level 6 - 60% Conservation Goal						
Single-Family Residential:						
Proposed	--					
Tier 1 1-8 hcf	--	$2.60	$2.94	$3.17	$3.54	$3.78
Tier 2 9+ hcf	--	$20.63	$16.14	$10.70	$11.45	$12.09
All Other Customers:						
Uniform Rate	--	$4.60	$4.40	$3.99	$4.40	$4.68

1. Drought rates replace the standard tiered or uniform volumetric rates, in each successive conservation target.


Single-Family Residential Water Bill Comparison
Current vs. Proposed 2016/17 Rates (5/8"-1" Meter)
SFR Bill - Current Rates
SFR Bill - Proposed Rates Year 1
Average Winter Bill
Average Annual Bill
Average Summer Bill
$38.97
$39.28
$47.28
$46.57
$55.59
$57.28
$61.13
$64.42
$66.67
$71.56
$82.20
$96.46
$99.81
$121.36
$119.91
$146.26
$0
$20
$40
$60
$80
$100
$120
$140
$160
Monthly Bill
5
8
11
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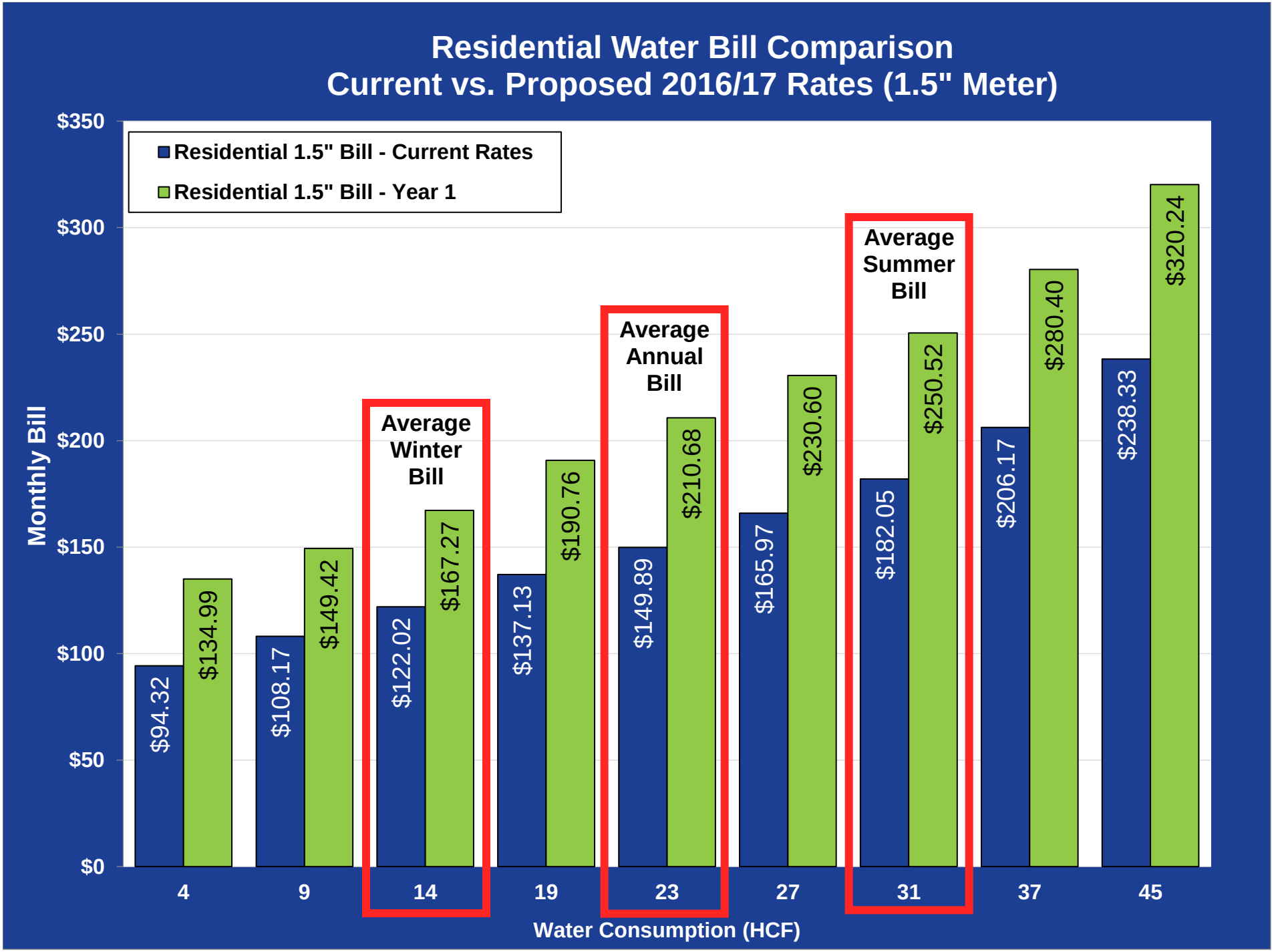
Monthly Water Consumption (HCF)


Residential Water Bill Comparison
Current vs. Proposed 2016/17 Rates (1.5" Meter)
Residential 1.5" Bill - Current Rates
Residential 1.5" Bill - Year 1
Monthly Bill
$350
$300
$250
$200
$150
$100
$50
$0
Average Winter Bill
Average Annual Bill
Average Summer Bill
$94.32
$134.99
$108.17
$149.42
$122.02
$167.27
$137.13
$190.76
$149.89
$210.68
$165.97
$230.60
$182.05
$250.52
$206.17
$280.40
$238.33
$320.24
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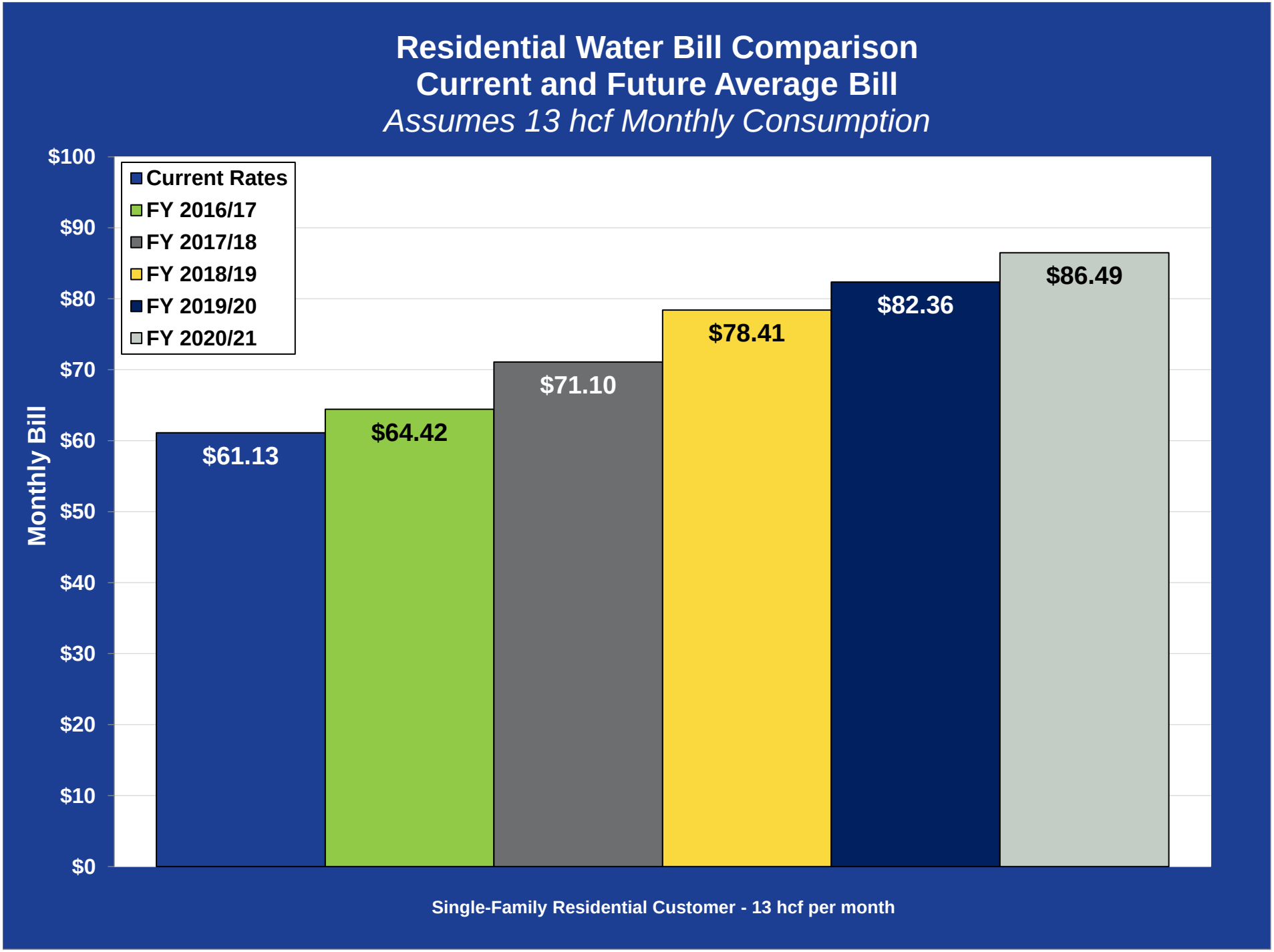
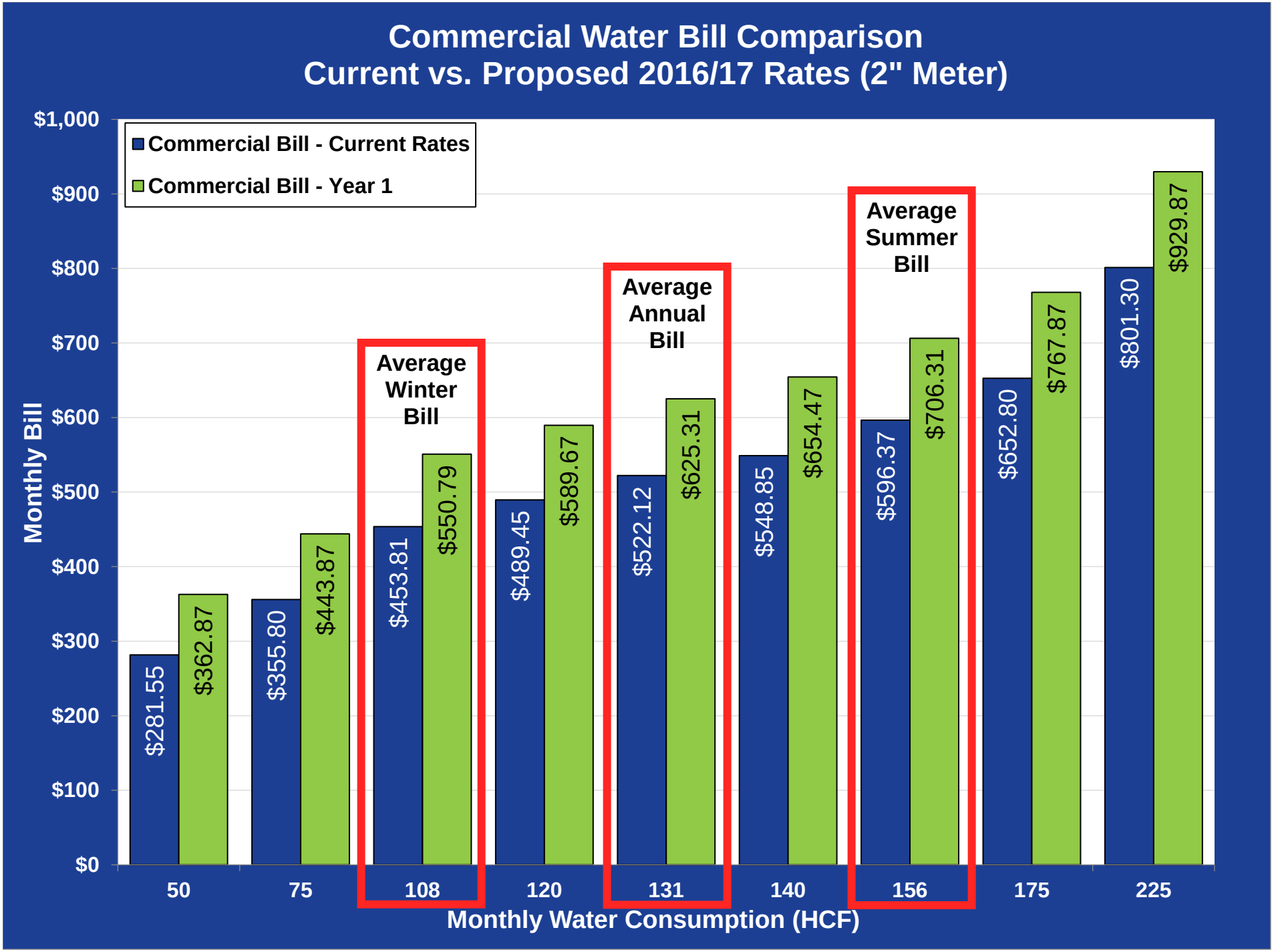
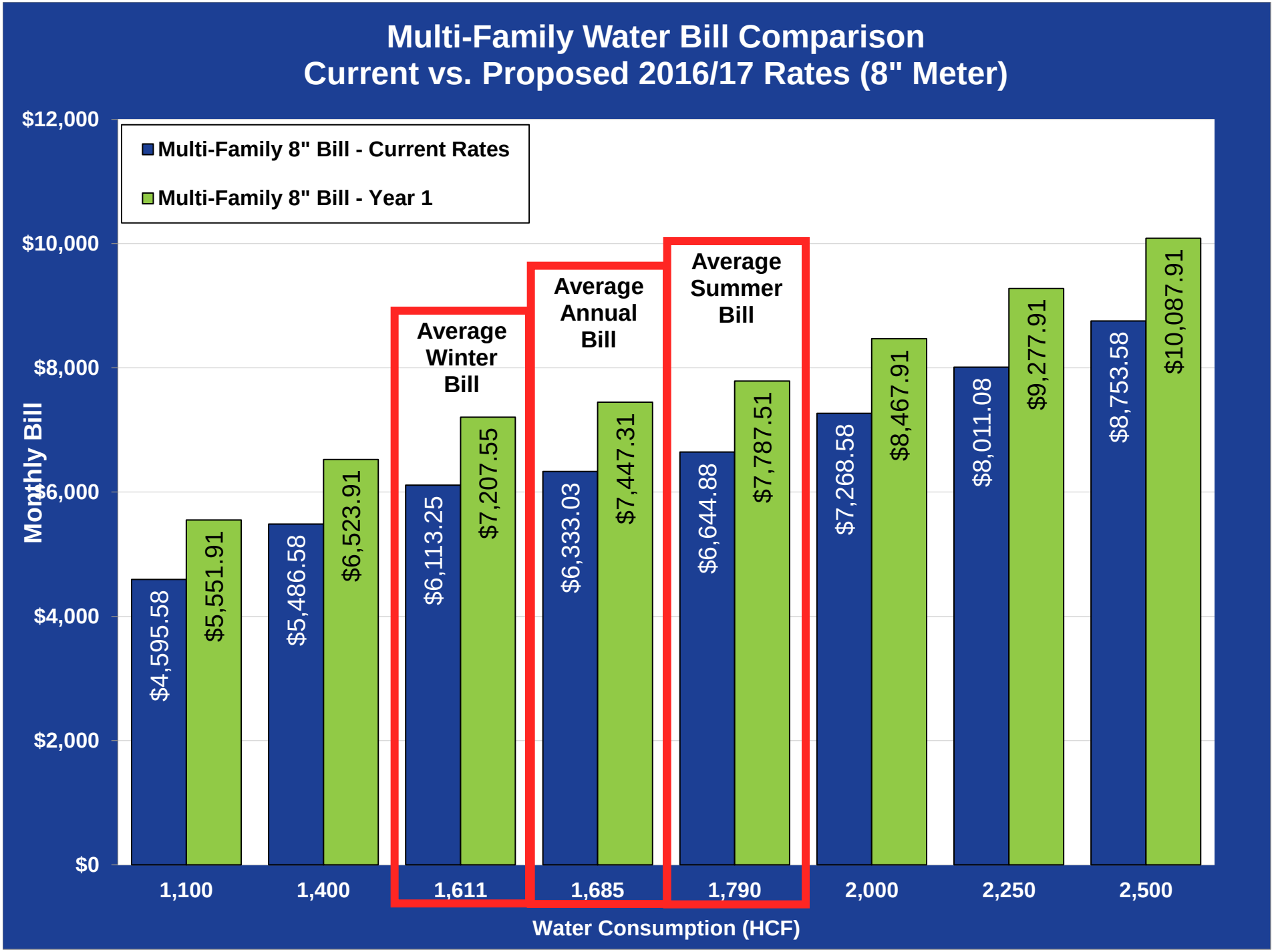
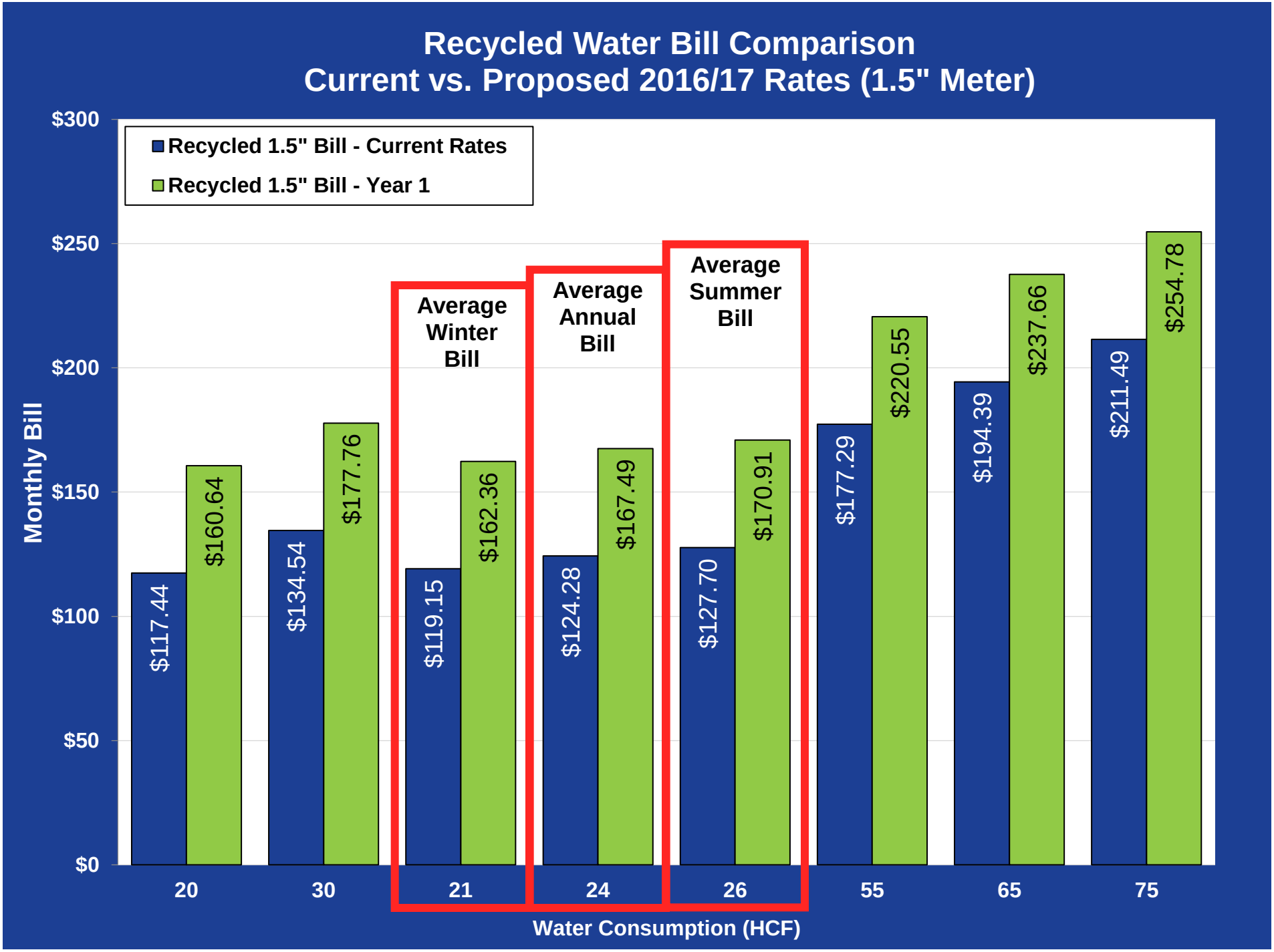
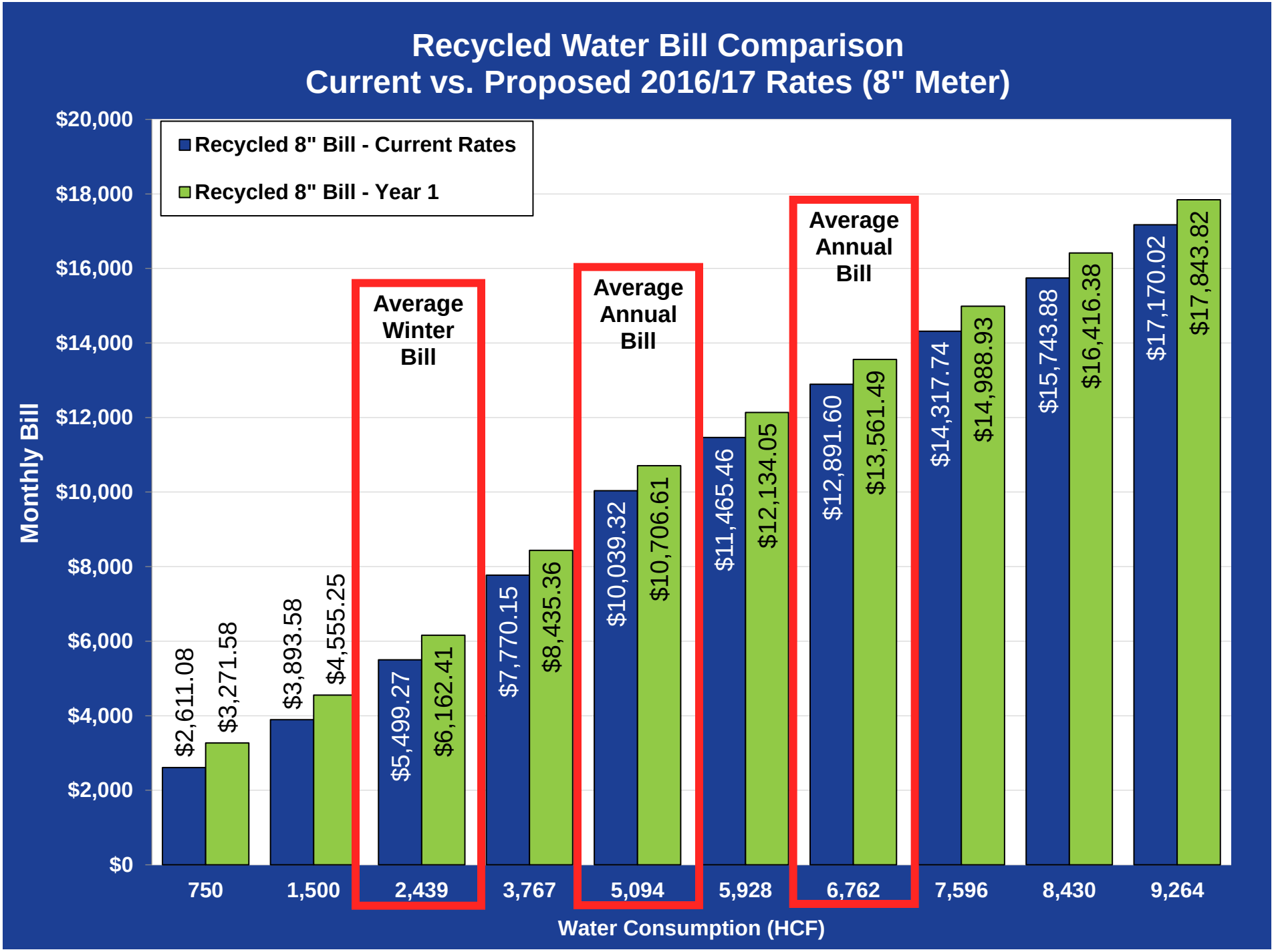
37
45
Water Consumption (HCF)

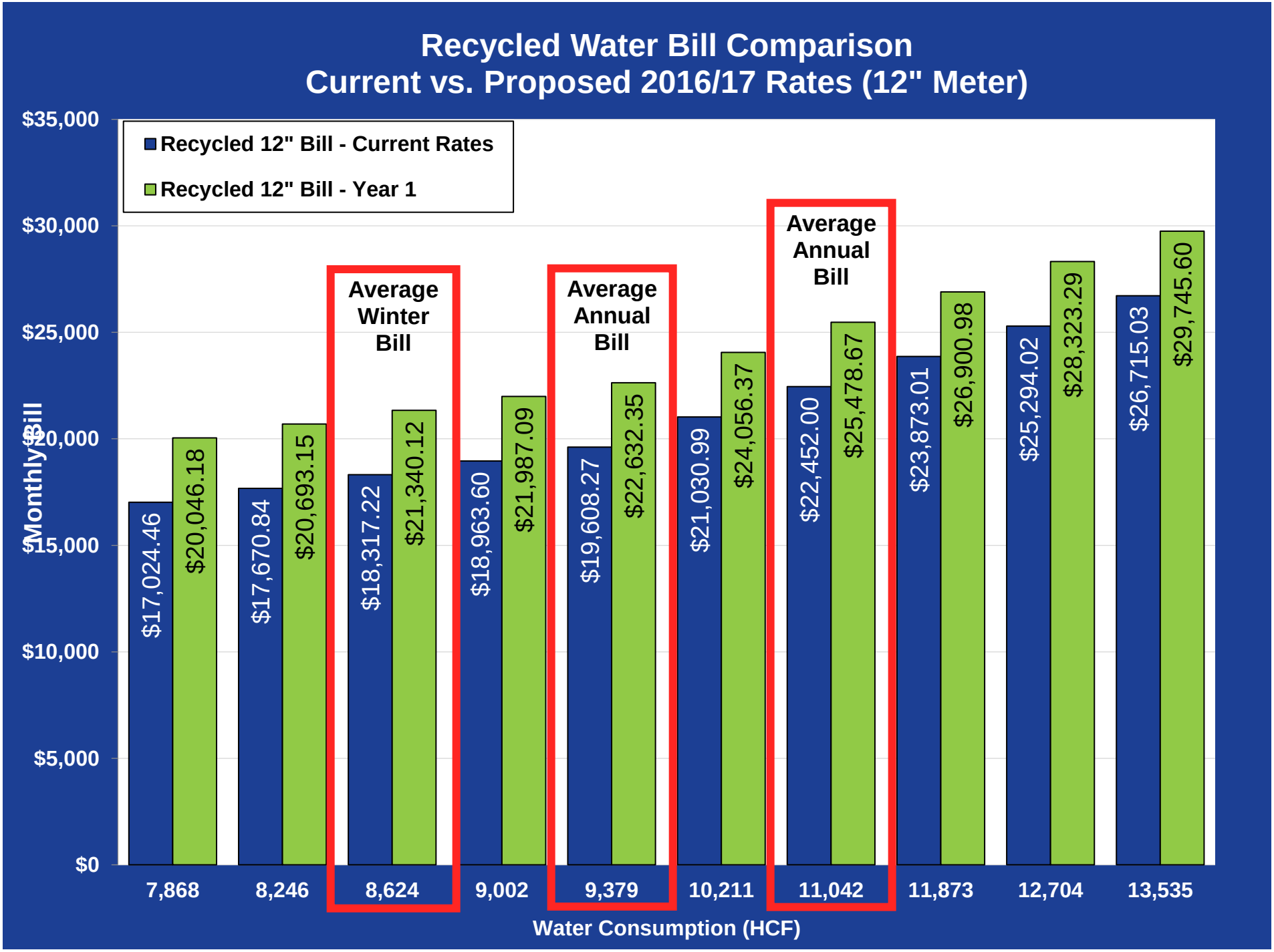

Residential Water Bill Comparison
Current and Future Average Bill
Assumes 13 hcf Monthly Consumption
Current Rates
FY 2016/17
FY 2017/18
FY 2018/19
FY 2019/20
FY 2020/21
Monthly Bill
$100
$90
$80
$70
$60
$50
$40
$30
$20
$10
$0
$61.13
$64.42
$71.10
$78.41
$82.36
$86.49
Single-Family Residential Customer - 13 hcf per month


Commercial Water Bill Comparison
Current vs. Proposed 2016/17 Rates (2" Meter)
Commercial Bill - Current Rates
Commercial Bill - Year 1
Monthly Bill
$1,000
$900
$800
$700
$600
$500
$400
$300
$200
$100
$0
$281.55
$362.87
$355.80
$443.87
$453.81
$550.79
$489.45
$589.67
$522.12
$625.31
$548.85
$654.47
$596.37
$706.31
$652.80
$767.87
$801.30
$929.87
Average Winter Bill
Average Annual Bill
Average Summer Bill
50
75
108
120
131
140
156
175
225
Monthly Water Consumption (HCF)


Multi-Family Water Bill Comparison
Current vs. Proposed 2016/17 Rates (8" Meter)
Multi-Family 8" Bill - Current Rates
Multi-Family 8" Bill - Year 1
Monthly Bill
$12,000
$10,000
$8,000
$6,000
$4,000
$2,000
$0
Average Winter Bill
Average Annual Bill
Average Summer Bill
$4,595.58
$5,551.91
$5,486.58
$6,523.91
$6,113.25
$7,207.55
$6,333.03
$7,447.31
$6,644.88
$7,787.51
$7,268.58
$8,467.91
$8,011.08
$9,277.91
$8,753.58
$10,087.91
1,100
1,400
1,611
1,685
1,790
2,000
2,250
2,500
Water Consumption (HCF)


Recycled Water Bill Comparison
Current vs. Proposed 2016/17 Rates (1.5" Meter)
Recycled 1.5" Bill - Current Rates
Recycled 1.5" Bill - Year 1
Monthly Bill
$300
$250
$200
$150
$100
$50
$0
Average Winter Bill
Average Annual Bill
Average Summer Bill
$117.44
$160.64
$134.54
$177.76
$119.15
$162.36
$124.28
$167.49
$127.70
$170.91
$177.29
$220.55
$194.39
$237.66
$211.49
$254.78
20
30
21
24
26
55
65
75
Water Consumption (HCF)


Recycled Water Bill Comparison
Current vs. Proposed 2016/17 Rates (8" Meter)
Recycled 8" Bill - Current Rates
Recycled 8" Bill - Year 1
Monthly Bill
$20,000
$18,000
$16,000
$14,000
$12,000
$10,000
$8,000
$6,000
$4,000
$2,000
$0
Average Winter Bill
Average Annual Bill
Average Annual Bill
$2,611.08
$3,271.58
$3,893.58
$4,555.25
$5,499.27
$6,162.41
$7,770.15
$8,435.36
$10,039.32
$10,706.61
$11,465.46
$12,134.05
$12,891.60
$13,561.49
$14,317.74
$14,988.93
$15,743.88
$16,416.38
$17,170.02
$17,843.82
750
1,500
2,439
3,767
5,094
5,928
6,762
7,596
8,430
9,264
Water Consumption (HCF)


Recycled Water Bill Comparison
Current vs. Proposed 2016/17 Rates (12" Meter)
Recycled 12" Bill - Current Rates
Recycled 12" Bill - Year 1
Average Winter Bill
Average Annual Bill
Average Annual Bill
$35,000
$30,000
$25,000
$20,000
$15,000
$10,000
$5,000
$0
Monthly Bill
$17,024.46
$20,046.18
$17,670.84
$20,693.15
$18,317.22
$21,340.12
$18,963.60
$21,987.09
$19,608.27
$22,632.35
$21,030.99
$24,056.37
$22,452.00
$25,478.67
$23,873.01
$26,900.98
$25,294.02
$28,323.29
$26,715.03
$29,745.60
7,868
8,246
8,624
9,002
9,379
10,211
11,042
11,873
12,704
13,535
Water Consumption (HCF)