



CABAZON WATER DISTRICT

Final Report

Water Rate Study

April 2017

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Section 1. PURPOSE AND OVERVIEW OF THE STUDY

A. Purpose

Cabazon Water District (District, CWD) 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, 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 and the District’s Board of Directors (Board) in selecting appropriate rate alternatives. Based on input from District staff and the Board, the proposed water rates are summarized in this report.

B. Overview of the Study

Comprehensive rate studies such as this one typically include the following three components, as outlined in **Figure 1**:

1. Preparation of a **Financial Plan**, which identifies the net revenue requirements for the utility.
2. **Cost of Service Analysis**, which determines the cost of providing water service to each customer class.
3. **Rate Design Analysis**, which evaluates different rate design alternatives.

Figure 1. Primary Components of a Rate Study



These steps 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 Charges¹, also referred to as the M1 Manual. They also address requirements under Proposition 218 that rates not exceed the cost of providing the service, and that they be proportionate to the cost of

¹ Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017.

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. Detailed tables and figures documenting the development of the proposed rates are provided in the Appendix.

FINANCIAL PLAN

As a part of this rate study, NBS projected revenues and expenditures on a cash flow basis for the next twenty years. The amount of rate revenue required, that will allow reserves to be maintained at the approved levels, is known as the *net revenue requirement*. As current rate revenue falls short of the net revenue requirement, rate adjustments -- or more accurately, adjustments in the total revenue collected from water rates -- are recommended. This report presents an overview of the methodologies, assumptions, and data used, along with the financial plans and proposed rates developed in this study².

RATE DESIGN ANALYSIS

Rate Design is typically the stage in the study where NBS, staff and the Board must work most closely together, to develop rate alternatives that will meet the District's objectives. 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 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*³ 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 ratemaking 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.

The following are the basic rate design criteria that were considered in this study:

Rate Structure Basics –The vast majority of rate structures contain a fixed or minimum charge in combination with a volumetric charge. The revenue requirements for each customer class are collected from both fixed monthly meter charges and variable commodity charges. Based on direction from the

² The complete financial plan is set forth in the Appendix.

³ 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.

Board, the rates proposed in this report are designed to collect 70 percent of rate revenue from the fixed meter charge and 30 percent from the variable commodity charge⁴.

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.

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 customers regarding their understanding of the rates, and for the utility’s administration and 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 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.

REGULATORY ISSUES

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. Due to its size, the District was exempt from a State mandate; however, the District continues to ask customers for voluntarily conservation.

⁴ 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.

While the level of conservation the District is achieving is good from a supply standpoint, it places financial pressure on the utility. Consumption has an impact on both revenue and expenses. For this analysis, October 2015 through September 2016 consumption is used as the base consumption, and is assumed to be the “new normal,” with approximately 194,990 hundred cubic feet (hcf) or 448 AF of water consumed. No increase in consumption is assumed over the five-year rate period.

Future Considerations - The District is in the beginning process of forming a Groundwater Sustainability Agency (GSA)⁵ with other local water Districts and Agencies. Once formed, this Agency will act to ensure that the basin from which the District relies upon for all of its water, remains healthy. The impacts of this are unknown at this point; however, the District should review how this would affect the long-term financial plan, to ensure any financial obligations resulting from this will be met in the future.

⁵ As required via Sustainable Groundwater Management Act.

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:

- Avoiding operational deficits and further depletion of reserves.
- Improving revenue stability.
- Generating additional revenue needed to meet projected funding requirements.
- Continuing to encourage water conservation with a tiered rate structure.

NBS developed various water rate alternatives as requested by District staff and the Board 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 Board. 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.

B. Financial Plan

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 adjustments 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 District is approximately \$1.2 million, annually. If no rate adjustments are implemented, the District is projected to average a \$260,000 deficit each year.
- **Building and Maintaining Reserve Funds:** Reserve funds provide a basis for a utility to cope with fiscal emergencies such as revenue shortfalls, asset failure, and natural disasters, among other events. Reserve policies 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 accumulate approximately \$900,000 in reserves by the end of FY 2020/21. The reserve funds for the Utility are considered unrestricted reserves and consist of the following:
 - **The Operating Reserve** should equal approximately 180 days of operating expenses (approximately \$695,000 for FY 2020/21). An Operating Reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures. Fluctuations in revenue can be 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 Capital Rehabilitation and Replacement Reserve** should equal 6 percent of net capital assets (approximately \$316,000 by the end of for FY 2020/21), 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 in order to maintain current service levels. District staff has identified roughly \$300,000 in expected capital expenditures for FY 2016/17 through 2020/21. With the recommended rate adjustments, these expenditures can be accomplished without draining existing reserves.
- **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:
 - No Customer growth is expected over the 5-year rate period.
 - General cost inflation is 2 percent annually.
 - Labor cost inflation is 3 percent annually.
 - Benefits cost inflation is 6 percent annually.
 - Energy cost inflation is 5 percent annually.
- **Maintaining Adequate Bond Coverage:** The District is required by its bond covenants to maintain a debt service coverage ratio of at least 1.2. The initial rate adjustments, for FY 2016/17 and FY 2017/18, are driven largely by the need for the District to meet this requirement. Rate adjustments in the following three years will allow the district to exceed this 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.
- **Impact of Annual Rate Adjustment Date:** Except for FY 2016/17, the financial plan modelling assumes that rate adjustments occur on the January bill⁶ 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 15 percent adjustment in rate revenue planned for FY 2017/18; meaning, the rates are developed to recover \$1.33 million, which is a 15 percent adjustment over the expected \$1.15 million that would be collected without a rate adjustment. However, because of the timing for when the rates will go into effect, the Financial Plan results in only \$1.24 million in rate revenue for FY 2017/18.

Rate adjustments of 15 percent in FY 2016/17 and 2017/18 and 5 percent in FY 2018/19 through FY 2020/21, will be needed in order to fully fund all operating expenses, planned capital projects, debt service obligations and build reserves to the recommended targets by FY 2021/22⁷. **Figure 2** summarizes the sources and uses of funds, net revenue requirements, and the recommended annual percent adjustments in total rate revenue recommended for the next 5 years for the District.

⁶ The first rate adjustment is scheduled for April 19th, 2017 followed by December 1, 2017 and each December 1st thereafter. The first bill that will reflect the planned change would be the May 2017 bill. Similarly, following the December 1st adjustments, the first bills showing the increases will be the following January’s.

⁷ Because of the mid-year adjustment to the rates, the full impact of each year’s adjustment does not affect revenue until the following year.

Figure 2. Summary of Water Revenue Requirements

| Summary of Sources and Uses of Funds and Net Revenue Requirements | Budget | Projected | | | |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|
| | FY 2016/17 | FY 2017/18 | FY 2018/19 | FY 2019/20 | FY 2020/21 |
| Sources of Water Funds | | | | | |
| Rate Revenue Under Prevailing Rates | \$ 1,004,500 | \$ 1,004,500 | \$ 1,004,500 | \$ 1,004,500 | \$ 1,004,500 |
| <i>Additional Revenue from Rate Increases</i> ¹ | 25,113 | 237,313 | 357,163 | 425,246 | 496,733 |
| Non-Rate Revenues | 248,780 | 251,484 | 254,241 | 257,054 | 259,923 |
| Interest Earnings | 6,010 | 1,034 | 2,117 | 3,745 | 6,626 |
| Total Sources of Funds | \$ 1,284,403 | \$ 1,494,330 | \$ 1,618,021 | \$ 1,690,545 | \$ 1,767,782 |
| Uses of Water Funds | | | | | |
| Operating Expenses | \$ 1,253,405 | \$ 1,294,070 | \$ 1,324,910 | \$ 1,366,680 | \$ 1,390,760 |
| Debt Service | 137,400 | 137,400 | 137,401 | 137,401 | 137,401 |
| Rate-Funded Capital Expenses | 132,000 | 52,788 | 79,833 | 23,220 | 12,662 |
| Total Use of Funds | \$ 1,522,805 | \$ 1,484,258 | \$ 1,542,143 | \$ 1,527,301 | \$ 1,540,823 |
| Surplus (Deficiency) after Rate Increase | \$ (238,403) | \$ 10,072 | \$ 75,878 | \$ 163,244 | \$ 226,959 |
| Projected Annual Rate Increase | 15.00% | 15.00% | 5.00% | 5.00% | 5.00% |
| <i>Cumulative Rate Increases</i> | 15.00% | 32.25% | 38.86% | 45.81% | 53.10% |
| Surplus (Deficiency) before Rate Increase | \$ (263,515) | \$ (227,241) | \$ (281,285) | \$ (262,002) | \$ (269,774) |
| Net Revenue Requirement ² | \$ 1,268,015 | \$ 1,231,741 | \$ 1,285,785 | \$ 1,266,502 | \$ 1,274,274 |

1. Revenue from rate increases assumes an implementation date of April 19, 2017 and then January 1 each year thereafter.

2. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from water rates.

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 and 2 of the Appendix. The appendix tables include revenue requirements, reserve funds, revenue sources, proposed rate adjustments, and the District's capital improvement program. As can be seen in Figure 3, given proposed rate adjustments, 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 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 | \$ 313,426 | \$ 323,498 | \$ 399,376 | \$ 562,620 | \$ 695,380 |
| <i>Recommended Minimum Target</i> | 376,022 | 452,925 | 529,964 | 615,006 | 695,380 |
| Capital Rehabilitation & Replacement Reserve | | | | | |
| Ending Balance | \$ 100,000 | \$ 100,000 | \$ 100,000 | \$ 100,000 | \$ 194,200 |
| <i>Recommended Minimum Target</i> | 343,100 | 336,800 | 332,200 | 324,500 | 316,400 |
| Total Ending Balance | \$ 413,426 | \$ 423,498 | \$ 499,376 | \$ 662,620 | \$ 889,580 |
| <i>Total Recommended Minimum Target</i> | \$ 719,122 | \$ 789,725 | \$ 862,164 | \$ 939,506 | \$ 1,011,780 |

CONTRACT CUSTOMER CHARGES

Additionally, In January of 2012, the District entered into a contract agreement which set the initial rates and defined the methodology of future rate adjustments for the Desert Hills Premium Outlets (DHPO). As defined by the terms of the contract, rates can only be adjusted by increasing the current rates (both the fixed meter charge and usage rate) by the percentage adjustment imposed on residential and commercial customers. To account for this restriction, the revenue projected from the contract customer for the next five years is calculated and netted from the cost of service analysis. This calculation is shown in **Figure 4**.

Figure 4. Contract Charges and Projected Revenue

| Contract | Current | Proposed Rates | | | | |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | | FY 2016/17 | FY 2017/18 | FY 2018/19 | FY 2019/20 | FY 2020/21 |
| <i>Projected Adjustment in Rate Revenue:</i> | | 15.00% | 15.00% | 5.00% | 5.00% | 5.00% |
| Fixed Rate | \$1,458.60 | \$1,677.39 | \$1,929.00 | \$2,025.45 | \$2,126.72 | \$2,233.06 |
| Variable Rate | \$2.50 | \$2.88 | \$3.31 | \$3.47 | \$3.65 | \$3.83 |
| Estimated Consumption (hcf) | 58,614 | 58,614 | 58,614 | 58,614 | 58,614 | 58,614 |
| Estimated Fixed Revenue | \$ 17,503 | \$ 20,129 | \$ 23,148 | \$ 24,305 | \$ 25,521 | \$ 26,797 |
| Estimated Variable Revenue | \$ 146,535 | \$ 168,515 | \$ 193,793 | \$ 203,482 | \$ 213,656 | \$ 224,339 |
| Target Rate Revenue¹ | \$ 164,038 | \$ 188,644 | \$ 216,941 | \$ 227,788 | \$ 239,177 | \$ 251,136 |

1. Target rate revenue does not take implementation data of rate adjustment into consideration.

Actual revenue will be lower due to the plan for mid-year adjustments and is accounted for in the Financial Plan.

⁸ Per Section 5c(i) and (ii).

C. Cost of Service Analysis

Once the net revenue requirements are determined, the cost of service analysis proportionately distributes the 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 were classified corresponding to the function they serve. All costs in the District's budget are allocated to each component of the rate structure 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. These are based on allocation factors, such as water consumption, peaking factors, and number of accounts by meter size. Ultimately, a cost-of-service analysis is intended to result in rates that are proportional to the cost of providing service to each customer.

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 Manual⁹. In accordance with this method, budgeted costs were "classified" into four categories: commodity, capacity, customer and fire protection. The classification process provides the basis for allocating costs to various customer classes based on the cost causation (classification) components described below:

- **Commodity related 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.
- **Capacity related costs** are associated with sizing facilities to meet the maximum, or peak demand. This includes both operating costs and capital infrastructure costs incurred to accommodate peak system capacity events.
- **Customer related costs** are associated with having a customer on the water system, such as meter reading, postage and billing.
- **Fire Protection related costs** are 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.

The District's budgeted costs were reviewed and allocated to these cost causation components which are used as the basis for establishing new water rates and translate to fixed and variable charges. Tables 16 through 19 in the Appendix show how the District's expenses were classified and allocated to these cost causation components. Additionally, each cost causation component is considered fixed or variable, as summarized in **Figure 5**.

⁹ *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017, p. 83.*

Figure 5. 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.

Based on the District’s projected costs, the Cost of Service Analysis (COSA) resulted in a distribution that is approximately 84 percent fixed and 16 percent variable. The District’s current rate structure collects approximately 62 percent of revenue from fixed charges and 38 percent from variable charges. The Board of Directors has decided that revenue stability is a priority in this rate setting process, and has selected a rate structure that will collect 70 percent of revenue from fixed charges and 30 percent from variable rates. This much closer to the COSA results and will provide more revenue stability for the District. However, a share of the District’s capacity costs, will need to be collected from the variable rates. Thus, capacity related costs (which are normally considered fixed) will be collected from both fixed and variable rates.

Figure 6 summarizes the allocation of the net revenue requirements to each cost causation component. The projected revenue from the contract customer, as shown in Figure 4, is included Figure 6.

Figure 6. Allocation of Water Revenue Requirements

| Functional Category | Proposed Rates | |
|---|--|-------|
| | FY 2016/17 Adjusted Net Revenue Requirements | |
| Variable Costs: | | |
| Commodity - Related Costs | \$ 156,810 | 16.2% |
| Capacity - Related Costs (volumetric share) | \$ 133,149 | 13.8% |
| Subtotal: Volumetric Costs | \$ 289,959 | 30.0% |
| Fixed Costs: | | |
| Capacity - Related Costs (fixed share) | \$ 612,893 | 63.4% |
| Customer - Related Costs | \$ 62,087 | 6.4% |
| Fire Protection - Related Costs | \$ 1,591 | 0.2% |
| Subtotal: Fixed Costs | \$ 676,572 | 70.0% |
| Revenue from Contract Customer | \$ 188,644 | |
| Total Net Revenue Requirement | \$1,155,175 | |

CUSTOMER CLASSES

Customer classes are determined by combining customers with similar demand characteristics, types of use and, in this case, the constraints of a contract into categories that reflect the cost differentials to serve each type of customer. This process is limited by the desire to not overcomplicate the District’s rate structure.

For Cabazon Water District, four customer classes were created: single-family residential, non-single family residential¹⁰, private fire and the contract customer¹¹. All non-SFR customers (excluding the contract customer) were placed in one customer class because these customers include a wide range of usage characteristics:

1. They are using more water on average per account.
2. They generally have higher peaking factors than single-family residential users.
3. Their water usage varies greatly among these customers based on the specific type of customer and meter size.
4. There are an insufficient number of customers of each specific type to determine general class characteristics.

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 for each. The District’s most recent consumption is summarized in **Figure 7**, peaking factors in **Figure 8** and **Figure 9**, and number of customers by customer class is shown in **Figure 10**.

Commodity related costs are costs associated with the total annual consumption of water by customer class, as shown in Figure 7.

Figure 7. Water Consumption by Customer Class

| Customer Class | Volume (hcf) ¹ | Percent of Total Volume |
|---------------------------|---------------------------|-------------------------|
| Single Family Residential | 104,796 | 54% |
| Contract | 58,614 | 30% |
| All Other Meters | 31,580 | 16% |
| Total | 194,990 | 100% |

1. Consumption for October 2015 - September 2016.

Peaking factors for each customer class are shown in Figure 8. A “peaking factor” is the relationship of each customer class’ average use to peak (generally summer) use.

¹⁰ Non-SFR class consists of multi-family, government, commercial and industrial customers.

¹¹ The development of rates for the contract customer is described in Section 2-B of this report.

Figure 8. Peaking Factors by Customer Class

| Customer Class | Average Monthly Use (hcf) | Peak Monthly Use (hcf) | Peak Monthly Factor | Max Month Capacity Factor |
|---------------------------|---------------------------|------------------------|---------------------|---------------------------|
| Single Family Residential | 8,733 | 11,683 | 1.34 | 51% |
| Contract | 4,885 | 7,253 | 1.48 | 32% |
| All Other Meters | 2,632 | 4,000 | 1.52 | 17% |
| Total | 16,249 | 22,936 | -- | 100% |

Additional capacity factors within the single-family residential class are shown in **Figure 9**. 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 capacity costs would be incurred if all customers stayed within the Tier 1 threshold.

Figure 9. Single-Family Residential Peak Capacity Allocation Factors

| Tier | Tier Breakpoint ¹ | Expected Consumption ² (hcf) | Percentage of Total SFR Consumption |
|--------------|------------------------------|---|-------------------------------------|
| Tier 1 | 7 hcf | 55,392 | 53% |
| Tier 2 | 14 hcf | 25,489 | 24% |
| Tier 3 | -- | 23,915 | 23% |
| Total | | 104,796 | 100% |

1. Tier 1 break point set to average winter consumption, an estimate of average indoor water consumption in Cabazon. The Tier 2 break point is set to 14 hcf which is average summer consumption.
2. Consumption data is based on the CWD Oct. 2015-Sept 2016 customer data.

The number of customers for each customer class (also known as customer allocation factors) is shown in Figure 10.

Figure 10. Number of Meters by Customer Class

| Customer Class | Number of Meters ¹ | Percent of Total |
|---------------------------|-------------------------------|------------------|
| Single Family Residential | 837 | 94.9% |
| Contract | 1 | 0.1% |
| Private Fire | 2 | 0.2% |
| All Other Meters | 42 | 4.8% |
| Total | 882 | 100.0% |

1. Meter Count for April 2016. CWD bills monthly.

COSTS ALLOCATED TO CUSTOMER CLASSES

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. **Figure 11** summarizes how the costs for each cost causation component from Figure 6 are allocated to each customer class.

Figure 11. Cost Allocation Methodology

| | |
|--|--|
| Capacity Related Costs (fixed share) | • Allocated based on the hydraulic capacity of each meter size |
| Customer Related Costs | • Allocated based on the total number of meters |
| Fire Protection Related Costs | • Allocated based on the hydraulic capacity of fire meters |
| Commodity Related Costs | • Allocated based on water consumption by customer class |
| Capacity Related Costs (volumetric share) | • Allocated based on peak consumption by customer class |

The costs allocated to each causation component are assigned to each customer class using the cost allocation methodology described in Figure 11. This process is shown in the following sections, in Figure 12 through Figure 16.

Capacity Related Costs

The capacity related costs (fixed share) allocation is summarized in **Figure 12**. Capacity related costs are those 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. Larger meters have the potential to use more of the system’s capacity, compared to smaller meters. The potential capacity demanded is proportional to the maximum safe meter capacity each meter size as established by the AWWA¹². The meter capacity factors used in this study are shown in the second column of Figure 12.

A “hydraulic capacity factor” (column *a* in Figure 12) 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). For example, Figure 12 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 (column *b* in Figure 12) is multiplied by the corresponding capacity ratios to calculate the total number of equivalent meters (column *c* in Figure 12). The number of equivalent meters is used as a proxy for the potential demand that each customer can place on the water system and the percentage of capacity related costs (fixed share) distributed to each meter size by the Percent of Total Hydraulic Capacity.

¹² *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017, p. 338.*

Figure 12. Capacity Related Costs (fixed share) Allocation

| Meter Size | Meter Capacity (gpm) ¹ | Hydraulic Capacity Factor | Number of Meters | Total Equivalent Meters | Percent of Total Hydraulic Capacity | Allocated Costs |
|------------------------|-----------------------------------|---------------------------|------------------|-------------------------|-------------------------------------|-------------------|
| | | <i>a</i> | <i>b</i> | <i>c = a*b</i> | | |
| Standard Meters | | | | | | |
| 5/8 inch | 20 | 1.00 | 816 | 816 | 72.3% | \$ 443,370 |
| 3/4 inch | 30 | 1.50 | 23 | 35 | 3.1% | 18,745 |
| 1 inch | 50 | 2.50 | 13 | 33 | 2.9% | 17,659 |
| 1.5 inch | 100 | 5.00 | 4 | 20 | 1.8% | 10,867 |
| 2 inch | 160 | 8.00 | 19 | 152 | 13.5% | 82,588 |
| 3 inch | 320 | 16.00 | 3 | 48 | 4.3% | 26,081 |
| 4 inch | 500 | 25.00 | 1 | 25 | 2.2% | 13,584 |
| Total | | | 879 | 1,128 | 100.0% | \$ 612,893 |

1. Per the Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017, p. 338

Customer Related Costs

The customer related cost allocation is summarized in **Figure 13**. Customer related costs are 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, these costs are spread equally among all meters. Each customer class is allocated customer related costs based upon the percentage of total meters that are in that class.

Figure 13. Customer Related Cost Allocation

| Customer Class | Number of Meters ¹ | Percent of Total | Allocated Costs |
|------------------------|-------------------------------|------------------|------------------|
| Standard Meters | | | |
| 5/8 inch | 816 | 92.6% | \$ 57,507 |
| 3/4 inch | 23 | 2.6% | 1,621 |
| 1 inch | 13 | 1.5% | 916 |
| 1.5 inch | 4 | 0.5% | 282 |
| 2 inch | 19 | 2.2% | 1,339 |
| 3 inch | 3 | 0.3% | 211 |
| 4 inch | 1 | 0.1% | 70 |
| Fire Protection | | | |
| 4 inch | 1 | 0.1% | 70 |
| 6 inch | 1 | 0.1% | 70 |
| Total | 881 | 100% | \$ 62,087 |

Fire Protection Related Costs

The fire protection cost allocation is summarized in **Figure 14**. Only Fire Protection meters are allocated this cost component. A direct allocation is made in the functionalization and classification step in the cost of service analysis to represent their share of system capacity and other related operations and maintenance costs. This cost is spread over the fire meters using the same methodology as used in Figure 12.

Figure 14. Fire Protection Cost Allocation

| Meter Size | Meter Capacity (gpm) ¹ | Hydraulic Capacity Factor | Number of Meters | Total Equivalent Meters | Percent of Total | Allocated Costs |
|-------------------------------|-------------------------------------|---------------------------|------------------|-------------------------|------------------|-----------------|
| | | <i>a</i> | <i>b</i> | <i>c = a*b</i> | | |
| Fire Protection Meters | <i>Fire Service Type I & II</i> | | | | | |
| 4 inch | 700 | 35.00 | 1 | 35.0 | 30.4% | \$ 484 |
| 6 inch | 1,600 | 80.00 | 1 | 80.0 | 69.6% | \$ 1,107 |
| Total | | | 2 | 115 | 100.0% | \$ 1,591 |

Commodity Related Costs

The commodity related cost allocation is summarized in **Figure 15**. Commodity related costs are those costs related to the amount of water sold and commonly include the costs of chemicals used in the treatment process, energy related to pumping for transmission and distribution, and source of supply. Each customer class is allocated commodity related costs based upon the percentage of total consumption by that class.

Figure 15. Commodity Related Costs Allocation

| Customer Class | Volume (hcf) ¹ | Percent of Total | Allocated Costs |
|---------------------------|---------------------------|------------------|-------------------|
| Single Family Residential | 104,796 | 76.8% | \$ 120,499 |
| All Other Customers | 31,580 | 23.2% | 36,312 |
| Total | 136,376 | 100% | \$ 156,810 |

1. Consumption for October 2015 - September 2016.

Capacity Related Costs (variable share)

The capacity related costs allocated to variable rates for each customer class are shown in **Figure 16**. Capacity related costs collected from the volumetric rate are allocated to each customer class based upon their percentage of peak monthly use.

Figure 16. Capacity Related Costs (variable share)

| Customer Class | Average Monthly Use (hcf) | Peak Monthly Use (hcf) ¹ | Percent of Total | Allocated Costs |
|---------------------------|---------------------------|-------------------------------------|------------------|-------------------|
| Single Family Residential | 8,733 | 11,683 | 74.5% | \$ 99,189 |
| All Other Customers | 2,632 | 4,000 | 25.5% | 33,960 |
| Total | 11,365 | 15,683 | 100% | \$ 133,149 |

1. Based on peak monthly data (peak day data not available).

D. Rate Design Analysis

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 customer classes, 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 and differentiating rates by customer class. Based on input provided by District staff, the Board of Directors, and the District’s legal counsel, the proposed rates were developed. The following sections describe this process.

NBS recommends that the District make the following modifications to the water rate structure:

1. Update monthly fixed meter charges to be consistent with AWWA standards and use hydraulic capacity factors to develop the fixed charges for each meter size.
2. Update the volumetric rates for Single Family Residential customers as follows:
 - a. Eliminate the five units of Tier 1 water that is provided at no charge
 - b. Reduce the number of tiers from four to three
 - c. Establish new tier breakpoints based on recent consumption statistics
3. Move all other customers to a uniform volumetric rate, and impose a charge for all water consumed

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 that comprise the fixed meter charge: the customer component and the capacity component, as described in the previous section. Using the costs allocated to each meter size from Figure 12 through Figure 14; **Figure 17** calculates the monthly charge for each meter size.

Figure 17. Fixed Meter Charges FY 2016/17

| Customer Class | Number of Meters ¹ | Allocated Capacity Costs | Allocated Customer Costs | Allocated Fire Protection Costs | Total Costs | Monthly Charge |
|------------------------|-------------------------------|--------------------------|--------------------------|---------------------------------|-------------------|-----------------|
| | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e = b+c+d</i> | <i>f=e/a/12</i> |
| Standard Meters | | | | | | |
| 5/8 inch | 816 | \$ 443,370 | \$ 57,507 | \$ - | \$ 500,876 | \$51.15 |
| 3/4 inch | 23 | 18,745 | 1,621 | - | 20,366 | \$73.79 |
| 1 inch | 13 | 17,659 | 916 | - | 18,575 | \$119.07 |
| 1.5 inch | 4 | 10,867 | 282 | - | 11,149 | \$232.27 |
| 2 inch | 19 | 82,588 | 1,339 | - | 83,927 | \$368.10 |
| 3 inch | 3 | 26,081 | 211 | - | 26,292 | \$730.33 |
| 4 inch | 1 | 13,584 | 70 | - | 13,654 | \$1,137.84 |
| Fire Protection | | | | | | |
| 4 inch | 1 | - | 70 | 484 | 555 | \$46.23 |
| 6 inch | 1 | - | 70 | 1,107 | 1,177 | \$98.11 |
| Total | 881 | \$ 612,893 | \$ 62,087 | \$ 1,591 | \$ 676,572 | |

1. Meter Count as of April 2016.

VARIABLE CHARGES

The District currently has a four-tiered volumetric rate for all customers that provides the first five units of water consumed at no charge. NBS’ second rate recommendation, was to adjust the tiered rate structure by reducing the number of tiers to three, setting new breakpoints and imposing a charge for all water consumed. In addition to these changes, the proposed tiered volumetric will only apply to single-family residential customers because they are a homogenous customer class, with similar consumption patterns that are used to establish appropriate tier breakpoints.

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 5 hcf¹³, which is the average winter consumption for a typical single-family residential customer. Given the limited irrigation that occurs in the winter, this approximates average indoor use.
2. The breakpoint for the second tier was set to 14 hcf, which is equal to average summer consumption for a single-family residential customer. Average summer consumption is when water consumption is highest for a two-month billing period.

The commodity costs (from Figure 15) within the single-family residential class are further allocated to the expected consumption by tier, in **Figure 18**.

Figure 18. Single Family Residential Commodity Related Costs

| Tier | Monthly Breakpoint ¹ | Expected Consumption (hcf) ² | Percent of Total | Allocated Costs |
|--------------|---------------------------------|---|------------------|-------------------|
| Tier 1 | 7 hcf | 55,392 | 53% | \$ 63,692 |
| Tier 2 | 14 hcf | 25,489 | 24% | 29,308 |
| Tier 3 | -- | 23,915 | 23% | 27,498 |
| Total | | | 100% | \$ 120,499 |

1. Tier 1 break point set to average winter consumption, an estimate of average indoor consumption in Cabazon. Tier 2 break point set to 14 hcf which is average summer consumption.
2. Consumption data is based on the CWD Oct. 2015- Sept 2016 customer data.

The Capacity Related Costs (variable share) (from Figure 16) within the single-family residential class are further allocated to expected consumption by tier as shown in **Figure 19**. The “additional capacity required” 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.

¹³ HCF is one hundred cubic feet of water.

Figure 19. Single Family Residential Capacity Related Costs (variable share)

| Tier | Description | Monthly Consumption (hcf) ¹ | Additional Capacity Required (hcf) ⁴ | Percent of Total | Allocated Costs |
|--------------|----------------------------------|--|---|------------------|------------------|
| Tier 1 | Max Tier 1 Capacity ² | 5,859 | 0 | 0.0% | \$ - |
| Tier 2 | Peak up to Tier 2 ³ | 7,902 | 2,043 | 35.1% | 34,793 |
| Tier 3 | Peak up to Tier 3 ³ | 11,683 | 3,781 | 64.9% | 64,396 |
| Total | | | 5,824 | 100.0% | \$ 99,189 |

1. Consumption data is based on the CWD Oct. 2015- Sept 2016 customer data.

2. Capacity allocated to the first tier represents the tier break multiplied by the number of customers.

3. This is the cumulative peak consumption up to the tier break; it represents capacity required to provide service to a given tier.

4. This is the additional cumulative capacity to meet peak consumption at each tier.

NBS' final recommendation regarding rate structure, is to move all non-SFR customers to a uniform volumetric rate. This is due to the varying consumption characteristics of these customers; a uniform volumetric rate better represents their cost-of-service.

Using the costs allocated to each customer class in Figure 15 – 16 and Figure 18 – 19, **Figure 20** calculates the per unit volumetric charge for each customer class and tier.

Figure 20. Calculated Variable Charges for FY 2016/17

| Customer Class | Expected Consumption (hcf) | Allocated Commodity Costs | Allocated Capacity Costs | Total Costs | Charge per Unit Sold (\$/hcf) |
|----------------------------------|----------------------------|---------------------------|--------------------------|-------------------|-------------------------------|
| | <i>a</i> | <i>b</i> | <i>c</i> | <i>d = b+c</i> | <i>d=c/a</i> |
| Single Family Residential | | | | | |
| Tier 1 | 55,392 | \$ 63,692 | \$ - | \$ 63,692 | \$1.15 |
| Tier 2 | 25,489 | 29,308 | 34,793 | 64,101 | \$2.51 |
| Tier 3 | 23,915 | 27,498 | 64,396 | 91,895 | \$3.84 |
| All Other Customers | 31,580 | 36,312 | 33,960 | 70,271 | \$2.23 |
| Total | 136,376 | \$ 156,810 | \$ 133,149 | \$ 289,959 | |

E. Current and Proposed Water Rates

The Cost of Service analysis is used to establish the rates for FY 2016/17. In the subsequent four years of the rate study, proposed charges are simply adjusted by the proposed adjustment in total rate revenue needed, to meet projected revenue requirements. **Figure 21** provides a comparison of the current and proposed rates for FY 2016/17 through FY 2020/21. More detailed tables on the developed of the proposed charges are documented in the Appendix.

Figure 21. Current and Proposed 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 Meter Charges | | | | | | | | |
| Monthly Fixed Service Charges: | | | | | | | | |
| 5/8 inch | \$44.16 | \$51.15 | \$58.82 | \$61.77 | \$64.85 | \$68.10 | | |
| 3/4 inch | \$59.47 | \$73.79 | \$84.86 | \$89.10 | \$93.56 | \$98.24 | | |
| 1 inch | \$88.26 | \$119.07 | \$136.93 | \$143.78 | \$150.97 | \$158.51 | | |
| 1.5 inch | \$188.97 | \$232.27 | \$267.11 | \$280.46 | \$294.48 | \$309.21 | | |
| 2 inch | \$286.61 | \$368.10 | \$423.32 | \$444.48 | \$466.71 | \$490.04 | | |
| 3 inch | \$384.25 | \$730.33 | \$839.88 | \$881.88 | \$925.97 | \$972.27 | | |
| 4 inch | \$536.82 | \$1,137.84 | \$1,308.52 | \$1,373.94 | \$1,442.64 | \$1,514.77 | | |
| 6 inch | \$718.63 | \$2,269.81 | \$2,610.28 | \$2,740.80 | \$2,877.84 | \$3,021.73 | | |
| Contract | \$1,458.60 | \$1,677.39 | \$1,929.00 | \$2,025.45 | \$2,126.72 | \$2,233.06 | | |
| Monthly Fire Service Charges: | | | | | | | | |
| 4 inch | \$60.00 | \$46.23 | \$53.16 | \$55.82 | \$58.61 | \$61.54 | | |
| 6 inch | \$90.00 | \$98.11 | \$112.83 | \$118.47 | \$124.40 | \$130.62 | | |
| Commodity Charges | | | | | | | | |
| Rate per hcf of Water Consumed: | | | | | | | | |
| Uniform Rate (Non-SFR Customers) | N/A | \$2.23 | \$2.56 | \$2.69 | \$2.82 | \$2.96 | | |
| Contract Rate | \$2.50 | \$2.88 | \$3.31 | \$3.47 | \$3.65 | \$3.83 | | |
| Tiered Rate (SFR Customers): | | | | | | | | |
| | <u>Current</u> | <u>Proposed</u> | | | | | | |
| Tier 1 | 0-5 hcf | 0-7 hcf | \$0.00 | \$1.15 | \$1.32 | \$1.39 | \$1.46 | \$1.53 |
| Tier 2 | 6-25 hcf | 8-14 hcf | \$2.21 | \$2.51 | \$2.89 | \$3.04 | \$3.19 | \$3.35 |
| Tier 3 | 26-50 hcf | 14+ hcf | \$4.36 | \$3.84 | \$4.42 | \$4.64 | \$4.87 | \$5.12 |
| Tier 4 | 50+ hcf | -- | \$5.05 | N/A | N/A | N/A | N/A | N/A |

F. Comparison of Current and Proposed Water Bills

Figure 22 and **Figure 23** 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 customers (with a 5/8-inch meter) and non-single family residential customers (the bill comparison for a commercial customer also with a 5/8-inch meter). These monthly bills are based on typical meter sizes, and the average consumption levels for each customer class are highlighted.

Figure 22. Monthly Bill Comparison for Single Family Customers

Current vs. Proposed 2016/17 Rate Alternatives (5/8-inch meter)

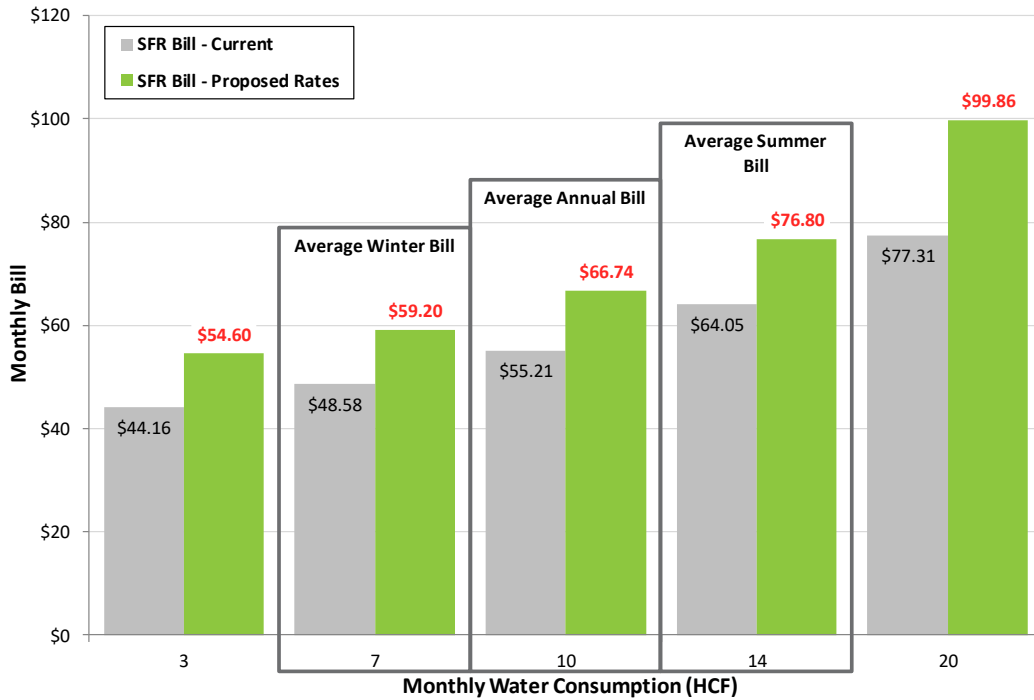
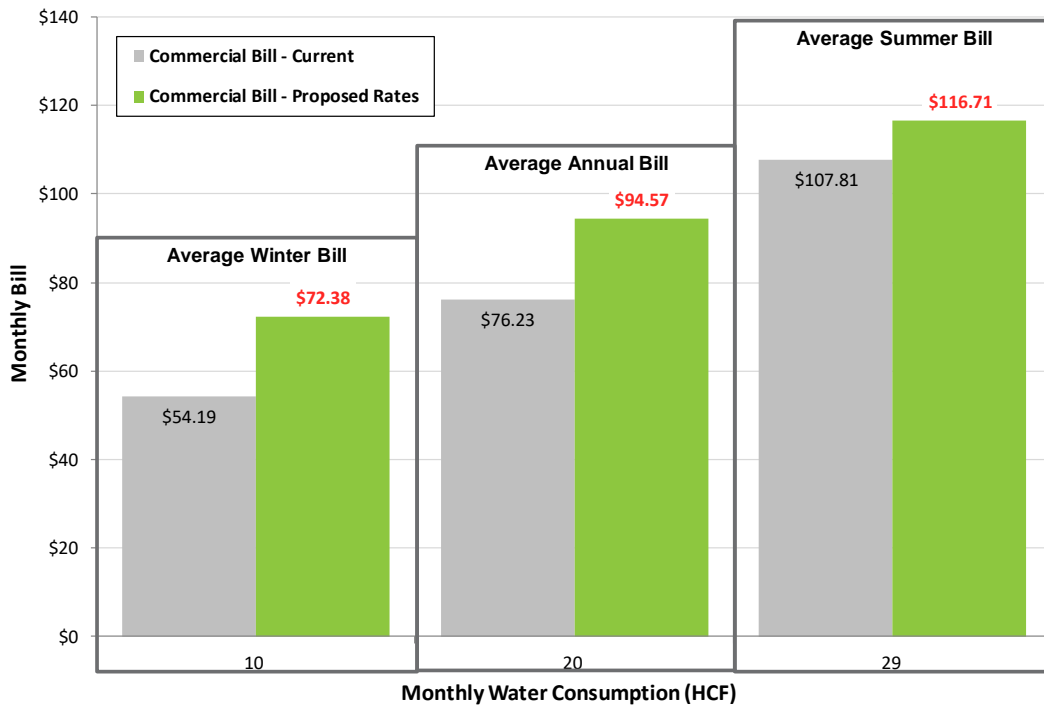


Figure 23. Monthly Water Bill Comparison for Commercial Customers

Current vs. Proposed 2016/17 Rates (5/8-inch meter)



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 steps required 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 Adjustments 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 and rate adjustments previously shown in Figure 21. 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 Appendix provides 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.

Appendix: Detailed Water Rate Study Tables and Figures

TABLE 1
FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

| RATE REVENUE REQUIREMENTS SUMMARY (1) | Budget | Projected | | | |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|
| | FY 2016/17 | FY 2017/18 | FY 2018/19 | FY 2019/20 | FY 2020/21 |
| Sources of Water Funds | | | | | |
| <i>Rate Revenue:</i> | | | | | |
| Water Sales Revenue Under Current Rates | \$ 1,004,500 | \$ 1,004,500 | \$ 1,004,500 | \$ 1,004,500 | \$ 1,004,500 |
| Revenue from Rate Increases (2) | 25,113 | 237,313 | 357,163 | 425,246 | 496,733 |
| Subtotal: Rate Revenue After Rate Increases | 1,029,613 | 1,241,813 | 1,361,663 | 1,429,746 | 1,501,233 |
| <i>Non-Rate Revenue:</i> | | | | | |
| Fee Revenue | \$ 164,980 | \$ 166,008 | \$ 167,056 | \$ 168,125 | \$ 169,215 |
| Miscellaneous Revenue | 83,800 | 85,476 | 87,186 | 88,929 | 90,708 |
| Interest Income (3) | 6,010 | 1,034 | 2,117 | 3,745 | 6,626 |
| Subtotal: Non-Rate Revenue | 254,790 | 252,517 | 256,359 | 260,799 | 266,549 |
| Total Sources of Funds | \$ 1,284,403 | \$ 1,494,330 | \$ 1,618,021 | \$ 1,690,545 | \$ 1,767,782 |
| Uses of Water Funds | | | | | |
| <i>Operating Expenses (4):</i> | | | | | |
| Payroll Expenses | \$ 444,200 | \$ 494,090 | \$ 511,480 | \$ 529,680 | \$ 548,780 |
| Facilities, Wells, Transmission, Distribution | 376,880 | 323,750 | 329,470 | 335,210 | 341,150 |
| Utilities - Office | 28,520 | 29,530 | 30,540 | 31,650 | 32,760 |
| Office Expenses | 103,580 | 90,700 | 92,500 | 104,300 | 96,100 |
| Support Expenses | 185,200 | 187,300 | 189,400 | 191,500 | 194,700 |
| Training / Travel | 6,000 | 6,100 | 6,200 | 6,300 | 6,400 |
| Other Fees | 16,180 | 16,580 | 16,980 | 17,380 | 17,780 |
| Service Tools & Equipment | 58,500 | 51,320 | 52,140 | 52,960 | 53,890 |
| Miscellaneous Expenses | 34,345 | 94,700 | 96,200 | 97,700 | 99,200 |
| Subtotal: Operating Expenses: | \$ 1,253,405 | \$ 1,294,070 | \$ 1,324,910 | \$ 1,366,680 | \$ 1,390,760 |
| <i>Other Expenditures:</i> | | | | | |
| Existing Debt Service | \$ 137,400 | \$ 137,400 | \$ 137,401 | \$ 137,401 | \$ 137,401 |
| New Debt Service | - | - | - | - | - |
| Rate-Funded Capital Expenses | 132,000 | 52,788 | 79,833 | 23,220 | 12,662 |
| Subtotal: Other Expenditures | \$ 269,400 | \$ 190,188 | \$ 217,233 | \$ 160,621 | \$ 150,063 |
| Total Uses of Water Funds | \$ 1,522,805 | \$ 1,484,258 | \$ 1,542,143 | \$ 1,527,301 | \$ 1,540,823 |
| Annual Surplus/(Deficit) | \$ (238,403) | \$ 10,072 | \$ 75,878 | \$ 163,244 | \$ 226,959 |
| Net Revenue Req't. (Total Uses less Non-Rate Revenue) | \$ 1,268,015 | \$ 1,231,741 | \$ 1,285,785 | \$ 1,266,502 | \$ 1,274,274 |
| Projected Annual Rate Revenue Adjustment | 15.00% | 15.00% | 5.00% | 5.00% | 5.00% |
| <i>Cumulative Increase from Annual Revenue Increases</i> | 15.00% | 32.25% | 38.86% | 45.81% | 53.10% |
| <i>Debt Coverage After Rate Increase</i> | 0.23 | 1.46 | 2.13 | 2.36 | 2.74 |

- Revenue and expenses for FY 2016/17 are from source file: *Updated FY 16-17 projections With December.xlsx*
- Rate increases assume an implementation date of April 19, 2017 and then December 1, 2017 and each year thereafter (with the first bill showing the increase being the following January).
- Interest earning for FY 2016/17 is from the FY 2016/17 budget. For all other years, it is calculated based on historical LAIF returns.
- The FY 2016/17 operating expenses are from the budget. Inflationary factors are applied to these expenses to project costs in FY 2017/18 and beyond.
- Under current covenants, Cabazon Water District must maintain a debt coverage ratio of 1.2. Source: *Zions Bank_Installation Sale Agreement.pdf, page 12*
Conditional formatting has been applied to highlight years where a 1.20 debt coverage ratio is not met.

TABLE 2
RESERVE FUND SUMMARY

| SUMMARY OF CASH ACTIVITY UN-RESTRICTED RESERVES | Budget | Projected | | | |
|--|--------------|--------------|--------------|--------------|--------------|
| | FY 2016/17 | FY 2017/18 | FY 2018/19 | FY 2019/20 | FY 2020/21 |
| Total Beginning Cash (1, 2, 3) | \$ 651,829 | | | | |
| Operating Reserve | | | | | |
| Beginning Reserve Balance (1) | \$ 651,829 | \$ 313,426 | \$ 323,498 | \$ 399,376 | \$ 562,620 |
| Plus: Net Cash Flow (After Rate Increases) | (238,403) | 10,072 | 75,878 | 163,244 | 226,959 |
| Plus: Transfer of Debt Reserve Surplus | - | - | - | - | - |
| Less: Transfer Out to Capital Replacement Reserve | (100,000) | - | - | - | (94,200) |
| Ending Operating Reserve Balance | \$ 313,426 | \$ 323,498 | \$ 399,376 | \$ 562,620 | \$ 695,380 |
| Target Ending Balance (transition to 180-days of O&M) (4) | \$ 376,022 | \$ 452,925 | \$ 529,964 | \$ 615,006 | \$ 695,380 |
| Capital Rehabilitation & Replacement Reserve | | | | | |
| Beginning Reserve Balance | \$ - | \$ 100,000 | \$ 100,000 | \$ 100,000 | \$ 100,000 |
| Plus: Transfer of Operating Reserve Surplus | 100,000 | - | - | - | 94,200 |
| Less: Use of Reserves for Capital Projects | - | - | - | - | - |
| Ending Capital Rehab & Replacement Reserve Balance | \$ 100,000 | \$ 100,000 | \$ 100,000 | \$ 100,000 | \$ 194,200 |
| Capital R&R Reserve (6% of Net Assets) | \$ 343,100 | \$ 336,800 | \$ 332,200 | \$ 324,500 | \$ 316,400 |
| Ending Balance | \$ 413,426 | \$ 423,498 | \$ 499,376 | \$ 662,620 | \$ 889,580 |
| Minimum Target Ending Balance | \$ 719,122 | \$ 789,725 | \$ 862,164 | \$ 939,506 | \$ 1,011,780 |
| Ending Surplus/(Deficit) Compared to Reserve Targets | \$ (305,695) | \$ (366,226) | \$ (362,788) | \$ (276,886) | \$ (122,200) |
| Annual Interest Earnings Rate (5) | 0.25% | 0.25% | 0.50% | 0.75% | 1.00% |

1. Beginning cash from source: Cash Balance 6.30.16.xlsx.
2. No reserve requirement currently assumed.
3. No restricted fund for connection fees currently.
4. Operating Reserve Target increasing from 90 days of O&M expenses to 180 days of O&M expenses over the next 5 years at the recommendation of staff.
5. Interest earning rates were referenced on the CA Treasurer's Office website for funds invested in LAIF. Future years earnings were conservatively estimated.

CHART 1

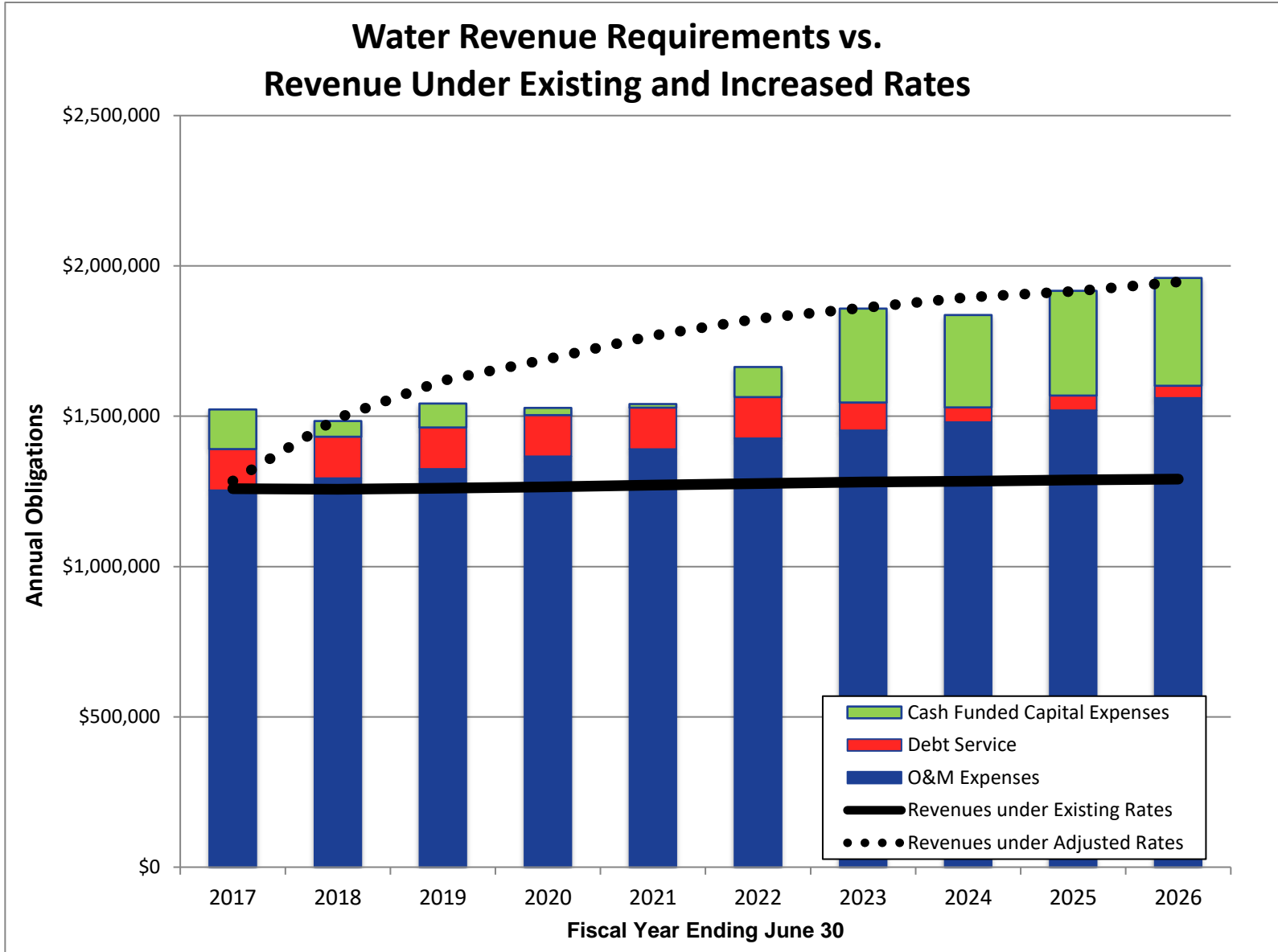


CHART 2

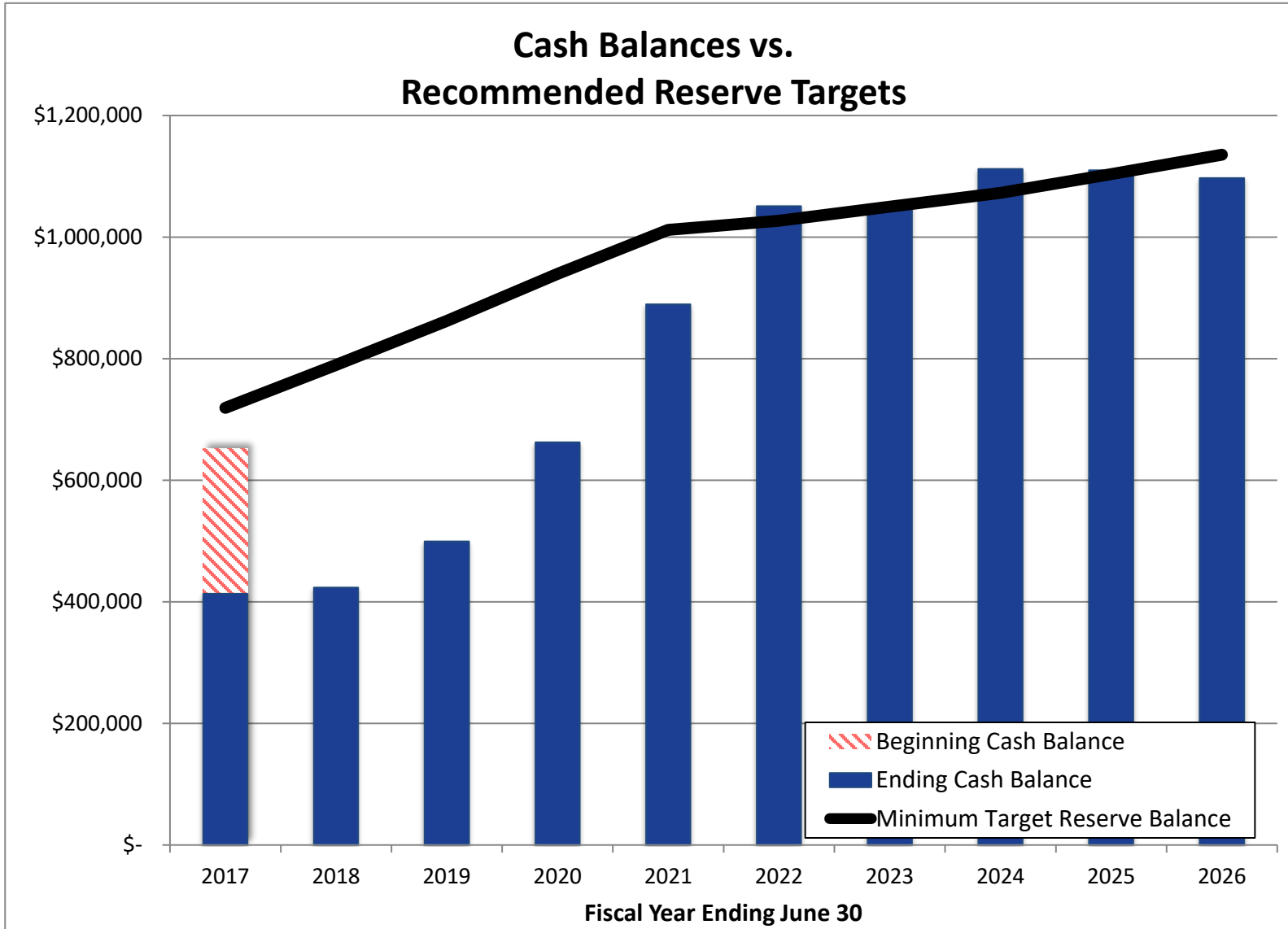
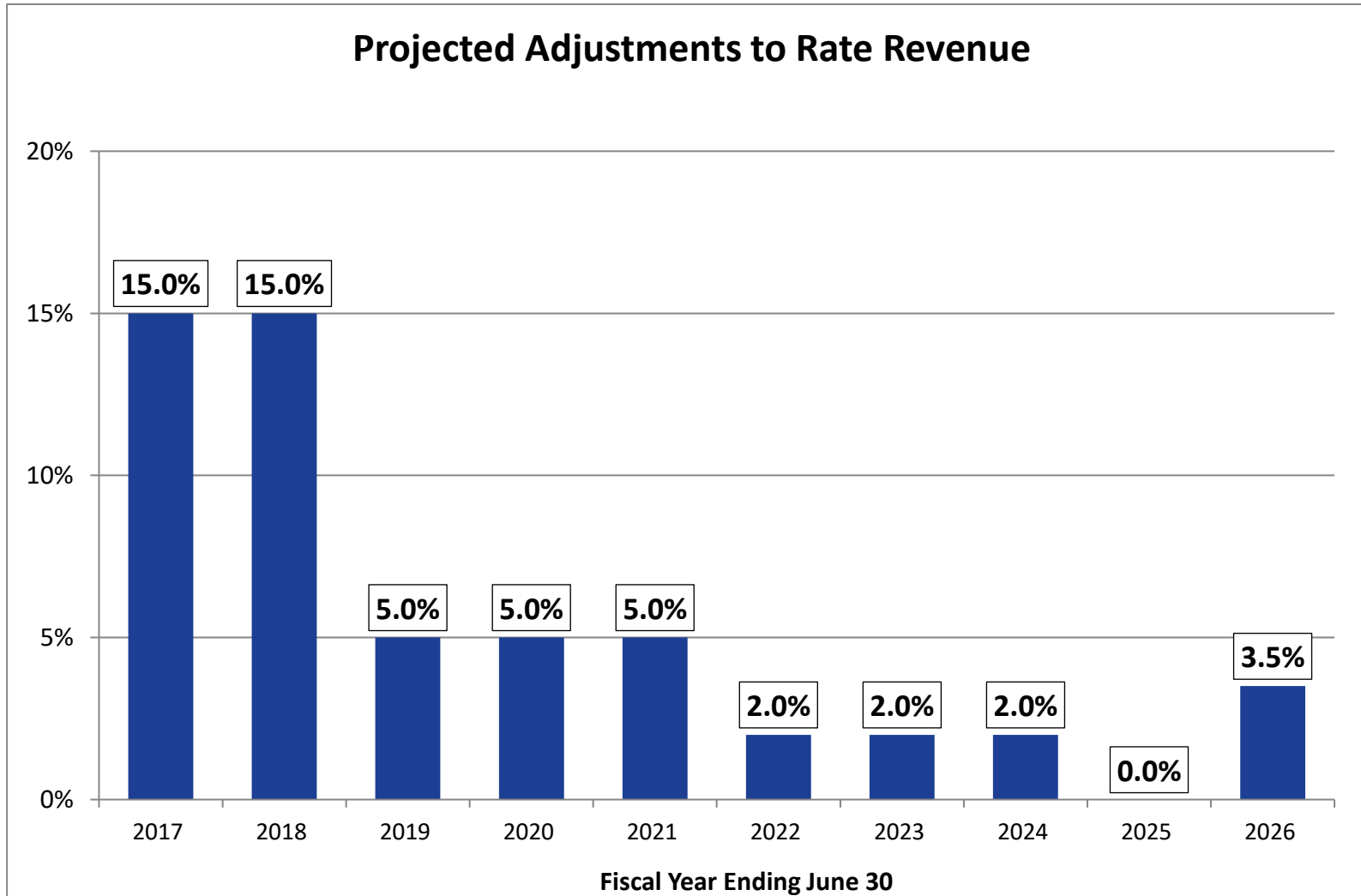


CHART 3



CABAZON WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 3 - REVENUE FORECAST (1):

| DESCRIPTION | Inflation Basis | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------------------|-----------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Water Sales Revenue | | | | | | |
| Base Rate Water Bills | 1 | \$ 1,001,500 | \$ 1,001,500 | \$ 1,001,500 | \$ 1,001,500 | \$ 1,001,500 |
| Fire Sales - Water Bills | 1 | \$ 3,000 | \$ 3,000 | \$ 3,000 | \$ 3,000 | \$ 3,000 |
| Fee Revenue | | | | | | |
| Fire Flow Income | 2 | \$ 150 | \$ 153 | \$ 156 | \$ 159 | \$ 162 |
| Meter Install & Removal | 2 | \$ 80 | \$ 82 | \$ 83 | \$ 85 | \$ 87 |
| Penalty Fees - Water Bills | 2 | \$ 40,000 | \$ 40,800 | \$ 41,616 | \$ 42,448 | \$ 43,297 |
| Lien Reinstatement Fees | 2 | \$ 1,020 | \$ 1,040 | \$ 1,061 | \$ 1,082 | \$ 1,104 |
| New Account Fees - Water Bill | 2 | \$ 1,420 | \$ 1,448 | \$ 1,477 | \$ 1,507 | \$ 1,537 |
| Incident Fee - Water Bills | 2 | \$ 140 | \$ 143 | \$ 146 | \$ 149 | \$ 152 |
| Returned Check Fees | 2 | \$ 550 | \$ 561 | \$ 572 | \$ 584 | \$ 595 |
| Basic Facilities Fee (New Service) | 2 | \$ 8,020 | \$ 8,180 | \$ 8,344 | \$ 8,511 | \$ 8,681 |
| Stand By Fees - Tax Revenue | 1 | \$ 113,600 | \$ 113,600 | \$ 113,600 | \$ 113,600 | \$ 113,600 |
| Miscellaneous Revenue | | | | | | |
| Ad Valorem - Tax Revenue | 2 | \$ 50,700 | \$ 51,714 | \$ 52,748 | \$ 53,803 | \$ 54,879 |
| Teeter Settlement Income | 2 | \$ 10,000 | \$ 10,200 | \$ 10,404 | \$ 10,612 | \$ 10,824 |
| Cell Tower Lease Income | 2 | \$ 23,100 | \$ 23,562 | \$ 24,033 | \$ 24,514 | \$ 25,004 |
| Miscellaneous Non-Operating Income | 2 | \$ - | \$ - | \$ - | \$ - | \$ - |
| Interest Income | | | | | | |
| Interest Inc. - Gen, Trus, Payr | Cal'd | \$ 10 | \$ - | \$ - | \$ - | \$ - |
| Interest Income LAIF | Cal'd | \$ 2,000 | \$ - | \$ - | \$ - | \$ - |
| Interest Income Water Bills | Cal'd | \$ 4,000 | \$ - | \$ - | \$ - | \$ - |
| LAIF FMV Adjustment | Cal'd | \$ - | \$ - | \$ - | \$ - | \$ - |
| Interest Income - DWR | Cal'd | \$ - | \$ - | \$ - | \$ - | \$ - |
| Interest Income - Zion's Bank | Cal'd | \$ - | \$ - | \$ - | \$ - | \$ - |
| TOTAL: REVENUE | | \$ 1,259,290 | \$ 1,255,984 | \$ 1,258,741 | \$ 1,261,554 | \$ 1,264,423 |

TABLE 4 - REVENUE SUMMARY:

| | | | | | | |
|-----------------------|--|---------------------|---------------------|---------------------|---------------------|---------------------|
| RATE REVENUE: | | | | | | |
| Water Sales Revenue | | \$ 1,004,500 | \$ 1,004,500 | \$ 1,004,500 | \$ 1,004,500 | \$ 1,004,500 |
| OTHER REVENUE: | | | | | | |
| Fee Revenue | | \$ 164,980 | \$ 166,008 | \$ 167,056 | \$ 168,125 | \$ 169,215 |
| Miscellaneous Revenue | | \$ 83,800 | \$ 85,476 | \$ 87,186 | \$ 88,929 | \$ 90,708 |
| Interest Income | | \$ 6,010 | \$ - | \$ - | \$ - | \$ - |
| TOTAL: REVENUE | | \$ 1,259,290 | \$ 1,255,984 | \$ 1,258,741 | \$ 1,261,554 | \$ 1,264,423 |

CABAZON WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 5 - OPERATING EXPENSE FORECAST (1):

| DESCRIPTION | Inflation Basis | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Payroll Expenses | | | | | | |
| Directors Fees | 8 | \$ 14,200 | \$ 36,000 | \$ 36,000 | \$ 36,000 | \$ 36,000 |
| Management & Customers Service | | | | | | |
| Customer Accounts | 3 | \$ 44,000 | \$ 42,600 | \$ 43,900 | \$ 45,200 | \$ 46,600 |
| Admin Assistant | 3 | \$ 24,900 | \$ - | \$ - | \$ - | \$ - |
| Business Admin Manager | 3 | \$ 26,300 | \$ 55,100 | \$ 56,800 | \$ 58,500 | \$ 60,300 |
| Office Assistant (Office Assistant) | 3 | \$ 6,800 | \$ 7,700 | \$ 7,900 | \$ 8,100 | \$ 8,300 |
| General Manager | 3 | \$ 95,100 | \$ 84,100 | \$ 86,600 | \$ 89,200 | \$ 91,900 |
| Water Operations | | | | | | |
| Meter Reader | 3 | \$ 24,000 | \$ 38,300 | \$ 39,400 | \$ 40,600 | \$ 41,800 |
| Field Operations | | | | | | |
| Field Workers | 3 | \$ 62,600 | \$ 73,700 | \$ 75,900 | \$ 78,200 | \$ 80,500 |
| Payroll Ben Expense | | | | | | |
| Workers Comp. | 4 | \$ 15,500 | \$ 17,900 | \$ 19,000 | \$ 20,100 | \$ 21,300 |
| Employee Health Care | 4 | \$ 45,200 | \$ 47,100 | \$ 49,900 | \$ 52,900 | \$ 56,100 |
| Pension | 4 | \$ 55,500 | \$ 60,500 | \$ 64,100 | \$ 67,900 | \$ 72,000 |
| Payroll Expense - Taxes, etc. | | | | | | |
| FICA and Medicare | 3 | \$ 22,300 | \$ 23,100 | \$ 23,800 | \$ 24,500 | \$ 25,200 |
| SUI and ETT | 3 | \$ 4,800 | \$ 4,900 | \$ 5,000 | \$ 5,200 | \$ 5,400 |
| Medical Testing | 3 | \$ 3,000 | \$ 3,090 | \$ 3,180 | \$ 3,280 | \$ 3,380 |
| Facilities, Wells, Transmission, Distribution | | | | | | |
| Lab Fees | 2 | \$ 7,800 | \$ 8,000 | \$ 8,200 | \$ 8,400 | \$ 8,600 |
| Site Landscaping & Maintenance | 2 | \$ 1,500 | \$ 1,500 | \$ 1,500 | \$ 1,500 | \$ 1,500 |
| Meters | 2 | \$ 10,000 | \$ 10,200 | \$ 10,400 | \$ 10,600 | \$ 10,800 |
| Generator Service Contractor | 2 | \$ 3,500 | \$ 3,600 | \$ 3,700 | \$ 3,800 | \$ 3,900 |
| Median Landscape & Maintenance | 2 | \$ 3,000 | \$ 3,100 | \$ 3,200 | \$ 3,300 | \$ 3,400 |
| Utilities - Wells | 2 | \$ 107,900 | \$ 110,100 | \$ 112,300 | \$ 114,500 | \$ 116,800 |
| SCADA | 2 | \$ 4,800 | \$ 4,900 | \$ 5,000 | \$ 5,100 | \$ 5,200 |
| Line Mtn & Repair Contractor | | | | | | |
| Line Mtn & Repair Construction | 8 | \$ - | \$ - | \$ - | \$ - | \$ - |
| Line Mtn & Repair Rent | 8 | \$ - | \$ - | \$ - | \$ - | \$ - |
| Line Mtn & Repair Construction Emergency | 2 | \$ 50,000 | \$ 11,000 | \$ 11,200 | \$ 11,400 | \$ 11,600 |
| Line Mtn & Repair Rent Emergency | 2 | \$ - | \$ - | \$ - | \$ - | \$ - |
| Line Maint & Repair Materials | 8 | \$ 37,500 | \$ 37,500 | \$ 37,500 | \$ 37,500 | \$ 37,500 |
| Well Maintenance | | | | | | |
| Chemicals | 2 | \$ 6,000 | \$ 6,100 | \$ 6,200 | \$ 6,300 | \$ 6,400 |
| Well Maintenance - Other | 2 | \$ 12,000 | \$ 12,200 | \$ 12,400 | \$ 12,600 | \$ 12,900 |
| Security | | | | | | |
| Crime Prevention (PSI & Verizon) | 2 | \$ 1,070 | \$ 1,090 | \$ 1,110 | \$ 1,130 | \$ 1,150 |
| Alarms Phones | 2 | \$ 1,360 | \$ 1,390 | \$ 1,420 | \$ 1,450 | \$ 1,480 |
| Alarms - Other | 2 | \$ 550 | \$ 600 | \$ 600 | \$ 600 | \$ 600 |
| Training / Equipment | 2 | \$ - | \$ - | \$ - | \$ - | \$ - |
| Materials | 2 | \$ 500 | \$ 500 | \$ 500 | \$ 500 | \$ 500 |
| Audio Alarm | 2 | \$ 7,000 | \$ 7,140 | \$ 7,280 | \$ 7,430 | \$ 7,580 |
| Video Equip Lease | 2 | \$ 9,500 | \$ 9,690 | \$ 9,880 | \$ 10,080 | \$ 10,280 |
| Miscellaneous Fac, Wells, Trans & Distribution | | | | | | |
| Engineering Services | 2 | \$ 80,900 | \$ 62,500 | \$ 63,800 | \$ 65,100 | \$ 66,400 |
| Chlorinators | 2 | \$ 2,000 | \$ 2,040 | \$ 2,080 | \$ 2,120 | \$ 2,160 |
| Other | 2 | \$ 30,000 | \$ 30,600 | \$ 31,200 | \$ 31,800 | \$ 32,400 |
| Sub-Total | | \$ 821,080 | \$ 817,840 | \$ 840,950 | \$ 864,890 | \$ 889,930 |

**CABAZON WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses**

EXHIBIT 1

TABLE 6

| DESCRIPTION | Inflation Basis | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------------------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Utilities - Office | | | | | | |
| Electricity | 5 | \$ 13,900 | \$ 14,600 | \$ 15,300 | \$ 16,100 | \$ 16,900 |
| Gas | 2 | \$ 520 | \$ 530 | \$ 540 | \$ 550 | \$ 560 |
| Telephone | 2 | \$ 9,800 | \$ 10,000 | \$ 10,200 | \$ 10,400 | \$ 10,600 |
| Trash Pickup / Office Cleaning | 2 | \$ 4,300 | \$ 4,400 | \$ 4,500 | \$ 4,600 | \$ 4,700 |
| Office Expenses | | | | | | |
| Fire Alarm System Servicing | 2 | \$ 600 | \$ 600 | \$ 600 | \$ 600 | \$ 600 |
| Water Billing System | 2 | \$ 12,000 | \$ 2,500 | \$ 2,600 | \$ 12,700 | \$ 2,800 |
| Supplies & Equipment | 2 | \$ 9,540 | \$ 9,700 | \$ 9,900 | \$ 10,100 | \$ 10,300 |
| Copier and Supplies | 2 | \$ 7,900 | \$ 8,100 | \$ 8,300 | \$ 8,500 | \$ 8,700 |
| Dues & Subscriptions | 2 | \$ 1,700 | \$ 1,700 | \$ 1,700 | \$ 1,700 | \$ 1,700 |
| Postage | 2 | \$ 12,600 | \$ 12,900 | \$ 13,200 | \$ 13,500 | \$ 13,800 |
| Printing & publications | 2 | \$ 6,000 | \$ 6,100 | \$ 6,200 | \$ 6,300 | \$ 6,400 |
| Leases & Rents | 2 | \$ 340 | \$ - | \$ - | \$ - | \$ - |
| Computer Services | 2 | \$ 40,000 | \$ 36,000 | \$ 36,700 | \$ 37,400 | \$ 38,100 |
| Office / Road | 2 | \$ 1,500 | \$ 1,500 | \$ 1,500 | \$ 1,500 | \$ 1,500 |
| Office Storage | 2 | \$ 6,100 | \$ 6,200 | \$ 6,300 | \$ 6,400 | \$ 6,500 |
| Air Conditioning Servicing | 2 | \$ 4,300 | \$ 4,400 | \$ 4,500 | \$ 4,600 | \$ 4,700 |
| Office Expenses - Other | 8 | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 1,000 |
| Support Expenses | | | | | | |
| Temporary Labor | 2 | \$ 10,000 | \$ 10,200 | \$ 10,400 | \$ 10,600 | \$ 10,800 |
| Financial Audit | 2 | \$ 21,700 | \$ 22,100 | \$ 22,500 | \$ 23,000 | \$ 23,500 |
| Accounting | 2 | \$ 35,000 | \$ 35,700 | \$ 36,400 | \$ 37,100 | \$ 37,800 |
| Legal | | | | | | |
| Legal - General | 2 | \$ 40,000 | \$ 40,800 | \$ 41,600 | \$ 42,400 | \$ 43,200 |
| Legal - Water | 2 | \$ 25,600 | \$ 26,100 | \$ 26,600 | \$ 27,100 | \$ 27,600 |
| Legal - Brown Act, Public Record | 2 | \$ 6,800 | \$ 6,900 | \$ 7,000 | \$ 7,100 | \$ 7,200 |
| Legal - Personnel | 2 | \$ 5,000 | \$ 5,100 | \$ 5,200 | \$ 5,300 | \$ 5,400 |
| Legal - Grant / Loan Funding | 2 | \$ 10,000 | \$ 8,700 | \$ 7,400 | \$ 6,000 | \$ 5,600 |
| Legal - Fees & Charges | 2 | \$ 2,900 | \$ 3,000 | \$ 3,100 | \$ 3,200 | \$ 3,300 |
| Miscellaneous Support | | | | | | |
| Bank Service Charges | 2 | \$ 1,700 | \$ 1,700 | \$ 1,700 | \$ 1,700 | \$ 1,700 |
| Payroll Service | 2 | \$ 5,000 | \$ 5,100 | \$ 5,200 | \$ 5,300 | \$ 5,400 |
| General Liability Insurance | 2 | \$ 21,500 | \$ 21,900 | \$ 22,300 | \$ 22,700 | \$ 23,200 |
| Fixed Asset Software System | 2 | \$ - | \$ - | \$ - | \$ - | \$ - |
| Training / Travel | | | | | | |
| Seminars / Training | 2 | \$ 2,000 | \$ 2,000 | \$ 2,000 | \$ 2,000 | \$ 2,000 |
| Travel Meals | 2 | \$ 4,000 | \$ 4,100 | \$ 4,200 | \$ 4,300 | \$ 4,400 |
| Other Fees | | | | | | |
| County Lien Release Fees | 2 | \$ 180 | \$ 180 | \$ 180 | \$ 180 | \$ 180 |
| Riverside County Fees | 2 | \$ 2,500 | \$ 2,600 | \$ 2,700 | \$ 2,800 | \$ 2,900 |
| State Water fees | 2 | \$ 12,500 | \$ 12,800 | \$ 13,100 | \$ 13,400 | \$ 13,700 |
| Other Fees - Other | 2 | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 1,000 |
| Sub-Total | | \$ 339,480 | \$ 330,210 | \$ 335,620 | \$ 351,130 | \$ 347,740 |

CABAZON WATER DISTRICT
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 7

| DESCRIPTION | Inflation Basis | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|-----------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Service Tools & Equipment | | | | | | |
| Shop Supplies & Small Tools | 2 | \$ 6,000 | \$ 6,100 | \$ 6,200 | \$ 6,300 | \$ 6,400 |
| Vehicle Fuel | 2 | \$ 12,000 | \$ 12,200 | \$ 12,400 | \$ 12,600 | \$ 12,900 |
| Employee Uniforms | 2 | \$ 2,000 | \$ 2,000 | \$ 2,000 | \$ 2,000 | \$ 2,000 |
| Safety | 2 | \$ 5,000 | \$ - | \$ - | \$ - | \$ - |
| Tractor Expenses | 2 | \$ 6,900 | \$ 7,000 | \$ 7,100 | \$ 7,200 | \$ 7,300 |
| Backhoe Fuel | 2 | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 1,000 |
| Equipment Rental | 2 | \$ 1,200 | \$ 1,220 | \$ 1,240 | \$ 1,260 | \$ 1,290 |
| Service Trucks - Repair & Mtn | 2 | \$ 14,100 | \$ 14,400 | \$ 14,700 | \$ 15,000 | \$ 15,300 |
| Water Ops Cell Phone / Internet | 2 | \$ 2,200 | \$ 2,200 | \$ 2,200 | \$ 2,200 | \$ 2,200 |
| Water Ops Computer Internet | 2 | \$ 4,000 | \$ 4,100 | \$ 4,200 | \$ 4,300 | \$ 4,400 |
| Communications | 2 | \$ 3,000 | \$ - | \$ - | \$ - | \$ - |
| Service Tools & Equipment - Other | 2 | \$ 1,100 | \$ 1,100 | \$ 1,100 | \$ 1,100 | \$ 1,100 |
| Miscellaneous Expenses | | | | | | |
| Returned Checks | 2 | \$ - | \$ - | \$ - | \$ - | \$ - |
| Grant / Loan Processing Fee | 2 | \$ 1,325 | \$ 1,400 | \$ 1,400 | \$ 1,400 | \$ 1,400 |
| Bad Debt Expense | 2 | \$ 1,200 | \$ 1,200 | \$ 1,200 | \$ 1,200 | \$ 1,200 |
| Miscellaneous | 2 | \$ 8,000 | \$ 8,200 | \$ 8,400 | \$ 8,600 | \$ 8,800 |
| Website Support | 2 | \$ 2,820 | \$ 2,900 | \$ 3,000 | \$ 3,100 | \$ 3,200 |
| Image Consultant | 2 | \$ - | \$ - | \$ - | \$ - | \$ - |
| DHPO Payback (2) | Cal'd | \$ 21,000 | \$ 21,000 | \$ 21,000 | \$ 21,000 | \$ 21,000 |
| GSA / SGMA | 2 | \$ - | \$ 60,000 | \$ 61,200 | \$ 62,400 | \$ 63,600 |
| Sub-Total | | \$ 92,845 | \$ 146,020 | \$ 148,340 | \$ 150,660 | \$ 153,090 |
| GRAND TOTAL: WATER OPERATING EXPENSES | | \$ 1,253,405 | \$ 1,294,070 | \$ 1,324,910 | \$ 1,366,680 | \$ 1,390,760 |

TABLE 8 - ITEMS EXCLUDED FROM ABOVE:

| DESCRIPTION | Inflation Basis | 2017 | 2018 | 2019 | 2020 | 2021 |
|-----------------------------------|-----------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| DWR Interest on Loans | Cal'd | \$ 13,500 | \$ 11,236 | \$ 10,092 | \$ 8,933 | \$ 7,687 |
| DHPO Interest Expense Zion | Cal'd | \$ 12,707 | \$ 10,802 | \$ 8,851 | \$ 6,850 | \$ 4,799 |
| DEPRECIATION | Cal'd | \$ 281,200 | \$ 281,200 | \$ 281,200 | \$ 281,200 | \$ 281,200 |
| Add back for below the line items | | \$ (21,000) | \$ (81,000) | \$ (82,200) | \$ (83,400) | \$ (84,600) |
| Total | | \$ 1,539,812 | \$ 1,516,308 | \$ 1,542,853 | \$ 1,580,263 | \$ 1,599,846 |

TABLE 9 - FORECASTING ASSUMPTIONS

| INFLATION FACTORS (3) | Inflation Basis | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-----------------|------|-------|-------|-------|-------|
| Customer Growth | 1 | -- | 0.00% | 0.00% | 0.00% | 0.00% |
| General Cost Inflation | 2 | -- | 2.00% | 2.00% | 2.00% | 2.00% |
| Salary Inflation | 3 | -- | 3.00% | 3.00% | 3.00% | 3.00% |
| Benefits Inflation | 4 | -- | 6.00% | 6.00% | 6.00% | 6.00% |
| Energy | 5 | -- | 5.00% | 5.00% | 5.00% | 5.00% |
| Chemicals | 6 | -- | 3.00% | 3.00% | 3.00% | 3.00% |
| Fuel | 7 | -- | 3.00% | 3.00% | 3.00% | 3.00% |
| No Escalation | 8 | -- | 0.00% | 0.00% | 0.00% | 0.00% |

1. Revenue and expenses for FY 2016/17 are from source file: *Updated FY 16-17 projections With December.xlsx*
2. DHPO payback due to additional capacity provided when DHPO connected to the system.
3. Inflation values provided by staff from source file: *Adopted Cabazon Budget FY 17, V6.xlsx*

TABLE 10 - CAPITAL FUNDING SUMMARY

| CAPITAL FUNDING FORECAST | Budget | | Projected | | |
|---|-------------------|------------------|------------------|------------------|------------------|
| | FY 2016/17 | FY 2017/18 | FY 2018/19 | FY 2019/20 | FY 2020/21 |
| Funding Sources: | | | | | |
| Grants | \$ - | \$ - | \$ - | \$ - | \$ - |
| Use of Capacity Fee Reserves | - | - | - | - | - |
| SRF Loan Funding | - | - | - | - | - |
| Use of New Revenue Bond Proceeds | - | - | - | - | - |
| Use of Capital Rehabilitation and Replacement Reserve | - | - | - | - | - |
| Rate Revenue | 132,000 | 52,788 | 79,833 | 23,220 | 12,662 |
| Total Sources of Capital Funds | \$ 132,000 | \$ 52,788 | \$ 79,833 | \$ 23,220 | \$ 12,662 |
| Uses of Capital Funds: | | | | | |
| Total Project Costs | \$ 132,000 | \$ 52,788 | \$ 79,833 | \$ 23,220 | \$ 12,662 |
| Capital Funding Surplus (Deficiency) | \$ - | \$ - | \$ - | \$ - | \$ - |
| Bank Loan | \$ - | \$ - | \$ - | \$ - | \$ - |
| New Revenue Bond Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |

CAPITAL IMPROVEMENT PROGRAM

TABLE 11 - Capital Improvement Program Costs (in Current-Year Dollars) (1):

| Project Description | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|-------------------|------------------|------------------|------------------|------------------|
| Vehicle | \$ 16,000 | \$ - | \$ - | \$ - | \$ - |
| Property Purchase & Prep | \$ 66,000 | \$ 30,000 | \$ 54,000 | \$ - | \$ - |
| Meter Replacement (2) | \$ - | \$ 11,250 | \$ 11,250 | \$ 11,250 | \$ 11,250 |
| Additional CIP | \$ 50,000 | \$ 10,000 | \$ 10,000 | \$ 10,000 | \$ - |
| Total: CIP Program Costs (Current-Year Dollars) | \$ 132,000 | \$ 51,250 | \$ 75,250 | \$ 21,250 | \$ 11,250 |

TABLE 12 - Capital Improvement Program Costs (in Future-Year Dollars) (1):

| Project Description | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|-------------------|------------------|------------------|------------------|------------------|
| Vehicle | \$ 16,000 | \$ - | \$ - | \$ - | \$ - |
| Property Purchase & Prep | \$ 66,000 | \$ 30,900 | \$ 57,289 | \$ - | \$ - |
| Meter Replacement (2) | \$ - | \$ 11,588 | \$ 11,935 | \$ 12,293 | \$ 12,662 |
| Additional CIP | \$ 50,000 | \$ 10,300 | \$ 10,609 | \$ 10,927 | \$ - |
| -- | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total: CIP Program Costs (Future-Year Dollars) | \$ 132,000 | \$ 52,788 | \$ 79,833 | \$ 23,220 | \$ 12,662 |

TABLE 13 - FORECASTING ASSUMPTIONS:

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

1. Capital project costs & equipment purchases; source files: Updated FY 16-17 With December.xlsx
2. Staff has set a target 150 new meters each year. It is assumed each new meter will cost \$75, including installation.
3. Construction inflator is based on the most current 10 year average of the Engineering News-Record Construction Cost Index. Source: www.enr.com/economics

TABLE 14

| ASSESSMENT DISTRICT DEBT OBLIGATIONS | Budget | Projected | | | |
|---|------------------|------------------|------------------|------------------|------------------|
| | FY 2016/17 | FY 2017/18 | FY 2018/19 | FY 2019/20 | FY 2020/21 |
| Annual Repayment Schedules: | | | | | |
| <u>DWR Loan No E58416 (1)</u> | | | | | |
| Principal Payment | \$ 36,780 | \$ 37,867 | \$ 38,994 | \$ 40,148 | \$ 41,355 |
| Interest Payment | \$ 11,911 | \$ 10,824 | \$ 9,697 | \$ 8,543 | \$ 7,336 |
| Subtotal: Annual Debt Service | \$ 48,691 | \$ 48,691 | \$ 48,691 | \$ 48,691 | \$ 48,691 |
| Coverage Requirement (\$-Amnt above annual payment) (2) | 120% | 120% | 120% | 120% | 120% |
| Reserve Requirement (total fund balance) (3) | \$ - | \$ - | \$ - | \$ - | \$ - |
| <u>Zion First National Installment Sale Agreement (4)</u> | | | | | |
| Principal Payment | \$ 76,002 | \$ 77,907 | \$ 79,859 | \$ 81,859 | \$ 83,911 |
| Interest Payment | \$ 12,707 | \$ 10,803 | \$ 8,851 | \$ 6,850 | \$ 4,799 |
| Subtotal: Annual Debt Service | \$ 88,709 | \$ 88,709 | \$ 88,710 | \$ 88,710 | \$ 88,710 |
| Coverage Requirement (\$-Amnt above annual payment) (2) | 120% | 120% | 120% | 120% | 120% |
| Reserve Requirement (total fund balance) (3) | \$ - | \$ - | \$ - | \$ - | \$ - |

1. Client provided Source File: *DWR Loan Schedule_BNY_E58416.pdf*
2. Coverage requirement set by Zion Bank Installment Agreement and includes all Parity obligations. Source File: *Zions Bank_Installment Sale Agreement.pdf*
3. No reserve requirements for existing debt confirmed by staff 12/15/16.
4. Client provided Source File: *Zions Bank_Installment Sale Agreement.pdf*

TABLE 15 - Existing Annual Debt Obligations to be Satisfied by Water Rates:

| | | | | | |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|
| Existing Annual Debt Service | \$ 137,400 | \$ 137,400 | \$ 137,401 | \$ 137,401 | \$ 137,401 |
| Existing Annual Coverage Requirement | 120% | 120% | 120% | 120% | 120% |
| Existing Debt Reserve Target | \$ - | \$ - | \$ - | \$ - | \$ - |

**CABAZON WATER DISTRICT
WATER RATE STUDY
Cost of Service Analysis**

TABLE 16

| Classification of Expenses | | | | | | | | | |
|--|-----------------------------------|-------------------|-------------------|------------------|------------------------|--------------------------------|--------------|--------------|-------------|
| Budget Categories | Total Revenue Requirements | Commodity | Capacity | Customer | Fire Protection | Basis of Classification | | | |
| | FY 2016/17 | (COM) | (CAP) | (CA) | (FP) | (COM) | (CAP) | (CA) | (FP) |
| Payroll Expenses | | | | | | | | | |
| Directors Fees | \$ 14,200 | \$ 1,420 | \$ 11,360 | \$ 1,420 | \$ - | 10.0% | 80.0% | 10.0% | 0.0% |
| Management & Customers Service | | | | | | | | | |
| Customer Accounts | \$ 44,000 | \$ - | \$ - | \$ 44,000 | \$ - | 0.0% | 0.0% | 100.0% | 0.0% |
| Admin Assistant | \$ 24,900 | \$ - | \$ 22,410 | \$ 2,490 | \$ - | 0.0% | 90.0% | 10.0% | 0.0% |
| Business Admin Manager | \$ 26,300 | \$ - | \$ 23,670 | \$ 2,630 | \$ - | 0.0% | 90.0% | 10.0% | 0.0% |
| Office Assistant (Office Assistant) | \$ 6,800 | \$ - | \$ 6,120 | \$ 680 | \$ - | 0.0% | 90.0% | 10.0% | 0.0% |
| General Manager | \$ 95,100 | \$ - | \$ 95,100 | \$ - | \$ - | 0.0% | 100.0% | 0.0% | 0.0% |
| Water Operations | | | | | | | | | |
| Meter Reader | \$ 24,000 | \$ - | \$ - | \$ 24,000 | \$ - | 0.0% | 0.0% | 100.0% | 0.0% |
| Field Operations | | | | | | | | | |
| Field Workers | \$ 62,600 | \$ - | \$ 62,391 | \$ - | \$ 209 | 0.0% | 99.7% | 0.0% | 0.3% |
| Payroll Ben Expense | | | | | | | | | |
| Workers Comp. | \$ 15,500 | \$ - | \$ 15,448 | \$ - | \$ 52 | 0.0% | 99.7% | 0.0% | 0.3% |
| Employee Health Care | \$ 45,200 | \$ - | \$ 45,049 | \$ - | \$ 151 | 0.0% | 99.7% | 0.0% | 0.3% |
| Pension | \$ 55,500 | \$ - | \$ 55,315 | \$ - | \$ 185 | 0.0% | 99.7% | 0.0% | 0.3% |
| Payroll Expense - Taxes, etc. | | | | | | | | | |
| FICA and Medicare | \$ 22,300 | \$ - | \$ 22,226 | \$ - | \$ 74 | 0.0% | 99.7% | 0.0% | 0.3% |
| SUI and ETT | \$ 4,800 | \$ - | \$ 4,784 | \$ - | \$ 16 | 0.0% | 99.7% | 0.0% | 0.3% |
| Medical Testing | \$ 3,000 | \$ - | \$ 2,990 | \$ - | \$ 10 | 0.0% | 99.7% | 0.0% | 0.3% |
| Facilities, Wells, Transmission, Distribution | | | | | | | | | |
| Lab Fees | \$ 7,800 | \$ - | \$ 7,774 | \$ - | \$ 26 | 0.0% | 99.7% | 0.0% | 0.3% |
| Site Landscaping & Maintenance | \$ 1,500 | \$ - | \$ 1,495 | \$ - | \$ 5 | 0.0% | 99.7% | 0.0% | 0.3% |
| Meters | \$ 10,000 | \$ - | \$ 9,967 | \$ - | \$ 33 | 0.0% | 99.7% | 0.0% | 0.3% |
| Generator Service Contractor | \$ 3,500 | \$ 3,500 | \$ - | \$ - | \$ - | 100.0% | 0.0% | 0.0% | 0.0% |
| Median Landscape & Maintenance | \$ 3,000 | \$ - | \$ 2,990 | \$ - | \$ 10 | 0.0% | 99.7% | 0.0% | 0.3% |
| Utilities - Wells | \$ 107,900 | \$ 107,900 | \$ - | \$ - | \$ - | 100.0% | 0.0% | 0.0% | 0.0% |
| SCADA | \$ 4,800 | \$ - | \$ 4,784 | \$ - | \$ 16 | 0.0% | 99.7% | 0.0% | 0.3% |
| Line Mtn & Repair Contractor | | | | | | | | | |
| Line Mtn & Repair Construction | \$ - | \$ - | \$ - | \$ - | \$ - | 10.0% | 89.7% | 0.0% | 0.3% |
| Line Mtn & Repair Rent | \$ - | \$ - | \$ - | \$ - | \$ - | 10.0% | 89.7% | 0.0% | 0.3% |
| Line Mtn & Repair Construction Emergency | \$ 50,000 | \$ 5,000 | \$ 44,833 | \$ - | \$ 167 | 10.0% | 89.7% | 0.0% | 0.3% |
| Line Mtn & Repair Rent Emergency | \$ - | \$ - | \$ - | \$ - | \$ - | 10.0% | 89.7% | 0.0% | 0.3% |
| Line Maint & Repair Materials | \$ 37,500 | \$ 3,750 | \$ 33,625 | \$ - | \$ 125 | 10.0% | 89.7% | 0.0% | 0.3% |
| Well Maintenance | | | | | | | | | |
| Chemicals | \$ 6,000 | \$ 6,000 | \$ - | \$ - | \$ - | 100.0% | 0.0% | 0.0% | 0.0% |
| Well Maintenance - Other | \$ 12,000 | \$ 1,200 | \$ 10,760 | \$ - | \$ 40 | 10.0% | 89.7% | 0.0% | 0.3% |
| Sub-Total | \$ 688,200 | \$ 128,770 | \$ 483,091 | \$ 75,220 | \$ 1,119 | 18.7% | 70.2% | 10.9% | 0.2% |

**CABAZON WATER DISTRICT
WATER RATE STUDY
Cost of Service Analysis**

TABLE 17

Classification of Expenses, continued

| Budget Categories | Total Revenue Requirements | Commodity | Capacity | Customer | Fire Protection | Basis of Classification | | | |
|---|----------------------------|------------------|-------------------|------------------|-----------------|-------------------------|--------------|-------------|-------------|
| | FY 2016/17 | (COM) | (CAP) | (CA) | (FP) | (COM) | (CAP) | (CA) | (FP) |
| Security | | | | | | | | | |
| Crime Prevention (PSI & Verizon) | \$ 1,070 | \$ 107 | \$ 959 | \$ - | \$ 4 | 10.0% | 89.7% | 0.0% | 0.3% |
| Alarms Phones | \$ 1,360 | \$ 136 | \$ 1,219 | \$ - | \$ 5 | 10.0% | 89.7% | 0.0% | 0.3% |
| Alarms - Other | \$ 550 | \$ 55 | \$ 493 | \$ - | \$ 2 | 10.0% | 89.7% | 0.0% | 0.3% |
| Training / Equipment | \$ - | \$ - | \$ - | \$ - | \$ - | 10.0% | 89.7% | 0.0% | 0.3% |
| Materials | \$ 500 | \$ 50 | \$ 448 | \$ - | \$ 2 | 10.0% | 89.7% | 0.0% | 0.3% |
| Audio Alarm | \$ 7,000 | \$ 700 | \$ 6,277 | \$ - | \$ 23 | 10.0% | 89.7% | 0.0% | 0.3% |
| Video Equip Lease | \$ 9,500 | \$ 950 | \$ 8,518 | \$ - | \$ 32 | 10.0% | 89.7% | 0.0% | 0.3% |
| Miscellaneous Fac, Wells, Trans & Distribution | | | | | | | | | |
| Engineering Services | \$ 80,900 | \$ 8,090 | \$ 72,540 | \$ - | \$ 270 | 10.0% | 89.7% | 0.0% | 0.3% |
| Chlorinators | \$ 2,000 | \$ 2,000 | \$ - | \$ - | \$ - | 100.0% | 0.0% | 0.0% | 0.0% |
| Other | \$ 30,000 | \$ 30,000 | \$ - | \$ - | \$ - | 100.0% | 0.0% | 0.0% | 0.0% |
| Utilities - Office | | | | | | | | | |
| Electricity | \$ 13,900 | \$ 1,390 | \$ 12,510 | \$ - | \$ - | 10.0% | 90.0% | 0.0% | 0.0% |
| Gas | \$ 520 | \$ 52 | \$ 468 | \$ - | \$ - | 10.0% | 90.0% | 0.0% | 0.0% |
| Telephone | \$ 9,800 | \$ 980 | \$ 8,787 | \$ - | \$ 33 | 10.0% | 89.7% | 0.0% | 0.3% |
| Trash Pickup / Office Cleaning | \$ 4,300 | \$ 430 | \$ 3,856 | \$ - | \$ 14 | 10.0% | 89.7% | 0.0% | 0.3% |
| Office Expenses | | | | | | | | | |
| Fire Alarm System Servicing | \$ 600 | \$ 60 | \$ 538 | \$ - | \$ 2 | 10.0% | 89.7% | 0.0% | 0.3% |
| Water Billing System | \$ 12,000 | \$ - | \$ - | \$ 11,960 | \$ 40 | 0.0% | 0.0% | 99.7% | 0.3% |
| Supplies & Equipment | \$ 9,540 | \$ 954 | \$ 8,554 | \$ - | \$ 32 | 10.0% | 89.7% | 0.0% | 0.3% |
| Copier and Supplies | \$ 7,900 | \$ 790 | \$ 7,084 | \$ - | \$ 26 | 10.0% | 89.7% | 0.0% | 0.3% |
| Dues & Subscriptions | \$ 1,700 | \$ 170 | \$ 1,524 | \$ - | \$ 6 | 10.0% | 89.7% | 0.0% | 0.3% |
| Postage | \$ 12,600 | \$ 1,260 | \$ 4,998 | \$ 6,300 | \$ 42 | 10.0% | 39.7% | 50.0% | 0.3% |
| Printing & publications | \$ 6,000 | \$ 600 | \$ 2,380 | \$ 3,000 | \$ 20 | 10.0% | 39.7% | 50.0% | 0.3% |
| Leases & Rents | \$ 340 | \$ 34 | \$ 305 | \$ - | \$ 1 | 10.0% | 89.7% | 0.0% | 0.3% |
| Computer Services | \$ 40,000 | \$ 4,000 | \$ 35,867 | \$ - | \$ 133 | 10.0% | 89.7% | 0.0% | 0.3% |
| Office / Road | \$ 1,500 | \$ 150 | \$ 1,345 | \$ - | \$ 5 | 10.0% | 89.7% | 0.0% | 0.3% |
| Office Storage | \$ 6,100 | \$ 610 | \$ 5,470 | \$ - | \$ 20 | 10.0% | 89.7% | 0.0% | 0.3% |
| Air Conditioning Servicing | \$ 4,300 | \$ 430 | \$ 3,856 | \$ - | \$ 14 | 10.0% | 89.7% | 0.0% | 0.3% |
| Office Expenses - Other | \$ 1,000 | \$ 100 | \$ 897 | \$ - | \$ 3 | 10.0% | 89.7% | 0.0% | 0.3% |
| Support Expenses | | | | | | | | | |
| Temporary Labor | \$ 10,000 | \$ 1,000 | \$ 8,967 | \$ - | \$ 33 | 10.0% | 89.7% | 0.0% | 0.3% |
| Financial Audit | \$ 21,700 | \$ 2,170 | \$ 19,458 | \$ - | \$ 72 | 10.0% | 89.7% | 0.0% | 0.3% |
| Accounting | \$ 35,000 | \$ 3,500 | \$ 31,383 | \$ - | \$ 117 | 10.0% | 89.7% | 0.0% | 0.3% |
| Sub-Total | \$ 331,680 | \$ 60,768 | \$ 248,700 | \$ 21,260 | \$ 952 | 18.3% | 75.0% | 6.4% | 0.3% |

**CABAZON WATER DISTRICT
WATER RATE STUDY
Cost of Service Analysis**

**TABLE 18
Classification of Expenses, continued**

| Budget Categories | Total Revenue Requirements | Commodity | Capacity | Customer | Fire Protection | Basis of Classification | | | |
|--------------------------------------|----------------------------|-------------------|-------------------|------------------|-----------------|-------------------------|--------------|-------------|-------------|
| | FY 2016/17 | (COM) | (CAP) | (CA) | (FP) | (COM) | (CAP) | (CA) | (FP) |
| Legal | | | | | | | | | |
| Legal - General | \$ 40,000 | \$ 4,000 | \$ 36,000 | \$ - | \$ - | 10.0% | 90.0% | 0.0% | 0.0% |
| Legal - Water | \$ 25,600 | \$ 25,600 | \$ - | \$ - | \$ - | 100.0% | 0.0% | 0.0% | 0.0% |
| Legal - Brown Act, Public Record | \$ 6,800 | \$ 680 | \$ 6,120 | \$ - | \$ - | 10.0% | 90.0% | 0.0% | 0.0% |
| Legal - Personnel | \$ 5,000 | \$ 500 | \$ 4,500 | \$ - | \$ - | 10.0% | 90.0% | 0.0% | 0.0% |
| Legal - Grant / Loan Funding | \$ 10,000 | \$ 1,000 | \$ 9,000 | \$ - | \$ - | 10.0% | 90.0% | 0.0% | 0.0% |
| Legal - Fees & Charges | \$ 2,900 | \$ 290 | \$ 2,465 | \$ 145 | \$ - | 10.0% | 85.0% | 5.0% | 0.0% |
| Miscellaneous Support | | | | | | | | | |
| Bank Service Charges | \$ 1,700 | \$ 170 | \$ 1,524 | \$ - | \$ 6 | 10.0% | 89.7% | 0.0% | 0.3% |
| Payroll Service | \$ 5,000 | \$ 500 | \$ 4,483 | \$ - | \$ 17 | 10.0% | 89.7% | 0.0% | 0.3% |
| General Liability Insurance | \$ 21,500 | \$ 2,150 | \$ 19,278 | \$ - | \$ 72 | 10.0% | 89.7% | 0.0% | 0.3% |
| Fixed Asset Software System | \$ - | \$ - | \$ - | \$ - | \$ - | 10.0% | 89.7% | 0.0% | 0.3% |
| Training / Travel | \$ - | \$ - | \$ - | \$ - | \$ - | 10.0% | 89.7% | 0.0% | 0.3% |
| Seminars / Training | \$ 2,000 | \$ 200 | \$ 1,793 | \$ - | \$ 7 | 10.0% | 89.7% | 0.0% | 0.3% |
| Travel Meals | \$ 4,000 | \$ 400 | \$ 3,587 | \$ - | \$ 13 | 10.0% | 89.7% | 0.0% | 0.3% |
| Other Fees | | | | | | | | | |
| County Lien Release Fees | \$ 180 | \$ 18 | \$ 161 | \$ - | \$ 1 | 10.0% | 89.7% | 0.0% | 0.3% |
| Riverside County Fees | \$ 2,500 | \$ 250 | \$ 2,242 | \$ - | \$ 8 | 10.0% | 89.7% | 0.0% | 0.3% |
| State Water fees | \$ 12,500 | \$ 12,500 | \$ - | \$ - | \$ - | 100.0% | 0.0% | 0.0% | 0.0% |
| Other Fees - Other | \$ 1,000 | \$ 100 | \$ 897 | \$ - | \$ 3 | 10.0% | 89.7% | 0.0% | 0.3% |
| Service Tools & Equipment | | | | | | | | | |
| Shop Supplies & Small Tools | \$ 6,000 | \$ 600 | \$ 5,380 | \$ - | \$ 20 | 10.0% | 89.7% | 0.0% | 0.3% |
| Vehicle Fuel | \$ 12,000 | \$ 1,200 | \$ 10,760 | \$ - | \$ 40 | 10.0% | 89.7% | 0.0% | 0.3% |
| Employee Uniforms | \$ 2,000 | \$ 200 | \$ 1,793 | \$ - | \$ 7 | 10.0% | 89.7% | 0.0% | 0.3% |
| Safety | \$ 5,000 | \$ 500 | \$ 4,483 | \$ - | \$ 17 | 10.0% | 89.7% | 0.0% | 0.3% |
| Tractor Expenses | \$ 6,900 | \$ 690 | \$ 6,187 | \$ - | \$ 23 | 10.0% | 89.7% | 0.0% | 0.3% |
| Backhoe Fuel | \$ 1,000 | \$ 100 | \$ 897 | \$ - | \$ 3 | 10.0% | 89.7% | 0.0% | 0.3% |
| Equipment Rental | \$ 1,200 | \$ 120 | \$ 1,076 | \$ - | \$ 4 | 10.0% | 89.7% | 0.0% | 0.3% |
| Service Trucks - Repair & Mtn | \$ 14,100 | \$ 1,410 | \$ 12,643 | \$ - | \$ 47 | 10.0% | 89.7% | 0.0% | 0.3% |
| Water Ops Cell Phone / Internet | \$ 2,200 | \$ 220 | \$ 1,973 | \$ - | \$ 7 | 10.0% | 89.7% | 0.0% | 0.3% |
| Water Ops Computer Internet | \$ 4,000 | \$ 400 | \$ 3,587 | \$ - | \$ 13 | 10.0% | 89.7% | 0.0% | 0.3% |
| Communications | \$ 3,000 | \$ 300 | \$ 2,690 | \$ - | \$ 10 | 10.0% | 89.7% | 0.0% | 0.3% |
| Service Tools & Equipment - Other | \$ 1,100 | \$ 110 | \$ 986 | \$ - | \$ 4 | 10.0% | 89.7% | 0.0% | 0.3% |
| Miscellaneous Expenses | | | | | | | | | |
| Returned Checks | \$ - | \$ - | \$ - | \$ - | \$ - | 0.0% | 0.0% | 99.7% | 0.3% |
| Grant / Loan Processing Fee | \$ 1,325 | \$ 133 | \$ 1,188 | \$ - | \$ 4 | 10.0% | 89.7% | 0.0% | 0.3% |
| Bad Debt Expense | \$ 1,200 | \$ - | \$ - | \$ 1,196 | \$ 4 | 0.0% | 0.0% | 99.7% | 0.3% |
| Miscellaneous | \$ 8,000 | \$ 800 | \$ 7,173 | \$ - | \$ 27 | 10.0% | 89.7% | 0.0% | 0.3% |
| Website Support | \$ 2,820 | \$ 282 | \$ 2,529 | \$ - | \$ 9 | 10.0% | 89.7% | 0.0% | 0.3% |
| Image Consultant | \$ - | \$ - | \$ - | \$ - | \$ - | 10.0% | 89.7% | 0.0% | 0.3% |
| DHPO Payback (2) | \$ 21,000 | \$ 2,100 | \$ 18,830 | \$ - | \$ 70 | 10.0% | 89.7% | 0.0% | 0.3% |
| GSA / SGMA | \$ - | \$ - | \$ - | \$ - | \$ - | 10.0% | 89.7% | 0.0% | 0.3% |
| Sub-Total | \$ 233,525 | \$ 57,523 | \$ 174,225 | \$ 1,341 | \$ 436 | 24.6% | 74.6% | 0.6% | 0.2% |
| Total Operating Expense | \$ 1,253,405 | \$ 247,061 | \$ 906,017 | \$ 97,821 | \$ 2,507 | 19.7% | 72.3% | 7.8% | 0.2% |

**CABAZON WATER DISTRICT
WATER RATE STUDY
Cost of Service Analysis**

TABLE 19

| Classification of Expenses, continued | | | | | | | | | |
|--|-----------------------------------|-------------------|---------------------|------------------|------------------------|--------------------------------|---------------|-------------|-------------|
| Budget Categories | Total Revenue Requirements | Commodity | Capacity | Customer | Fire Protection | Basis of Classification | | | |
| | FY 2016/17 | (COM) | (CAP) | (CA) | (FP) | (COM) | (CAP) | (CA) | (FP) |
| Debt Service Payments | | | | | | | | | |
| DWR Loan No E58416 | \$ 48,691 | \$ - | \$ 48,691 | \$ - | \$ - | 0.0% | 100.0% | 0.0% | 0.0% |
| Zion First National Installment Sale Agreement | \$ 88,709 | \$ - | \$ 88,709 | \$ - | \$ - | 0.0% | 100.0% | 0.0% | 0.0% |
| Future Debt Service | \$ - | \$ - | \$ - | \$ - | \$ - | 0.0% | 100.0% | 0.0% | 0.0% |
| Total Debt Service Payments | \$ 137,400 | \$ - | \$ 137,400 | \$ - | \$ - | 0.0% | 100.0% | 0.0% | 0.0% |
| Capital Expenditures | | | | | | | | | |
| Rate Funded Capital Expenses | \$ 132,000 | \$ - | \$ 132,000 | \$ - | \$ - | 0.0% | 100.0% | 0.0% | 0.0% |
| TOTAL REVENUE REQUIREMENTS | \$ 1,522,805 | \$ 247,061 | \$ 1,175,417 | \$ 97,821 | \$ 2,507 | 16.2% | 77.2% | 6.4% | 0.2% |
| Less: Non-Rate Revenues | | | | | | | | | |
| Water Sales Revenue | | | | | | | | | |
| Base Rate Water Bills | \$ - | \$ - | \$ - | \$ - | \$ - | 16.2% | 77.2% | 6.4% | 0.2% |
| Fire Sales - Water Bills | \$ - | \$ - | \$ - | \$ - | \$ - | 16.2% | 77.2% | 6.4% | 0.2% |
| Fee Revenue | | | | | | | | | |
| Stand By Fees - Tax Revenue | \$ (113,600) | \$ (18,431) | \$ (87,685) | \$ (7,297) | \$ (187) | 16.2% | 77.2% | 6.4% | 0.2% |
| Fire Flow Income | \$ (150) | \$ (24) | \$ (116) | \$ (10) | \$ (0) | 16.2% | 77.2% | 6.4% | 0.2% |
| Meter Install & Removal | \$ (80) | \$ (13) | \$ (62) | \$ (5) | \$ (0) | 16.2% | 77.2% | 6.4% | 0.2% |
| Penalty Fees - Water Bills | \$ (40,000) | \$ (6,490) | \$ (30,875) | \$ (2,569) | \$ (66) | 16.2% | 77.2% | 6.4% | 0.2% |
| Lien Reinstatement Fees | \$ (1,020) | \$ (165) | \$ (787) | \$ (66) | \$ (2) | 16.2% | 77.2% | 6.4% | 0.2% |
| New Account Fees - Water Bill | \$ (1,420) | \$ (230) | \$ (1,096) | \$ (91) | \$ (2) | 16.2% | 77.2% | 6.4% | 0.2% |
| Incident Fee - Water Bills | \$ (140) | \$ (23) | \$ (108) | \$ (9) | \$ (0) | 16.2% | 77.2% | 6.4% | 0.2% |
| Returned Check Fees | \$ (550) | \$ (89) | \$ (425) | \$ (35) | \$ (1) | 16.2% | 77.2% | 6.4% | 0.2% |
| Basic Facilities Fee (New Service) | \$ (8,020) | \$ (1,301) | \$ (6,190) | \$ (515) | \$ (13) | 16.2% | 77.2% | 6.4% | 0.2% |
| Miscellaneous Revenue | | | | | | | | | |
| Ad Valorem - Tax Revenue | \$ (50,700) | \$ (8,226) | \$ (39,134) | \$ (3,257) | \$ (83) | 16.2% | 77.2% | 6.4% | 0.2% |
| Teeter Settlement Income | \$ (10,000) | \$ (1,622) | \$ (7,719) | \$ (642) | \$ (16) | 16.2% | 77.2% | 6.4% | 0.2% |
| Cell Tower Lease Income | \$ (23,100) | \$ (3,748) | \$ (17,830) | \$ (1,484) | \$ (38) | 16.2% | 77.2% | 6.4% | 0.2% |
| Miscellaneous Non-Operating Income | \$ - | \$ - | \$ - | \$ - | \$ - | 16.2% | 77.2% | 6.4% | 0.2% |
| Interest Income | \$ (6,010) | \$ (975) | \$ (4,639) | \$ (386) | \$ (10) | 16.2% | 77.2% | 6.4% | 0.2% |
| NET REVENUE REQUIREMENTS | \$ 1,268,015 | \$ 205,723 | \$ 978,751 | \$ 81,454 | \$ 2,087 | | | | |
| Allocation of Revenue Requirements | 100.0% | 16.2% | 77.2% | 6.4% | 0.2% | | | | |

TABLE 20

| Classification of Expenses, continued | | | | | |
|--|---------------------|-------------------|-------------------|------------------|-----------------|
| Adjustments to Classification of Expenses | | | | | |
| Adjustment for Current Rate Level: | Total | (COM) | (CAP) | (CA) | (FP) |
| FY 2016/17 Target Rate Rev. After Rate Increases | \$ 1,155,175 | | | | |
| Projected Rate Revenue at Current Rates | \$ 1,004,500 | | | | |
| FY 2016/17 Projected Rate Increase | 15.0% | | | | |
| Adjusted Net Revenue Req'ts | \$ 1,155,175 | \$ 187,416 | \$ 891,652 | \$ 74,205 | \$ 1,902 |
| <i>Percent of Revenue</i> | <i>100.0%</i> | <i>16.2%</i> | <i>77.2%</i> | <i>6.4%</i> | <i>0.2%</i> |

**CABAZON WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis**

TABLE 21

| Development of the COMMODITY Allocation Factor | | |
|---|-------------------------|--------------------------------|
| Customer Class | Volume (hcf) (1) | Percent of Total Volume |
| Single Family Residential | 104,796 | 76.8% |
| Multi-Family Residential | 1,011 | 0.7% |
| Government Meters | 18,715 | 13.7% |
| Commercial Meters | 11,854 | 8.7% |
| Industrial Meters | - | 0.0% |
| Private Fire | - | 0.0% |
| Total | 136,376 | 100% |
| Contract | 58,614 | |
| Construction (3) | 23 | |
| Fire Hydrant (3) | - | |
| District (4) | 211 | |
| Grand Total | 195,224 | |

1. Consumption for October 2015 - September 2016. CWD bills monthly.
Source files: *Jan-Apr 2016 Customer Class Consumption.pdf; Jan-Dec 2015 Customer Class Consumption.pdf*
2. Contract customer excluded as rate design is set by contract.
3. Excluded from consumption as the water used by construction/temporary hydrants is inconsistent.
4. Excluded from consumption as the water used by District is not billable.

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

**CABAZON WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis**

TABLE 22

| Development of the CAPACITY (MAX MONTH) Allocation Factor | | | | |
|---|---------------------------|----------------------------|---------------------|---------------------------|
| Customer Class | Average Monthly Use (hcf) | Peak Monthly Use (hcf) (1) | Peak Monthly Factor | Max Month Capacity Factor |
| Single Family Residential | 8,733 | 11,683 | 1.34 | 74.5% |
| Multi-Family Residential | 84 | 202 | 2.40 | 1.3% |
| Government Meters | 1,560 | 2,501 | 1.60 | 15.9% |
| Commercial Meters | 988 | 1,297 | 1.31 | 8.3% |
| Industrial Meters | 0 | 0 | N/A | 0.0% |
| Private Fire | 0 | 0 | N/A | 0.0% |
| Total | 11,365 | 15,683 | | 100% |
| Contract | 4,885 | 7,253 | 1.48 | |
| Construction | | | | |
| Fire Hydrant District | | | | |

1. Based on peak monthly data (peak day data not available).

Capacity Related Costs: Costs associated with the maximum demand required at the maximum size of facilities required to meet this demand.

TABLE 23

| Development of the CUSTOMER Allocation Factor | | |
|---|----------------------|------------------|
| Customer Class | Number of Meters (1) | Percent of Total |
| Single Family Residential | 837 | 95.0% |
| Multi-Family Residential | 2 | 0.2% |
| Government Meters | 13 | 1.5% |
| Commercial Meters | 26 | 3.0% |
| Industrial Meters | 1 | 0.1% |
| Private Fire | 2 | 0.2% |
| Total | 881 | 100.0% |
| Contract | 1 | |
| Construction | - | |
| Fire Hydrant District | 1 | |
| District | 2 | |
| Grand Total | 885 | |

1. Meter Count for April 2016. CWD bills monthly.

Source files: *Jan-Apr 2016 Customer Class Consumption.pdf*; *Jan-Dec 2015 Customer Class Consumption.pdf*

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.

**CABAZON WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design**

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

TABLE 24

| Consumption by Tier | | | |
|----------------------------|-------------------------------|---------------------------------|--|
| Tier | Monthly Breakpoint (1) | Expected Consumption (2) | Percentage of Total SFR Consumption |
| Tier 1 | 7 hcf | 55,392 | 53% |
| Tier 2 | 14 hcf | 25,489 | 24% |
| Tier 3 | -- | 23,915 | 23% |
| Total | | 104,796 | 100% |

1. Tier 1 break point set to average winter consumption, an estimate of average indoor consumption in Cabazon.
Tier 2 break point set to 14 hcf which is average summer consumption.
2. Consumption data is based on the CWD Oct. 2015- Sept 2016 customer data which are monthly bills.
Source files: Jan-Apr 2016 Customer Class Consumption.pdf; Jan-Dec 2015 Customer Class Consumption.pdf

TABLE 25

| Development of the Single Family Residential PEAK CAPACITY (MAX MONTH) Allocation Factors | | | | |
|--|-------------------------|--------------------------------------|---|-------------------------|
| Tier | Description | Monthly Consumption (hcf) (1) | Additional Capacity Required (hcf) (4) | Percent of Total |
| Tier 1 | Max Tier 1 Capacity (2) | 5,859 | 0 | 0.0% |
| Tier 2 | Peak up to Tier 2 (3) | 7,902 | 2,043 | 35.1% |
| Tier 3 | Peak up to Tier 3 (3) | 11,683 | 3,781 | 64.9% |
| Total | | | 5,824 | 100.0% |

1. Consumption data is based on the CWD Oct. 2015- Sept 2016 customer data which are monthly bills.
Source files: Jan-Apr 2016 Customer Class Consumption.pdf; Jan-Dec 2015 Customer Class Consumption.pdf
2. Capacity allocated to the first tier represents the tier break multiplied by the number of customers.
3. This is the cumulative peak consumption up to the tier break; it represents capacity required to provide service to a given tier.
4. This is the additional cumulative capacity to meet peak consumption at each tier.

**CABAZON WATER DISTRICT
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design**

DEVELOPMENT OF CONTRACT RATES:

TABLE 26

| Contract | Current (1) | Proposed Rates | | | | |
|---|-------------------|-------------------|---------------------|---------------------|---------------------|---------------------|
| | | FY 2016/17 | FY 2017/18 | FY 2018/19 | FY 2019/20 | FY 2020/21 |
| <i>Projected Increase in Rate Revenue per Financial Plan:</i> | | <i>15.00%</i> | <i>15.00%</i> | <i>5.00%</i> | <i>5.00%</i> | <i>5.00%</i> |
| Fixed Rate | \$1,458.60 | \$1,677.39 | \$1,929.00 | \$2,025.45 | \$2,126.72 | \$2,233.06 |
| Variable Rate | \$2.50 | \$2.88 | \$3.31 | \$3.47 | \$3.65 | \$3.83 |
| Estimated Consumption (hcf) | 58,614 | 58,614 | 58,614 | 58,614 | 58,614 | 58,614 |
| Estimated Fixed Revenue | \$ 17,503 | \$ 20,129 | \$ 23,148 | \$ 24,305 | \$ 25,521 | \$ 26,797 |
| Estimated Variable Revenue | 146,535 | 168,515 | 193,793 | 203,482 | 213,656 | 224,339 |
| Target Revenue | \$ 164,038 | \$ 188,644 | \$ 216,941 | \$ 227,788 | \$ 239,177 | \$ 251,136 |
| Remaining Rate Revenue | \$ 840,462 | \$ 966,531 | \$ 1,111,511 | \$ 1,167,086 | \$ 1,225,441 | \$ 1,286,713 |

1. Current rates provided via email 1/17/17.

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TABLE 27

| Meter Size | Standard Meters (1) | | Fire Service Meters (2) | |
|------------|--------------------------------|--------------------------|-------------------------------------|--------------------------|
| | Meter Capacity (gpm) | Equivalency to 5/8- inch | Meter Capacity (gpm) | Equivalency to 5/8- inch |
| | <u>Displacement Meters</u> | | <u>Displacement Meters</u> | |
| 5/8 inch | 20 | 1.00 | 20 | 1.00 |
| 3/4 inch | 30 | 1.50 | 30 | 1.50 |
| 1 inch | 50 | 2.50 | 50 | 2.50 |
| 1.5 inch | 100 | 5.00 | 100 | 5.00 |
| 2 inch | 160 | 8.00 | 160 | 8.00 |
| | <u>Compound Class I Meters</u> | | <u>Fire Service Type I & II</u> | |
| 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 |
| | <u>Turbine Class I Meters</u> | | | |
| 8 inch | 2,800 | 140.00 | | |
| 10 inch | 4,200 | 210.00 | | |

1. Meter flow rates are from AWWA M-1 Table B-1.
2. Fire Service meter flow rates are from AWWA M-6 Table 5-3.

TABLE 28 - ALLOCATION OF WATER REVENUE REQUIREMENTS:

| Functional Category | COSA Results | | Proposed Rates | |
|---|---|-------------|---|-------------|
| | Unadjusted Net Revenue Requirements (2016-17) 84% Fixed / 16% Variable | | Adjusted Net Revenue Requirements (2016-17) 70% Fixed / 30% Variable | |
| Commodity - Related Costs | \$ 156,810 | 16.2% | \$ 156,810 | 16.2% |
| Capacity - Related Costs (volumetric share) | \$ - | 0.0% | \$ 133,149 | 13.8% |
| Capacity - Related Costs (fixed share) | \$ 746,042 | 77.2% | \$ 612,893 | 63.4% |
| Customer - Related Costs | \$ 62,087 | 6.4% | \$ 62,087 | 6.4% |
| Fire Protection - Related Costs | \$ 1,591 | 0.2% | \$ 1,591 | 0.2% |
| Total | \$ 966,531 | 100% | \$ 966,531 | 100% |
| Contract | \$ 188,644 | | \$ 188,644 | |
| Net Revenue Requirement | \$ 1,155,175 | | \$ 1,155,175 | |
| | \$ - | | \$ - | |

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TABLE 29 - Allocation of Adjusted Net Revenue Requirements - FY 2016/17:

| <i>Proposed Rates - Net Revenue Requirements (70% Fixed / 30% Variable)</i> | | | | | | | |
|---|---------------------------|---|--|------------------------|-------------------------------|---------------------------------|-----------------------------|
| Customer Classes | Classification Components | | | | | Cost of Service Net Rev. Req'ts | % of COS Net Revenue Req'ts |
| | Commodity-Related Costs | Capacity-Related Costs <i>Volumetric Share</i> | Capacity-Related Costs <i>Fixed Share</i> | Customer-Related Costs | Fire Protection-Related Costs | | |
| Single Family Residential | \$ 120,499 | \$ 99,189 | \$ 456,575 | \$ 58,987 | \$ - | \$ 735,250 | 76.1% |
| Multi-Family Residential | 1,162 | 1,715 | 7,894 | 141 | \$ - | 10,912 | 1.1% |
| Government Meters | 21,519 | 21,233 | 97,738 | 916 | \$ - | 141,406 | 14.6% |
| Commercial Meters | 13,630 | 11,011 | 50,686 | 1,832 | \$ - | 77,160 | 8.0% |
| Industrial Meters | - | - | - | 70 | \$ - | 70 | 0.0% |
| Private Fire | - | - | - | 141 | \$ 1,591 | 1,732 | 0.2% |
| Total Net Revenue Requirement | \$ 156,810 | \$ 133,149 | \$ 612,893 | \$ 62,087 | \$ 1,591 | \$ 966,531 | 100% |

TABLE 30 - Cost-of-Service Summary of Revenue Requirements:

| Customer Class | Rate Revenue - FY 2014/15 | | FY '16/17 Proposed Rates | | |
|---------------------------|------------------------------|---------------|--------------------------|----------------------|--------------------------|
| | Rate Revenue | % of Revenue | COS Rev. Req't | % of COS Rev. Req't. | % of 2014/15 vs. 2016/17 |
| Single Family Residential | \$ 618,631 | 73.8% | \$ 735,250 | 76.1% | 2.3% |
| Multi-Family Residential | \$ 3,907 | 0.5% | \$ 10,912 | 1.1% | 0.7% |
| Government Meters | \$ 116,646 | 13.9% | \$ 141,406 | 14.6% | 0.7% |
| Commercial Meters | \$ 90,103 | 10.7% | \$ 77,160 | 8.0% | -2.8% |
| Industrial Meters | \$ 6,340 | 0.8% | \$ 70 | 0.0% | -0.7% |
| Private Fire | \$ 2,880 | 0.3% | \$ 1,732 | 0.2% | -0.2% |
| Total | \$ 838,506 | 100.0% | \$ 966,531 | 100% | 0.0% |

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TABLE 31 - CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES FOR FY 2016/17:

| Proposed Rates - Net Revenue Requirements (70% Fixed / 30% Variable) | | | | | | | | | | |
|---|-------------------|------------------|------------------|-------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| Number of Meters by Class and Size (1) | FY 2016/17 | | | | | | | | | Total |
| | 5/8 inch | 3/4 inch | 1 inch | 1 1/2 inch | 2 inch | 3 inch | 4 inch | 6 inch | 10 inch | |
| Single Family Residential | 799 | 22 | 10 | 2 | 4 | - | - | - | - | 837 |
| Multi-Family Residential | 2 | - | - | - | - | - | - | - | - | 2 |
| Government Meters | 2 | - | 2 | - | 8 | 1 | - | - | - | 13 |
| Commercial Meters | 13 | 1 | 1 | 2 | 7 | 2 | - | - | - | 26 |
| Industrial Meters | - | - | - | - | - | - | 1 | - | - | 1 |
| Total Meters/Accounts | 816 | 23 | 13 | 4 | 19 | 3 | 1 | - | - | 879 |
| <i>Hydraulic Capacity Factor (2)</i> | <i>1.00</i> | <i>1.50</i> | <i>2.50</i> | <i>5.00</i> | <i>8.00</i> | <i>16.00</i> | <i>25.00</i> | <i>50.00</i> | <i>210.00</i> | |
| Total Equivalent Meters | 816 | 35 | 33 | 20 | 152 | 48 | 25 | - | - | 1,128 |
| Monthly Fixed Service Charges | | | | | | | | | | |
| Customer Costs (\$/Acct/month) (3) | \$5.87 | \$5.87 | \$5.87 | \$5.87 | \$5.87 | \$5.87 | \$5.87 | \$5.87 | \$5.87 | \$5.87 |
| Capacity Costs (\$/Acct/month) (4) | \$45.28 | \$67.92 | \$113.20 | \$226.39 | \$362.23 | \$724.46 | \$1,131.97 | \$2,263.94 | \$9,508.54 | |
| Total Monthly Meter Charge | \$51.15 | \$73.79 | \$119.07 | \$232.27 | \$368.10 | \$730.33 | \$1,137.84 | \$2,269.81 | \$9,514.41 | |
| Annual Fixed Costs Allocated to Monthly Meter Charges | | | | | | | | | | |
| Customer Costs | \$ 61,946 | | | | | | | | | |
| Capacity Costs | 612,893 | | | | | | | | | |
| Total Fixed Meter Costs | \$ 674,840 | | | | | | | | | |
| Annual Revenue from Monthly Meter Charges | | | | | | | | | | |
| Customer Charges | \$ 57,507 | \$ 1,621 | \$ 916 | \$ 282 | \$ 1,339 | \$ 211 | \$ 70 | \$ - | \$ - | \$ 61,946 |
| Capacity Charges | 443,370 | 18,745 | 17,659 | 10,867 | 82,588 | 26,081 | 13,584 | - | - | \$ 612,893 |
| Total Revenue from Monthly Meter | \$ 500,876 | \$ 20,366 | \$ 18,575 | \$ 11,149 | \$ 83,927 | \$ 26,292 | \$ 13,654 | \$ - | \$ - | \$ 674,840 |

1. Number of meters by size and customer class for September 2016. CWD bills monthly.
Source files: *Co1_ (2014, 2015, 2016) Usage and Meter CSI Report.xls* & *Co2_ (2014, 2015, 2016) Usage and Meter CSI Report.xls*
2. Source file: *AWWA Manual M1, "Principles of Water Rates, Fees, and Charges"*, Table B-1.
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.

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TABLE 32 - CALCULATION OF MONTHLY FIRE METER SERVICE CHARGES FOR FY 2016/17:

| <i>Proposed Rates - Net Revenue Requirements (70% Fixed / 30% Variable)</i> | | | |
|---|-----------------|-----------------|-----------------|
| Number of Meters by Class and Size (1) | FY 2016/17 | | Total |
| | 4 inch | 6 inch | |
| Fire Protection - Related Costs | 1 | 1 | 2 |
| Total Meters/Accounts | 1 | 1 | 2 |
| <i>Hydraulic Capacity Factor (2)</i> | <i>35.00</i> | <i>80.00</i> | |
| Total Equivalent Meters | 35 | 80 | 115 |
| Monthly Fixed Service Charges | | | |
| Customer Costs (\$/Acct/month) (3) | \$5.87 | \$5.87 | |
| Capacity Costs (\$/Acct/month) (4) | \$40.36 | \$92.24 | |
| Total Monthly Meter Charge | \$46.23 | \$98.11 | |
| Annual Fixed Costs Allocated to Monthly Meter Charges | | | |
| Customer Costs | \$ 141 | | |
| Capacity & Fire Protection Costs | 1,591 | | |
| Total Fixed Meter Costs | \$ 1,732 | | |
| Annual Revenue from Monthly Meter Charges | | | |
| Customer Charges | \$ 70 | \$ 70 | \$ 141 |
| Capacity Charges | 484 | 1,107 | 1,591 |
| Total Revenue from Monthly Meter | \$ 555 | \$ 1,177 | \$ 1,732 |

1. Number of meters by size and customer class provided via email 1/25/17.
2. Source file: *AWWA Manual M6, "Water Meters - Selection, Installation, Testing and Maintenance"*, Table 5-3.
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.

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PROPOSED VOLUMETRIC CHARGES FOR FY 2016/17:

Proposed Rates - Net Revenue Requirements (70% Fixed / 30% Variable)

TABLE 33

| Customer Classes | Number of Meters ¹ | Water Consumption (hcf/yr) ² | Commodity Assigned Costs | Capacity Assigned Costs | Target Rev. Req't from Vol. Charges | % of Total Rate Revenue | Uniform Commodity Rates (\$/hcf) | Proposed Rate Structure |
|---------------------------|-------------------------------|---|--------------------------|-------------------------|-------------------------------------|-------------------------|----------------------------------|-------------------------|
| Single Family Residential | 837 | 104,796 | \$ 120,499 | \$ 99,189 | \$ 219,688 | 22.7% | \$2.10 | Tiered |
| Multi-Family Residential | 2 | 1,011 | 1,162 | 1,715 | 2,877 | 0.3% | \$2.23 | Uniform |
| Government Meters | 13 | 18,715 | 21,519 | 21,233 | 42,752 | 4.4% | | Uniform |
| Commercial Meters | 26 | 11,854 | 13,630 | 11,011 | 24,642 | 2.5% | | Uniform |
| Industrial Meters | 1 | 0 | - | - | - | 0.0% | | Uniform |
| Private Fire | 2 | 0 | - | - | - | 0.0% | | Uniform |
| Total | 881 | 136,376 | \$ 156,810 | \$ 133,149 | \$ 289,959 | 30% | | |

1. Number of meters by size and customer class for September 2016. CWD bills monthly.
2. Consumption data is based on the CWD Oct. 2015- Sept 2016 customer data which are monthly bills.
 Source files: Co1_(2014, 2015, 2016) Usage and Meter CSI Report.xls & Co2_(2014, 2015, 2016) Usage and Meter CSI Report.xls

TABLE 34

| Single-Family Residential Tiered Rates | Tier Break | Water Consumption (hcf/yr) ² | Commodity Assigned Costs | Capacity Assigned Costs | Total Target Rev. Req't from Vol. Charges | % of Total Volumetric Rate Revenue | Tiered Rates (\$/hcf) |
|--|------------|---|--------------------------|-------------------------|---|------------------------------------|-----------------------|
| Tier 1 | 7 | 55,392 | \$ 63,692.02 | \$ - | \$ 63,692 | 22.0% | \$1.15 |
| Tier 2 | 14 | 25,489 | 29,308 | 34,793 | 64,101 | 22.1% | \$2.51 |
| Tier 3 | -- | 23,915 | 27,498 | 64,396 | 91,895 | 31.7% | \$3.84 |
| Total | | 104,796 | \$ 120,499 | \$ 99,189 | \$ 219,688 | 76% | |

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CURRENT VS. PROPOSED WATER RATES:

TABLE 35

| Proposed Rates - Net Revenue Requirements (70% Fixed / 30% Variable) | | | | | | | | |
|---|----------------------|-----------------------|-------------------|-------------------|-------------------|-------------------|--------|--------|
| Water Rate Schedule | Current Rates | Proposed Rates | | | | | | |
| | | FY 2016/17 | FY 2017/18 | FY 2018/19 | FY 2019/20 | FY 2020/21 | | |
| Fixed Meter Charges | | | | | | | | |
| Monthly Fixed Service Charges: | | | | | | | | |
| 5/8 inch | \$44.16 | \$51.15 | \$58.82 | \$61.77 | \$64.85 | \$68.10 | | |
| 3/4 inch | \$59.47 | \$73.79 | \$84.86 | \$89.10 | \$93.56 | \$98.24 | | |
| 1 inch | \$88.26 | \$119.07 | \$136.93 | \$143.78 | \$150.97 | \$158.51 | | |
| 1.5 inch | \$188.97 | \$232.27 | \$267.11 | \$280.46 | \$294.48 | \$309.21 | | |
| 2 inch | \$286.61 | \$368.10 | \$423.32 | \$444.48 | \$466.71 | \$490.04 | | |
| 3 inch | \$384.25 | \$730.33 | \$839.88 | \$881.88 | \$925.97 | \$972.27 | | |
| 4 inch | \$536.82 | \$1,137.84 | \$1,308.52 | \$1,373.94 | \$1,442.64 | \$1,514.77 | | |
| 6 inch | \$718.63 | \$2,269.81 | \$2,610.28 | \$2,740.80 | \$2,877.84 | \$3,021.73 | | |
| Contract | \$1,458.60 | \$1,677.39 | \$1,929.00 | \$2,025.45 | \$2,126.72 | \$2,233.06 | | |
| Monthly Fire Service Charges: | | | | | | | | |
| 4 inch | \$60.00 | \$46.23 | \$53.16 | \$55.82 | \$58.61 | \$61.54 | | |
| 6 inch | \$90.00 | \$98.11 | \$112.83 | \$118.47 | \$124.40 | \$130.62 | | |
| Commodity Charges | | | | | | | | |
| Rate per hcf of Water Consumed: | | | | | | | | |
| Uniform Rate (Non-SFR Customers) | N/A | \$2.23 | \$2.56 | \$2.69 | \$2.82 | \$2.96 | | |
| Contract Rate | \$2.50 | \$2.88 | \$3.31 | \$3.47 | \$3.65 | \$3.83 | | |
| Tiered Rate (SFR Customers): | | | | | | | | |
| | <u>Current</u> | <u>Proposed</u> | | | | | | |
| Tier 1 | 0-5 hcf | 0-7 hcf | \$0.00 | \$1.15 | \$1.32 | \$1.39 | \$1.46 | \$1.53 |
| Tier 2 | 6-25 hcf | 8-14 hcf | \$2.21 | \$2.51 | \$2.89 | \$3.04 | \$3.19 | \$3.35 |
| Tier 3 | 26-50 hcf | 14+ hcf | \$4.36 | \$3.84 | \$4.42 | \$4.64 | \$4.87 | \$5.12 |
| Tier 4 | 50+ hcf | -- | \$5.05 | N/A | N/A | N/A | N/A | N/A |