

# Phelan Piñon Hills Community Services District



## Water Rate Study

November 30, 2015

# Final Report



Financial & Economic Consulting Services

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November 30, 2015

Don Bartz  
General Manager  
Phelan Pinon Hills Community Services District  
4176 Warbler Road  
Phelan, California 92371

RE: Water Rate Study – Final Report

Mr. Bartz:

Willdan Financial Services (“Willdan”) was retained by the Phelan Pinon Hills Community Services District (“District”) to conduct a Water Rate Study (“Study”) for the District’s Water Utility. This Final Report of the Water Rate Study presents the data, assumptions and results of the Study.

Willdan prepared the attached analysis, including the gathering and analysis of historic information, budget information, financial records, billing data and other relevant information. Key data and assumptions were derived from discussions with the District to gain a more complete understanding of the financial health of the District’s Water Utility. A system of rates and charges were then developed which are projected to provide sufficient revenue for each of the utility evaluated. The results of our analysis is presented in this Report.

We appreciate the opportunity to be of service to the District on this important project. If you have any questions regarding the attached Report please feel free to contact us.

Very truly yours,



Jonathan Varnes

**Willdan Financial Services**

## **Section 1 - Introduction**

### **1.1. Introduction**

Willdan Financial Services (“Willdan”) was retained by the Phelan Pinon Hills Community Services District (“District”) to conduct a Water Rate Study (“Rate Study”). This Rate Study Report details the results of the Rate Study for the five-year period FY 2016-2020.

The results of the Rate Study presented herein are a financial plan, and associated rates and charges, which were designed to provide revenues sufficient to fund the ongoing operating and capital costs necessary to operate the Water Utility, while meeting the financial requirements and goals set forth by the District for the Water Utility.

### **1.2. Organization of this Report**

This Rate Study Report presents an overview of the rate-making concepts employed in the development of the analysis contained herein, followed by a discussion of the data, assumptions and results associated with the analysis. An appendix with detailed schedules is presented for a further investigation into the data, assumptions and calculations which drive the results presented in this Report. Appendix A presents the detailed schedules for each scenario presented herein for the FY 2016-2020 time period. The report is organized as follows:

- Section 1 – Introduction
- Section 2 – Overview of Utility Rate-Making Principles, Processes and Issues
- Section 3 – Water Rate Study Development and Results
- Section 4 – Conclusions and Recommendations
- Appendix A – Detailed Rate Study Schedules



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## Section 2 - Overview of Utility Rate-Making Principles, Processes and Issues

### 2.1. Introduction

The Rate Study utilized generally accepted rate-making principles which resulted in the development of rates and charges which are projected to: 1) generate sufficient revenue to meet the financial requirements of the utility, 2) address the need to recover costs from users in a manner which is fair and equitable relative to service provided, and 3) meet the rate design goals of the utility. A discussion of some of the key principles of rate-making, and how the processes employed herein are guided by those principles, is presented below.

### 2.2. Discussion of General Rate-Making Principles

While the individual rates for each utility vary based on a variety of factors, the development of rates should, for the most part, be consistent with general rate-making principles set forth in utility rate-making practice and literature. The principle by which rate practitioners are guided is that rates designed for any utility should strike a reasonable balance between several key principles. In general, rates designed should:

- Generate a stable rate revenue stream which, when combined with other sources of funds, is sufficient to meet the financial requirements and goals of the utility
- Be fair and equitable – that is, they should generate revenue from customer classes which is reasonably in proportion to the cost to provide service to that customer class
- Be easy to understand by customers
- Be easy to administer by the utility
- Minimize customer impact
- Encourage conservation of resources

Designing a rate structure which completely addresses all of these principles is challenging given the sometimes competing goals of the principles. For instance, designing a rate structure which generates a stable revenue stream would guide the rate practitioner to the development of a rate structure with



high fixed charges which result in an assumed guaranteed revenue stream each year. However, high fixed charges typically do not minimize customer impact, nor do they typically encourage conservation (through a price signal). Striking the appropriate balance between the principles of rate-making is the result of a detailed process of evaluation of revenue requirements and cost of service and how those translate into the rate design alternatives which most closely meet the specific objectives of the individual utility under the circumstances in which the utility operates.

### **2.3. The Revenue Sufficiency Process**

In order to develop rates and charges which generate sufficient revenue to meet the fiscal requirements of the utility, a determination of the annual rate revenue required must be completed. This rate revenue, combined with other sources of funds, is evaluated to determine whether the total revenue is sufficient to meet those fiscal requirements. This process is typically referred to as a Revenue Sufficiency Analysis.

The process employed in the Revenue Sufficiency Analysis results in the identification of revenue requirements of the system, such as operating expenses, capital expenses (minor and major), debt service expense (including a provision for debt service coverage), transfers out and the maintenance of both restricted and unrestricted reserves at appropriate levels. These revenue requirements are then compared to the total sources of funds during each year of the forecast period to determine the adequacy of projected revenues to meet projected revenue requirements. To the extent that the existing revenue stream is not sufficient to meet the annual revenue requirements of the system, a series of rate revenue increases are calculated which would be required in order to provide revenue sufficient to meet those needs.

### **2.4. The Cost Allocation Process**

In order to provide guidance to the utility as to how to appropriately recover the rate revenue requirements identified in the Revenue Sufficiency Analysis, a Cost of Service Analysis is required.

The process employed in the Cost of Service Analysis results in the identification of the cost to provide water and sewer service to customers. These water and sewer cost allocations are then used as the



basis for the assignment of revenue requirements to customer classes, upon which the development of rates and charges is based.

The industry standard approach to the development of a cost of service analysis is the Base-Extra Capacity methodology, as detailed in the American Water Works Association (AWWA) M1 Manual – Principles of Water Rates, Fees and Charges.

The general approach to the development of cost of service allocations under the Base-Extra Capacity methodology is to: 1) identify the costs by functional cost category, 2) allocate the functionalized costs further to cost categories and then 3) allocate rate revenue requirements to customer classes based on the distribution of costs and customer characteristics.

The resulting allocations provide guidance to the rate practitioner which, combined with the other goals and objectives of the utility, provides the necessary information required to proceed to the development of utility rates and charges.

## **2.5. The Rate Design Process**

With the rate revenue requirement determined in the Revenue Sufficiency Analysis, and the manner in which that rate revenue should be recovered determined in the Cost of Service Analysis, the development of specific rates and charges can commence.

Utilities consider a variety of factors in establishing rates, including cost allocation, customer impact, conservation of resources and ease of administration. The rate design process seeks to find the balance between the need to recover sufficient revenue in a fair and equitable manner and the need to do so within the constraints of other objectives which are unique to each utility. By understanding the types of customers served by the utility, and the general usage characteristics of those customers, a system of rates and charges can be developed that balances those many objectives while also generating sufficient revenue.

First, the rate design goals of the utility are reviewed to identify areas the utility wishes to address over the course of the Rate Study. Next, an assessment of the existing rate design is undertaken to identify what has worked well for the utility with regard to their specific goals and objectives, and the general goals and objectives of utility rate-making. This assessment typically also identifies areas for



improvement which can provide guidance to the rate practitioner with respect to the design of future rates and charges.

After a review of the existing rates and charges, a dialog of how to build on the positive aspects of the existing structure and how to address deficiencies in the existing structure occurs with utility management and staff. For instance, for a utility with a primary goal of encouraging water conservation, the substitution of a uniform rate structure, which charges the same unit price for water regardless of consumption level, with a conservation/inclining block rate structure, which charges a greater unit price as usage levels increase beyond certain thresholds, would better address that primary goal.

With an evaluation of the strengths and weaknesses of the existing rate structure and the goals of the utility going forward, the development of a new rate structure can begin. Development of a new rate structure which recovers the costs to provide water and sewer service in a manner which achieves the goals of the utility in a manner consistent with standard rate-making practice requires an analysis of the projected usage characteristics of the customer base to which the rates will apply. This analysis is typically referred to as a billing frequency analysis.

The billing frequency analysis is provided through the billing system of the utility and then used by the rate-practitioner to accumulate billing statistics for each class of customer. Typical customer classes for water and sewer utilities consist of residential, sometimes broken down into subcategories such as single family and multi-family, and non-residential, sometimes broken down into subcategories such as commercial, government, industrial and others. Billing data allows for the development of rates based on the use of the system by each class. Alternative rate designs which account for customer usage patterns and also address various combinations of utility rate-making goals and rate-making principles can then be developed and reviewed by both the rate-practitioner and the utility regarding the viability of each rate structure designed.

With the identification of the rate revenue required, the manner in which those requirements should be recovered and the billing units to be used to recover the required revenue, specific rates and charges can then be developed. At the heart of successful rate design is the attempt to strike a proper balance between the many, sometimes competing, objectives of rate-making while ensuring generation of revenue sufficient to meet system financial requirements.



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## **2.6. Financial Management Goals of the Utility**

The establishment of specific financial management goals of a utility is a key step in developing financial plans which will ensure the financial health of the utility. Financial management goals exist as a way for the utility to track financial performance so the utility can ensure financial strength and proper stewardship of utility assets, both financial and operational.

## **2.7. General Statement Regarding the Nature of Financial Forecasting**

During the course of this study, we reviewed the data and assumptions presented in this report with the District in several meetings. While nothing came to our attention which would lead us to believe the data and assumptions in this report are materially incorrect, the results of the analysis are, necessarily, a reflection of the data and assumptions presented herein.

To the extent that the data and/or assumptions reflected in this report vary from those which ultimately materialize during the forecast period that could have a material impact upon the results - possibly in the form of the need for additional water rate increases greater than those presented herein - this has not been quantified in this report.





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## Section 3 - Water Rate Study Development and Results

### 3.1. General Methodology

In order to develop rates and charges which generate sufficient revenue to meet the fiscal requirements of the Utility, a determination of the annual revenue from rates which, combined with other sources of funds, will provide sufficient funds to meet those fiscal requirements must first be completed. This process is typically referred to as a Revenue Sufficiency Analysis.

The process employed in the Revenue Sufficiency Analysis resulted in the identification of revenue requirements of the system, such as operating expenses, capital expenses (minor and major), debt service expense (including a provision for debt service coverage, as applicable), transfers out and the maintenance of both restricted and unrestricted reserves at appropriate levels. These revenue requirements were then compared to the total sources of funds during each year of the forecast period to determine the adequacy of projected revenues to meet requirements. To the extent that the existing revenue stream was not sufficient to meet the annual revenue requirements of the system, a series of rate revenue increases were calculated to provide revenue sufficient to meet those needs.

The Capital Improvement Plan (CIP), including the timing of projects and estimated costs, was provided by the Utility. Willdan relied on this information and the CIP was fully integrated into the Revenue Sufficiency Analysis.

### 3.2. Financial Management Goals of the Water Utility

The financial management goals of the District's Water Utility are described below.

#### 3.2.1.1. Debt Service Coverage

The Water Utility, like most utilities, has utilized long-term debt to fund capital assets in the past. To secure this debt, a pledge of utility net revenue as the source of repayment for the debt was required and made by the District's Water Utility. In addition, there exists a debt service coverage requirement to be met in each year in which the debt is outstanding. Debt service coverage requirements generally mandate some multiple of annual net revenue, defined as operating revenue less operating expenses, as compared to annual debt service payments due.



In the case of the Water Utility, the covenants associated with this debt require that minimum debt service coverage of between 1.10x and 1.15x, depending on the debt issuance, be maintained, or exceeded, in each year of the forecast period. As a further measure of financial strength, it was determined that a goal of achieving a 1.40x debt service coverage ratio by the end of the forecast period was prudent for this analysis.

### **3.2.1.2. Minimum Unrestricted Operating Reserve Fund Balance**

In order to maintain a certain level of liquidity, utilities typically establish some form of unrestricted operating reserve fund balance target. The analysis presented herein has a goal of building and maintaining an unrestricted working capital / operating fund reserve amount of approximately 6 months of Operating Expenses, plus another 2 months for cash flow per District direction.

## **3.3. Water Revenue Sufficiency Analysis**

### **3.3.1 Data Items**

Key data items reviewed, discussed and incorporated into the Revenue Sufficiency Analysis were:

- Financial management goals of the Water Utility
- Draft Ending Balances related to the FY 2015 Draft Financial Statements
- Sources of Funds from FY 2016 Operating Budget and resulting projections
- Uses of Funds from FY 2016 Operating Budget and resulting projections
- Capital Improvements Plan (CIP)
- General assumptions related to:
  - Customer growth
  - Cost escalation factors
  - New debt terms

During the course of this study, we reviewed the data and assumptions presented in this report with the District in several meetings. While nothing came to our attention which would lead us to believe the data and assumptions in this report are materially incorrect, the results of the analysis are, necessarily, a



reflection of the data and assumptions presented herein. To the extent that the data and/or assumptions reflected in this report vary from those which ultimately materialize during the forecast period that could have a material impact upon the results presented herein and this has not been quantified in this report.

A discussion of the use of each of the above data items is presented below.

### 3.3.2 Fund Balances Related to the FY 2015 Draft Financial Statements

To better understand what funds the Water Utility had on hand to start the forecast period, a detailed review of the District’s FY 2015 Draft Financial Statements was conducted and reviewed with staff. Assumptions were made to estimate the actual funds available at the end of FY 2015, and therefore at the beginning of FY 2016, based on discussions with staff. A summary of the individual funds and fund balances associated with the Water Utility for FY 2016, as adjusted for use in this analysis, is presented in Table W-1 below. A more detailed presentation of the beginning fund balances is presented in Water Schedule A-2 in Appendix A.

Table W-1 Water Beginning Fund Balances - By Source				
Funding Source	Current Assets	Current Liabilities	Current Adjustments	Net Cash Available
31110 - Operating Reserve - Water&Adm	\$ 8,888,025	\$ (780,826)	\$(3,082,442)	\$ 5,024,756
31310 - Replacement Reserve - Water&Adm	-	-	-	-
31220 - Water Rate Stabilization Fund	200,000	-	-	200,000
31410 - Disaster Reserve-Water&Adm	2,079,783	-	-	2,079,783
31210 - Debt Service Reserve - CEIDB	671,112	-	-	671,112

Source: FY 2015 Draft Financial Statements

Note: Additional detail associated with this table can be found in Appendix A in Water Schedule A - 2

### 3.3.3 Sources of Funds from FY 2016 Operating Budget and Resulting Projections

Staff provided the FY 2016 Revenue Budget, and associated line-item revenue detail, as the basis for the projection of financial performance for FY 2016. In addition, line-item projected revenues for FY 2017-20 were developed using the FY 2016 detail as the basis.



A summary of the FY 2016 Revenue Budget, and subsequent projected budgetary revenues, is presented below in Table W-2. A more detailed presentation of the line-item budgeted and projected revenues is presented in Water Schedule A-3 in Appendix A.

Table W-2 Water Sources of Funds					
	2016	2017	2018	2019	2020
<b>31110 - Operating Reserve - Water&amp;Adm</b>					
Water Rate Revenue Increases	37.00%	5.00%	5.00%	5.00%	5.00%
% of Year Rate Increase Effective	33%	100%	100%	100%	100%
Total Water Rate Revenue	\$ 4,063,876	\$ 5,210,067	\$ 5,470,518	\$ 5,743,624	\$ 6,030,753
Other Operating Revenue	569,437	569,437	569,437	569,437	569,437
Transfers In (Property Taxes)	647,478	572,478	497,478	422,478	347,478
Interest Income - Operating Fund	8,730	5,110	5,545	5,944	6,520
<b>Total Operating Revenue - Operating Fund - Water</b>	<b>\$ 5,289,521</b>	<b>\$ 6,357,093</b>	<b>\$ 6,542,979</b>	<b>\$ 6,741,483</b>	<b>\$ 6,954,189</b>
<b>31310 - Replacement Reserve - Water&amp;Adm</b>					
Sources of Funds	\$ -	\$ 2,500,000	\$ -	\$ -	\$ -
Interest Earnings	-	3,129	6,266	6,281	6,297
<b>Total 31310 - Replacement Reserve - Water&amp;Adm</b>	<b>\$ -</b>	<b>\$ 2,503,129</b>	<b>\$ 6,266</b>	<b>\$ 6,281</b>	<b>\$ 6,297</b>
<b>31220 - Water Rate Stabilization Fund</b>					
Sources of Funds	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Earnings	501	502	503	504	506
<b>Total 31220 - Water Rate Stabilization Fund</b>	<b>\$ 501</b>	<b>\$ 502</b>	<b>\$ 503</b>	<b>\$ 504</b>	<b>\$ 506</b>
<b>31410 - Disaster Reserve-Water&amp;Adm</b>					
Sources of Funds	\$ -	\$ 533,524	\$ 552,860	\$ 505,810	\$ 305,367
Interest Earnings	5,206	5,887	7,261	8,604	9,641
<b>Total 31410 - Disaster Reserve-Water&amp;Adm</b>	<b>\$ 5,206</b>	<b>\$ 539,411</b>	<b>\$ 560,121</b>	<b>\$ 514,415</b>	<b>\$ 315,008</b>
<b>31210 - Debt Service Reserve - CEIDB</b>					
Sources of Funds	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Earnings	1,680	1,684	1,688	1,693	1,697
<b>Total 31210 - Debt Service Reserve - CEIDB</b>	<b>\$ 1,680</b>	<b>\$ 1,684</b>	<b>\$ 1,688</b>	<b>\$ 1,693</b>	<b>\$ 1,697</b>
<b>Total Projected Sources of Funds - Water</b>	<b>\$ 5,296,908</b>	<b>\$ 9,401,819</b>	<b>\$ 7,111,557</b>	<b>\$ 7,264,376</b>	<b>\$ 7,277,697</b>

Note: Additional detail associated with this table can be found in Appendix A in Water Schedule A - 3



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### **3.3.4 Uses of Funds from FY 2016 Operating Budget and Resulting Projections**

Staff provided the FY 2016 Expense Budget, and associated line-item expense detail, as the basis for the projection of financial performance for FY 2016. In addition, line-item projected expenses for FY 2017-20 were developed using cost escalation factors.

Cost escalation factors were reviewed by staff and were used to project line-item costs beyond the 2016 budget. Those factors were applied based on line-item cost classifications.

A summary of the FY 2016 Expense Budget, and subsequent projected budgetary expenses, is presented below in Table W-3. A more detailed presentation of the line-item budgeted and projected expenses is presented in Water Schedule A-4 in Appendix A.



<b>Table W-3</b>						
<b>Water</b>						
<b>Projected Uses of Funds</b>						
	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	
<b>31110 - Operating Reserve - Water&amp;Adm</b>						
Operation & Maintenance Expense	\$ 3,526,042	\$ 3,627,316	\$ 3,731,602	\$ 4,038,995	\$ 4,155,579	
Transfer Out	3,896,500	823,524	897,860	825,810	735,367	
Major Capital Funded with Cash	-	-	-	-	-	
Existing Debt Service	932,584	932,129	931,659	931,175	930,676	
New Debt Service	-	804,126	804,126	804,126	812,856	
<b>Total Uses of Funds - 31110 - Operating Reserve - Water&amp;Adm</b>	<b>\$ 8,355,126</b>	<b>\$ 6,187,095</b>	<b>\$ 6,365,247</b>	<b>\$ 6,600,107</b>	<b>\$ 6,634,478</b>	
<b>31310 - Replacement Reserve - Water&amp;Adm</b>						
Uses of Funds other than Capital	\$ -	\$ -	\$ -	\$ -	\$ -	
Major Capital Funded with Cash	-	-	-	-	-	
<b>Total Uses of Funds - 31310 - Replacement Reserve - Water&amp;Adm</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	
<b>31220 - Water Rate Stabilization Fund</b>						
Uses of Funds other than Capital	\$ -	\$ -	\$ -	\$ -	\$ -	
Major Capital Funded with Cash	-	-	-	-	-	
<b>Total Uses of Funds - 31220 - Water Rate Stabilization Fund</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	
<b>31410 - Disaster Reserve-Water&amp;Adm</b>						
Uses of Funds other than Capital	\$ -	\$ -	\$ -	\$ -	\$ -	
Major Capital Funded with Cash	-	-	-	-	-	
<b>Total Uses of Funds - 31410 - Disaster Reserve-Water&amp;Adm</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	
<b>31210 - Debt Service Reserve - CEIDB</b>						
Uses of Funds other than Capital	\$ -	\$ -	\$ -	\$ -	\$ -	
Major Capital Funded with Cash	-	-	-	-	-	
<b>Total Uses of Funds - 31210 - Debt Service Reserve - CEIDB</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	
<b>Total Projected Uses of Funds - Water</b>	<b>\$ 8,355,126</b>	<b>\$ 6,187,095</b>	<b>\$ 6,365,247</b>	<b>\$ 6,600,107</b>	<b>\$ 6,634,478</b>	

Note: Additional detail associated with this table can be found in Appendix A in Water Schedule A - 4



### 3.3.5 Capital Improvements Plan (CIP)

The District provided Willdan with a forecast of capital requirements for the FY 2016 – 2020 forecast period. This capital forecast was escalated by Willdan for use in the analysis by a factor of 3% per year.

A summary table of the CIP for the FY 2016 – 2020 forecast period is presented below in Table W-4. A more detailed CIP, including the timing and funding source for each respective project, is presented in Water Schedules A-5 and A-6, respectively, in Appendix A.

<b>Table W-4</b>					
<b>Water</b>					
<b>Capital Improvements Program and Projected Funding</b>					
	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Capital Projects - Water</b>	<b>\$ 1,396,500</b>	<b>\$ 9,697,450</b>	<b>\$ 5,670,511</b>	<b>\$ 4,174,217</b>	<b>\$ 483,969</b>
<b>Funding Source:</b>					
31210 - Debt Service Reserve - CEIDB	\$ -	\$ -	\$ -	\$ -	\$ -
31410 - Disaster Reserve-Water&Adm	-	-	-	-	-
31220 - Water Rate Stabilization Fund	-	-	-	-	-
31310 - Replacement Reserve - Water&Adm	-	-	-	-	-
31110 - Operating Reserve - Water&Adm	1,396,500	290,000	345,000	320,000	430,000
New Debt	-	9,407,450	5,325,511	3,854,217	53,969
<b>Total Capital Project Funded</b>	<b>\$ 1,396,500</b>	<b>\$ 9,697,450</b>	<b>\$ 5,670,511</b>	<b>\$ 4,174,217</b>	<b>\$ 483,969</b>
<b>Variance</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

Note: Additional detail associated with this table can be found in Appendix A in Water Schedules A - 5 and A - 6

### 3.3.6 General Assumptions

In order to develop the financial and rate projections, certain assumptions were made with regard to elements of the revenue sufficiency analysis. A summary of those assumptions is presented below.

#### 3.3.6.1. Growth

Based on discussion with the District, it was decided to assume no annual growth in the utility customer base during the forecast period.

#### 3.3.6.2. Cost Escalation Factors

Based on discussion with the District, it was assumed that annual salary-related operating costs were to be escalated at approximately 3.0% per year with other operating costs escalated at 2.5% per year.



### 3.3.6.3. New Debt Terms

Based on discussion with the District, new debt during the forecast period is assumed to be state loans and assumed to carry a 40 year repayment term at a rate of 3.0% per year.<sup>1 2</sup>

### 3.3.7 Results of the Water Revenue Sufficiency Analysis

After a thorough review of the above-mentioned data elements, the resulting financial plan presented herein is the embodiment of the data, assumptions and review process undertaken with staff in several meetings.

#### 3.3.7.1. Summary Pro Forma and Revenue Increases Required

The revenue requirements and financial goals of the Water Utility during the forecast period necessitate the need for additional revenue in the form of water revenue increases.

Table W-5 below presents a summary Pro Forma, and associated annual water revenue increase requirements, required during the forecast period in order for the Utility to meet its financial goals.

<b>FY 2016</b>	<b>37.0% Water Revenue Increase – Implemented in February 2016</b>
<b>FY 2017</b>	<b>5.0% Water Revenue Increase – Implemented in July 2016</b>
<b>FY 2018</b>	<b>5.0% Water Revenue Increase – Implemented in July 2017</b>
<b>FY 2019</b>	<b>5.0% Water Revenue Increase – Implemented in July 2018</b>
<b>FY 2020</b>	<b>5.0% Water Revenue Increase – Implemented in July 2019</b>

A more detailed presentation of the pro forma, including a fund balance reconciliation and projection of annual debt service coverage, is presented in Water Schedule A-1 in Appendix A.

<sup>1</sup> Willdan is not a financial advisor to the District with respect to debt terms, and urges the District to seek guidance from professionals in the arena of debt terms in order to validate our general assumptions for purposes of this analysis.

<sup>2</sup> In the event the District chose to not issue new debt for capital projects then the projects would need to be eliminated from the capital plan or funded through another funding source.





Table W-5 Water Summary Pro Forma - Operating Fund		Page 1 of 2				
	2016	2017	2018	2019	2020	
<b>31110 - Operating Reserve - Water&amp;Adm</b>						
<b>Beginning Unrestricted Fund Balance</b>	\$ 5,024,756	\$ 1,959,151	\$ 2,129,148	\$ 2,306,880	\$ 2,448,257	
Water Rate Revenue Increases	37.00%	5.00%	5.00%	5.00%	5.00%	
% of Year Rate Increase Effective	33%	100%	100%	100%	100%	
Total Rate Revenue	\$ 4,063,876	\$ 5,210,067	\$ 5,470,518	\$ 5,743,624	\$ 6,030,753	
Other Operating Revenue	569,437	569,437	569,437	569,437	569,437	
Transfers In	647,478	572,478	497,478	422,478	347,478	
Interest Income - Operating Fund	8,730	5,110	5,545	5,944	6,520	
<b>Total Revenue</b>	<b>\$ 5,289,521</b>	<b>\$ 6,357,093</b>	<b>\$ 6,542,979</b>	<b>\$ 6,741,483</b>	<b>\$ 6,954,189</b>	
Operation & Maintenance Expense	\$ 3,526,042	\$ 3,627,316	\$ 3,731,602	\$ 4,038,995	\$ 4,155,579	
Non-Operating Expense	-	-	-	-	-	
Minor Capital Outlay	-	-	-	-	-	
Transfer Out	3,896,500	823,524	897,860	825,810	735,367	
Major Capital Funded with Cash	-	-	-	-	-	
Existing Debt Service	932,584	932,129	931,659	931,175	930,676	
New Debt Service	-	804,126	804,126	804,126	812,856	
<b>Total Expenses</b>	<b>\$ 8,355,126</b>	<b>\$ 6,187,095</b>	<b>\$ 6,365,247</b>	<b>\$ 6,600,107</b>	<b>\$ 6,634,478</b>	
<b>Ending Unrestricted Fund Balance - 31110 - Operating Reserve - Water&amp;Adm</b>	<b>\$ 1,959,151</b>	<b>\$ 2,129,148</b>	<b>\$ 2,306,880</b>	<b>\$ 2,448,257</b>	<b>\$ 2,767,968</b>	
<b>31310 - Replacement Reserve - Water&amp;Adm</b>						
<b>Beginning Unrestricted Fund Balance</b>	\$ -	\$ -	\$ 2,503,129	\$ 2,509,395	\$ 2,515,676	
Sources of Funds	-	2,500,000	-	-	-	
Interest Income	-	3,129	6,266	6,281	6,297	
<b>Total Revenue</b>	<b>\$ -</b>	<b>\$ 2,503,129</b>	<b>\$ 6,266</b>	<b>\$ 6,281</b>	<b>\$ 6,297</b>	
Uses of Funds	\$ -	\$ -	\$ -	\$ -	\$ -	
Major Capital Funded with Cash	-	-	-	-	-	
<b>Total Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	
<b>Ending Unrestricted Fund Balance - 31310 - Replacement Reserve - Water&amp;Adm</b>	<b>\$ -</b>	<b>\$ 2,503,129</b>	<b>\$ 2,509,395</b>	<b>\$ 2,515,676</b>	<b>\$ 2,521,973</b>	
<b>31220 - Water Rate Stabilization Fund</b>						
<b>Beginning Unrestricted Fund Balance</b>	\$ 200,000	\$ 200,501	\$ 201,003	\$ 201,506	\$ 202,010	
Sources of Funds	-	-	-	-	-	
Interest Income	501	502	503	504	506	
<b>Total Revenue</b>	<b>\$ 501</b>	<b>\$ 502</b>	<b>\$ 503</b>	<b>\$ 504</b>	<b>\$ 506</b>	
Uses of Funds	\$ -	\$ -	\$ -	\$ -	\$ -	
Major Capital Funded with Cash	-	-	-	-	-	
<b>Total Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	
<b>Ending Unrestricted Fund Balance - 31220 - Water Rate Stabilization Fund</b>	<b>\$ 200,501</b>	<b>\$ 201,003</b>	<b>\$ 201,506</b>	<b>\$ 202,010</b>	<b>\$ 202,516</b>	

Note: Additional detail associated with this table can be found in Appendix A in Water Schedule A - 1



Table W-5 Water Summary Pro Forma - Operating Fund		Page 2 of 2				
	2016	2017	2018	2019	2020	
<b>31410 - Disaster Reserve-Water&amp;Adm</b>						
<b>Beginning Unrestricted Fund Balance</b>	\$ 2,079,783	\$ 2,084,989	\$ 2,624,400	\$ 3,184,521	\$ 3,698,936	
Sources of Funds	-	533,524	552,860	505,810	305,367	
Interest Income	5,206	5,887	7,261	8,604	9,641	
<b>Total Revenue</b>	<b>\$ 5,206</b>	<b>\$ 539,411</b>	<b>\$ 560,121</b>	<b>\$ 514,415</b>	<b>\$ 315,008</b>	
Uses of Funds	\$ -	\$ -	\$ -	\$ -	\$ -	
Major Capital Funded with Cash	-	-	-	-	-	
<b>Total Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	
<b>Ending Unrestricted Fund Balance - 31410 - Disaster Reserve-Water&amp;Adm</b>	<b>\$ 2,084,989</b>	<b>\$ 2,624,400</b>	<b>\$ 3,184,521</b>	<b>\$ 3,698,936</b>	<b>\$ 4,013,944</b>	
<b>31210 - Debt Service Reserve - CEIDB</b>						
<b>Beginning Unrestricted Fund Balance</b>	\$ 671,112	\$ 672,792	\$ 674,476	\$ 676,164	\$ 677,857	
Sources of Funds	-	-	-	-	-	
Interest Income	1,680	1,684	1,688	1,693	1,697	
<b>Total Revenue</b>	<b>\$ 1,680</b>	<b>\$ 1,684</b>	<b>\$ 1,688</b>	<b>\$ 1,693</b>	<b>\$ 1,697</b>	
Uses of Funds	\$ -	\$ -	\$ -	\$ -	\$ -	
Major Capital Funded with Cash	-	-	-	-	-	
<b>Total Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	
<b>Ending Unrestricted Fund Balance - 31210 - Debt Service Reserve - CEIDB</b>	<b>\$ 672,792</b>	<b>\$ 674,476</b>	<b>\$ 676,164</b>	<b>\$ 677,857</b>	<b>\$ 679,554</b>	
<b>Summary of Key Metrics</b>						
<b>Debt Service Coverage - Projected</b>	<b>1.20</b>	<b>1.24</b>	<b>1.33</b>	<b>1.31</b>	<b>1.41</b>	
Debt Service Coverage - Minimum	1.15	1.15	1.15	1.15	1.15	
Debt Service Coverage - Target	1.40	1.40	1.40	1.40	1.40	
<b>Unrestricted Operating Fund Balance (Months of O&amp;M)</b>	<b>6.7</b>	<b>7.0</b>	<b>7.4</b>	<b>7.3</b>	<b>8.0</b>	
<b>Replacement Reserve Balances</b>						
31310 - Replacement Reserve - Water&Adm - Projected	0%	0%	10%	10%	10%	
31310 - Replacement Reserve - Water&Adm - Target %	25%	25%	25%	25%	25%	
<b>Disaster Reserve Balances</b>						
31410 - Disaster Reserve-Water&Adm - Projected %	5%	6%	6%	7%	7%	
31410 - Disaster Reserve-Water&Adm - Target %	10%	10%	10%	10%	10%	

Note: Additional detail associated with this table can be found in Appendix A in Water Schedule A - 1



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## **3.4. Water Cost of Service Analysis**

### **3.4.1 General Methodology**

In order to provide guidance to the Water Utility as to how to adequately recover the rate revenue requirements identified in the Revenue Sufficiency Analysis, in a manner consistent with generally accepted rate-making principles, a Cost of Service Analysis was conducted.

The Cost of Service Analysis resulted in the identification of the cost to provide service to customers based on functional cost categories. This provided the rationale for the allocation of costs to expense categories related to water service. These water cost allocations were then used as the basis for the assignment of revenue requirements to customer classes upon which the development of rates and charges presented herein is based.

For the purposes of this analysis, the cost of service analysis for water was based on the Base-Extra Capacity methodology, as detailed in the American Water Works Association (AWWA) M1 Manual – Principles of Water Rates, Fees and Charges.

The general approach to the development of cost of service allocations under the Base-Extra Capacity Cost Allocation methodology was to: 1) identify the costs by functional cost category, 2) allocate the functionalized costs further to base-extra capacity categories and then to 3) allocate costs and rate revenue requirements to customer classes based on the distribution of costs and customer characteristics. The Cost of Service Analysis and Results is presented below.



### 3.4.2 Functional Cost Allocation

Line-item costs were categorized by functional cost category (source of supply, pumping, treatment, etc.) and summarized by these functional cost categories. The summary of this functional cost allocation for the average annual budgeted / projected expenses during FY 2016-2020 is presented in Table W-6 below.

<b>Table W-6</b>			
<b>Water</b>			
<b>Summary Allocation of Costs to Functional Cost Component</b>			
<b>General Cost Category</b>	<b>Functional Cost Component</b>	<b>Average Annual Expense - 2016-2020</b>	
Administration	General Admin	\$	12,316
Operations	General Admin		2,952,856
Production	Source of Supply		682,647
Water Quality	Treatment		1,510,944
Distribution	Transmission & Distribution		67,982
Customer Accounts	Customer Service & Billing		295,319
Engineering	General Admin		481,625
Vehicles	General Admin		210,359
<b>Total</b>		<b>\$</b>	<b>6,214,048</b>

Note: Additional detail associated with this table can be found in Appendix A in Water Schedule A - 4



### 3.4.3 Allocation of Functional Costs to Base-Extra Capacity Components

The functionalized costs were then further allocated based on the Base-extra Capacity Method, the preferred industry method, as presented in the AWWA M1 Manual of Practice. The Base-extra Capacity method results in the allocation of functionalized costs in a manner consistent with the functional reality behind each type of cost. For instance, transmission costs are related to not only a base, or average, level of water flow, but are also related to the fact that transmission assets are typically sized to meet maximum day and maximum hour demands. Therefore, some portion of transmission costs should be allocated to the base component, and further to the extra capacity component (max day and max hour).

Table W-7 below presents the results of the Base-extra Capacity method.

Table W-7 Water Allocation of Functional Costs to Base / Extra Capacity Cost Components											
Functional Cost Component	% Allocation to Base / Extra Capacity				Summary of Expenses by Base / Extra Capacity Components						Allocation Methodology
	Base		Extra Capacity		Customer Service & Billing	Base		Extra Capacity		Customer Service & Billing	
	Average Day	Max Day	Max Hour	Average Day		Max Day	Max Hour	Total			
General Admin	100.0%	0.0%	0.0%	0.0%	\$ 12,316	\$ -	\$ -	\$ -	\$ -	\$ 12,316	Administration costs allocated 100% to base component.
General Admin	100.0%	0.0%	0.0%	0.0%	2,952,856	-	-	-	-	2,952,856	Administration costs allocated 100% to base component.
Source of Supply	100.0%	0.0%	0.0%	0.0%	682,647	-	-	-	-	682,647	Source of Supply assets designed to meet average day demands.
Treatment	58.7%	41.3%	0.0%	0.0%	886,726	624,218	-	-	-	1,510,944	Treatment assets designed to meet average day / max day demands.
Transmission & Distribution	46.1%	32.5%	21.4%	0.0%	31,343	22,064	14,576	-	-	67,982	Transmission / Distribution assets designed to meet average day / max day / max hour demands.
Customer Service & Billing	0.0%	0.0%	0.0%	100.0%	-	-	-	295,319	-	295,319	Customer service costs allocated 100% to Customer Service & Billing component.
General Admin	100.0%	0.0%	0.0%	0.0%	481,625	-	-	-	-	481,625	Administration costs allocated 100% to base component.
General Admin	100.0%	0.0%	0.0%	0.0%	210,359	-	-	-	-	210,359	Administration costs allocated 100% to base component.
					<b>\$ 5,257,872</b>	<b>\$ 646,281</b>	<b>\$ 14,576</b>	<b>\$ 295,319</b>	<b>\$ -</b>	<b>\$ 6,214,048</b>	<b>Average Annual Expense - 2016-2020 \$ 6,214,048</b>



### 3.4.4 Allocation of Base-extra Capacity Costs to Customer Classes

The final cost allocation step is to allocate the base-extra capacity costs to specific customer classes. This then will become the basis by which the rates, by customer class, are developed consistent with the cost to provide service to those customer classes. Table W-8 below presents the allocation of base-extra capacity costs to customer classes.

Table W-8 Water Allocation of Base / Extra Capacity Costs to Customer Classes							
Summary of Expenses by Base / Extra Capacity Components							
Functional Cost Component	Base		Extra Capacity			Customer Service & Billing	Total
	Average Day	Max Day	Max Day	Max Hour	Max Hour		
Total Costs	\$ 5,257,872	\$ 646,281	\$ 14,576	\$ 295,319	\$ 14,576	\$ 295,319	\$ 6,214,048
Allocation of Base / Extra Capacity Cost to Customer Classes:							
Calculation of Unit Cost for Base, Max Day and Max Hour Cost Components							
Customer Class	Total Annual Flow - After Elasticity	Average Daily Flow	Max Day Peaking Factor (1)	Max Day Flow Above the Average Day Flow	Max Hour Peaking Factor (1)	Max Hour Flow Above the Max Day Flow	Bills
Residential (Includes RES, COM2 and MR)	838,912	2,298	192%	2,109	244%	3,311	82,212
COM	1,981	5	179%	4	227%	7	312
SCH	50,252	138	231%	180	294%	267	276
CONS	4,561	12	452%	44	575%	59	60
FIRE	208	1	246%	1	313%	1	24
<b>Total</b>	<b>895,915</b>	<b>2,455</b>		<b>2,338</b>		<b>3,646</b>	<b>82,884</b>
<b>Unit Cost</b>		<b>\$ 2,142.09</b>		<b>\$ 276.45</b>		<b>\$ 4.00</b>	<b>\$ 3.57</b>
Allocation of Base / Extra Capacity Costs to Customer Classes (2)							
Customer Class	Base	Extra Capacity			Customer Service & Billing	Total	% Cost Distribution
	Average Day	Max Day	Max Hour	Max Hour			
Residential (Includes RES, COM2 and MR)	\$ 4,923,359	\$ 582,906	\$ 13,245	\$ 293,497	\$ 293,497	\$ 5,813,006	94%
COM	11,626	1,181	28	1,114	1,114	13,948	0%
SCH	294,918	49,823	1,068	985	985	346,794	6%
CONS	26,768	12,160	238	214	214	39,380	1%
FIRE	1,221	230	5	86	86	1,541	0%
<b>Total</b>	<b>\$ 5,257,892</b>	<b>\$ 646,300</b>	<b>\$ 14,583</b>	<b>\$ 295,896</b>	<b>\$ 295,896</b>	<b>\$ 6,214,671</b>	<b>100%</b>
<b>Target</b>	<b>\$ 5,257,872</b>	<b>\$ 646,281</b>	<b>\$ 14,576</b>	<b>\$ 295,319</b>	<b>\$ 295,319</b>	<b>\$ 6,214,048</b>	
(1) Developed using District billing data for FY 15.							
(2) Calculated by multiplying unit cost by appropriate average, max day or max hour flow figures above - by class							



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### 3.5. Water Rate Design Analysis

#### 3.5.1 Analysis and Validation of Water Customer Data

An analysis of water billing data was conducted, using billing data provided by the District for Fiscal Year 2015. That water billing data was compiled and tested using multiple methods to ensure its accuracy for rate design purposes. It should be noted that the billing data provided for FY 15 was in a bi-monthly billing format as the District has only just recently moved to monthly billing. Therefore, assumptions were made to convert the bi-monthly billing data into a monthly format. To the extent that these assumptions are materially different than what actually occurred on a monthly basis a material impact to the analysis presented herein could result.

#### 3.5.2 Summary of Water Fixed Charge Billing Data and Water Fixed Charge Development

The analysis of water billing data provided a count of bills and meters, by both customer class and meter size, which would become the basis by which the fixed monthly charges for the Water Utility would be developed. The Total Water Rate Revenue Requirement was apportioned to two rate components, the fixed charge component and the flow charge component. The calculations associated with the fixed charge calculations are presented in Tables W-9 for each fiscal year, FY 2016-2020, of the forecast period. Note that in FY 2017, and beyond, a Chromium 6 surcharge is calculated to recover the projected annual operating and capital costs of Chromium 6 during the forecast period. The Chromium 6 surcharge is a projection which should be updated to reflect the actual Chromium 6 costs as they ultimately materialize.



Development of Fixed Charges – FY 2016

Table W-9		FY 2016			
Water					
Development of Fixed Charges					
		<b>Fiscal Year</b>	<b>2016</b>		
<b>Total Water Rate Revenue Requirement</b>		\$	4,961,969		
<b>Less: Chromium 6 Surcharge</b>		\$	-		
<b>Net Water Rate Revenue Requirement</b>		\$	4,961,969		
		<b>% to Fixed Charge</b>	45%		
<b>Fixed Charge Revenue Requirement</b>		\$	2,233,878		
<b>Portion to Billing Charge</b>		\$	295,319		
<b>Portion to Meter Charge</b>		\$	1,938,559		
<b>Summary of Fixed Charges</b>					
	<b>AWWA Meter Equivalency Factor</b>	<b>Monthly Charge per Bill</b>	<b>Monthly Charge per Meter</b>	<b>Total Monthly Fixed Charge</b>	<b>Chromium 6 Surcharge</b>
<b>Meter Size</b>					
0.75	1.00	\$ 3.57	\$ 15.39	\$ 18.96	\$ -
1	1.67	3.57	25.65	29.22	-
1.5	3.33	3.57	51.30	54.87	-
2	5.33	3.57	82.08	85.65	-
3	10.00	3.57	153.90	157.47	-
4	16.67	3.57	256.50	260.07	-
6	33.33	3.57	513.00	516.57	-
8	53.33	3.57	820.80	824.37	-
10	76.67	3.57	1,179.90	1,183.47	-
					\$ -
<b>Total</b>					
<b>\$ 2,233,878</b>					
<b>Portion to Billing Charge \$ 295,319</b>					
<b>Portion to Meter Charge \$ 1,938,559</b>					
<b>Monthly Charge per Bill \$ 3.57</b>					
<b>Monthly Charge per Meter \$ 15.39</b>					
<b>Portion to Chromium 6 Surcharge \$ -</b>					
<b>Annual Bills \$ 82,884</b>					
<b>Monthly Charge per Bill -</b>					
<b>Annual Bills \$ 82,884</b>					
<b>Monthly Charge per Bill -</b>					





Development of Fixed Charges – FY 2017

Table W-9		FY 2017							
Water									
Development of Fixed Charges									
		<b>Fiscal Year</b>	<b>2017</b>						
<b>Total Water Rate Revenue Requirement</b>	\$	<b>5,210,017</b>							
<b>Less: Chromium 6 Surcharge</b>	\$	<b>804,126</b>							
<b>Net Water Rate Revenue Requirement</b>	\$	<b>4,405,891</b>							
	% to Fixed Charge		<b>45%</b>						
<b>Fixed Charge Revenue Requirement</b>	\$	<b>1,983,532</b>							
<b>Portion to Billing Charge</b>	\$	<b>295,319</b>							
<b>Portion to Meter Charge</b>	\$	<b>1,688,213</b>							
<b>Summary of Fixed Charges</b>									
<b>Meter Size</b>	<b>AWWA Meter Equivalency Factor</b>	<b>Monthly Charge per Bill</b>	<b>Monthly Charge per Meter</b>	<b>Total Monthly Fixed Charge</b>	<b>Chromium 6 Surcharge</b>				
0.75	1.00	\$ 3.57	\$ 13.40	\$ 16.97	\$ 9.71				
1	1.67	3.57	22.34	25.91	9.71				
1.5	3.33	3.57	44.67	48.24	9.71				
2	5.33	3.57	71.47	75.04	9.71				
3	10.00	3.57	134.00	137.57	9.71				
4	16.67	3.57	223.34	226.91	9.71				
6	33.33	3.57	446.67	450.24	9.71				
8	53.33	3.57	714.67	718.24	9.71				
10	76.67	3.57	1,027.34	1,030.91	9.71				
					<b>\$ 804,126</b>				
<b>Meter Size</b>	<b>Residential</b>	<b>COM</b>	<b>SCH</b>	<b>CONS</b>	<b>FIRE</b>	<b>Total Bills</b>	<b>Meter Equiv. Factor</b>	<b>Meter Equivalents</b>	
0.75	23,136	180	-	-	-	23,316	1.00	23,316	
1	58,428	96	24	-	12	58,560	1.67	97,600	
1.5	360	-	-	-	-	360	3.33	1,200	
2	288	36	228	-	12	564	5.33	3,008	
3	-	-	12	60	-	72	10.00	720	
4	-	-	12	-	-	12	16.67	200	
6	-	-	-	-	-	-	33.33	-	
8	-	-	-	-	-	-	53.33	-	
10	-	-	-	-	-	-	76.67	-	
<b>Total</b>	<b>82,212</b>	<b>312</b>	<b>276</b>	<b>60</b>	<b>24</b>	<b>82,884</b>		<b>126,044</b>	
						<b>Portion to Billing Charge</b>	<b>\$ 295,319</b>	<b>Portion to Chromium 6 Surcharge</b>	<b>\$ 804,126</b>
						<b>Monthly Charge per Bill</b>	<b>3.57</b>	<b>Annual Bills</b>	<b>82,884</b>
								<b>Monthly Charge per Bill</b>	<b>9.71</b>
								<b>Equivalent Meters</b>	<b>13.40</b>



Development of Fixed Charges – FY 2018

Table W-9		FY 2018						
Water								
Development of Fixed Charges								
		<u>Fiscal Year 2018</u>						
Total Water Rate Revenue Requirement		\$	5,470,118					
Less: Chromium 6 Surcharge		\$	804,126					
Net Water Rate Revenue Requirement		\$	4,665,992					
		% to Fixed Charge	45%					
Fixed Charge Revenue Requirement		\$	2,100,630					
Portion to Billing Charge		\$	295,319					
Portion to Meter Charge		\$	1,805,311					
<b>Summary of Fixed Charges</b>								
Meter Size	AWWA Meter Equivalency Factor	Monthly	Monthly	Total Monthly Fixed Charge	Chromium 6 Surcharge			
		Charge per Bill	Charge per Meter					
0.75	1.00	\$ 3.57	\$ 14.33	\$ 17.90	\$ 9.71			
1	1.67	3.57	23.89	27.46	9.71			
1.5	3.33	3.57	47.77	51.34	9.71			
2	5.33	3.57	76.43	80.00	9.71			
3	10.00	3.57	143.30	146.87	9.71			
4	16.67	3.57	238.84	242.41	9.71			
6	33.33	3.57	477.67	481.24	9.71			
8	53.33	3.57	764.27	767.84	9.71			
10	76.67	3.57	1,098.64	1,102.21	9.71			
					\$ 804,126			
Meter Size	Residential	COM	SCH	CONS	FIRE	Total Bills	Meter Equiv. Factor	Meter Equivalents
0.75	23,136	180	-	-	-	23,316	1.00	23,316
1	58,428	96	24	-	12	58,560	1.67	97,600
1.5	360	-	-	-	-	360	3.33	1,200
2	288	36	228	-	12	564	5.33	3,008
3	-	-	12	60	-	72	10.00	720
4	-	-	12	-	-	12	16.67	200
6	-	-	-	-	-	-	33.33	-
8	-	-	-	-	-	-	53.33	-
10	-	-	-	-	-	-	76.67	-
<b>Total</b>	<b>82,212</b>	<b>312</b>	<b>276</b>	<b>60</b>	<b>24</b>	<b>82,884</b>		<b>126,044</b>
						Portion to Billing Charge	\$	295,319
						Monthly Charge per Bill		3.57
						Portion to Chromium 6 Surcharge	\$	804,126
						Annual Bills		82,884
						Monthly Charge per Bill		9.71
						Portion to Meter Charge	\$	1,805,311
						Monthly Charge per Equivalent Meters		14.33



Development of Fixed Charges – FY 2019

Table W-9		FY 2019						
Water								
Development of Fixed Charges								
		Fiscal Year	2019					
Total Water Rate Revenue Requirement		\$	5,743,574					
Less: Chromium 6 Surcharge		\$	1,004,126					
Net Water Rate Revenue Requirement		\$	4,739,448					
		% to Fixed Charge	45%					
Fixed Charge Revenue Requirement		\$	2,133,699					
Portion to Billing Charge		\$	295,319					
Portion to Meter Charge		\$	1,838,380					
<b>Summary of Fixed Charges</b>								
Meter Size	AWWA Meter Equivalency Factor	Monthly	Monthly	Total Monthly Fixed Charge	Chromium 6 Surcharge			
		Charge per Bill	Charge per Meter					
0.75	1.00	\$ 3.57	\$ 14.59	\$ 18.16	\$ 12.12			
1	1.67	3.57	24.32	27.89	12.12			
1.5	3.33	3.57	48.64	52.21	12.12			
2	5.33	3.57	77.82	81.39	12.12			
3	10.00	3.57	145.90	149.47	12.12			
4	16.67	3.57	243.17	246.74	12.12			
6	33.33	3.57	486.34	489.91	12.12			
8	53.33	3.57	778.14	781.71	12.12			
10	76.67	3.57	1,118.57	1,122.14	12.12			
					\$ 1,004,126			
Meter Size	Residential	COM	SCH	CONS	FIRE	Total Bills	Meter Equiv. Factor	Meter Equivalents
0.75	23,136	180	-	-	-	23,316	1.00	23,316
1	58,428	96	24	-	12	58,560	1.67	97,600
1.5	360	-	-	-	-	360	3.33	1,200
2	288	36	228	-	12	564	5.33	3,008
3	-	-	12	60	-	72	10.00	720
4	-	-	12	-	-	12	16.67	200
6	-	-	-	-	-	-	33.33	-
8	-	-	-	-	-	-	53.33	-
10	-	-	-	-	-	-	76.67	-
<b>Total</b>	<b>82,212</b>	<b>312</b>	<b>276</b>	<b>60</b>	<b>24</b>	<b>82,884</b>		<b>126,044</b>
						Portion to Billing Charge	\$	295,319
						Portion to Chromium 6 Surcharge	\$	1,004,126
						Annual Bills		82,884
						Monthly Charge per Bill		12.12
						Monthly Charge per Bill	3.57	
						Portion to Meter Charge	\$	1,838,380
						Monthly Charge per Equivalent Meters		14.59



Development of Fixed Charges – FY 2020

Table W-9		FY 2020						
Water								
Development of Fixed Charges								
		Fiscal Year	2020					
Total Water Rate Revenue Requirement		\$	6,030,703					
Less: Chromium 6 Surcharge		\$	1,010,126					
Net Water Rate Revenue Requirement		\$	5,020,577					
		% to Fixed Charge	45%					
Fixed Charge Revenue Requirement		\$	2,260,264					
Portion to Billing Charge		\$	295,319					
Portion to Meter Charge		\$	1,964,945					
<b>Summary of Fixed Charges</b>								
Meter Size	AWWA Meter Equivalency Factor	Monthly	Monthly	Total Monthly	Chromium 6 Surcharge			
		Charge per Bill	Charge per Meter			Fixed Charge		
0.75	1.00	\$ 3.57	\$ 15.59	\$ 19.16	\$ 12.19			
1	1.67	3.57	25.99	29.56	12.19			
1.5	3.33	3.57	51.97	55.54	12.19			
2	5.33	3.57	83.15	86.72	12.19			
3	10.00	3.57	155.90	159.47	12.19			
4	16.67	3.57	259.84	263.41	12.19			
6	33.33	3.57	519.67	523.24	12.19			
8	53.33	3.57	831.47	835.04	12.19			
10	76.67	3.57	1,195.24	1,198.81	12.19			
					\$ 1,010,126			
Meter Size	Residential	COM	SCH	CONS	FIRE	Total Bills	Meter Equiv. Factor	Meter Equivalents
0.75	23,136	180	-	-	-	23,316	1.00	23,316
1	58,428	96	24	-	12	58,560	1.67	97,600
1.5	360	-	-	-	-	360	3.33	1,200
2	288	36	228	-	12	564	5.33	3,008
3	-	-	12	60	-	72	10.00	720
4	-	-	12	-	-	12	16.67	200
6	-	-	-	-	-	-	33.33	-
8	-	-	-	-	-	-	53.33	-
10	-	-	-	-	-	-	76.67	-
<b>Total</b>	<b>82,212</b>	<b>312</b>	<b>276</b>	<b>60</b>	<b>24</b>	<b>82,884</b>		<b>126,044</b>
						Portion to Billing Charge	\$	295,319
						Monthly Charge per Bill		3.57
						Portion to Chromium 6 Surcharge	\$	1,010,126
						Annual Bills		82,884
						Monthly Charge per Bill		12.19
						Portion to Meter Charge	\$	1,964,945
						Monthly Charge per Equivalent Meters		15.59



### 3.5.3 Analysis and Development of Water Tiers

In order to develop a tiered rate structure for consideration by the District it was necessary to first develop the break points for the 2-tier water rate structure. This was done by assuming the average person uses 75 gallons per day, a figure which is within industry standard assumptions with respect to per capita water use. That per capita water use was then multiplied by an assumed 3.7 persons per households – a figure provided by the District. This was then converted to a monthly usage figure per average residential customer of 12 CCF. This calculated figure was then compared to the average monthly billed water flow for residential customers of 12 CCF as a further measure of reasonableness. Non-residential customers are assumed to be billed the same rate per CCF, regardless of flow, therefore no water tiers were developed for non-residential.

### 3.5.4 Analysis and Development of Water Flow Charges

#### Use of Peaking Factors to Demonstrate Cost Differentials for Tiered Water Rates

The development of water flow charges, under a tiered water rate structure such as is proposed herein, requires a clear presentation of the assumptions and data used to develop the rate differentials at each tier in order to establish the nexus between the higher rates at higher tiers and cost to provide service at those tiers. The method by which we have established that nexus is through the use of peaking factors as a surrogate to the near impossible task of determining the true cost at each tier.

A peaking factor, in utility parlance, is the relationship of the peak period water use for a customer, or group of customers, to the average period flow. If customers in a class have a peak daily flow of 600 gallons and an average daily flow is 300 gallons, their “peaking factor” is  $600/300$ , or 2.0.

By way of example, let’s assume a group of Residential customers has an average daily water use of 1.0 Million Gallons per Day (MGD). If these customers only ever used their average 1.0 MGD, then the utility could invest in assets sufficient to deliver 1.0 MGD. However, many customers, Residential customers especially, have varying usage rates during any given period. For instance, it is typical for Residential customers to exhibit greater than average water use requirements during the morning hours as they prepare for work/school/etc. Because of this peak-time usage, where nearly all Residential customers require their maximum hourly water delivery at the same time, the utility must size it’s assets to deliver



greater than the average use – at a higher cost. It is not atypical for Residential customers to have a peaking factor (peak use / average use) of 1.5 times or greater. Under our scenario here, this would require the utility size their water facilities (water plant, water transmission lines) to deliver not 1.0 MGD, but rather 1.5 MGD. This additional investment would not be required if the Residential customers in our example did not exhibit these peak demand characteristics. However, because their peak demand characteristics necessitate a higher level of utility investment (cost), it stands to reason that that additional cost should be borne by these customers.

If we stopped here in our example, we might be able to undertake a lengthy/costly engineering study to specifically identify the additional plant assets added over the last 30 years (utility assets have long lives) to serve the peaking requirements of our Residential class of customers. However, most utilities have a variety of customer types (Residential, Commercial, Industrial, etc.) which exhibit a wide range of peak and average flow characteristics. This makes it much more problematic to assign marginal costs to certain customer classes based on hard numbers derived from invoices for plant assets.

It is this difficulty in assigning costs to a heterogeneous customer base which leads utility rate practitioners to use a surrogate methodology to assign costs associated with meeting peak demand requirements to certain classes of customer. This method is the Base-Extra Capacity method, outlined in AWWA Manual M1, which assigns certain “Base” costs to all customers based on their share of the total system flow. “Peak” or “Max Day / Max Hour” costs are then assigned to customer classes based on their share of flows, as adjusted by their unique peaking characteristics – represented by their peaking factor. This peaking factor is used to differentiate the usage characteristics of each customer class and, therefore, assign peak-related costs to those classes in a proportion which is meant to be a surrogate for a more detailed, invoice by invoice, analysis of utility infrastructure costs.

From an engineering perspective, utilities hire consulting engineering firms to design utility plant/transmission assets to accommodate not only total flows, but peak flows. These engineering studies employ the use of peaking factors to determine the ultimate size of these assets (size in this case meaning capacity of water flow – typically measured in Million Gallons per Day (MGD)). These “peak-sized” assets are then assigned costs based on engineering cost algorithms which are based on the total capacity of the plant/transmission assets and which do not carve out the portion of the



plant/transmission costs associated with each customer class. The utility assets are viewed as one System, rather than individual pieces which serve certain customer classes and their average/peak demands.

Therefore, based on the above-described understanding of peaking factors, their use in the development of engineering cost estimates during the design of system assets, and their use as a cost of service surrogate in rate-making, a practice well established in the AWWA M1 Rate Manual and other industry literature, we have developed peaking factors specific to the District system for each water customer class. Further, for those classes which are to be subject to a tiered rate structure, we have developed peaking factors for the customers which, on average, fall into Tier 1 and for those which, on average, fall into Tier 2. This detailed peaking factor analysis provides a direct link to the differential rates presented herein for the two water tiers and the peaking factors for the customers which, on average, fall into those tiers. The peaking factor analysis resulted in a 1.58 times differential in the peaking factor for residential customers in Tier 1 versus Tier 2. Therefore, the rate differential in Tier 1 versus Tier 2 for customers subject to the tiered rate structure, the residential class, is also 1.58. This establishes the nexus between the peaking factor differential, a surrogate for cost differential, and the rate differential by tier.

The resulting calculation of rates for all water customer classes is presented in Table W-10 below.

#### Drought Rate Component to Water Flow Charge Structure

Table W-10 also notes an assumed reduction in flow due to elasticity of demand / State water restriction mandates. The District has an overall target reduction of 32% from FY 2013 flow levels. In discussions with the District it was decided that a future overall reduction of approximately 19%, combined with reductions the District has already achieved, would achieve an overall reduction of 32%. Therefore, this 19% reduction in future flows was factored into the baseline analysis.

The baseline flow charges for FY 2016-2020 are presented in Table W-10 below. A version of Table W-10 for each fiscal year is presented below.

The State has requested the District establish a system of policies, practices and procedures to address the statewide drought. In that regard, District staff developed a budget which would fund these



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requirements. In addition, the lost revenue from the mandatory reduction in flow must be recaptured in the rates to ensure sufficient revenue to meet system financial requirements. Therefore, a drought rate surcharge, computed to recover these costs from all billed flow, was then developed and noted in Table W-10 below.





Development of Flow Charges – FY 2016

Table W-10		FY 2016	
Water			
Development of Water Flow Charges			
		Fiscal Year	2016
Total Water Rate Revenue Requirement		\$	4,961,969
Less Fixed Charge Revenue Requirement		(2,233,878)	
Flow Charge Revenue Requirement		\$	2,728,091
Drought Surcharge Revenue Requirement		\$	1,182,032
Customer Class	% Cost Distribution	Flow Charge Revenue Requirement	
RES	93%	\$ 2,540,786	
COM	0%	7,086	
SCH	6%	161,242	
CONS	1%	18,206	
FIRE	0%	771	
Total		\$	2,728,091
Step 1 - Development of Baseline Flow Billing Units After Elasticity Adjustment			
Customer Class	Annual Flow - Before Reduction for Elasticity of Demand	Annual Flow - After Reduction for Elasticity of Demand	Reduction in Flow for Elasticity
	Tier 1 Tier 2 Total	Tier 1 Tier 2 Total	
RES	588,316 442,040 1,030,356	529,484 309,428 838,912	-19%
COM	1,540 1,194 2,734	1,540 836 2,376	-13%
SCH	2,374 69,326 71,700	2,374 48,528 50,902	-29%
CONS	248 5,448 5,696	248 4,358 4,606	-19%
FIRE	180 74 254	180 59 239	-6%
Total	592,658 518,082 1,110,740	533,826 363,210 897,036	-19%
Step 2 - Application of Calculated Peaking Factors to Tier 2 Flow			
Customer Class	Annual Flow - After Reduction for Elasticity of Demand	Final Flow for Development of Rates (Tier 2 Flow Adjusted by Tier 2 Peaking Factors)	Tier 2 Peaking Factors (4)
	Tier 1 Tier 2 Total	Tier 1 Tier 2 Total	
RES	529,484 309,428 838,912	529,484 489,366 1,018,851	1.58
COM	1,540 836 2,376	1,540 836 2,376	1.00
SCH	2,374 48,528 50,902	2,374 48,528 50,902	1.00
CONS	248 4,358 4,606	248 4,358 4,606	1.00
FIRE	180 59 239	180 59 239	1.00
Total	533,826 363,210 897,036	533,826 543,148 1,076,974	
Step 3 - Allocation of Flow Charge Revenue Requirements by Tier and Development of Water Rates by Tier			
Customer Class	Final Flow for Development of Rates (Tier 2 Flow Adjusted by Tier 2 Peaking Factors)	Usage Range by Tier	Water Rates by Tier (Includes Drought Rate Component from Step 4 below)
	Tier 1 Tier 2 Total	Tier 1 Tier 2	Tier 1 Rate per CCF Tier 2 per CCF
RES	\$ 1,320,416 \$ 1,220,370 \$ 2,540,786	0 - 1200 Cubic Feet Greater than 1200 Cubic Feet	\$ 2.50 3.95
COM	4,593 2,493 7,086	All Flow	2.99 2.99
SCH	7,520 153,722 161,242	All Flow	3.17 3.17
CONS	980 17,226 18,206	All Flow	3.96 3.96
FIRE	580 191 771	All Flow	3.23 3.23
Total	\$ 1,334,089 \$ 1,394,001 \$ 2,728,091		
Step 4 - Development of Drought Surcharge Component of Water Rates from Step 3			
Customer Class	Allocation of Drought Rate Revenue Requirement by Class / Tier	Usage by Tier	Drought Surcharge Portion of Water Rates by Tier
	Tier 1 Tier 2 Total	Tier 1 Tier 2	Tier 1 Rate per CCF Tier 2 per CCF
RES	\$ 572,112 \$ 528,764 \$ 1,100,876	529,484 309,428	\$ 1.09 \$ 1.71
COM	2,150.24 1,166.99 3,317.23	1,540 836	1.40 1.40
SCH	3,314.72 67,757.86 71,072.58	2,374 48,528	1.40 1.40
CONS	346.27 6,085.45 6,431.72	248 4,358	1.40 1.40
FIRE	251.33 82.66 333.98	180 59	1.40 1.40
<p>(1) Tier 1 usage threshold for Single Family Residential set assuming 3.7 Persons per Household, using 75 Gal per Day - converted / rounded up to nearest CCF. Tier 1 threshold calculation also consistent with average residential monthly usage.</p> <p>(2) RES class includes billing codes: RES, COM2 and MR.</p> <p>(3) Reduction for elasticity / to meet state required flow reduction of 32% reflects reductions to date of approximately 13% per the District.</p> <p>(4) Tier 2 peaking factors developed using District billing data. Developed by relating the average peaking factors for customers in Tier 2 to the average peaking factor for customers in Tier 1 in order to establish the relative cost to serve customers in Tier 2 versus Tier 1. No Tier 2 peaking factors used for Non-Residential as they are projected to have a uniform rate.</p>			



## Development of Flow Charges – FY 2017

Table W-10		FY 2017					
Water							
Development of Water Flow Charges							
Fiscal Year <u>2017</u>							
Total Water Rate Revenue Requirement		\$ 5,210,017					
Less Fixed Charge Revenue Requirement		(2,787,658)					
Flow Charge Revenue Requirement		\$ 2,422,359					
Drought Surcharge Revenue Requirement		\$ 1,098,986					
		Flow Charge Revenue Requirement					
Customer Class	% Cost Distribution						
RES	93%	\$ 2,256,045					
COM	0%	6,292					
SCH	6%	143,172					
CONS	1%	16,166					
FIRE	0%	684					
Total		\$ 2,422,359					
Step 1 - Development of Baseline Flow Billing Units After Elasticity Adjustment							
		Annual Flow - Before Reduction for Elasticity of Demand		Annual Flow - After Reduction for Elasticity of Demand		Reduction in Flow for Elasticity	
Customer Class	Tier 1	Tier 2	Total	Tier 1	Tier 2	Total	
RES	588,316	442,040	1,030,356	529,484	309,428	838,912	-19%
COM	1,540	1,194	2,734	1,540	836	2,376	-13%
SCH	2,374	69,326	71,700	2,374	48,528	50,902	-29%
CONS	248	5,448	5,696	248	4,358	4,606	-19%
FIRE	180	74	254	180	59	239	-6%
Total	592,658	518,082	1,110,740	533,826	363,210	897,036	-19%
Step 2 - Application of Calculated Peaking Factors to Tier 2 Flow							
		Annual Flow - After Reduction for Elasticity of Demand		Final Flow for Development of Rates (Tier 2 Flow Adjusted by Tier 2 Peaking Factors)		Tier 2 Peaking Factors (4)	
Customer Class	Tier 1	Tier 2	Total	Tier 1	Tier 2	Total	
RES	529,484	309,428	838,912	529,484	489,366	1,018,851	1.58
COM	1,540	836	2,376	1,540	836	2,376	1.00
SCH	2,374	48,528	50,902	2,374	48,528	50,902	1.00
CONS	248	4,358	4,606	248	4,358	4,606	1.00
FIRE	180	59	239	180	59	239	1.00
Total	533,826	363,210	897,036	533,826	543,148	1,076,974	
Step 3 - Allocation of Flow Charge Revenue Requirements by Tier and Development of Water Rates by Tier							
		Final Flow for Development of Rates (Tier 2 Flow Adjusted by Tier 2 Peaking Factors)		Usage Range by Tier		Water Rates by Tier (Includes Drought Rate Component from Step 4 below)	
Customer Class	Tier 1	Tier 2	Total	Tier 1	Tier 2	Tier 1 Rate per CCF	Tier 2 per CCF
RES	\$ 1,172,440	\$ 1,083,606	\$ 2,256,045	0 - 1200 Cubic Feet	Greater than 1200 Cubic Feet	\$ 2.22	3.51
COM	4,078	2,213	6,292	All Flow		2.65	2.65
SCH	6,677	136,494	143,172	All Flow		2.82	2.82
CONS	870	15,296	16,166	All Flow		3.51	3.51
FIRE	515	169	684	All Flow		2.87	2.87
Total	\$ 1,184,580	\$ 1,237,778	\$ 2,422,359				
Step 4 - Development of Drought Surcharge Component of Water Rates from Step 3							
		Allocation of Drought Rate Revenue Requirement by Class / Tier		Usage by Tier		Drought Surcharge Portion of Water Rates by Tier	
Customer Class	Tier 1	Tier 2	Total	Tier 1	Tier 2	Tier 1 Rate per CCF	Tier 2 per CCF
RES	\$ 531,917	\$ 491,615	\$ 1,023,532	529,484	309,428	\$ 1.01	\$ 1.59
COM	1,999.17	1,085.00	3,084.17	1,540	836	1.30	1.30
SCH	3,081.83	62,997.40	66,079.24	2,374	48,528	1.30	1.30
CONS	321.94	5,657.90	5,979.85	248	4,358	1.30	1.30
FIRE	233.67	76.85	310.52	180	59	1.30	1.30
(1) Tier 1 usage threshold for Single Family Residential set assuming 3.7 Persons per Household, using 75 Gal per Day - converted / rounded up to nearest CCF. Tier 1 threshold calculation also consistent with average residential monthly usage. (2) RES class includes billing codes: RES, COM2 and MR. (3) Reduction for elasticity / to meet state required flow reduction of 32% reflects reductions to date of approximately 13% per the District. (4) Tier 2 peaking factors developed using District billing data. Developed by relating the average peaking factors for customers in Tier 2 to the average peaking factor for customers in Tier 1 in order to establish the relative cost to serve customers in Tier 2 versus Tier 1. No Tier 2 peaking factors used for Non-Residential as they are projected to have a uniform rate.							



## Development of Flow Charges – FY 2018

Table W-10		FY 2018					
Water		Development of Water Flow Charges					
		Fiscal Year <u>2018</u>					
Total Water Rate Revenue Requirement		\$ 5,470,118					
Less Fixed Charge Revenue Requirement		(2,904,756)					
Flow Charge Revenue Requirement		\$ 2,565,362					
Drought Surcharge Revenue Requirement		\$ 1,137,830					
		Flow Charge Revenue Requirement					
Customer Class	% Cost Distribution						
RES	93%	\$ 2,389,231					
COM	0%	6,663					
SCH	6%	151,624					
CONS	1%	17,120					
FIRE	0%	725					
Total		\$ 2,565,362					
<b>Step 1 - Development of Baseline Flow Billing Units After Elasticity Adjustment</b>							
Customer Class	Annual Flow - Before Reduction for Elasticity of Demand			Annual Flow - After Reduction for Elasticity of Demand			Reduction in Flow for Elasticity
	Tier 1	Tier 2	Total	Tier 1	Tier 2	Total	
RES	588,316	442,040	1,030,356	529,484	309,428	838,912	-19%
COM	1,540	1,194	2,734	1,540	836	2,376	-13%
SCH	2,374	69,326	71,700	2,374	48,528	50,902	-29%
CONS	248	5,448	5,696	248	4,358	4,606	-19%
FIRE	180	74	254	180	59	239	-6%
Total	592,658	518,082	1,110,740	533,826	363,210	897,036	-19%
<b>Step 2 - Application of Calculated Peaking Factors to Tier 2 Flow</b>							
Customer Class	Annual Flow - After Reduction for Elasticity of Demand			Final Flow for Development of Rates (Tier 2 Flow Adjusted by Tier 2 Peaking Factors)			Tier 2 Peaking Factors (4)
	Tier 1	Tier 2	Total	Tier 1	Tier 2	Total	
RES	529,484	309,428	838,912	529,484	489,366	1,018,851	1.58
COM	1,540	836	2,376	1,540	836	2,376	1.00
SCH	2,374	48,528	50,902	2,374	48,528	50,902	1.00
CONS	248	4,358	4,606	248	4,358	4,606	1.00
FIRE	180	59	239	180	59	239	1.00
Total	533,826	363,210	897,036	533,826	543,148	1,076,974	
<b>Step 3 - Allocation of Flow Charge Revenue Requirements by Tier and Development of Water Rates by Tier</b>							
Customer Class	Final Flow for Development of Rates (Tier 2 Flow Adjusted by Tier 2 Peaking Factors)			Usage Range by Tier		Water Rates by Tier (Includes Drought Rate Component from Step 4 below)	
	Tier 1	Tier 2	Total	Tier 1	Tier 2	Tier 1 Rate per CCF	Tier 2 per CCF
RES	\$ 1,241,655	\$ 1,147,576	\$ 2,389,231	0 - 1200 Cubic Feet	Greater than 1200 Cubic Feet	\$ 2.35	3.71
COM	4,319	2,344	6,663	All Flow		2.81	2.81
SCH	7,071	144,552	151,624	All Flow		2.98	2.98
CONS	922	16,199	17,120	All Flow		3.72	3.72
FIRE	545	179	725	All Flow		3.03	3.03
Total	\$ 1,254,512	\$ 1,310,850	\$ 2,565,362				
<b>Step 4 - Development of Drought Surcharge Component of Water Rates from Step 3</b>							
Customer Class	Allocation of Drought Rate Revenue Requirement by Class / Tier			Usage by Tier		Drought Surcharge Portion of Water Rates by Tier	
	Tier 1	Tier 2	Total	Tier 1	Tier 2	Tier 1 Rate per CCF	Tier 2 per CCF
RES	\$ 550,718	\$ 508,991	\$ 1,059,709	529,484	309,428	\$ 1.05	\$ 1.65
COM	2,069.83	1,123.35	3,193.18	1,540	836	1.35	1.35
SCH	3,190.76	65,224.07	68,414.83	2,374	48,528	1.35	1.35
CONS	333.32	5,857.88	6,191.21	248	4,358	1.35	1.35
FIRE	241.93	79.57	321.50	180	59	1.35	1.35

(1) Tier 1 usage threshold for Single Family Residential set assuming 3.7 Persons per Household, using 75 Gal per Day - converted / rounded up to nearest CCF. Tier 1 threshold calculation also consistent with average residential monthly usage.

(2) RES class includes billing codes: RES, COM2 and MR.

(3) Reduction for elasticity / to meet state required flow reduction of 32% reflects reductions to date of approximately 13% per the District.

(4) Tier 2 peaking factors developed using District billing data. Developed by relating the average peaking factors for customers in Tier 2 to the average peaking factor for customers in Tier 1 in order to establish the relative cost to serve customers in Tier 2 versus Tier 1. No Tier 2 peaking factors used for Non-Residential as they are projected to have a uniform rate.



## Development of Flow Charges – FY 2019

Table W-10		Fiscal Year		2019		FY 2019		
Water								
Development of Water Flow Charges								
Total Water Rate Revenue Requirement		\$ 5,743,574						
Less Fixed Charge Revenue Requirement		(3,137,825)						
Flow Charge Revenue Requirement		\$ 2,605,749						
Drought Surcharge Revenue Requirement		\$ 1,148,800						
Customer Class		% Cost Distribution		Flow Charge Requirement				
RES		93%		\$ 2,426,844				
COM		0%		6,768				
SCH		6%		154,011				
CONS		1%		17,390				
FIRE		0%		736				
Total				\$ 2,605,749				
Step 1 - Development of Baseline Flow Billing Units After Elasticity Adjustment								
Customer Class		Annual Flow - Before Reduction for Elasticity of Demand			Annual Flow - After Reduction for Elasticity of Demand			Reduction in Flow for Elasticity
		Tier 1	Tier 2	Total	Tier 1	Tier 2	Total	
RES		588,316	442,040	1,030,356	529,484	309,428	838,912	-19%
COM		1,540	1,194	2,734	1,540	836	2,376	-13%
SCH		2,374	69,326	71,700	2,374	48,528	50,902	-29%
CONS		248	5,448	5,696	248	4,358	4,606	-19%
FIRE		180	74	254	180	59	239	-6%
Total		592,658	518,082	1,110,740	533,826	363,210	897,036	-19%
Step 2 - Application of Calculated Peaking Factors to Tier 2 Flow								
Customer Class		Annual Flow - After Reduction for Elasticity of Demand			Final Flow for Development of Rates (Tier 2 Flow Adjusted by Tier 2 Peaking Factors)			Tier 2 Peaking Factors (4)
		Tier 1	Tier 2	Total	Tier 1	Tier 2	Total	
RES		529,484	309,428	838,912	529,484	489,366	1,018,851	1.58
COM		1,540	836	2,376	1,540	836	2,376	1.00
SCH		2,374	48,528	50,902	2,374	48,528	50,902	1.00
CONS		248	4,358	4,606	248	4,358	4,606	1.00
FIRE		180	59	239	180	59	239	1.00
Total		533,826	363,210	897,036	533,826	543,148	1,076,974	
Step 3 - Allocation of Flow Charge Revenue Requirements by Tier and Development of Water Rates by Tier								
Customer Class		Final Flow for Development of Rates (Tier 2 Flow Adjusted by Tier 2 Peaking Factors)			Usage Range by Tier		Water Rates by Tier (Includes Drought Rate Component from Step 4 below)	
		Tier 1	Tier 2	Total	Tier 1	Tier 2	Tier 1 Rate per CCF	Tier 2 per CCF
RES		\$ 1,261,202	\$ 1,165,642	\$ 2,426,844	0 - 1200 Cubic Feet	Greater than 1200 Cubic Feet	\$ 2.39	3.77
COM		4,387	2,381	6,768	All Flow	All Flow	2.85	2.85
SCH		7,183	146,828	154,011	All Flow	All Flow	3.03	3.03
CONS		936	16,454	17,390	All Flow	All Flow	3.78	3.78
FIRE		554	182	736	All Flow	All Flow	3.08	3.08
Total		\$ 1,274,262	\$ 1,331,487	\$ 2,605,749				
Step 4 - Development of Drought Surcharge Component of Water Rates from Step 3								
Customer Class		Allocation of Drought Rate Revenue Requirement by Class / Tier			Usage by Tier		Drought Surcharge Portion of Water Rates by Tier	
		Tier 1	Tier 2	Total	Tier 1	Tier 2	Tier 1 Rate per CCF	Tier 2 per CCF
RES		\$ 556,028	\$ 513,898	\$ 1,069,926	529,484	309,428	\$ 1.06	\$ 1.67
COM		2,089.78	1,134.18	3,223.97	1,540	836	1.36	1.36
SCH		3,221.53	65,852.91	69,074.44	2,374	48,528	1.36	1.36
CONS		336.54	5,914.36	6,250.90	248	4,358	1.36	1.36
FIRE		244.26	80.33	324.60	180	59	1.36	1.36
<p>(1) Tier 1 usage threshold for Single Family Residential set assuming 3.7 Persons per Household, using 75 Gal per Day - converted / rounded up to nearest CCF. Tier 1 threshold calculation also consistent with average residential monthly usage.</p> <p>(2) RES class includes billing codes: RES, COM2 and MR.</p> <p>(3) Reduction for elasticity / to meet state required flow reduction of 32% reflects reductions to date of approximately 13% per the District.</p> <p>(4) Tier 2 peaking factors developed using District billing data. Developed by relating the average peaking factors for customers in Tier 2 to the average peaking factor for customers in Tier 1 in order to establish the relative cost to serve customers in Tier 2 versus Tier 1. No Tier 2 peaking factors used for Non-Residential as they are projected to have a uniform rate.</p>								



Development of Flow Charges – FY 2020

Table W-10		FY 2020		
Water				
Development of Water Flow Charges				
		Fiscal Year	2020	
Total Water Rate Revenue Requirement		\$	6,030,703	
Less Fixed Charge Revenue Requirement		(3,270,390)		
Flow Charge Revenue Requirement		\$	2,760,313	
Drought Surcharge Revenue Requirement		\$	1,190,785	
Customer Class	% Cost Distribution	Flow Charge Revenue Requirement		
RES	93%	\$ 2,570,797		
COM	0%	7,169		
SCH	6%	163,146		
CONS	1%	18,421		
FIRE	0%	780		
Total		\$	2,760,313	
Step 1 - Development of Baseline Flow Billing Units After Elasticity Adjustment				
Customer Class	Annual Flow - Before Reduction for Elasticity of Demand		Annual Flow - After Reduction for Elasticity of Demand	Reduction in Flow for Elasticity
	Tier 1	Tier 2	Total	
RES	588,316	442,040	1,030,356	-19%
COM	1,540	1,194	2,734	-13%
SCH	2,374	69,326	71,700	-29%
CONS	248	5,448	5,696	-19%
FIRE	180	74	254	-6%
Total	592,658	518,082	1,110,740	-19%
Step 2 - Application of Calculated Peaking Factors to Tier 2 Flow				
Customer Class	Annual Flow - After Reduction for Elasticity of Demand		Final Flow for Development of Rates (Tier 2 Flow Adjusted by Tier 2 Peaking Factors)	Tier 2 Peaking Factors (4)
	Tier 1	Tier 2	Total	
RES	529,484	309,428	838,912	1.58
COM	1,540	836	2,376	1.00
SCH	2,374	48,528	50,902	1.00
CONS	248	4,358	4,606	1.00
FIRE	180	59	239	1.00
Total	533,826	363,210	897,036	
Step 3 - Allocation of Flow Charge Revenue Requirements by Tier and Development of Water Rates by Tier				
Customer Class	Final Flow for Development of Rates (Tier 2 Flow Adjusted by Tier 2 Peaking Factors)		Usage Range by Tier	Water Rates by Tier (Includes Drought Rate Component from Step 4 below)
	Tier 1	Tier 2	Total	Tier 1 Rate per CCF
RES	\$ 1,336,012	\$ 1,234,785	\$ 2,570,797	\$ 2.53
COM	4,647	2,522	7,169	3.02
SCH	7,609	155,537	163,146	3.21
CONS	992	17,430	18,421	4.00
FIRE	587	193	780	3.26
Total	\$ 1,349,847	\$ 1,410,467	\$ 2,760,313	
Step 4 - Development of Drought Surcharge Component of Water Rates from Step 3				
Customer Class	Allocation of Drought Rate Revenue Requirement by Class / Tier		Usage by Tier	Drought Surcharge Portion of Water Rates by Tier
	Tier 1	Tier 2	Total	Tier 1 Rate per CCF
RES	\$ 576,349	\$ 532,680	\$ 1,109,028	\$ 1.09
COM	2,166.16	1,175.63	3,341.79	1.41
SCH	3,339.26	68,259.59	71,598.85	1.41
CONS	348.84	6,130.51	6,479.35	1.41
FIRE	253.19	83.27	336.46	1.41

(1) Tier 1 usage threshold for Single Family Residential set assuming 3.7 Persons per Household, using 75 Gal per Day - converted / rounded up to nearest CCF. Tier 1 threshold calculation also consistent with average residential monthly usage.

(2) RES class includes billing codes: RES, COM2 and MR.

(3) Reduction for elasticity / to meet state required flow reduction of 32% reflects reductions to date of approximately 13% per the District.

(4) Tier 2 peaking factors developed using District billing data. Developed by relating the average peaking factors for customers in Tier 2 to the average peaking factor for customers in Tier 1 in order to establish the relative cost to serve customers in Tier 2 versus Tier 1. No Tier 2 peaking factors used for Non-Residential as they are projected to have a uniform rate.



### 3.5.5 Revenue Test

Table W-11 below presents the revenue test proof for FY 2016 to demonstrate the rates proposed for FY 2016 are projected to generate sufficient revenue.

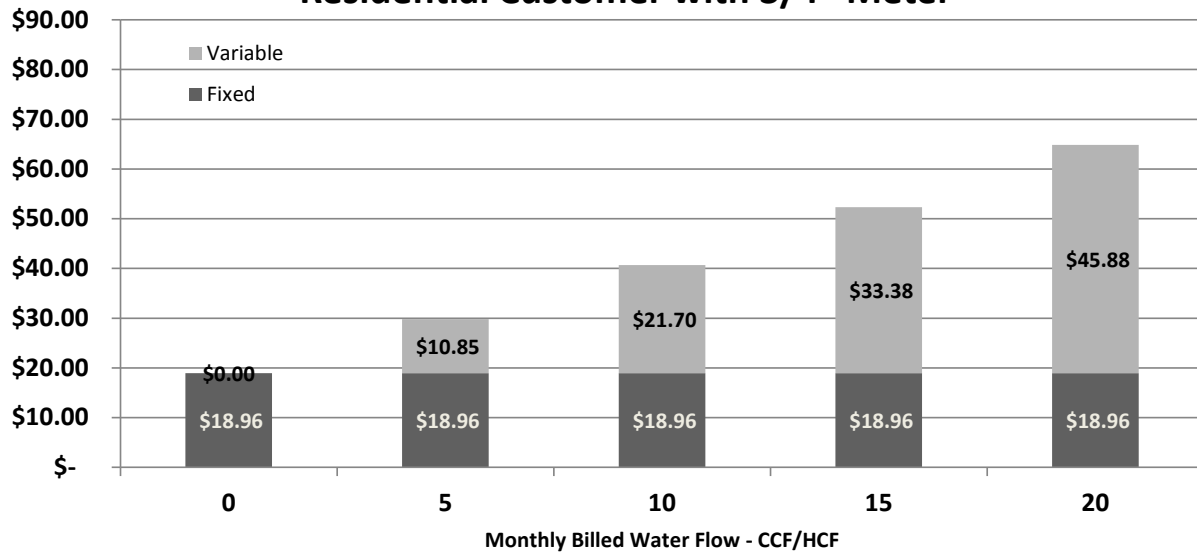
Table W-11		FY 2016			
Water Revenue Test					
<b>Summary of Revenue Requirements vs Revenue Test</b>		<b>2016</b>			
		<b>Target</b>	<b>Calc'd</b>	<b>\$ Var</b>	
Fixed Charge Revenue Requirement	\$	2,233,878	\$ 2,235,713	\$ 1,835	
Chromium 6 Revenue Requirement		-	-	-	
Flow Charge Revenue Requirement		2,728,091	2,733,429	5,339	
<b>Total Revenue Requirement</b>	<b>\$</b>	<b>4,961,969</b>	<b>\$ 4,969,142</b>	<b>\$ 7,173</b>	
<b>Revenue Test - Fixed Charges</b>					
		<b>Total Fixed Monthly Charge</b>			<b>Chromium 6 Surcharge</b>
<b>Meter Size</b>	<b>Total Bills</b>	<b>Revenue</b>	<b>Total Bills</b>	<b>Revenue</b>	<b>Revenue</b>
0.75	23,316	\$ 18.96	\$ 442,071	23,316	\$ -
1	58,560	29.22	1,711,123	58,560	-
1.5	360	54.87	19,753	360	-
2	564	85.65	48,307	564	-
3	72	157.47	11,338	72	-
4	12	260.07	3,121	12	-
6	-	516.57	-	-	-
8	-	824.37	-	-	-
10	-	1,183.47	-	-	-
		<b>Projected Fixed Charge Revenue</b>	<b>\$ 2,235,713</b>		<b>\$ -</b>
			<b>Target</b>		<b>\$ -</b>
			<b>\$ 2,233,878</b>		<b>\$ -</b>
<b>Revenue Test - Flow Charges</b>					
<b>Annual Flow - After Reduction for Elasticity of Demand</b>					
<b>Customer Class</b>	<b>Tier 1</b>	<b>Tier 2</b>	<b>Total</b>		
RES	529,484	309,428	838,912		
COM	1,540	836	2,376		
SCH	2,374	48,528	50,902		
CONS	248	4,358	4,606		
FIRE	180	59	239		
<b>Total</b>	<b>533,826</b>	<b>363,210</b>	<b>897,036</b>		
<b>Water Rates by Tier</b>					
<b>Customer Class</b>	<b>Tier 1</b>	<b>Tier 2</b>	<b>Avg Rate (Informational Only)</b>	<b>Portion of Water Rates Attributable to Drought Rate Surcharge</b>	
RES	\$ 2.50	\$ 3.95	\$ 3.03		
COM	2.99	2.99	2.99		
SCH	3.17	3.17	3.17		
CONS	3.96	3.96	3.96		
FIRE	3.23	3.23	3.23		
<b>Annual Flow - After Reduction for Elasticity of Demand</b>					
<b>Customer Class</b>	<b>Tier 1</b>	<b>Tier 2</b>	<b>Total</b>		
RES	\$ 1,323,711	\$ 1,222,241	\$ 2,545,952		
COM	4,605	2,499	7,104		
SCH	7,526	153,834	161,360		
CONS	982	17,259	18,241		
FIRE	581	191	773		
<b>Total</b>	<b>\$ 1,337,405</b>	<b>\$ 1,396,025</b>	<b>\$ 2,733,429</b>		
			<b>Flow Charge Revenue Requirement \$ 2,728,091</b>		



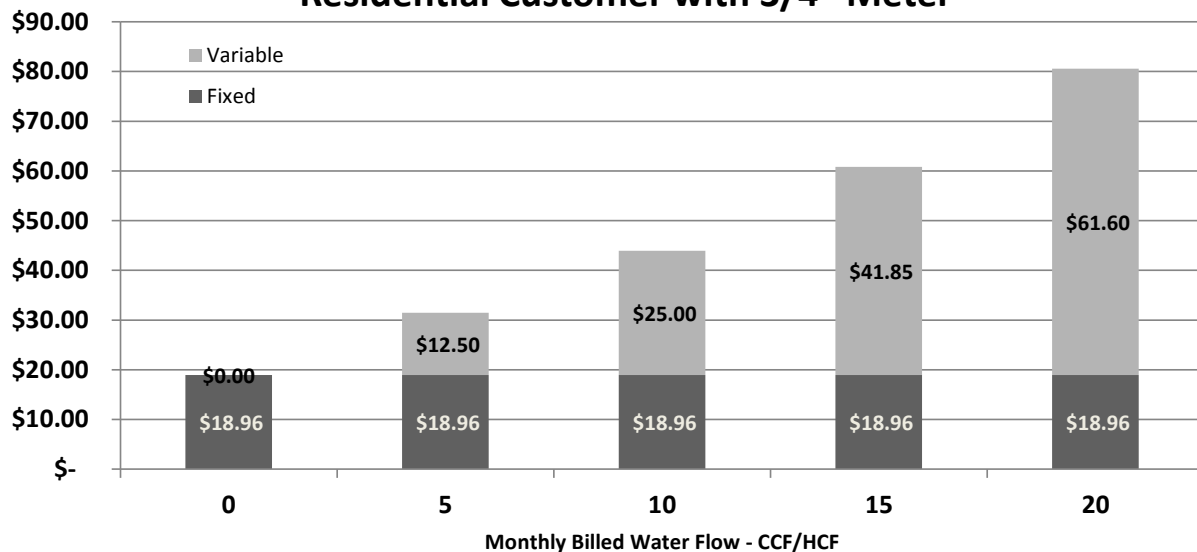
### 3.5.6 Customer Impact Summary

The existing and proposed monthly water bill for Residential customers with a 3/4" meter is presented below for various usage amounts.

**Monthly Water Bill - Existing Rates  
Residential Customer with 3/4" Meter**



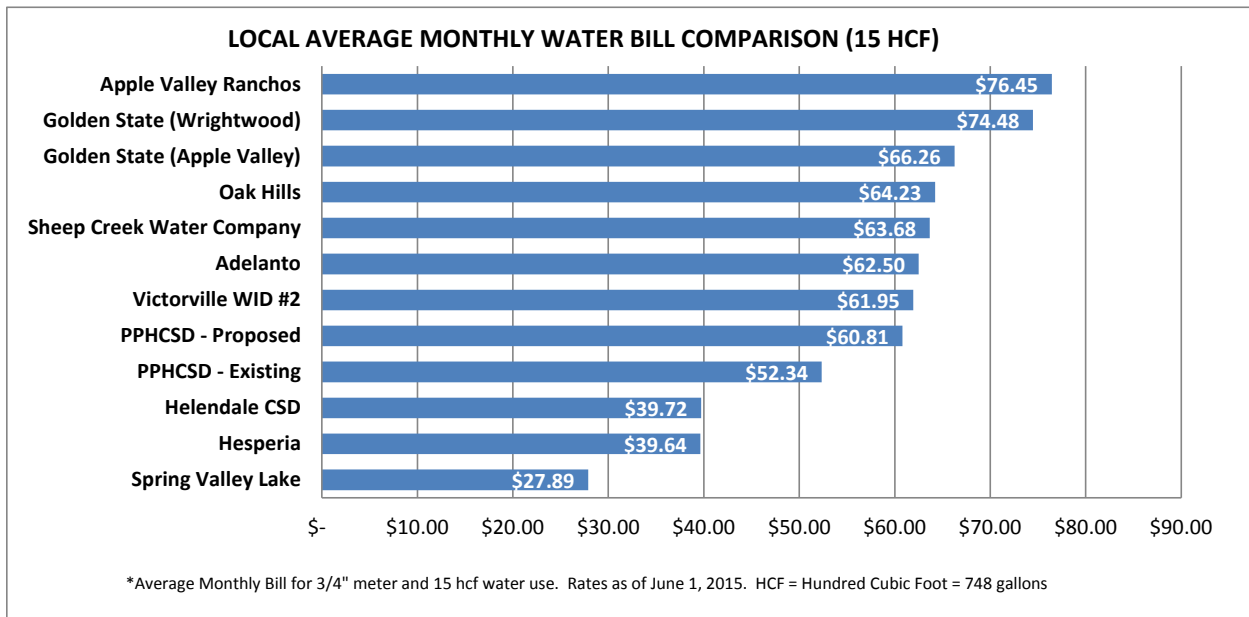
**Monthly Water Bill - Proposed Rates for FY 2016  
Residential Customer with 3/4" Meter**





### 3.6. Summary Customer Impact Results

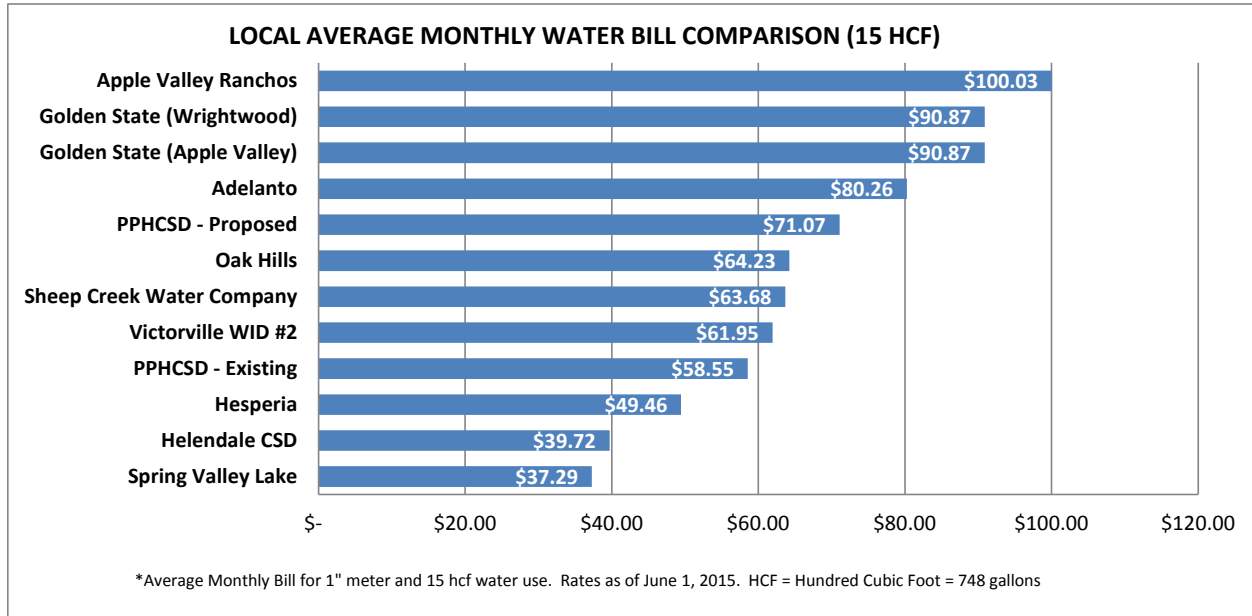
The comparison of monthly water bills for residential customers with a 3/4" meter using 15 CCF per month shows that the District would maintain their same relative position compared to other utilities under the proposed rates for this water bill scenario.







The comparison of monthly water bills for residential customers with a 1" meter using 15 CCF per month is presented below for this water bill scenario.





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## Section 4 - Conclusions and Recommendations

### 4.1. Conclusions

- Projected operating revenues and operating expenses for the forecast period were developed by, and/or in consultation with, District staff and are based upon reasonable projections.
- The projected capital project expenses have been developed by District staff to address Utility system capital needs over the forecast period.
- Based on the conclusions above, we are of the opinion that the financial projections presented herein demonstrate the Utility's ability to meet its obligations during the forecast period.

### 4.2. Recommendations

- Prior to implementing the rates and charges presented herein it is recommended the District conduct a billing test to simulate a year of billing under the proposed rates to test the revenue collected under the billing test to the projected revenue associated with the rates presented in this report as a test of reasonableness.
- It is recommended that the District implement the proposed rates and charges presented herein for FY 2016 by February 1, 2016 and by July 1<sup>st</sup> in the following fiscal years.
- It is recommended that the District update the revenue sufficiency analysis portion of this study each year to ensure projected revenue is sufficient to fund projected expenses going forward as assumptions made during this analysis may change and have a material impact upon the analysis.

# Appendix A

**Phelan Pinon Hills CSD**  
Pro Forma with Debt Service Coverage and Fund Balance Reconciliation

Line No

	2016	2017	2018	2019	2020
<b>Water and Sewer Rate Revenue Increases</b>	<b>37.00%</b>	<b>5.00%</b>	<b>5.00%</b>	<b>5.00%</b>	<b>5.00%</b>
<b>% of Year Rate Increase Effective</b>	<b>33.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>
<b>31110 - Operating Reserve - Water&amp;Adm</b>					
Beginning Balance	5,024,756	1,959,151	2,129,148	2,306,880	2,448,257
<b>Sources of Funds</b>					
Total WATER CONSUMPTION	1,982,897	2,542,017	2,669,118	2,802,574	2,942,703
Total WATER METER CHARGE	2,080,979	2,668,050	2,801,400	2,941,050	3,088,050
Operating Revenue	569,437	569,437	569,437	569,437	569,437
Transfer In	647,478	572,478	497,478	422,478	347,478
Interest Earnings	8,730	5,110	5,545	5,944	6,520
Federal Debt Service Revenue (Interest Expense Subsidy)	-	-	-	-	-
<b>Total Source of Funds</b>	<b>\$ 5,289,521</b>	<b>\$ 6,357,093</b>	<b>\$ 6,542,979</b>	<b>\$ 6,741,483</b>	<b>\$ 6,954,189</b>
<b>Uses of Funds</b>					
Operation & Maintenance Expense	3,526,042	3,627,316	3,731,602	4,038,995	4,155,579
Transfer Out	3,896,500	823,524	897,860	825,810	735,367
Major Capital Funded with Cash	-	-	-	-	-
Existing Debt Service	932,584	932,129	931,659	931,175	930,676
New Debt Service	-	804,126	804,126	804,126	812,856
<b>Total Uses of Funds</b>	<b>\$ 8,355,126</b>	<b>\$ 6,187,095</b>	<b>\$ 6,365,247</b>	<b>\$ 6,600,107</b>	<b>\$ 6,634,478</b>
<b>Ending Balance</b>	<b>1,959,151</b>	<b>2,129,148</b>	<b>2,306,880</b>	<b>2,448,257</b>	<b>2,767,968</b>
<b>Target Ending Balance</b>	<b>\$ 2,350,695</b>	<b>\$ 2,418,211</b>	<b>\$ 2,487,735</b>	<b>\$ 2,692,663</b>	<b>\$ 2,770,386</b>
<b>Debt Service Coverage Calculation</b>					
<b>Rate Covenant Test:</b>					
Total Operating Revenue	4,642,043	5,784,615	6,045,500	6,319,005	6,606,711
Total Operating Expense	3,526,042	3,627,316	3,731,602	4,038,995	4,155,579
Net Operating Revenue Available for Debt Service Coverage Test	1,116,001	2,157,299	2,313,898	2,280,010	2,451,132
Annual Bond Debt Service	932,584	1,736,255	1,735,785	1,735,301	1,743,532
<b>Debt Service Coverage</b>	<b>1.20</b>	<b>1.24</b>	<b>1.33</b>	<b>1.31</b>	<b>1.41</b>
<b>Parity Test:</b>					
Net Operating Revenue Available for Debt Service Coverage Test	1,116,001	2,157,299	2,313,898	2,280,010	2,451,132
Maximum Annual Bond Debt Service	932,584	1,736,255	1,735,785	1,735,301	1,743,532
<b>Debt Service Coverage</b>	<b>1.20</b>	<b>1.24</b>	<b>1.33</b>	<b>1.31</b>	<b>1.41</b>
<b>31310 - Replacement Reserve - Water&amp;Adm</b>					
Beginning Balance	-	-	2,503,129	2,509,395	2,515,676
<b>Sources of Funds</b>					
Operating Revenue	-	-	-	-	-
Non Operating Revenue	-	-	-	-	-
Transfer In	-	2,500,000	-	-	-
Interest Earnings	-	3,129	6,266	6,281	6,297
<b>Total Source of Funds</b>	<b>\$ -</b>	<b>\$ 2,503,129</b>	<b>\$ 6,266</b>	<b>\$ 6,281</b>	<b>\$ 6,297</b>
<b>Uses of Funds</b>					
Operation & Maintenance Expense	-	-	-	-	-
Non-Operating Expense	-	-	-	-	-
Minor Capital Outlay	-	-	-	-	-
Transfer Out	-	-	-	-	-
Major Capital Funded with Cash	-	-	-	-	-
<b>Total Uses of Funds</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Ending Balance</b>	<b>-</b>	<b>2,503,129</b>	<b>2,509,395</b>	<b>2,515,676</b>	<b>2,521,973</b>
<b>Target Ending Balance</b>	<b>\$ 5,356,585</b>	<b>\$ 5,671,064</b>	<b>\$ 5,985,543</b>	<b>\$ 6,300,022</b>	<b>\$ 6,614,501</b>

**Phelan Pinon Hills CSD**  
 Pro Forma with Debt Service Coverage and Fund Balance Reconciliation

Line No	2016	2017	2018	2019	2020	
61	<b>31220 - Water Rate Stabilization Fund</b>					
62	Beginning Balance	200,000	200,501	201,003	201,506	202,010
63						
64	<b>Sources of Funds</b>					
65	Operating Revenue	-	-	-	-	-
66	Non Operating Revenue	-	-	-	-	-
67	Transfer In	-	-	-	-	-
68	Interest Earnings	501	502	503	504	506
69	<b>Total Source of Funds</b>	<b>\$ 501</b>	<b>\$ 502</b>	<b>\$ 503</b>	<b>\$ 504</b>	<b>\$ 506</b>
70						
71	<b>Uses of Funds</b>					
72	Operation & Maintenance Expense	-	-	-	-	-
73	Non-Operating Expense	-	-	-	-	-
74	Minor Capital Outlay	-	-	-	-	-
75	Transfer Out	-	-	-	-	-
76	Major Capital Funded with Cash	-	-	-	-	-
77	<b>Total Uses of Funds</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
78						
79	<b>Ending Balance</b>	<b>200,501</b>	<b>201,003</b>	<b>201,506</b>	<b>202,010</b>	<b>202,516</b>
80	<b>Target Ending Balance</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
81						
82	<b>31410 - Disaster Reserve-Water&amp;Adm</b>					
83	Beginning Balance	2,079,783	2,084,989	2,624,400	3,184,521	3,698,936
84						
85	<b>Sources of Funds</b>					
86	Operating Revenue	-	-	-	-	-
87	Non Operating Revenue	-	-	-	-	-
88	Transfer In	-	533,524	552,860	505,810	305,367
89	Interest Earnings	5,206	5,887	7,261	8,604	9,641
90	<b>Total Source of Funds</b>	<b>\$ 5,206</b>	<b>\$ 539,411</b>	<b>\$ 560,121</b>	<b>\$ 514,415</b>	<b>\$ 315,008</b>
91						
92	<b>Uses of Funds</b>					
93	Operation & Maintenance Expense	-	-	-	-	-
94	Non-Operating Expense	-	-	-	-	-
95	Minor Capital Outlay	-	-	-	-	-
96	Transfer Out	-	-	-	-	-
97	Major Capital Funded with Cash	-	-	-	-	-
98	<b>Total Uses of Funds</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
99						
100	<b>Ending Balance</b>	<b>2,084,989</b>	<b>2,624,400</b>	<b>3,184,521</b>	<b>3,698,936</b>	<b>4,013,944</b>
101	<b>Target Ending Balance</b>	<b>\$ 3,819,433</b>	<b>\$ 4,760,933</b>	<b>\$ 5,295,433</b>	<b>\$ 5,677,433</b>	<b>\$ 5,720,433</b>
102						
103	<b>31210 - Debt Service Reserve - CEIDB</b>					
104	Beginning Balance	671,112	672,792	674,476	676,164	677,857
105						
106	<b>Sources of Funds</b>					
107	Operating Revenue	-	-	-	-	-
108	Non Operating Revenue	-	-	-	-	-
109	Transfer In	-	-	-	-	-
110	Interest Earnings	1,680	1,684	1,688	1,693	1,697
111	<b>Total Source of Funds</b>	<b>\$ 1,680</b>	<b>\$ 1,684</b>	<b>\$ 1,688</b>	<b>\$ 1,693</b>	<b>\$ 1,697</b>
112						
113	<b>Uses of Funds</b>					
114	Operation & Maintenance Expense	-	-	-	-	-
115	Non-Operating Expense	-	-	-	-	-
116	Minor Capital Outlay	-	-	-	-	-
117	Transfer Out	-	-	-	-	-
118	Major Capital Funded with Cash	-	-	-	-	-
119	<b>Total Uses of Funds</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
120						
121	<b>Ending Balance</b>	<b>672,792</b>	<b>674,476</b>	<b>676,164</b>	<b>677,857</b>	<b>679,554</b>
122	<b>Target Ending Balance</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

**Phelan Pinon Hills CSD**  
Beginning Fund Balance Reconciliation

BEGINNING BALANCES						
Line No:		31110 - Operating Reserve - Water&Adm	31310 - Replacement Reserve - Water&Adm	31220 - Water Rate Stabilization Fund	31410 - Disaster Reserve- Water&Adm	31210 - Debt Service Reserve - CEIDB
1	<b>Current Assets</b>					
2	<b>11 - Cash</b>					
3	11000 - Cash in Bank	\$ 624,471	\$ -	\$ 200,000	\$ 2,079,783	\$ 671,112
4	11201 - Cash-Operating Reserves	929,340				
5	11202 - Cash-Replacement Reserves	3,127,627	<-- move to own fund			
6	11203 - Cash-Disaster Reserves	2,079,783	<-- move to own fund			
7	11204 - Cash-Debt Service	671,112	<-- move to own fund			
8	11400 - Rate Stabilization Cash Fund	200,000	<-- move to own fund			
9	11510 - LAIF - Net Incr/Decr Fair Value	106				
10						
11	<b>12 - Accounts Receivable</b>					
12	12010 - Accounts Receivable - Water	844,236				
13	12150 - A/R - Accrual	1,640				
14	12610 - Delinquent Accounts to Tax Roll	38,071				
15	12620 - Delinquent Accounts to Tax Roll - 70 L	4,525				
16	12630 - Water Availability Receivable - WC13	75,679				
17	12640 - Water Availability Receivable - UD60	10,704				
18	12710 - Tax Receivable - CSA 70L	5,047				
19	12740 - Tax Receivable - PPHCSD	(12,420)				
20	12910 - Accrued Interest Receivable-GF	200				
21						
22	<b>13 - Inventory</b>					
23	13010 - Inventory - Water Field Parts	131,547				
24						
25	<b>14 - Other Current Assets</b>					
26	14100 - Prepaid Expense	94,408				
27	14120 - Prepaid - Worker's Comp	30,988				
28	14130 - Pre Paid Benefit	30,960				
29						
30	<b>Total Current Assets</b>	<b>\$ 8,888,025</b>	<b>\$ -</b>	<b>\$ 200,000</b>	<b>\$ 2,079,783</b>	<b>\$ 671,112</b>
31	<b>Checkfigure</b>	<b>\$ 8,888,025</b>				
32						
33						
34	<b>Current Liabilities</b>					
35	<b>21 - Accounts Payable</b>					
36	21100 - Accounts Payable - Trade	\$ 268,232				
37	21120 - Retentions Payable	191,247				
38	21150 - Accounts Payable - Unclaimed Property	403				
39						
40						
41	<b>22 - Accrued Payable</b>					
42	22140 - Accrued Payable	16,264				
43	22150 - Accrued Interest Payable	172,788				
44	22210 - Deferred Revenue	25,217				
45						
46						
47	<b>23 - Deposit</b>					
48	23320 - Customer Deposit - Meter	1,500				
49	23330 - Customer Deposit - Maint. Bond	1,800				
50						
51						
52	<b>24 - Payroll Liability</b>					
53	24410 - Accrued Payroll	17,192				
54	24510 - Payroll Tax Payable	10,825				
55	24520 - Garnishment Payable	59				
56	24530 - Retirement W/H Payable	6,793				
57	24535 - Retirement W/H Payable-Prior	23,564				
58	24550 - Aflac W/H Payable	102				
59	24560 - Retirement 457 W/H Payable	648				
60	24650 - Current P- Compensated absences	44,194				
61						
62						
63						
64	<b>25 - 25100 - AP Loan - Misc</b>	-				
65						

**Phelan Pinon Hills CSD**  
Beginning Fund Balance Reconciliation

BEGINNING BALANCES						
Line No:		31110 - Operating Reserve - Water&Adm	31310 - Replacement Reserve - Water&Adm	31220 - Water Rate Stabilization Fund	31410 - Disaster Reserve- Water&Adm	31210 - Debt Service Reserve - CEIDB
66	Total Current Liabilities	\$ 780,826	\$ -	\$ -	\$ -	\$ -
67	<b>Checkfigure</b>	<b>\$ 780,826</b>				
68						
69	<b>Adjustments by JV:</b>					
70	<b>Removal of Non Cash Items:</b>					
71	13010 - Inventory - Water Field Parts	\$ (131,547)				
72						
73	<b>Transfer of Fund Balance to Individual Funds in Model:</b>					
74	31210 - Debt Service Reserve - CEIDB	(671,112)				
75	31220 - Water Rate Stabilization Fund	(200,000)				
76	31310 - Replacement Reserve - Water&Adm	-				
77	31410 - Disaster Reserve-Water&Adm	(2,079,783)				
78						
79	Net Adjustments	\$ (3,082,442)	\$ -	\$ -	\$ -	\$ -
80						
81	<b>Net Beginning Balances (Curr Assets less Current Liabilities - with Adjustments)</b>	<b>\$ 5,024,756</b>	<b>\$ -</b>	<b>\$ 200,000</b>	<b>\$ 2,079,783</b>	<b>\$ 671,112</b>

Phelan Pinon Hills CSD  
Revenue

1	Applicable Fund	Account Number	Code	Description	2016	2017	2018	2019	2020
2				<b>3110 - Operating Reserve - Water&amp;Adm</b>					
3			RR1 - BEFORE GROWTH AND RATE INCR	Total WATER CONSUMPTION	\$ 1,767,130	\$ 2,420,969	\$ 2,542,017	\$ 2,669,118	\$ 2,802,574
4			RR1 - Growth	Growth	0.00%	0.00%	0.00%	0.00%	0.00%
5			RR1 - After Growth Before Rate Incr.	Total WATER CONSUMPTION - After (	\$ 1,767,130	\$ 2,420,969	\$ 2,542,017	\$ 2,669,118	\$ 2,802,574
6				Revenue Increase	37.00%	5.00%	5.00%	5.00%	5.00%
7				Pct of Year Revenue Increase Effective	33.00%	100.00%	100.00%	100.00%	100.00%
8	1		RR1	Total Total WATER CONSUMPTION -	\$ 1,982,897	\$ 2,542,017	\$ 2,669,118	\$ 2,802,574	\$ 2,942,703
9									
10			RR2 - BEFORE GROWTH AND RATE INCR	Total WATER METER CHARGE	\$ 1,854,540	\$ 2,541,000	\$ 2,668,000	\$ 2,801,000	\$ 2,941,000
11			RR2 - Growth	Growth	0.00%	0.00%	0.00%	0.00%	0.00%
12			RR2 - After Growth Before Rate Incr.	Total WATER METER CHARGE - After	\$ 1,854,540	\$ 2,541,000	\$ 2,668,000	\$ 2,801,000	\$ 2,941,000
13				Revenue Increase	37.00%	5.00%	5.00%	5.00%	5.00%
14				Pct of Year Revenue Increase Effective	33.00%	100.00%	100.00%	100.00%	100.00%
15	1		RR2	Total Total WATER METER CHARGE -	\$ 2,080,979	\$ 2,668,050	\$ 2,801,400	\$ 2,941,050	\$ 3,088,050
16									
17									
18									
19				<b>Full Revenue Budget - by Line Item</b>					
20		40010	See RR1 Detailed Cales Above	<b>WATER CONSUMPTION</b>					
21		40020	See RR1 Detailed Cales Above	Water Sales - Residential - C	\$ 1,643,219				
22		40030	See RR1 Detailed Cales Above	Water Sales - Commercial - C	5,218				
23		40060	See RR1 Detailed Cales Above	Water Sales - Fire Protection-C	811				
24		40070	See RR1 Detailed Cales Above	Water Sales - Multiple Res - C	2,540				
25		40090	See RR1 Detailed Cales Above	Water Sales - School - C	97,458				
26		40110	See RR1 Detailed Cales Above	Water Sales - Construction - C	17,884				
27				Water Sales - Adjustment - Wtr	-				
28				<b>Total Water Consumption Revenue</b>	<b>\$ 1,767,130</b>				
29				Target	1,767,130				
30									
31		41010	See RR2 Detailed Cales Above	<b>WATER METER CHARGE</b>					
32		41020	See RR2 Detailed Cales Above	Water Sales - Residential - M	\$ 1,822,302				
33		41030	See RR2 Detailed Cales Above	Water Sales - Commercial - M	8,221				
34		41060	See RR2 Detailed Cales Above	Water Sales - Fire Protection-M	682				
35		41070	See RR2 Detailed Cales Above	Water Sales - Multiple Res - M	1,839				
36		41090	See RR2 Detailed Cales Above	Water Sales - School - M	16,612				
37				Water Sales - Construction - M	4,885				
38				<b>Total Water Meter Charge Revenue</b>	<b>\$ 1,854,540</b>				
39				Target	1,854,540				
40									
41				<b>Total WATER SALES</b>	<b>3,621,670</b>				
42				Target	3,621,670				
43									
44									
45									
46	1	74110	OR	Special Assessments	300,000	300,000	300,000	300,000	300,000
47	1	47600	OR	Park & Recreation Fee	-	-	-	-	-
48	1	48200	OR	Other Services Incomes	78,276	78,276	78,276	78,276	78,276
49	1	48700	OR	Administrative Fees	10,970	10,970	10,970	10,970	10,970
50	1	71110	OR	Property Taxes - Curr Sec	-	-	-	-	-
51	1	71120	OR	Property Taxes - Curr Unsec	-	-	-	-	-
52	1	71130	OR	Property Taxes - Curr Supplimen	-	-	-	-	-
53	1	71140	OR	Property Taxes - Curr Unitary	-	-	-	-	-
54	1	71150	OR	Property Taxes - Curr Other	-	-	-	-	-
55	1	71151	TRIN	Property Taxes	647,478	572,478	497,478	422,478	347,478
56	1	72110	OR	Property Taxes - Prior Sec	-	-	-	-	-
57	1	72120	OR	Property Taxes - Prior Unsec	-	-	-	-	-
58	1	72130	OR	Property Taxes - Prior Supplimm	-	-	-	-	-
59	1	72150	OR	Property Taxes - Prior Other	-	-	-	-	-
60	1	73160	OR	Property Taxes - Homeowner	-	-	-	-	-
61	1	73170	OR	Tax Penalties & Others	-	-	-	-	-
62	1	86120	OR	Penalties & Other Fees	97,743	97,743	97,743	97,743	97,743
63		76100	NA	Solid Waste Franchise Fee	-	-	-	-	-
64	1	45300	OR	Meter Installation	8,594	8,594	8,594	8,594	8,594
65	1	45400	OR	Permits & Inspections	3,081	3,081	3,081	3,081	3,081
66	1	45500	OR	Connection Fee	60,228	60,228	60,228	60,228	60,228
67		88110	NA - MODEL CALCS	Interest Income	34,084	34,084	34,084	34,084	34,084
68	1	88120	OR	Other Income - Water Other	10,546	10,546	10,546	10,546	10,546
69	1	88150	OR	Other Income - County	-	-	-	-	-
70									
71									
72				<b>JV CALCULATION OF RESERVE MAINTENANCE, FUNDING, REPLINISHMENT:</b>					
73				<b>31310 - Replacement Reserve - Water&amp;Adm</b>					
74				Accumulated Depreciation	\$ 20,168,425	\$ 21,426,341	\$ 22,684,257	\$ 23,942,174	\$ 25,200,090
75				Additional Annual Accumulated Depreciat	1,257,916	1,257,916	1,257,916	1,257,916	1,257,916
76				Total Projected Accumulated Depreciation	\$ 21,426,341	\$ 22,684,257	\$ 23,942,174	\$ 25,200,090	\$ 26,458,006
77				Reserve Target %	0%	0%	0%	0%	0%
78				Target	\$ -	\$ -	\$ -	\$ -	\$ -
79	2		TRIN	Fund Balance at Beg. of Year	-	-	2,503,129	2,509,395	2,515,676
80				Additional Contribution Required	\$ -	\$ -	\$ -	\$ -	\$ -



1	Applicable Fund	Account Number	Code	Description	2016	2017	2018	2019	2020
81	2		TRIN	Bond Funded Payback of Loan from Replacement Reserve to Fund Purchased Water Rights		\$ 2,500,000			
83				Projected End of Year Metric	0%	0%	10%	10%	10%
85				<b>31410 - Disaster Reserve-Water&amp;Adm</b>					
86				Total Assets (Excluding Land& Wtr Rts)	\$ 36,797,830	\$ 38,194,330	\$ 47,609,330	\$ 52,954,330	\$ 56,774,330
87				Additional Annual Additional Assets	1,396,500	9,415,000	5,345,000	3,820,000	430,000
88				Total Projected Assets (Excluding Land &	\$ 38,194,330	\$ 47,609,330	\$ 52,954,330	\$ 56,774,330	\$ 57,204,330
89				Reserve Target %	5%	6%	6%	7%	7%
90				Target	\$ 1,909,717	\$ 2,618,513	\$ 3,177,260	\$ 3,690,331	\$ 4,004,303
91				Fund Balance at Beg. Of Year	2,079,783	2,084,989	2,624,400	3,184,521	3,698,936
92	4		TRIN	Additional Contribution Required	\$ -	\$ 533,524	\$ 552,860	\$ 505,810	\$ 305,367
94				Projected End of Year Metric	5%	6%	6%	7%	7%
97				<b>Interest Income Calculation:</b>					
98				<b>31110 - Operating Reserve - Water&amp;Adm</b>					
99				Avg. Annual Balance	\$ 3,491,953	\$ 2,044,150	\$ 2,218,014	\$ 2,377,568	\$ 2,608,112
100				Interest Earnings Assumption	0.25%	0.25%	0.25%	0.25%	0.25%
101	1		INT	Projected Interest Earnings	\$ 8,730	\$ 5,110	\$ 5,545	\$ 5,944	\$ 6,520
105				<b>31310 - Replacement Reserve - Water&amp;Adm</b>					
106				Avg. Annual Balance	\$ -	\$ 1,251,564	\$ 2,506,262	\$ 2,512,535	\$ 2,518,824
107	2		INT	Interest Earnings Assumption	0.25%	0.25%	0.25%	0.25%	0.25%
108				Projected Interest Earnings	\$ -	\$ 3,129	\$ 6,266	\$ 6,281	\$ 6,297
111				<b>31220 - Water Rate Stabilization Fund</b>					
112				Avg. Annual Balance	\$ 200,250	\$ 200,752	\$ 201,254	\$ 201,758	\$ 202,263
113	3		INT	Interest Earnings Assumption	0.25%	0.25%	0.25%	0.25%	0.25%
114				Projected Interest Earnings	\$ 501	\$ 502	\$ 503	\$ 504	\$ 506
117				<b>31410 - Disaster Reserve-Water&amp;Adm</b>					
118				Avg. Annual Balance	\$ 2,082,386	\$ 2,354,694	\$ 2,904,460	\$ 3,441,728	\$ 3,856,440
119	4		INT	Interest Earnings Assumption	0.25%	0.25%	0.25%	0.25%	0.25%
120				Projected Interest Earnings	\$ 5,206	\$ 5,887	\$ 7,261	\$ 8,604	\$ 9,641
123				<b>31210 - Debt Service Reserve - CEIDB</b>					
124				Avg. Annual Balance	\$ 671,952	\$ 673,634	\$ 675,320	\$ 677,011	\$ 678,705
125				Interest Earnings Assumption	0.25%	0.25%	0.25%	0.25%	0.25%
126	5		INT	Projected Interest Earnings	\$ 1,680	\$ 1,684	\$ 1,688	\$ 1,693	\$ 1,697

FUND #	Account Number	Cost Escalation Factor Code	Expense Code	Annual Expense Escalation Factor	EXPENSES	2016	2017	2018	2019	2020	
1	31110	Operating Reserve - Water&Amd									
<b>NO HIGHLIGHT</b>											
Detailed Expenses from FY 16 Budget											
<b>SALARIES &amp; BENEFIT</b>											
1	51110	Personnel	OM	3.0%	Salaries & Wages	1,078,296	1,110,645	1,143,964	1,178,283	1,213,631	
1	51120	Personnel	OM	3.0%	Vacations	69,157	71,231	73,368	75,569	77,836	
1	51130	Personnel	OM	3.0%	Holiday	52,399	53,970	55,589	57,257	58,975	
1	51140	Personnel	OM	3.0%	Sick Pay	57,162	58,877	60,643	62,462	64,336	
1	51150	Personnel	OM	3.0%	Misc Earn	48,130	49,574	51,061	52,593	54,171	
1	51170	Personnel	OM	3.0%	Overtime	52,176	53,741	55,353	57,014	58,724	
1	51210	Personnel	OM	3.0%	Payroll Taxes	35,002	36,052	37,134	38,248	39,395	
1	51220	Personnel	OM	3.0%	Worker's Compensation	37,647	38,776	39,939	41,137	42,371	
1	51230	Personnel	OM	3.0%	Employee Group Insurance	258,854	266,619	274,618	282,857	291,343	
1	51240	Personnel	OM	3.0%	Retirement	201,741	207,793	214,027	220,448	227,061	
<b>TOTAL - SALARIES &amp; BENEFIT</b>						<b>1,890,563</b>	<b>1,947,278</b>	<b>2,005,696</b>	<b>2,065,868</b>	<b>2,127,843</b>	
<b>TARGET</b>						<b>1,890,563</b>					
<b>VARIANCE</b>						<b>-</b>					
<b>BOARD COMPENSATIONS</b>											
1	52110	Personnel	OM	3.0%	Board Director's Fee	33,440	34,443	35,476	36,540	37,636	
1	52210	Operating	OM	2.5%	Board Exp - Auto Expense	2,466	2,528	2,591	2,656	2,722	
1	52220	Operating	OM	2.5%	Board Exp - Meals & Lodging	19,210	19,690	20,182	20,687	21,204	
1	52230	Operating	OM	2.5%	Board Exp - Education/Training	5,622	5,762	5,906	6,054	6,205	
1	52240	Operating	OM	2.5%	Board Exp - Insurance & Other Exp	28,216	28,921	29,644	30,385	31,145	
<b>TOTAL - BOARD COMPENSATIONS</b>						<b>88,953</b>	<b>91,344</b>	<b>93,799</b>	<b>96,322</b>	<b>98,912</b>	
<b>TARGET</b>						<b>88,953</b>					
<b>VARIANCE</b>						<b>-</b>					
<b>PROFESSIONAL FEE</b>											
1	53110	Operating	OM	2.5%	Auditing & Accounting Fees	25,904	26,552	27,216	27,896	28,593	
1	53120	Operating	OM	2.5%	Legal Services	31,938	32,737	33,555	34,394	35,254	
1	53130	Operating	OM	2.5%	Engineering	21,896	22,444	23,005	23,580	24,170	
1	53140	Operating	OM	2.5%	Laboratory Analysis	28,579	29,293	30,025	30,776	31,545	
1	53150	Operating	OM	2.5%	Outside Service	135,937	139,336	142,819	146,389	150,049	
1	53160	Operating	OM	2.5%	Permits & Fees	8,936	9,159	9,388	9,623	9,864	
1	53170	Operating	OM	2.5%	Software Support	58,390	59,849	61,345	62,879	64,451	
<b>TOTAL - PROFESSIONAL FEE</b>						<b>311,580</b>	<b>319,370</b>	<b>327,353</b>	<b>335,537</b>	<b>343,926</b>	
<b>TARGET</b>						<b>311,580</b>					
<b>VARIANCE</b>						<b>-</b>					
<b>SERVICE AND SUPPLIES</b>											
1	54110	Operating	OM	2.5%	Advertising	1,560	1,599	1,639	1,680	1,722	
1	54140	Operating	OM	2.5%	Auto Expense	3,645	3,736	3,829	3,925	4,023	
1	54170	Operating	OM	2.5%	Auto Allowance	7,800	7,995	8,195	8,400	8,610	
1	54200	Operating	OM	2.5%	Credit Card Fee & Bank Charges	37,955	38,904	39,877	40,874	41,896	
1	54230	Operating	OM	2.5%	Dues & Subscriptions	25,042	25,668	26,310	26,968	27,642	
1	54260	Operating	OM	2.5%	Education & Training	35,632	36,523	37,436	38,372	39,331	
1	54290	Operating	OM	2.5%	Employment Expense	2,217	2,272	2,329	2,387	2,447	
1	57110	Operating	OM	2.5%	Equipment Rental/ Lease	7,643	7,834	8,030	8,231	8,437	
1	54320	Operating	OM	2.5%	General Maintenance	4,288	4,395	4,505	4,618	4,733	
1	54350	Operating	OM	2.5%	Insurance	74,469	76,331	78,239	80,195	82,200	
1	54380	Operating	OM	2.5%	Insurance - Vehicle	14,628	14,994	15,369	15,753	16,147	
1	54410	Operating	OM	2.5%	Fuel Costs	56,965	58,389	59,849	61,345	62,879	
1	54440	Operating	OM	2.5%	Meeting, Seminar & Supplies	9,751	9,995	10,245	10,501	10,764	
1	54470	Operating	OM	2.5%	Travel Expense	18,536	18,999	19,474	19,961	20,460	
1	54500	Operating	OM	2.5%	Operating Supplies	49,741	50,985	52,260	53,567	54,906	
1	54530	Operating	OM	2.5%	Office Supplies	31,672	32,463	33,275	34,107	34,960	
1	54620	Operating	OM	2.5%	Repair & Maintenance	292,598	299,913	307,411	315,096	322,973	
1	54650	Operating	OM	2.5%	Small Tools	14,306	14,663	15,030	15,406	15,791	
1	54680	Operating	OM	2.5%	Uniforms	8,483	8,695	8,912	9,135	9,363	
1	54710	Operating	OM	2.5%	Vehicle Maintenance	36,998	37,923	38,871	39,843	40,839	
1	54740	Operating	OM	2.5%	Easement Lease	1,218	1,248	1,279	1,311	1,344	
1	54800	Operating	OM	2.5%	Programs (Wtr Cons, parks,etc)	25,613	26,254	26,910	27,583	28,273	
1	54801	Operating	OM	2.5%	Senior Lunch Program	-	-	-	-	-	
1	54802	Operating	OM	2.5%	Farmers Market	-	-	-	-	-	
1	54830	Operating	OM	2.5%	State & County Fees & Services	14,658	15,025	15,401	15,786	16,181	
1	54860	Operating	OM	2.5%	Postage & Mailing	22,140	22,694	23,261	23,843	24,439	
1	54890	Operating	OM	2.5%	Printing	30,975	31,749	32,543	33,357	34,191	
1	54920	Operating	OM	2.5%	Public Relation	9,662	9,904	10,152	10,406	10,666	
<b>TOTAL - SERVICE AND SUPPLIES</b>						<b>838,196</b>	<b>859,150</b>	<b>880,631</b>	<b>902,650</b>	<b>925,217</b>	
<b>TARGET</b>						<b>838,196</b>					
<b>VARIANCE</b>						<b>-</b>					
<b>UTILITIES - Electric/Phone/Gas</b>											
1	58010	Operating	OM	2.5%	Telephone	17,587	18,027	18,478	18,940	19,414	
1	58110	Operating	OM	4.0%	Utilities - Operations	640,571	666,194	692,842	720,556	749,378	
1	58115	Operating	OM	2.5%	Utilities - Solar Credit	(384,174)	(399,882)	(416,177)	(433,082)	(450,620)	
1	58111	Operating	OM	2.5%	Utilities - Street Lights	-	-	-	-	-	
<b>TOTAL - UTILITIES - Electric/Phone/Gas</b>						<b>273,985</b>	<b>284,339</b>	<b>295,143</b>	<b>306,414</b>	<b>318,172</b>	
<b>TARGET</b>						<b>343,607</b>					
<b>VARIANCE</b>						<b>(69,622)</b>					
Variance is difference between Budgeted Solar Credits and Updated Solar Credits per Lori Email of 10.12.15											
<b>OTHER- Depreciation/Amort, etc.</b>											
1	59310	Operating	OM	2.5%	Bad Debt	7,348	7,532	7,720	7,913	8,111	
1	59110	Operating	OM	2.5%	Property Taxes	168	172	176	180	185	
Depreciation & Amortization						1,277,058					
Pct of Depr. Funded (remaining 40% stays in Ops Fund)						60%					
1	59120	Transfers	TROUT	2.5%	Depreciation & Amortization	766,235	THIS GETS REPLACED WITH CASH FUNDED CAPITAL BELOW				
IN FY 16, we are funding \$1.271 M of capital with cash which more than meets this requirement - in subsequent years the CIP does not have enough projects to spend this money											
1	59310	Operating	OM	2.5%	Other Operating Expenses	50	51	52	53	54	
<b>TOTAL - OTHER- Depreciation/Amort, etc.</b>						<b>773,801</b>	<b>7,755</b>	<b>7,948</b>	<b>8,146</b>	<b>8,350</b>	
<b>TARGET</b>						<b>1,284,624</b>					
<b>VARIANCE</b>						<b>(510,823)</b>					
This is the result of funding 60% of the budgeted depreciation amount per policy - this amount stays in ops fund as balance											
<b>Other Expense</b>											
NA - CAPTURED IN JV DEBT SERVICE BEL. Interest Expense						414,198	414,198	414,198	414,198	414,198	
NA - CAPTURED IN JV DEBT SERVICE BEL. Loan Administrator Fee						28,685	28,685	28,685	28,685	28,685	
1	93010	Personnel	OM	3.0%	Tax Deduction	-	-	-	-	-	
Net Incr/Decr in Fair Value						113	113	113	113	113	

	FUND #	Account Number	Cost Escalation Factor Code	Expense Code	Annual Expense Escalation Factor	EXPENSES	2016	2017	2018	2019	2020	
108						TOTAL - Other Expense	442,996	442,996	442,996	442,996	442,996	
109						TARGET	442,996					
110						VARIANCE	-					
113	1	51110	Personnel	OM	3.0%	Chromium 6 O&M				200,000	206,000	
116						Debt Service per Loan Docs by JV						
117						2015 CalTrans Loan						
118	1	91010	BOND DS-EXIST			Total P&I&F&ee	26,462	26,462	26,462	26,462	26,462	
121	1	91010	BOND DS-EXIST			2002 I-Bank Loan Total P&I&F&ee	198,470	198,151	197,820	197,477	197,123	
124	1	91010	BOND DS-EXIST			2012 I-Bank Loan Total P&I&F&ee	350,061	349,925	349,787	349,645	349,500	
127	1	91010	BOND DS-EXIST			2014 Muni Loan Total P&I&F&ee	357,591	357,591	357,591	357,591	357,591	
129						Total Debt Service	932,584	932,129	931,659	931,175	930,676	
131	1	91010	New Bond Debt Service	OND DS-NE	0.0%	New Debt Service	-	804,126	804,126	804,126	812,856	
133						CIP Funding from Ops - JV Calcs:						
134						CAPITAL PROJECT DIRECTLY FUNDED WITH CASH	1,396,500	290,000	345,000	320,000	430,000	
135						Less: Amount Set Aside in Ops Budget for Depreciation	(766,235)					
136	1		TROUT			Additional Funding Required From Ops Fund	630,265	290,000	345,000	320,000	430,000	
139	1		TROUT			Transfer Out to Replacement Fund to Maintain, Replenish Reserves	-	-	-	-	-	
141	1		TROUT			Transfer Out to Disaster Fund to Maintain, Replenish Reserves	-	533,524	552,860	505,810	305,367	
143	1		Operating	OM	2.5%	Drought Programs	115,200	118,080	121,032	124,058	127,159	
144						Additional Cost for Drought Programs already in budget	325,800					
144							441,000					
149	2	31310 - Replacement Reserve - Water&Adm										
150	1		Operating	TROUT	2.5%	Purchase of Water Rights for Chrom. 6 Project (per Staff Conf Call 10.02)	2,500,000	CAME OUT IN 2016, GETS PAID BACK IN 2017				
154	3	31220 - Water Rate Stabilization Fund										
155	3		Operating	OM	2.5%	Operating						
157	4	31410 - Disaster Reserve-Water&Adm										
158	4		Operating	OM	2.5%	Operating						
160	5	31210 - Debt Service Reserve - CEIDB										
161	5		Operating	OM	2.5%	Operating						

Phelan Pinon Hills CSD

CIP

Funding Sources							Capital Cost Escalation Factor					
							3.0%					
Line No:	Fund Directly with Cash?	31210 - Debt Service Reserve - CEIDB	31410 - Disaster Reserve - Water&Adm	31220 - Water Rate Stabilization Fund	31310 - Replacement Reserve - Water&Adm	31110 - Operating Reserve - Water&Adm	Description	2016	2017	2018	2019	2020
1							<b>Capital Projects</b>					
2												
3							<b>Additional Water Supply (Well 9A Replacement, proposed 9C)</b>					
4	Y	0%	0%	0%	100%	0%	Study	-	-	-	-	-
5	Y	0%	0%	0%	100%	0%	Design / Engineering	-	-	-	-	-
6	Y	0%	0%	0%	100%	0%	Drilling / Housing / Plumbing / Electrical	-	-	-	-	-
7												
8							<b>Site 6A - New (0.6 MG)</b>					
9	Y	0%	0%	0%	100%	0%	Land Acquisition	-	-	-	-	50,000
10												
11							<b>3C Booster A 350HP &amp; B 350HP Upsize</b>					
12	Y	0%	0%	0%	100%	0%	Design / Engineering	-	15,000	-	-	-
13	Y	0%	0%	0%	100%	0%	Construction	-	-	65,000	-	-
14	Y	0%	0%	0%	100%	0%	Electrical	-	-	5,000	-	-
15												
16							<b>SCADA site upgrade</b>					
17	Y	0%	0%	0%	100%	0%	Construction	-	-	-	-	-
18												
19							<b>Site 2B Boosters Upgrade (New Building, piping, electrical)</b>					
20	Y	0%	0%	0%	100%	0%	Design / Engineering	-	-	-	-	-
21	Y	0%	0%	0%	100%	0%	Housing	-	-	-	-	-
22	Y	0%	0%	0%	100%	0%	Electrical	-	-	-	-	-
23												
24							<b>Site 4C - New (1.3 MG)</b>					
25	Y	0%	0%	0%	100%	0%	Design / Engineering	-	-	-	-	-
26	Y	0%	0%	0%	100%	0%	Construction	-	-	-	-	-
26												
26							<b>Site 5B - New (1.2 MG)</b>					
26	Y	0%	0%	0%	100%	0%	Design / Engineering	-	-	-	-	-
26	Y	0%	0%	0%	100%	0%	Construction	-	-	-	-	-
26												
26							<b>Site 6A - New (0.6 MG)</b>					
26	Y	0%	0%	0%	100%	0%	Design / Engineering	-	-	-	-	-
26	Y	0%	0%	0%	100%	0%	Construction	-	-	-	-	-
26												
26							<b>Site 7B - New (0.3 MG)</b>					
26	Y	0%	0%	0%	100%	0%	Design / Engineering	-	-	-	-	-
26	Y	0%	0%	0%	100%	0%	Construction	-	-	-	-	-
26												
26							<b>Site 3C - New (1.7 MG)</b>					
26	Y	0%	0%	0%	100%	0%	Design / Engineering	-	-	-	-	-
26	Y	0%	0%	0%	100%	0%	Construction	-	-	-	-	-
26												
26												
26							<b>L1 - Additional Booster (Plumbing Req.)</b>					

Phelan Pinon Hills CSD  
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Funding Sources							Capital Cost Escalation Factor	3.0%					
Line No:	Fund Directly with Cash?	31210 - Debt Service Reserve - CEIDB	31410 - Disaster Reserve - Water&Adm	31220 - Water Rate Stabilization Fund	31310 - Replacement Reserve - Water&Adm	31110 - Operating Reserve - Water&Adm	Description	2016	2017	2018	2019	2020	
26	Y	0%	0%	0%	100%	0%	Design / Engineering	-	-	-	-	-	
26	Y	0%	0%	0%	100%	0%	Construction	-	-	-	-	-	
26	Y	0%	0%	0%	100%	0%	Electrical	-	-	-	-	-	
26	Y	0%	0%	0%	100%	0%	SCADA	-	-	-	-	-	
26							<b>Smithson Springs Canyon Tank and Pipeline</b>						
26	Y	0%	0%	0%	100%	0%	Topo / Survey	-	-	-	-	-	
26	Y	0%	0%	0%	100%	0%	Study / Design	20,000	-	-	-	-	
26	Y	0%	0%	0%	100%	0%	Construction	-	25,000	-	-	-	
26							<b>Dairy Wells Pipeline Project (pipeline, reservoir, booster station)</b>						
26													
26	Y	0%	0%	0%	0%	100%	Study / Design	125,000	-	-	-	-	
26	N	0%	0%	0%	0%	0%	Construction	-	6,625,000	5,000,000	3,500,000	-	
26	N	0%	0%	0%	0%	0%	JV ADDED PER STAFF SUGGESTION THAT BOND ISSUE PAY BACK	-	2,500,000	-	-	-	
26							<b>Future Sites</b>						
26	Y	0%	0%	0%	100%	0%	Purchase	25,000	-	-	-	-	
26							<b>Administration Building &amp; Gymnasium (APN 3066-251-01, 9535 Sheep Creek Road)</b>						
26	Y	0%	0%	0%	100%	0%	Design / Engineering / County Fees / Construction	-	-	-	100,000	100,000	
26							<b>Adjudication</b>						
26	Y	0%	0%	0%	100%	0%	Cost	300,000	-	-	-	-	
26							<b>Solar</b>						
26	Y	0%	0%	0%	100%	0%	District's Contribution	75,000	-	-	-	-	
26							<b>Engineering Department</b>						
26	Y	0%	0%	0%	100%	0%	GIS Contract Services	51,500	-	-	-	-	
26							<b>Urban Water Management Plan</b>						
26	Y	0%	0%	0%	100%	0%	Update	10,000	-	-	-	-	
26							<b>Water Master Plan</b>						
26	Y	0%	0%	0%	100%	0%	Update	-	-	-	-	-	
26							<b>Tank Rehab-10 Year Contract (includes contract and parts and CSD labor)</b>						
26	Y	0%	0%	0%	100%	0%	Maintenance	45,000	45,000	45,000	45,000	45,000	
26							<b>Level Control/Pump Control/High Pressure Blow-off Control Valves / PRV Station Maintenance. Well #14 PRV (164 valves total each year)</b>						
26	Y	0%	0%	0%	100%	0%	Maintenance	20,000	20,000	20,000	20,000	20,000	
26							<b>Well 6A, 1B &amp; 2A Rehabilitation . (one well every 4th year after)</b>						
26	Y	0%	0%	0%	100%	0%	Rehabilitation / Maintenance	100,000	-	150,000	-	150,000	

Phelan Pinon Hills CSD  
CIP

Funding Sources							Capital Cost Escalation Factor	3.0%				
Line No:	Fund Directly with Cash?	31210 - Debt Service Reserve - CEIDB	31410 - Disaster Reserve - Water&Adm	31220 - Water Rate Stabilization Fund	31310 - Replacement Reserve - Water&Adm	31110 - Operating Reserve - Water&Adm	Description	2016	2017	2018	2019	2020
26							<b>Booster Rehab (5 boosters each year)</b>					
26	Y	0%	0%	0%	100%	0%	Rehabilitation	50,000	50,000	50,000	50,000	50,000
26							<b>Exterior Tank Blast and Paint (23 Total - 5 each year)</b>					
26	Y	0%	0%	0%	100%	0%	Blast and Paint	-	95,000	-	95,000	-
26							<b>SCADA site Upgrade (2 sites each year)</b>					
26	Y	0%	0%	0%	100%	0%	Maintenance	565,000	30,000	-	-	5,000
26							<b>PRV (Emergency By-Pass) Rebuilt (14 total - 14 replacements for the 1st year, maintenance on the 14 PRV each year after)</b>					
26	Y	0%	0%	0%	100%	0%	Rebuilds / Replace	10,000	10,000	10,000	10,000	10,000
26							<b>(4) 1.0 MG Tank Interior Coatings (Reservoirs 1A-3, 2A-2, 2C-2 &amp; 1B; 1st tank rehab in 2021/2022)</b>					
26	Y	0%	0%	0%	100%	0%	Blast and Paint	-	-	-	-	-
26							<b>Total</b>	\$ 1,396,500	\$ 9,415,000	\$ 5,345,000	\$ 3,820,000	\$ 430,000
26							<b>Less: Projects Directly Funded with Cash</b>	\$ (1,396,500)	\$ (290,000)	\$ (345,000)	\$ (320,000)	\$ (430,000)
26							<b>Net to be Funded</b>	\$ -	\$ 9,125,000	\$ 5,000,000	\$ 3,500,000	\$ -
26							<b>Pct of CIP</b>	100%	100%	100%	100%	100%
26							<b>Total Prioritized CIP (incl. Cost Esc.)</b>	\$ -	\$ 9,407,450	\$ 5,325,511	\$ 3,854,217	\$ 53,969

**Phelan Pinon Hills CSD**  
CIP Funding

Line No:		2016	2017	2018	2019	2020	2021
	<b>Capital Project Costs (Excludes Projects</b>						
1	<b>Directly Funded with Cash)</b>	\$ -	\$ 9,407,450	\$ 5,325,511	\$ 3,854,217	\$ 53,969	\$ 69,874
2							
3							
4	<b>Funding Sources</b>						
20	31210 - Debt Service Reserve - CEIDB	-	-	-	-	-	-
21	31410 - Disaster Reserve-Water&Adm	-	-	-	-	-	-
22	31220 - Water Rate Stabilization Fund	-	-	-	-	-	-
23	31310 - Replacement Reserve - Water&Adm	-	-	-	-	-	-
24	31110 - Operating Reserve - Water&Adm	-	-	-	-	-	-
25	New Debt	-	9,407,450	5,325,511	3,854,217	53,969	69,874
26	New SRF	-	-	-	-	-	-
27							
28	<b>Total Project Funding</b>	\$ -	\$ 9,407,450	\$ 5,325,511	\$ 3,854,217	\$ 53,969	\$ 69,874
29	<b>Variance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -