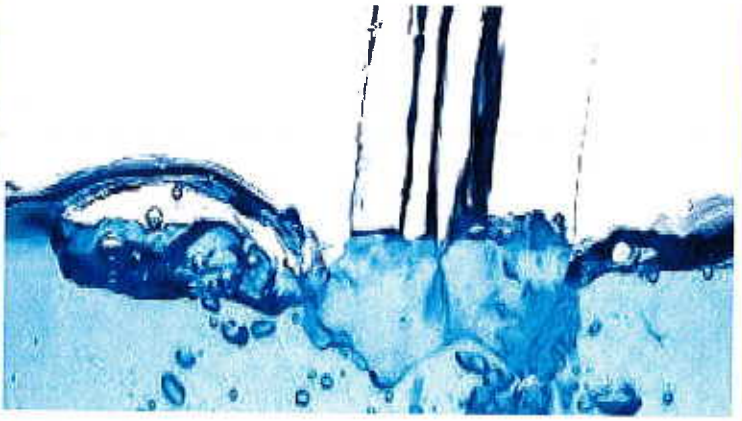
DRAFT REPORT



City of Reedley
Water Rate Study
May 2016

HDR

May 19, 2016

Mr. Russ Robertson
Public Works Director
City of Reedley
1733 Ninth Street
Reedley, CA 93654

Subject: Comprehensive Water Rate Study Draft Report

Dear Mr. Robertson:

HDR Engineering, Inc. (HDR) is pleased to present to the City of Reedley (City) the draft report for the 2016 comprehensive water rate study. The City's comprehensive water rate study was developed to provide a financial plan and rates that generate sufficient revenue to fund the operating and capital needs as well as result in cost-based and equitable rates for the City's customers. This report outlines the overall approach used to achieve these objectives, along with our findings, conclusions and recommendations.

The City owns and operates a water supply, transmission, and distribution system. The costs associated with developing the water supply, treating water, and distributing water to customers has been developed based on City provided adopted budgets and included within the development of the proposed water rates.

This study was developed utilizing industry recognized water rate setting principles and methodologies. This report provides the basis for developing and implementing water rates which are cost-based, equitable, and defensible to the City's customers.

We appreciate the assistance provided by the City's management team in the development of this study. More importantly, HDR appreciates the opportunity to provide these technical and professional services to the City.

Sincerely yours,
HDR Engineering, Inc.

Shawn Koorn
Associate Vice President

hdrinc.com

500 108th Ave NE, Suite 1200, Bellevue, WA 98004
T 425-450-6200

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Executive Summary

Introduction

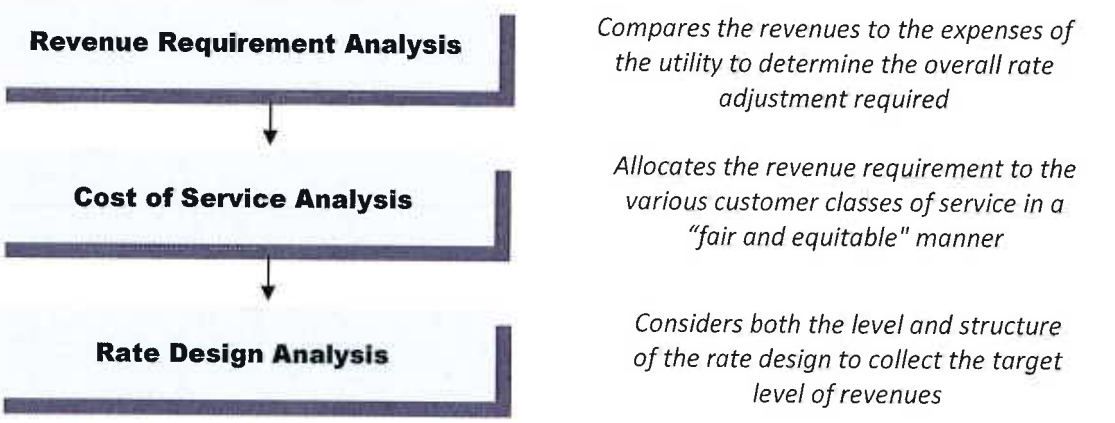
HDR was retained by the City of Reedley (City) to conduct a comprehensive water rate study. The objective of the rate study was to review the City's operating and capital costs in order to develop a financial plan and develop cost-based and equitable rates for the City's water system customers. This study determined the adequacy of the existing water rates and provides the framework and cost basis for the proposed level of revenues and recommended water rates.

The City owns and operates a water transmission and distribution system as well as production and treatment from ground water sources. The costs associated with providing water supply, treatment, and the costs of distributing water to customers of the City's water system has been developed based on City adopted budget information and included within the development of the proposed rates.

Overview of the Rate Study Process

A comprehensive water rate study uses three interrelated analyses to address the adequacy and equity of a utility's rates. These three analyses are a revenue requirement analysis, a cost of service analysis, and a rate design analysis. These three analyses are illustrated below in Figure ES - 1.

Figure ES – 1
Overview of the Comprehensive Water Rate Analyses



The above framework for reviewing and evaluating the City's water rates and was utilized in the development of this study.

Key Water Rate Study Results

The water rate study technical analysis was developed based on the operating and capital costs necessary to provide water service to the City's customers. The water rate analysis resulted in the following findings, conclusions, and recommendations.

- A revenue requirement analysis was developed for the projected time period of FY 2016/17 through FY 2020/21.
- The City's FY 2015/16 adopted budget was used as the starting point of the analysis.
- Operation and maintenance expenses are projected to increase at inflationary levels with no assumed changes to levels of service or anticipated extraordinary expenses.
- The current drought, and State mandated consumption reductions, has impacted customer consumption levels, which in turn has reduced overall revenues for the City.
- Rate revenues were projected using the "new normal" level of water consumption based on the average of 2014 and 2015 calendar year consumption.
- The proposed water revenue adjustment is 9.5% for FY 2016/17, effective August 1, 2016.
- Future year's revenue adjustments, after August 1, 2016, will be based on the 10 year running average of the Department of Labor consumer price index (CPI).
- For purposed of the analysis, the CPI has been estimated at 2.5% for the FY 2017/18 through FY 2020/21 time period.
- A cost of service analysis was developed to review the equity of the existing rates and proportionally allocate the revenue requirement between the various customer classes.
- The results of the cost of service analysis provided the unit costs (i.e., cost basis) which were used to establish the proposed rates.
- The study has developed proposed rates for the FY 2016/17 time period, by class of service.
- A drought rate structure has been developed for the City to attempt to maintain sufficient revenues during mandatory conservation efforts or water shortage events.
- The drought rate structure may be implemented by the City Council as drought stages are declared and changed as drought conditions change.

Summary of the Water Revenue Requirement Analysis

A revenue requirement analysis is the first analytical step in the development of the water rate study. This analysis determines the adequacy of the level of current water rates. From this analysis, a determination can be made as to the overall level of water revenue adjustments needed to provide adequate and prudent funding for both operating and capital needs.

For this study, the revenue requirement was developed for a projected time period (FY 2016/17 – FY 2020/21). A multi-year time frame is recommended to better anticipate future financial requirements and allow the City to begin planning for these changes sooner, thereby minimizing short-term rate impacts and overall long-term rates. For the revenue requirement analysis a "cash basis" approach was utilized. The "cash basis" approach is the most commonly

used methodology by municipal utilities to set their revenue requirement and it includes an analysis of O&M expenses, transfer payments, debt service, and capital projects funded from rates. The primary financial inputs in the development of the revenue requirement analysis were the City's FY 2015/16 budget, 2013 through 2015 billed customer and consumption data, and the City's water system capital improvement plan.

Once the operating and maintenance expenses have been projected over the time period, based on budgeted expenses and historical inflationary factors, the next step is to develop the capital improvement funding plan. The proper and adequate funding of capital projects is important to help minimize rates over time. A general financial guideline states that, at a minimum, a utility should fund an amount equal to or greater than annual depreciation expense through rates. Currently, the City is not funding annual depreciation expense but rate funded capital is increased annually. Provided below in Table ES - 1 is a summary of the capital funding plan over the five-year rate setting period.

Table ES – 1
Summary of the Annual Rate Funded Capital ($000)

	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Total Capital Improvement Projects	$370	$260	$256	$308	$350
Less: Other Funding	220	60	6	8	0
Total Rate Funded Capital	$150	$200	$250	$300	$350

As a point of reference, the City's annual depreciation expense is approximately $535,000 (FY 2014/15). This financial plan has placed the City's rate funded capital level at $150,000 in FY 2016/17 increasing to $400,000 in FY 2020/21. As can be seen, the difference between annual capital improvement needs and rate funded capital is being funded through available reserves. The primary capital improvement needs are related to water main replacements during the five year time period. As revenues are available, the City should increase the level of annual rate funded capital to reflect system renewal and replacement needs.

The revenue requirement analysis for City's water utility was developed to determine the necessary revenues to meet the costs of providing water service to the City's customers based on the specific costs of the City's water utility. Provided below, in Table ES – 2, is a summary of the revenue requirement analysis (financial plan) developed for the water utility. A more detailed analysis of the revenue requirements can be found in Section 3 of this report.

Table ES - 2
Summary of the Revenue Requirement Analysis ($000)

	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Revenues					
Rate Revenues	$2,937	$3,000	$3,063	$3,126	$3,157
Misc. Revenues	132	135	138	142	146
Total Revenues	**$3,070**	**$3,135**	**$3,201**	**$3,268**	**$3,302**
Expenses					
Total O & M Expenses	$2,393	$2,387	$2,462	$2,471	$2,466
Rate Funded Capital	0	150	200	250	300
Debt Service	917	918	916	913	915
Reserve Funding	(240)	(35)	(2)	105	187
Total Expenses	**$3,070**	**$3,420**	**$3,576**	**$3,739**	**$3,868**
Bal./(Def.) of Funds	($285)	($375)	($470)	($566)	($665)
Bal. as a % of Rate Rev.	9.5%	12.2%	15.0%	17.9%	20.9%
Proposed Rate Adjustment [1]	**9.5%**	**2.5%**	**2.5%**	**2.5%**	**2.5%**
Add'l Rev. from Rate Adj.	$285	$375	$470	$566	$665
Total Bal./(Def.) of Funds	$0	($0)	($0)	$0	$0

[1] For example purposes the proposed revenue adjustments after FY 2016/17 have been set at 2.5%. The actual revenue adjustments in the future years will reflect the historical 10 year average of the Department of Labor Consumer Price Index (CPI).

As can be seen, the revenue requirement has summed O&M, rate funded capital, annual debt service, and transfers to reserves. The total revenue requirement is then compared to the total sources of funds which are the rate revenues, at present rate levels, and other miscellaneous revenues. From this comparison a balance or deficiency of funds in each year can be determined. This balance or deficiency of funds is then compared to the projection of rate revenues, at "normal" consumption levels, to determine the level of revenue adjustment needed to meet the costs of providing water service. It is important to note the "Bal./(Def.) of Funds" row is cumulative. That is, any adjustments in the initial years will reduce the deficiency in the later years.

In FY 2016/17 the overall levels of water rate revenues need to be increased by 9.5% to meet the operating and capital needs of the water utility. It is proposed that this rate increase will be effective August 1, 2016. After FY 2016/17, each July 1st, the revenue adjustments will be based on inflationary levels based on the 10 year running average of the Department of Labor consumer price index (CPI).

Based on the revenue requirement analysis developed, HDR has concluded that the City will need to adjust the level of water rate revenues as noted above to maintain cost-based rates. HDR has reached this conclusion for the following reasons:

- Rate adjustments are necessary to meet the operating and capital costs of providing water service to the City's customers.
- Rate adjustments are necessary to reflect the reduction in annual water consumption due to the drought and State mandated conservation.
  - This new level of consumption may be reflective of the new level of water consumption for the foreseeable future.
- The proposed rate adjustments maintain the City's financial health and provide long-term sustainable funding levels.
- Prior to the implementation of the fifth, and final, proposed rate adjustment the City should complete a review of the water rates.

In reaching this conclusion, HDR would recommend that the City adopt the proposed rate adjustments on August 1' 2016 for FY 2016/17 and CPI adjustments thereafter to provide sufficient funding for the projected operating and capital needs of the system. Detailed technical exhibits of the revenue requirement analysis have been included within the Technical Appendix.

Summary of the Water Cost of Service Analysis

A cost of service analysis determines the equitable allocation of the revenue requirement to the various customer classes of service (e.g., single family, non-residential, and irrigation). The objective of the cost of service analysis is different from determining the revenue requirement analysis. A revenue requirement analysis determines the utility's overall financial needs, while the cost of service analysis determines the fair and equitable manner to collect that revenue requirement from each class.

In summary form, the cost of service analysis began by functionalizing the revenue requirement for the water utility. The functionalized revenue requirement was then classified into their various cost components. The individual classification totals were then allocated to the various customer classes of service based on the appropriate allocation factors. The allocated expenses for each customer class were then aggregated to determine each customer class's overall revenue responsibility. Table ES - 3 provides the summary of the cost of service analysis for the FY 2016/17 test year.

Table ES - 3
Summary of the Cost of Service Analysis ($000)

Class of Service	Present Revenues (FY 2016/17)	Allocated Costs	$ Difference	% Difference
Residential	$2,358	$2,668	($310)	13.2%
Non-Residential	458	430	28	-6.0%
Irrigation	94	90	$4	-4.2%
Fire Protection	90	96	($6)	7.1%
Total	$3,000	$3,285	($285)	9.5%

The cost of service study allocates the proportional share of the revenue requirement to each customer class based on their use of the system and facilities. The results of the analysis indicate that some cost differences exist between the various customer classes of service. It is important to understand that a cost of service analysis is based on a projection of customer consumption data based on recent year's consumption history. The key outcome of the cost of service analysis is the unit costs (e.g., $/1,000 gal). The unit costs provide the cost basis for the development of the proposed water rates. Provided in Table ES - 4 is a summary of the consumption related unit costs derived in the cost of service analysis that will be used to develop the proposed rate designs.

Table ES – 4
Summary of the Consumption Related Unit Costs ($ / 1,000 gal)

	Single Family	Non-Residential	Irrigation
Tier 1	$1.00	$1.00	N/A
Tier 2	$1.05	$1.05	N/A
Tier 2	$1.10	$1.10	N/A
All Consumption	N/A	N/A	$1.14

Section 4 of this report provides a detailed discussion of the cost of service analysis conducted for the City and the development of the unit costs provided in Table ES - 4. Given the results of the cost of service analysis HDR would recommend that the unit costs, as developed, are the basis for the rate designs. The Technical Appendix contains the various exhibits and additional details associated with the cost of service analysis.

Summary of the Present and Proposed Water Rate Designs

The final step of the comprehensive rate study process is the design of water rates to collect the desired levels of revenue, based on the results of the revenue requirement and cost of service analysis. The revenue requirement analysis provided a set of recommendations related to annual rate adjustments, or the level of total revenues necessary to provide sufficient funding, while the cost of service analysis resulted in recommendations as to how the revenue is collected proportionally from the customer classes of service.

Developing cost-based and equitable rates is of paramount importance in developing proposed water rates. Given this, the City's proposed water rates have been developed with the intent of meeting the legal requirements of California constitution article XIII D, section 6 (Article XIII D). A key component of Article XIII D is the development of rates which reflect the cost of providing service and are proportionally allocated among the various customer classes of service. HDR would point out that there is no single methodology for equitably assigning costs to the various customer groups. The American Water Works Association (AWWA) M1 Manual clearly delineates various methodologies which may be used to establish cost-based rates. Article XIII D does not prescribe a particular methodology for establishing rates; consequently, HDR

developed the City's proposed water rates based on the AWWA M1 manual methodology to meet the requirements of Article XIII D and recent legal decisions to provide an administrative record of the steps taken to establish the City's water rates.

HDR is of the opinion that the proposed rates comply with legal requirements of Article XIII D. HDR reaches this conclusion based upon the following:

- **The revenue derived from water rates does not exceed the funds required to provide the property related service (i.e., water service).** The proposed rates are designed to collect the overall revenue requirements of the City's water utility.
- **The revenues derived from water rates shall not be used for any purpose other than that for which the fee or charge is imposed.** The revenues derived from the City's water rates are used exclusively to operate and maintain the City's water system.
- **The amount of a fee or charge imposed upon a parcel or person as an incident of property ownership shall not exceed the proportional costs of the service attributable to the parcel.** This study has focused on the issue of proportional assignment of costs to customer classes of service. The proposed rates have appropriately grouped customers into customer classes of service (residential, non-residential, irrigation) that reflect the varying consumption patterns and system requirements of each customer class of service. The grouping of customers and rates into these classes of service creates the equity and fairness expected under Article XIII D by having differing rates by customer classes of service which reflect both the level of revenue to be collected by the utility, but also the manner in which these costs are incurred and equitably assigned to customer classes of service based upon their proportional impacts and burdens on City's the water system and water resources.

The City has established customer classes of service and rate schedules for the residential, non-residential, and irrigation customers. Residential and non-residential customers are charged a monthly service charge that varies by meter size and an increasing three tier consumption charge. The tier sizes and rates are the same for both the residential and non-residential customers. However, the monthly service charges are different for the two customer classes of service. Irrigation customers are charged the same monthly service charge as non-residential customer that varies by meter size and a uniform consumption charge.

Given the prior discussion of the need to develop rates based on cost of service principles, the unit costs in Table ES - 4 were used to develop the proposed water rates for the City's customer classes of service. Following the unit costs, the monthly service charge will be the same for all customers. The monthly service charge will continue to vary by meter size. In addition, the three tier commodity rate structure will remain the same for residential and non-residential customers and only the level of the charge will change based on the results of the cost of service analysis. The proposed commodity charge for the irrigation customers maintains the uniform rate structure based on the unit costs developed in the cost of service analysis.

As noted, residential customers are billed under an increasing tier rate structure with three tiers and a monthly service charge based on the size of the meter. The current rate structure has been maintained and only the level of the rates has been adjusted to reflect the results of

the study. Provided below in Table ES - 5 is a summary of the present and proposed single family water rates over the five year rate setting period.

Table ES - 5
Summary of the Proposed Single Family Water Rates [1]

	Present Rate	FY 2016/17 [2]	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Service Charge	*$/Acct/Mo*					
3/4" and 1"	$26.71	$30.35	$31.15	$32.00	$32.80	$33.70
1 1/2"	31.18	35.51	36.45	37.44	38.38	39.43
2"	35.62	40.37	41.43	42.56	43.62	44.82
Commodity Charge	*$/1,000 gal*					
0 – 15,000	$0.87	$1.00	$1.03	$1.06	$1.09	$1.12
15,000 – 25,000	0.98	1.05	1.08	1.11	1.14	1.18
>25,000	1.05	1.10	1.13	1.17	1.20	1.23

[1] Proposed rates after FY 2016/17 are for illustration purposes only and based on an estimated CPI of 2.5% in each year. The actual rates for years after FY 2016/17 will be based on the historical 10 year average of the Department of Labor Consumer Price Index (CPI)

[2] The proposed FY 2016/17 rates will be effective August 1, 2016.

As can be seen, the residential rate structure has been maintained and the proposed rates have been adjusted to reflect the overall revenue needs of the water utility based on the revenue requirement and cost of service analysis for FY 2016/17 using the unit costs in Table ES - 4. The proposed rates would be effective August 1, 2016.

The present rate structure for the non-residential customers is the same as the residential rate structure, with the exception of the monthly service charge. As noted, the monthly service charge has been developed based on the fixed costs of providing service as provided in the cost of service analysis. As a result, all customers will have the same monthly service charge based on the size of the meter. Provided in Table ES - 6 is a summary of the present and proposed rates for non-residential customers.

Table ES - 6
Summary of the Proposed Non-Residential Water Rates

	Present Rate	FY 2016/17 [2]	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Service Charge	***$/Acct/Mo***					
3/4"	$33.41	$30.35	$31.15	$32.00	$32.80	$33.70
1"	36.86	30.35	31.15	32.00	32.80	33.70
1 1/2"	38.98	35.51	36.45	37.44	38.38	39.43
2"	44.54	40.37	41.43	42.56	43.62	44.82
3"	50.11	45.53	46.72	48.00	49.20	50.55
4"	72.39	65.86	67.60	69.44	71.18	73.13
6"	144.81	131.42	134.88	138.56	142.02	145.92
8"	231.71	210.63	216.18	222.08	227.63	233.88
Commodity Charge	***$/1,000 gal***					
0 – 15,000	$0.87	$1.00	$1.03	$1.06	$1.09	$1.12
15,000 – 25,000	0.98	1.05	1.08	1.11	1.14	1.18
>25,000	1.05	1.10	1.13	1.17	1.20	1.23

[1] Proposed rates after FY 2016/17 are for illustration purposes only and based on an estimated CPI of 2.5% in each year. The actual rates for years after FY 2016/17 will be based on the historical 10 year average of the Department of Labor Consumer Price Index (CPI)

[2] The proposed FY 2016/17 rates will be effective August 1, 2016.

The proposed rate structure for non-residential customers has been maintained. However, the monthly service charge will be the same as all other customers and the proposed rates reflect the unit costs as developed in the cost of service analysis and shown in Table ES - 4.

The present rate structure for the irrigation customers includes a monthly service charge that varies by meter size and a uniform consumption charge. Based on the results of the cost of service analysis and the resulting unit costs Table ES - 7 provides a summary of the present and proposed rates for irrigation customers.

Table ES - 7
Summary of the Proposed Irrigation Water Rates

	Present Rate	FY 2016/17 [2]	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Service Charge	*$/Acct/Mo*					
3/4"	$33.41	$30.35	$31.15	$32.00	$32.80	$33.70
1"	36.86	30.35	31.15	32.00	32.80	33.70
1 1/2"	38.98	35.51	36.45	37.44	38.38	39.43
2"	44.54	40.37	41.43	42.56	43.62	44.82
3"	50.11	45.53	46.72	48.00	49.20	50.55
4"	72.39	65.86	67.60	69.44	71.18	73.13
6"	144.81	131.42	134.88	138.56	142.02	145.92
8"	231.71	210.63	216.18	222.08	227.63	233.88
Commodity Charge	*$/1,000 gal*					
All Consumption	$1.10	$1.14	$1.17	$1.20	$1.23	$1.26

[1] Proposed rates after FY 2016/17 are for illustration purposes only and based on an estimated CPI of 2.5% in each year. The actual rates for years after FY 2016/17 will be based on the historical 10 year average of the Department of Labor Consumer Price Index (CPI)

[2] The proposed FY 2016/17 rates will be effective August 1, 2016.

Similar to the residential and non-residential proposed rates the irrigation rates maintained the current rate structure. The proposed rates are based on the cost of service analysis unit costs and include a monthly service charge that varies by meter size and a uniform commodity charge.

Section 5 of this report provides a detailed discussion of the present and proposed water rates.

Summary of the Proposed Drought Rate Structure

As part of the water rate study, a drought rate structure was developed and proposed to maintain sufficient revenues during drought or water shortage periods. Drought rate structure can be an important tool that allows the City to maintain adequate revenues when consumption declines due to voluntary or mandatory conservation resulting from drought conditions, such as the current drought California is experiencing, or other water shortage emergencies (e.g., supply constraints due to infrastructure failure).

When properly designed, the drought rate structure addresses the issues of the financial/revenue impacts of decreased consumption. When a utility enters a drought stage, it is not uncommon for a utility to have a set of drought rates to maintain sufficient revenues due to reductions in usage. For purposes of establishing the drought rates, the City has four (4) different stages reflecting water restrictions which are defined within the City's conservation plan.

These four stages are summarized below along with the estimated consumption reductions resulting from additional conservation restrictions.

- Stage 1 – Limited Irrigation/Outdoor Use
  - Approximately a 10% reduction in consumptive use
- Stage 2 – Minimal Irrigation/Outdoor Use
  - Approximately a 25% reduction in consumptive use
- Stage 3 – Limited Irrigation/Outdoor Use
  - Approximately a 45% reduction in consumptive use
- Stage 4 – Limited Irrigation/Outdoor Use
  - Approximately a 60% reduction in consumptive use

In developing the proposed drought rate structure, the monthly meter charge remains fixed at the same level regardless of the drought stage. Based on the conservation savings estimated for each drought stage, the drought rates were developed to maintain the current level of revenues for each customer class of service based on the proposed FY 2016/17 rates. A summary of the drought rates for each stage is provided in Table ES - 8.

Table ES – 8
Summary of the Drought Rates– $/1,000 gal

	Stage 1	Stage 2	Level 3	Level 4
	10%	25%	45%	60%
Residential and Non-Residential				
0 – 15,000 gal	$0.12	$0.35	$0.85	$1.55
15,0000 – 25,000 gal	0.12	0.35	0.85	1.55
>25,000 gal	0.12	0.35	0.85	1.55
Irrigation				
All Consumption	$0.13	$0.38	$0.93	$1.71

The drought rates in Table ES - 8 are added to the adopted rates in place at the time the drought stage is declared. The drought rates would be applied to each tier of the City's rates. For example, the residential proposed rate for the first tier is $1.00/1,000 gallons and if the City declares a Stage 2 drought; the first tier rate will change to $1.35/1,000 gallons ($1.00 + $0.35). These drought rates can be added to the City's proposed rates, as requested by the City staff and approved by the City Council. Implementation of these drought rates will help the City maintain revenue levels during drought related consumption reductions.

A more detailed discussion of the proposed drought rates is provided in Section 5 of this report.

Water Rate Study Recommendations

Based on the results of the water rate study, HDR recommends the following:

- Rate adjustments are necessary to prudently fund operating and capital renewal and replacement expenses.

- Water rates should be adjusted 9.5% based on the proposed rates as part of this study starting in FY 2016/17.
- The proposed rates would be effective August 1, 2016.
- Each July 1st thereafter, the rates will be adjusted by historical 10 year average of the Department of Labor Consumer Price Index (CPI).
- The proposed rates reflect the results of the cost of service analysis and the proportional allocation of costs to the various customer classes of service.
- A drought rate structure is proposed to maintain sufficient revenues for operating and capital needs during drought or water shortage events.
- The drought rates are recommended to be implemented at the appropriate level in FY 2016/17 along with the proposed rates.
- The drought rates should be adjusted when water rates are adjusted after the proposed FY 2016/17 rate adjustment.
- After five (5) years, the City should complete a review of the water rates to confirm the basis for future proposed rates.

Summary of the Water Rate Study

This completes the summary of the development of the comprehensive water rate study for the City. The focus of this study has been the prudent and adequate funding of the utility, and developing the cost-basis for the proposed rates. A full and complete discussion of the development of the comprehensive water rate study can be found in following sections of this report.

1. Introduction and Overview

1.1 Introduction

HDR was retained by the City of Reedley (City) to conduct a comprehensive water rate study. The objective of the rate study was to review the City's operating and capital costs in order to develop a financial plan and proposed cost-based rates for the City's water customers. This study determined the adequacy of the existing water rates and provides the framework and cost basis for any needed future adjustments.

The City owns and operates a water supply, transmission, and distribution system. The costs associated with providing water supply, plus the costs of distributing water to customers, has been developed based on the City's adopted budgets and financial information and included within the development of the proposed rates.

1.2 Goals and Objectives

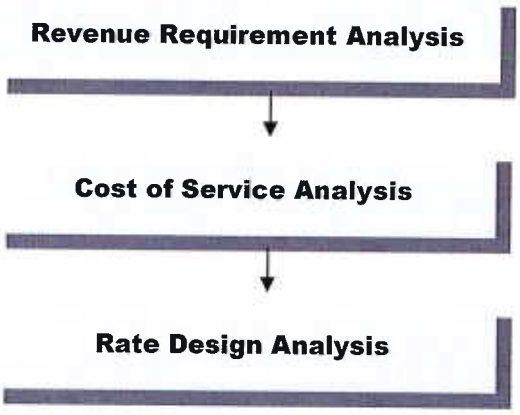
The City had a number of key objectives in developing the water rate study. These key objectives provided a framework for policy decisions in the analysis that follows. These key objectives were as follows:

- Develop the study in a manner that is consistent with the principles and methodologies established by the American Water Works Association (AWWA), M1 Manual, Principles of Water Rates, Fees, and Charges.
- When establishing the City's rates, review and utilize best industry practices, while recognizing and acknowledging the specific and unique characteristics of the City's system.
- Review the City's rates utilizing "generally accepted" rate making methodologies to determine adequacy and equity of the utility rates.
- Develop a final proposed financial plan which adequately supports the utility's funding requirements, while attempting to minimize overall impacts to rates.
- Provide rates designed to meet the legal requirements of Article XIII D and recent legal decisions related to Article XIII D.

1.3 Overview of the Rate Study Process

User rates must be set at a level where a utility's operating and capital expenses are met with the revenues received from customers. This is an important point, as failure to achieve this objective may lead to insufficient funds to maintain system integrity. To evaluate the adequacy of the existing rates, a comprehensive rate study is often performed. A comprehensive water rate study consists of three interrelated analyses. Figure 1 - 1 provides an overview of these analyses.

Figure 1-1
Overview of the Comprehensive Water Rate Analyses



Compares the revenues to the expenses of the utility to determine the overall rate adjustment required

Allocates the revenue requirement to the various customer classes of service in a "fair and equitable" manner

Considers both the level and structure of the rate design to collect the target level of revenues

The above framework for reviewing and evaluating rates was utilized for the City's water system.

1.4 Organization of the Study

This report is organized in a sequential manner that first provides an overview of utility rate setting principles, followed by sections that detail the specific steps used to review the City's water rates. The following sections comprise the City's water rate study report:

- **Section 2** – Overview of Water Rate Setting Principles
- **Section 3** – Development of the Revenue Requirement Analysis
- **Section 4** – Development of Cost of Service Analysis
- **Section 5** – Development of the Proposed Rate Designs

A Technical Appendix is attached at the end of this report, which details the various technical analyses that were undertaken in the preparation of this study.

1.5 Summary

This report will review the comprehensive water rate analyses prepared for the City. This report has been prepared utilizing generally accepted water rate setting techniques.

2. Overview of Water Rate Setting Principles

2.1 Introduction

This section of the report provides background information about the water rate setting process, including descriptions of generally accepted principles, types of utilities, methods of determining a revenue requirement, the cost of service analysis, and rate design. This information is useful for gaining a better understanding of the details presented in Sections 3 through 5 of this report.

2.2 Generally Accepted Rate Setting Principles

As a practical matter, all utilities should consider setting their rates around some generally accepted or global principles and guidelines. Utility rates should be:

- Cost-based, equitable, and set at a level that meets the utility's full revenue requirement.
- Easy to understand and administer.
- Designed to conform to "generally accepted" rate setting techniques.
- Stable in their ability to provide adequate revenues for meeting the utility's financial, operating, and regulatory requirements.
- Established at a level that is stable from year-to-year from a customer's perspective.

2.3 Determining the Revenue Requirement

Most public utilities use the "cash basis" approach for establishing their revenue requirement and setting rates. This approach conforms to most public utility budgetary requirements and the calculation is easy to understand. A public utility totals its cash expenditures for a period of time to determine required revenues. The revenue requirement for a public utility is usually comprised of the following costs or expenses:

- **Total Operating Expenses:** This includes a utility's operation and maintenance (O&M) expenses, plus any applicable taxes or transfer payments (e.g., reserve transfers). Operation and maintenance expenses include the materials, electricity, labor, supplies, etc., needed to keep the utility functioning.
- **Total Capital Expenses:** Capital expenses are calculated by adding debt service payments (principal and interest) to capital improvements financed with rate revenues. In lieu of including capital improvements financed with rate revenues, a utility sometimes includes depreciation expense to stabilize the annual revenue requirement.

Under the "cash basis" approach, the sum of the total O&M expenses plus the total capital expenses equals the utility's revenue requirement during any selected period of time (historical or projected).

Note that the two portions of the capital expense component (debt service and capital improvements financed from rates) are necessary under the cash basis approach because utilities generally cannot finance all their capital facilities with long-term debt. At the same time, it is often difficult to pay for capital expenditures on a "pay-as-you-go" basis given that some major capital projects may have significant rate impacts upon a utility, even when financed with long-term debt. Many utilities have found that some combination of pay-as-you-go funding and long-term financing will often lead to minimization of rate increases over time.

Public utilities typically use the "cash basis"[1] approach to establish their revenue requirements. An exception occurs if a public utility provides service to a wholesale or contract customer. In this situation, a public utility could use the "utility basis" approach (see Table 2 - 1) regarding earning a fair return on its investment.

Table 2 – 1
Cash versus Utility Basis Comparison

	Cash Basis		Utility Basis (Accrual)
+	O&M Expenses	+	O&M Expenses
+	Taxes/Transfer Payments	+	Taxes/Transfer Payments
+	Capital Improv. Funded From Rates (≥ Depreciation Expense)	+	Depreciation Expense
+	Debt Service (Principal + Interest)	+	Return on Investment
=	Total Revenue Requirement	=	Total Revenue Requirement

2.4 Analyzing Cost of Service

After the total revenue requirement is determined, it is equitably allocated to the users of the service. The allocation, usually analyzed through a cost of service analysis, reflects the cost relationships for producing and delivering water services. A cost of service analysis requires three analytical steps:

1. Costs are ***functionalized*** or grouped into the various cost categories related to providing service (supply, distribution, pumping, etc.). This step is largely accomplished by the utility's accounting system.
2. The functionalized costs are then ***classified*** to specific cost components. Classification refers to the arrangement of the functionalized data into cost components. For example, a water utility's costs are typically classified as average day, peak day, or customer-related.

[1] "Cash basis" as used in the context of rate setting is not the same as the terminology used for accounting purposes and recognition of revenues and expenses. As used for rate setting, "cash basis" simply refers to the specific cost components to be included within the revenue requirement analysis.

3. Once the costs are classified into components, they are proportionally ***allocated*** to the customer classes of service (residential, non-residential, irrigation). The allocation is based on each customer class' relative contribution to the cost component (i.e., benefits received from and burdens placed on the system and its resources). For example, customer-related costs are allocated to each class of service based on the total number of customers in that class of service. Once costs are allocated, the revenues from each customer class of service required to achieve cost-based rates can be determined.

2.6 Designing Water Rates

Rates that meet the utility's objectives are designed based on both the revenue requirement and the cost of service analysis. This approach results in rates that are strictly cost-based and does not consider other non-cost based goals and objectives (conservation, economic development, ability to pay, revenue stability, etc.). In designing the final proposed rates, factors such as ability to pay, continuity of past rate philosophy, economic development, ease of administration, and customer understanding may be taken into consideration. However, the proposed rates must take into consideration each customer class's proportional share of costs allocated through the cost of service analysis to meet the legal requirements.

2.7 Economic Theory and Rate Setting

One of the major justifications for a comprehensive rate study is founded in economic theory. Economic theory suggests that the price of a commodity must roughly equal its cost if equity among customers is to be maintained. This statement's implications on utility rate designs are significant. For example, a water utility usually incurs capacity-related costs to meet summer lawn watering needs. It follows that the customers who create excessive peak demands on the system and create the need for upsizing of the distribution system should pay for those over-sized facilities in proportion to their contribution to total peaking requirements. When costing and pricing techniques are refined, consumers have a more accurate understanding of what the commodity costs to produce and deliver. This price-equals-cost concept provides the basis for the subsequent analysis and comments.

"Economic theory suggests that the price of a commodity must roughly equal its cost if equity among customers is to be maintained."

2.8 Summary

This section of the report has provided a brief introduction to the general principles, techniques, and economic theory used to set water rates. These principles and techniques will become the basis for the City's water rate study.

3. Development of the Revenue Requirement

3.1 Introduction

This section describes the development of the revenue requirement for the City's water utility. The City has provided detailed revenue and expenses data for the water system that allowed for the development of the revenue requirement. The revenue requirement analysis is the first analytical step in the comprehensive rate study process. This analysis determines the adequacy of the City's overall water rates at current rate levels. From this analysis, a determination can be made as to the overall level of rate adjustment needed to provide adequate and prudent funding for both operating and capital needs. HDR developed an independent analysis based on information provided by the City as part of the review of proposed rate adjustments.

3.2 Determining the Revenue Requirement

In developing the City's water revenue requirement, the water utility, as an enterprise fund, must financially "stand on its own" and be properly funded. That is, no transfers from other City funds occur to support the City's water utility. As a result, the revenue requirement analysis, as developed herein, assumes the full and proper funding needed to operate and maintain the City's water system on a financially sound and prudent basis.

3.3 Establishing a Time Frame and Approach

The first step in calculating the revenue requirement for the City's water utility was to establish a time frame for the revenue requirement analysis. For this study, the revenue requirement was developed for a five-year time period (FY 2016/17 – FY 2020/21). Reviewing a multi-year time period is recommended since it attempts to identify any major expenses that may be on the horizon. By anticipating future financial requirements, the City can begin planning for these changes sooner, thereby minimizing short-term rate impacts and overall long-term rates.

The second step in determining the revenue requirement was to decide on the basis of accumulating costs. In this particular case, for the revenue requirement analysis a "cash basis" approach was utilized. The "cash basis" approach is the most common methodology used by municipal utilities to set their revenue requirement. This is also the methodology that the City has historically used to establish its water revenue requirement. Table 3 - 1 provides a summary of the "cash basis" approach and cost components used to develop the City's water revenue requirement.

Table 3 – 1
Overview of the City's "Cash Basis" Revenue Requirement

+	Water Operation and Maintenance Expenses
+	Rate Funded Capital
+	Debt Service (Principal + Interest) – Existing and Future
±	Reserve Funding
=	Total Water Revenue Requirement
–	Miscellaneous Revenues
=	Net Revenue Requirement (Balance Required from water Rates)

Given a time period around which to develop the revenue requirement and a method to accumulate the costs, the focus shifts to the development and projection of the revenues and expenses of the City's comprehensive water rate study.

The primary financial inputs in the development of the revenue requirement were the City's FY 2015/16 adopted budget, the FY 2013/14 and FY 2014/15 billed customer and consumption data, and the current water capital improvement plan. Presented below is a detailed discussion of the steps and key assumptions contained in the development of the projections of the City's water revenue requirement analysis.

3.4 Projecting Rate and Other Miscellaneous Revenues

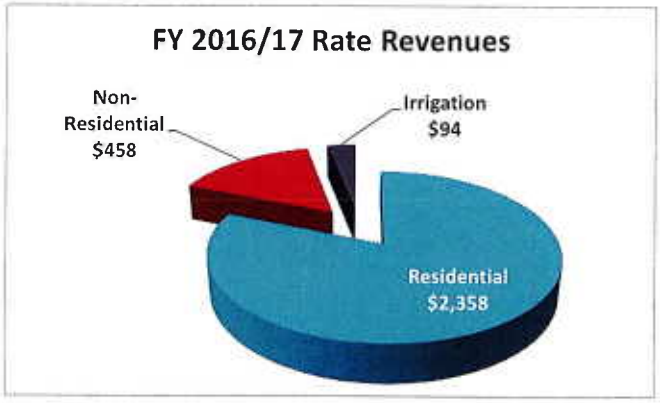
Once the method and time period for developing the revenue requirement was established, the next step is to develop a projection of the water rate revenues, at present rate levels. In general, this process involved developing projected billing units for each customer group (e.g., residential, non-residential, irrigation). The billing units for each customer group were then multiplied by the applicable current water rates. This method of independently calculating revenues links the projected revenues used within the analysis to the projected billing units. It also helps to confirm that the billing units used within the study are reasonable for purposes of projecting future revenues, allocating costs and, ultimately, establishing proposed rates.

". . . the State of California has recently implemented additional required conservation savings for 2016 which will impact the level of consumption and resulting consumption based revenues."

A key aspect of the projection of water rate revenues was to develop a projection of consumption levels considering the current drought. In addition, the State of California has recently implemented additional required conservation savings for 2016 which impacted the level of consumption and resulting consumption-based revenues. The last two fiscal years of consumption data was reviewed to obtain a better projection of future customer consumption characteristics. In an effort to reflect anticipated future consumption levels, and in discussion with City staff, it was determined that the average consumption levels of the last two years would be used as they appear to reflect "normal" consumption for the next several

years absent the State mandated conservation requirements. In this way, the projected revenues will reflect typical consumption levels absent a drought. As will be discussed further in Section 5, this provides the basis for establishing the drought rate structure and revenue reductions due to reduced consumption levels.

The City currently has separate rate schedules for all its customers. The majority of the City's rate revenues are derived from the residential customers. The City also serves a variety of non-residential customers, as well as irrigation customers. In total, and at currently rate levels, the City is projected to receive approximately $3.0 million in rate revenue in FY 2016/17 assuming "normal" water consumption levels. Over time, the study has assumed a conservative level of customer growth that is less than 1%/year. By FY 2020/21, the rate revenues, assuming no rate adjustments, are projected to be approximately $3.2 million.



In addition to rate revenues, the City also receives miscellaneous revenues. These are revenues related to interest earnings, service fees, and other miscellaneous revenues. In total, the City is projected to receive approximately $135,000 in miscellaneous revenues in FY 2016/17. This amount is anticipated to increase slightly each year over the projected five year time period and reach approximately $150,000 in FY 2020/21.

On a combined basis, taking into account the rate revenues and the miscellaneous revenues, the City's water utility has total projected revenues of approximately $3.1 million in FY 2016/17, increasing to approximately $3.3 million by FY 2020/21.

3.5 Projecting Operation and Maintenance Expenses

Operation and maintenance (O&M) expenses are incurred by the City to provide water service (supply, treatment, and distribution of water) as well as to operate and maintain the existing infrastructure. As previously mentioned, the City provided detailed O&M expenses and capital improvement needs for the water utility. The budgeted O&M expenses were projected over the time period based on annual inflationary factors experienced by the City and the general economy.

The total O&M expenses for the City are approximately $2.4 million based on the FY 2016/17 projections. Over the planning horizon, the total O&M expenses for the City are projected to increase to approximately $2.5 million by FY 2020/21 based on historical inflationary impacts.

3.6 Projecting Capital Funding Needs

A key component in the development of the water revenue requirement was properly and adequately funding capital improvement needs. One of the major issues facing utilities across the U.S. is the amount of deferred capital projects and the funding pressure from

growth/expansion-related improvements. The proper and adequate funding of capital projects is an important issue for all water utilities and is not just a local issue or concern of the City.

In general, there are three types of capital projects that a utility may need to fund. These include the following types:

- Renewal & replacement projects
- Growth/capacity expansion projects
- Regulatory-related projects

A renewal and replacement project is essentially a project required for maintaining the existing system that is in place today. As the existing plant or pipelines become worn out, obsolete, etc., the utility should be making continuous investments to maintain the integrity of the facilities. In contrast to this, a utility may make capital investments to expand the capacity of facilities to accommodate future capacity needs (customers). Finally, certain projects may be a function of a regulatory requirement in which the Federal or State government mandates the need for an improvement to the system to meet a regulatory standard. Understanding these different types of capital projects is important because it may help to explain why costs are increasing and the cost drivers for any needed rate adjustment. In addition, and more importantly, the way in which projects are funded may vary by the type of capital project. For example, renewal and replacement projects may be paid for via rates and funded on a "pay-as-you-go basis." In contrast to this, growth or capacity expansion projects may be funded via the collection of development or water connection fees (i.e., growth-related charges) in which new development pays a proportional and equitable share of the cost of facilities necessary to serve their development(impact). Finally, regulatory projects may be funded by a variety of different means, which may include rates, long-term debt, grants, etc.

While the above discussion appears to neatly divide capital projects into three clearly defined categories, the reality of working with specific capital projects may be more complex. For example, a pump may be replaced, but while being replaced, it is up-sized to accommodate greater capacity to serve increasing demands or new development. There are many projects that share these "joint" characteristics. At the same time, projects may not be "replacement" related, but rather "improvement" related.

For purposes of developing the capital funding plan the City provided its long-term capital improvement plan (CIP) which has been summarized in Table 3 - 2 along with the expected funding sources developed as part of the rate study.

Table 3 – 2
Summary of the Capital Improvement Plan ($000)

	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Capital Improvement Projects					
Financial Sys. Software & Conversion	$27	$0	$0	$0	$0
Transfer Switch	21	0	0	0	0
Well #6A Electrical Upgrade	32	0	0	0	0
Standby Generator	105	0	0	0	0
Water Main Replacement Upgrades	185	190	195	200	205
Well #12 Electrical Upgrade	0	32	0	0	0
Vehicle Replacement Fund	0	38	0	40	0
Sports Park Water Tower Inspection	0	0	28	0	0
Water Well #11 Electrical Upgrade	0	0	33	0	0
Well #10 Electrical Upgrade	0	0	0	34	0
Well #13 Electrical Upgrade	0	0	0	34	0
Future Well Electrical Upgrades	0	0	0	0	35
Total Capital Projects	**$370**	**$260**	**$256**	**$308**	**$350**
Less: Outside Funding Sources					
Capital Reserves	**$220**	**$60**	**$6**	**$8**	**$0**
Rate Funded Capital	**$150**	**$200**	**$250**	**$300**	**$350**

As can be seen in Table 3 - 2, there are a number of projects which vary from year-to-year. The capital improvements are primarily related to renewal and replacement of aging water mains. While the total amount required to fund projects may vary from year-to-year, the rate study capital funding plan has attempted to provide a consistent funding source for capital improvements. In this case, rates will annually fund an amount ranging from $150,000 to $350,000 (as highlighted in Table 3 - 2). As a point of reference, the City's annual depreciation expense was approximately $536,000 for FY 2014/15.

A desirable and recommended minimum funding target for rate funded capital is an amount equal to or greater than annual depreciation expense. While this financial plan has not fully met that target funding level of rates, the level of funding has been increased to a more prudent level. It is important to note and understand that depreciation expense is not the same as replacement cost. Thus, funding an amount which exceeds depreciation expense (i.e., $536,000) is both prudent and appropriate. In developing this financial plan, HDR and the City have attempted to minimize rate impacts while funding the planned capital improvement projects of the City. As additional rate revenues become available the City should increase the level of rate funded capital to reflect annual renewal and replacement needs in the future.

3.7 Projection of Debt Service

The City currently has one (1) outstanding debt issues for the water utility, the 2007 water bond. The total annual debt service payment is approximately 915,000 per year. As shown in Table 3 - 2, no additional (new) long-term debt issues are assumed over the FY 2016/17 – FY 2020/21 period. As part of this study HDR is not providing municipal advice as it relates to bonds, terms, or structures of debt issuance. Rather, this study is simply identifying the existing annual debt service payments and projections of future funding needs for rate setting purposes.

3.8 Reserve Funding

The final component of the revenue requirement analysis is the transfer to, or from, reserves to either maintain prudent ending fund balances or for future funding of specific projects. As shown below in Table 3 - 3, in FY 2016/17 reserves are being used to meet operating and capital needs. Then, in future years as rates are at sufficient levels, funds are being transferred back to reserves to meet minimum target levels.

3.9 Summary of the Revenue Requirement

Given the above projections of revenues and expenses, a summary of the City's water revenue requirement analysis can be developed. In developing the revenue requirement analysis, consideration was given to the financial planning considerations of the City. In particular, emphasis was placed on minimizing rates, yet still having adequate funds to support the operational activities and capital improvement needs throughout the projected time period. Given the reduction in revenues due to the drought and declining consumption another key aspect of the study was to develop a financial plan that meets the requirements of the bond covenants. Presented below in Table 3 - 3 is a summary of the City's revenue requirement based on projected expenses and current rates. Detailed exhibits of this analysis can be found in the Technical Appendices.

Table 3 - 3
Summary of the Revenue Requirement Analysis ($000)

	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Revenues					
Rate Revenues	$2,937	$3,000	$3,063	$3,126	$3,157
Misc. Revenues	132	135	138	142	146
Total Revenues	**$3,070**	**$3,135**	**$3,201**	**$3,268**	**$3,302**
Expenses					
Total O & M Expenses	$2,393	$2,387	$2,462	$2,471	$2,466
Rate Funded Capital	0	150	200	250	300
Debt Service	917	918	916	913	915
Reserve Funding	(240)	(35)	(2)	105	187
Total Expenses	**$3,070**	**$3,420**	**$3,576**	**$3,739**	**$3,868**
Bal./(Def.) of Funds	($285)	($375)	($470)	($566)	($665)
Bal. as a % of Rate Rev.	9.5%	12.2%	15.0%	17.9%	20.9%
Proposed Rate Adjustment [1]	**9.5%**	**2.5%**	**2.5%**	**2.5%**	**2.5%**
Add'l Rev. from Rate Adj.	$285	$375	$470	$566	$665
Total Bal./(Def.) of Funds	$0	($0)	($0)	$0	$0

As can be seen, the revenue requirement has summed the O&M, rate funded capital, annual debt service, and use of reserves. The total revenue requirement is then compared to the total sources of funds which are the rate revenues, at present rate levels, and other miscellaneous revenues. From this comparison a balance or deficiency of funds in each year can be determined. This balance or deficiency of funds is then compared to the rate revenues to determine the level of revenue adjustment needed to meet the revenue requirement. It is important to note the "Bal./(Def.) of Funds" row is cumulative. That is, any adjustments in the initial years will reduce the deficiency in the later years. In FY 2016/17 the proposed rate adjustment is projected to be implemented in August of 2016, which is 1 month after the fiscal year begins in July. As a result, the rate adjustment will only be in effect for 11 months of FY 2016/17. Over this project time period, the total deficiency of rates is 20.9% for the City's water utility. This deficiency is primarily driven by the decreased rate revenue from declining consumption due to drought conditions as well as inflationary increases in O&M costs and the need to fund renewal and replacement projects to maintain the system.

Based on the revenue requirement analysis developed herein, HDR has concluded that the City will need to adjust water rates starting in FY 2016/17. A revenue increase of 9.5% is proposed in FY 2016/17. After FY 2016/17 the adjustments are expected to be inflationary. For example purposes 2.5% has been assumed for rate modeling purposes. Based on the rate transition plan, as can be seen above in Table 3 – 3, the proposed annual rate adjustments (yellow shaded line) have been developed to meet the operating and capital needs of the City's water.

3.10 Reserve Levels

Another key element of determining the financial health and sustainability of the City's water utility is to review the level of available reserve levels after the proposed rate adjustments. Utilities can have several different reserves each with a different purpose. The typical types of reserves utilities maintain are generally referenced as an operating reserve, a capital reserve, a connection fee, and in some cases an emergency or rate stabilization reserve. Each of these funds can have a minimum ending balance that, if reached or falls below, is a signal that the City should review the revenue sources associated with each fund. The minimum ending balances will vary depending on the purpose of the fund and the expected revenue sources.

For the City, there are two primary funds for the water utility. These are the operating and capital funds. Each of these is discussed further below.

- **Operating Reserve** – The operating reserve is in place to meet the City's annual cash flow needs. The target minimum ending balance for an operating reserve is 90 days of annual O&M expenses. This target results in a minimum ending balance of approximately $600,000 on average over the five year rate setting period. This target minimum is in place to help the utility target an amount that will be able to fund operations of the water utility should any unforeseen event adversely affect the City's water rate revenues. Over the five year rate setting period the operating reserve maintains an ending balance remains greater than the target minimum.
- **Capital Reserve** – The capital reserve is used as the primary funding source for capital improvement projects. This fund is also used to track the collection of annual connection fee revenues from new customers connecting to the system. Similarly to the operating reserve, the capital reserve has a minimum level which the City targets in order to fund an emergency repair from a catastrophic event, for example. The capital reserve, this target is the average annual capital projects over the review period. For FY 2016/17 that figure is $455,000. Over the 5-year period, the City is projected to maintain the capital reserve above the minimum target.

Each of these funds was reviewed during the development of the rate study process with the focus being on meeting the target ending fund balances.

3.11 Debt Service Coverage Ratios

When long-term debt is issued, and specifically for municipal revenue bonds, the City enters into an agreement that requires a specific level of revenue be generated each year in excess of O&M expenses and annual debt service payments. This is known as a debt service coverage ratio. As noted previously, the City only has one (1) outstanding debt issuance. Based on the proposed revenue adjustments, and subsequent increase in revenues, the City will be meeting the required debt service coverage ratios. In addition, the drought rate structure being proposed, and discussed in more detail in section 5, will provide additional revenue stability to help maintain sufficient revenues to maintain the necessary debt service coverage ratios.

3.12 Consultant's Conclusions

The revenue requirement developed above has indicated the need for annual revenue increases to adequately fund the City's operating and capital needs for the water utility. The proposed revenue adjustment is 9.5% in FY 2016/17, followed by annual CPI adjustments based on the historical 10 year average. HDR has reached this conclusion for the following reasons:

- Rate adjustments are necessary to meet the operating and capital costs of providing water service to the City's customers.
- Rate adjustments are necessary to reflect the reduction in annual water consumption due to the drought and State mandated conservation.
  - This new level of consumption may be reflective of the new level of water consumption for the foreseeable future.
- The proposed rate adjustments maintain the City's financial health and provide long-term sustainable funding levels.
- Prior to the implementation of the fifth, and final, proposed rate adjustment the City should complete a review of the water rates.

In reaching this conclusion, HDR would recommend that the City adopt the proposed annual rate adjustments for FY 2016/17 in order to provide the funding for the operating expenses and capital improvement program. Future year rate adjustments are proposed to be inflationary and estimated in the analysis to be 2.5% annually.

4. Development of the Cost of Service Analysis

4.1 Introduction

In the previous section, the revenue requirement analysis focused on the total sources and application of funds required to adequately fund the City's water utility. This section will provide an overview of the cost of service analysis developed for the City.

A cost of service analysis determines the equitable allocation of the total revenue requirement between the various customer classes of service (e.g., residential, non-residential, irrigation). The previously developed revenue requirement was utilized in the development of the cost of service analysis.

4.2 Objectives of a Cost of Service Study

There are two primary objectives in conducting a cost of service analysis:

- Equitably allocate the City's revenue requirement among the customer classes of service; and
- Derive average unit costs (i.e., cost-based rates) for subsequent rate designs.

The objectives of the cost of service analysis are different from determining a revenue requirement. As noted in the previous section, a revenue requirement analysis determines the utility's overall financial needs, while the cost of service analysis determines the fair and equitable manner to collect the revenue requirement.

The results of the cost of service analysis determine the unit costs which are used in the development of the final proposed rate designs. The cost of service analysis provides a per unit cost of water consumption based on each customer class's equitable (proportional) share of costs. For example, a water utility incurs costs related to demand, average day, peak day, fire protection, and customer-related cost components. A water utility must build sufficient capacity[2] to meet summer peak capacity needs. Therefore, those customers contributing to those peak demands on the system should pay their proportionately higher share of the costs to provide the capacity in the system. The unit costs provide the relationship between these components which are then used to set cost-based rates.

[2] System capacity is the system's ability to supply water to all delivery points at the time when demanded. Coincident peaking factors are calculated for each customer class at the time of greatest system demand. The time of greatest demand is known as peak demand. Both the operating costs and capital assets related costs incurred to accommodate the peak demands are generally allocated to each customer class based upon the class's contribution to the peak month, day and hour event.

4.3 Determining the Customer Classes of Service

The first step in a cost of service analysis is to determine the customer classes of service. Based on discussion with City staff, the current customer classes of service were maintained and used within the cost of service analysis. These customer classes of service are:

- Single Family
- Non-Residential
- Irrigation
- Fire Protection

In determining classes of service for cost of service purposes, the objective is to group customers together into similar or homogeneous groups based upon similar facility requirements and/or demand characteristics.

4.4 General Cost of Service Procedures

In order to determine the cost to serve each customer class of service on the City's water system, a cost of service analysis is conducted. A cost of service analysis utilizes a three-step approach to review costs. These steps take the form of functionalization, classification, and allocation. Provided below is a detailed discussion of the water cost of service study conducted for the City, and the specific steps taken within the analysis. The approach used for the City's study conforms to generally accepted cost of service methodologies as outlined in the AWWA M1 manual.

4.4.1 Functionalization of Costs

The first analytical step in the cost of service process is called functionalization. Functionalization is the arrangement of expenses by major operating functions (e.g., supply, transmission, storage, distribution). Within this study, there was a limited amount of functionalization of the cost data since it was largely accomplished within the City's system of accounts.

4.4.2 Classification of Costs

The second analytical task performed in a water cost of service study is the classification of the costs. The classification of costs examines why the expenses were incurred or what type of need is being met. The following cost classifiers were used to develop the cost of service analysis:

- **Commodity Related Costs:** Commodity costs are those costs which tend to vary with the total quantity of water consumed by a customer. Commodity costs are those incurred under average load (demand) conditions and are generally specified for a period of time such as a year. Chemicals or utilities (electricity) are examples of commodity-related cost as these costs tend to vary based upon the total demand of water.

- **Capacity Related Costs:** Capacity costs are those which vary with peak demand, or the maximum rates of flow to customers. System capacity is required when there are large demands for water placed upon the system (e.g., summer lawn watering). For water utilities, capacity related costs are generally related to the sizing of facilities needed to meet a customer's maximum water demand at any point in time. For example, portions of distribution storage reservoirs and mains (pipes) must be adequately sized to meet for this particular type of requirement.
- **Customer Related Costs:** Customer costs are those costs which vary with the number of customers on the water system. They do not vary with system output or consumption levels. These costs are also sometimes referred to as readiness to serve or availability costs. Customer costs may also sometimes be further classified as either actual or weighted. Actual customer costs vary proportionally, from customer to customer, with the addition or deletion of a customer regardless of the size of the customer. An example of an actual customer cost is postage for mailing bills. This cost does not vary from customer to customer, regardless of the size or consumption characteristics of the customer. In contrast, a weighted customer cost reflects a disproportionate cost, from customer to customer, with the addition or deletion of a customer. Examples of weighted customer costs are items such as meter maintenance expenses, where a large commercial customer requires a significantly more expensive meter than a typical residential customer.
- **Fire Protection Related Costs:** Fire protection costs are those costs related to the public fire protection functions. Usually, such costs are those related to public fire hydrants and the over-sizing of mains and distribution storage reservoirs for fire protection purposes
- **Revenue Related Costs:** Some costs associated with the utility may vary with the amount of revenue received by the utility. An example of a revenue related cost would be a utility tax which is based on the gross utility revenue.

Water Cost of Service Analysis Terminology

Functionalization – The arrangement of the cost data by functional category (e.g., source of supply, treatment, etc.).

Classification – The assignment of functionalized costs to cost components (e.g., commodity, capacity, customer and fire protection related).

Allocation – Allocating the classified costs to each class of service based upon each class's proportional contribution to that specific cost component.

Commodity Costs – Costs that are classified as commodity related vary with the total demand of water (e.g., chemical use at a treatment plant).

Capacity Costs – Costs classified as capacity related vary with peak day or peak hour usage. Facilities are often designed and sized around meeting peak demands.

Fire Protection Costs – Costs that are related to fire protection services (e.g., hydrants, oversizing of storage and distribution mains).

Customer Costs – Costs classified as customer related vary with the number of customers on the system (e.g., metering costs).

4.4.3 Development of Allocation Factors

Once the classification process is complete, and the customer groups have been defined, the various classified costs were allocated to each customer group. The City's classified costs were allocated to the previously identified customer groups using the following allocation factors.

- **Commodity Allocation Factor:** As noted earlier, commodity-related costs vary with the total water consumption. Therefore, the commodity allocation factor was based on the projected total metered consumption plus losses for each class of service for the projected test period (FY 2016/17). As noted, the consumption reflects the projected new baseline consumption levels. These projected levels are based on estimates of customer behavior changing due to the current drought.
- **Capacity Allocation Factor:** The capacity allocation factor was developed based on the assumed contribution to peak day use of each class. Peak day use by customer class of service was estimated using peaking factors for each customer group. In this particular case, the peaking factor was defined as the relationship between peak day contribution and average day use and determined for each customer group based on a review of the average month to peak month usage for the last three years. Given a peaking factor, the peak day contribution for each class of service was developed.
- **Customer Allocation Factor:** Customer costs vary with the number of customers on the system. Two basic types of customer allocation factors were identified – actual and weighted. The allocation factors for actual customers were based on the projection of the number of customers developed within the revenue requirement. The weighted customer allocation factors is also broken down further into two factors which attempt to reflect the disproportionate costs associated with serving different types of customers. The first weighted customer factor is for customer service and accounting. This weighted customer allocation factor takes into account the fact that it may take more time to read a meter and process a bill for various customers. The second weighted customer allocation factor is for meters and services. This factor attempts to reflect the different demands (capacity) placed on the system based on the size of the meter. The demands for each meter, for each customer class of service, are summed to determine the demands that can be placed on the system at any point in time. This is typically the basis for sizing the system to meet peak demands.
- **Public Fire Protection Allocation Factor:** The development of the allocation factor for public fire protection expenses involved an analysis of each class of service and their fire flow requirements. The analysis took into account the gallon per minute fire flow requirements in the event of a fire, along with the duration of the required flow. The fire flow rates used within the allocation factor were based on industry standards. The minimum fire flow requirements are then multiplied by the number of customers in each class of service, and the assumed duration of the fire, to determine the class' prorated fire flow requirements.
- **Revenue Related Allocation Factor:** The revenue related allocation factor was developed from the projected rate revenues for FY 2016/17 for each customer class of service. These same revenues were used within the revenue requirement analysis discussed previously.

As mentioned before, in a typical cost of service study, the allocation factors represent a group of similar customers such as non-residential. For this analysis, however, additional cost detail was needed when allocating costs. This meant that the commodity and capacity allocation factors had the classes further broken down as residential and non-residential have a factor for each of the three tiers. These allocation factors are used to develop the cost-based rates that will be proposed to provide the cost basis for the rates (i.e., Proposition 218). Further discussion related to the allocation of costs to a greater cost level is discussed in more detail in the rate design analysis provided in Section 5 of this report.

4.5 Functionalization and Classification of Operating Expenses

The next step was to functionalize and classify the City's water operating expenses. The City's operating expenses were functionalized based on the budget categories (e.g., water maintenance, finance). The classification process included reviewing each operating expense and determining which cost classifiers the assets were related to. For example, the City's operating expenses were classified as: capacity-related, commodity-related, customer-related, revenue-related, public fire protection-related, or a direct assignment.

For the City's study, the revenue requirement for FY 2016/17 was functionalized, classified, and allocated. As noted in Section 3, the City utilized a cash basis revenue requirement, which was comprised of operation and maintenance expenses, debt service, and change in working capital. Provided below is a summary of the allocation process. The following approach is based on the methodology as described in the AWWA M1 Manual.

Water Engineering and Maintenance – Both of these operating expense categories were classified in the same manner. These operating costs are related to operating and maintaining the existing water system. This includes source of supply, treatment, transmission, and distribution related function. Given the costs are related to the overall operation of the water system these costs were classified as being related to average day, peak day, and weighed customer for equivalent meters. The classification was based on the system operating characteristics, average day to peak day ratios and a customer component. Weighted meters and services was used to reflect the demands customers may place on the system and the sizing to meet these peak demands on a fixed basis (i.e., customer). Based on this review, these operating expenses were classified as 23.9% to commodity related costs (average day), 23.5% to capacity related costs (peak day), and 52.7% to weighted meters and services based on the equivalent meter basis. This classification reflects the City's system peak demand, both on an actual system peak component and potential peak component in relation to the system average day use (base needs). There are also costs, electricity for example, that are classified as 100% commodity related. It should also be noted that a portion of these costs related to conservation programs were directly assigned and allocated to the upper tiers to reflect the reason for incurring the costs (e.g., reducing high levels of consumption).

Finance Department – Finance department operating expenses are related to the customer billing and accounting functions that support the water utility. These expenses were classified as being 100% customer related.

Table 4 - 1 provides a summary of the basic functionalization and allocation of the major water plant items. A more detailed exhibit of the City's functionalization and allocation of plant investment can be found in the Technical Appendix.

Table 4 - 1
Summary of the Allocation of Water Operating Expenses

Category	Commodity Related	Capacity Related	Customer Related	Equivalent Meters	Direct Assignment
Water Engineering	23.9%	23.5%	0.0%	52.7%	0.0%
Water Operations	31.4%	26.5%	0.0%	41.7%	0.4%
Finance Department	0.0%	0.0%	100.0%	0.0%	0.0%
Total Net Plant In Service	**23.7%**	**20.1%**	**23.6%**	**32.4%**	**0.3%**

A more detailed review of the functionalization and classification of the revenue requirement can be found in the Technical Appendix in Exhibit 11.

4.6 Major Assumptions of the Cost of Service Study

A number of key assumptions were used within the City's cost of service study. Below is a brief discussion of the major assumptions used.

- The test period used for the cost of service analysis was FY 2016/17. The revenue and expense data was previously developed within the revenue requirement study.
- A cash basis approach was utilized which conforms to generally accepted water cost of service approaches and methodologies.
- The classification of operating expenses was developed based upon generally accepted cost allocation techniques. Furthermore, they were developed using the City's specific data.
- Consumption by cost or class of service used within this study was developed for each class of service from historical usage information provided by the City.
- Peak day capacity allocation factors were estimated based upon each customer group's average to peak month relationship.

4.7 Summary Results of the Cost of Service Analysis

In summary form, the cost of service analysis began by functionalizing the City's revenue requirement. The functionalized revenue requirement was then classified into their various cost components. The individual classification totals were then allocated to the various customer classes of service based on the appropriate allocation factors. The allocated expenses for each customer class were then aggregated to determine each customer class's overall revenue responsibility. The total allocated costs are then compared to the current revenues for each customer class to provide the change, in both dollars and percentage, from the current rate

levels. Provided in Table 4 - 2 is a summary of the water cost of service analysis for the FY 2016/17 time period.

Table 4 - 2
Summary of the Cost of Service Analysis ($000)

Class of Service	Present Revenues (FY 2016/17)	Allocated Costs	$ Difference	% Difference
Residential	$2,358	$2,668	($310)	13.2%
Non-Residential	458	430	28	-6.0%
Irrigation	94	90	$4	-4.2%
Fire Protection	90	96	($6)	7.1%
Total	**$3,000**	**$3,285**	**($285)**	**9.5%**

The cost of service analysis equitably allocates the operating and capital costs to each customer class with their respective benefit received from and burdens placed on the water system (proportional allocation). The results of the analysis show that some cost differences exist between the various customer classes of service. It is important to understand that a cost of service analysis is based on one year's O&M expense data and projected customer usage information. Given this, the results of the cost of service analysis may change from year to year. As the City continues to monitor rates and cost of service results through future studies, additional cost of service adjustments may be necessary to reflect consumption patterns at that time.

4.8 Consultant's Conclusions and Recommendations

Given the requirements of Article XIII D, section 6 the results of the cost of service will be used to establish the proposed rate designs for each of the City's customer classes of service. A more detailed discussion of the use of the cost of service results is provided in the rate design section (Section 5) of this report.

4.9 Summary of the Cost of Service Analysis

This section of the report has provided the recommendations resulting from the cost of service analysis developed for the City's water utility. This analysis was prepared using generally accepted cost of service techniques as provided in the AWWA M1 Manual. The following section of the report will provide a summary of the present and proposed rates for the City's water utility.

5. Development of the Rate Designs

5.1 Introduction

The final step of the City's water rate study is the design of rates to collect the desired levels of revenues, based on the results of the revenue requirement and cost of service analyses. In reviewing City's rates, consideration is given to the level of the rates as well as the structure of the rates. The level of rates reflects the amount of revenues that should be collected while the structure of the rates is how it is collected (charged) from the customers.

The overall revenue level for the City has been established in the revenue requirement analysis (Section 3) while the equitable allocation of costs between the various customer classes has been developed in the cost of service analysis (Section 4) which provides the revenue levels to be collected from each class of service.

5.2 Rate Design Criteria and Considerations

Prudent rate administration dictates that several criteria must be considered when setting utility rates. Some of these rate design criteria are listed below:

- Rates which are easy to understand from the customer's perspective
- Rates which are easy for the City to administer
- Consideration of the customer's ability to pay
- Continuity, over time, of the rate making philosophy
- Policy considerations (encourage efficient use, economic development, etc.)
- Provide revenue stability from month to month and year to year
- Promote efficient allocation of the resource
- Equitable and non-discriminatory (cost-based)
- Legally Defensible

It is important that the City provide its customers with a proper price signal as to what their consumption and peaking (demand) requirements are costing. This goal may be approached through rate level and structure. When developing the proposed rate designs, all the above listed criteria were taken into consideration. However, it should be noted that it is difficult, if not impossible, to design a rate that meets all the goals and objectives listed above. For example, it may be difficult to design a rate that takes into consideration the customer's ability to pay, and one which is cost-based. In designing rates, there are always trade-offs between these various goals and objectives.

5.3 Development of Cost-Based Water Rates

Developing cost-based and equitable rates is of paramount importance in developing proposed water rates. While always a key consideration in developing rates, meeting the legal requirements, and documenting the steps taken to meet the requirements, has been in the forefront with the recent legal challenges in the State of California on water rates. Given this, the City's proposed water rates have been developed to meet the legal requirements of California constitution article XIII D, section 6 (Article XIII D). A key component of Article XIII D is the development of rates which reflect the cost of providing service and are proportionally allocated among the various customer classes of service. HDR would point out that there is no single prescribed methodology for equitably assigning costs to the various customer groups. The American Water Works Association (AWWA) M1 Manual clearly delineates various methodologies which may be used to establish cost-based rates. Article XIII D does not prescribe a particular methodology for establishing cost-based rates; consequently, HDR developed the City's proposed water rates based on the methodologies provided in the AWWA M1 Manual to meet the requirements of Article XIII D and recent legal decisions to provide an administrative record of the steps taken to establish the City's water rates.

HDR is of the opinion that the proposed rates comply with legal requirements of Article XIII D. HDR reaches this conclusion based upon the following:

- **The revenue derived from water rates does not exceed the funds required to provide the property related service (i.e., water service).** The proposed rates are designed to collect the overall revenue requirements of the City's water utility.
- **The revenues derived from water rates shall not be used for any purpose other than that for which the fee or charge is imposed.** The revenues derived from the City's water rates are used exclusively to operate and maintain the City's water system.
- **The amount of a fee or charge imposed upon a parcel or person as an incident of property ownership shall not exceed the proportional costs of the service attributable to the parcel.** This study has focused almost exclusively on the issue of proportional assignment of costs to customer classes of service. The proposed rates have appropriately grouped customers into customer classes of service (residential, non-residential, irrigation) that reflect the varying consumption patterns and system requirements of each customer class of service. The grouping of customers and rates into these classes of service creates the equity and fairness expected under Article XIII D by having differing rates by customer classes of service which reflect both the level of revenue to be collected by the utility, but also the manner in which these costs are incurred and equitably assigned to customer classes of service based upon their proportional impacts and burdens on City's the water system.

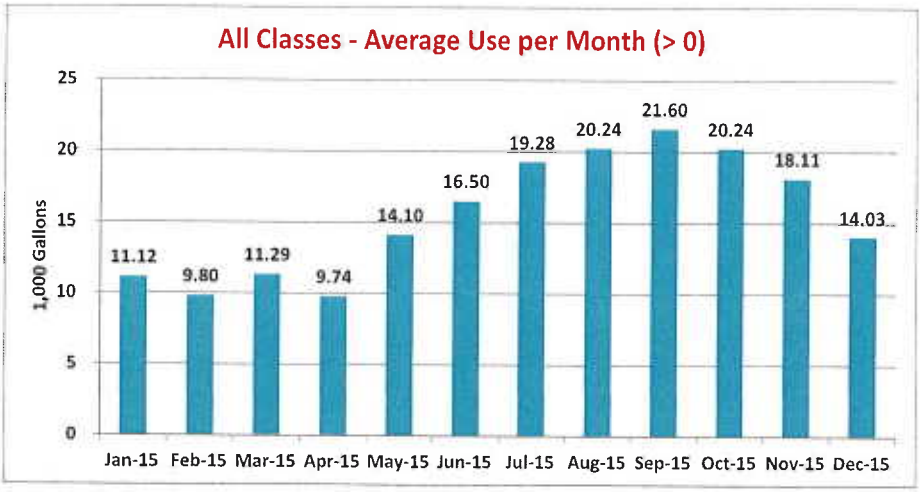
The City currently has established customer classes of service that includes both a monthly service charge and a commodity charge. However, the commodity charge is the same for the residential and the non-residential customers and the irrigation customers are charged a uniform rate.

In discussion with the City, it was determined that the current rate structure would be maintained and only the level of the rates would be adjusted. Under this approach, all customers would be charged the same monthly service charge that varies by meter size. The residential and non-residential customers would have the same three tiered commodity charge and irrigation would maintain the current uniform rate. Given the prior discussion on the California legal requirements of setting rates, and the development of a cost of service analysis for the City, and specifically the unit costs, is the basis for the development of the proposed water rates for the City's customers.

As a part of this study, HDR developed a water rate design discussion to clearly demonstrate and support the proposed water rates and tiered pricing. The following discussion provides a more detailed analysis of the costing techniques and methodologies used to support the City's proposed rate design.

5.3.1 Determination of Sizing and Number of Tiers

The first step in reviewing the City's current, and proposed, tiered rate structure is to identify the number of tiers and determine the size of the tiers. After reviewing the customer consumption patterns, the current tier sizing was maintained. The sizing of the tiers is based on actual consumption data from the City for the last two years. The goal of the tiers was to target typical monthly customer average consumption levels in the first block and all usage above that block in the second block. In reviewing the individual customer consumption data, it was determined that the tiers reflected those targeted consumption levels. Shown in the chart is the average consumption by month for all customers.



The proposed rate structure for the irrigation customers is a uniform rate. A uniform rate is appropriate given the various levels of consumption that can occur between different customers. As a result, it is difficult to develop an equitable tier size that reflects the various types of customer's usage characteristics.

After the number and size of tiers and the seasonal periods have been identified, the pricing of the tiers and seasons is the next analytical step.

5.3.2 Establishing the Cost-Basis for Pricing Tiers

While there remains much discussion in the legal and rate community as to the impacts and stricter technical (legal) requirements as a result of the *Capistrano* decision, HDR has concluded that utilities have available to them at least three technical approaches to be able to demonstrate (i.e., cost justify) the individual pricing of the tiers. These technical approaches encompass the following areas:

1. Cost differences in water supply (i.e., stacking of water supply resources to tiers).
2. Cost differences from high peak use consumers (relationship of average use to peak use).
3. Direct assignment of costs to specific tiers (e.g., conservation program costs, etc.).

In certain cases, the cost differences may be related to the cost of water supply when a utility has more than one source of water supply. Additionally, this water supply approach may also include the cost of alternative water supplies (i.e., recycled or reuse water). For example, reuse water may be assigned to higher tiers to reflect outdoor use or the need for additional/alternative water supply to meet the demands of the high use customers.

The second possible source of cost differences for the pricing of tiers is related to high-peak use (peak demand) customers. Customers that use more water create greater demands and costs on the system. A water supply and distribution system must be sized to meet these peak use requirements. In other words, on the hottest day of the year when everyone is watering their lawn, the supply and distribution system must be sized to meet those peak use demands. Economic theory clearly states that equity is achieved when those that create the demand event, pay for the demand event. In this particular case, this has implications upon the equitable allocation of capacity-related costs to the different usage tiers (low use vs. high peak use).

Finally, certain costs may be directly assigned to specific tiers. For example, a conservation program which focuses on outdoor water use may be directly assigned to the water tiers, or seasons, which are most directly related to outdoor use. The direct assignment to a specific price tier will create a price differential for that tier.

For the City's study, the focus of the analysis was on the second method of determining the cost impacts and cost differences associated with high peak use customers. The pricing of the tiers was developed to provide the cost-basis and meet the requirements of Prop. 218.

5.4 Development of the Unit Costs for Rate Designs

To begin the assignment of costs related to specific tiers, the results of the cost of service analysis is utilized. As noted in Section 4, the cost of service analysis classifies the revenue requirement between the various cost components of average use (commodity), peak use (capacity), and customer (actual and weighted). However, the results previously shown in Table 4-2 which allocated the totals to the various customer classes of service are further allocated between the rate structure components (e.g., service charge, commodity tiers). Provided in

Table 5 – 1 is a more detailed summary of the classification of the FY 2016/17 revenue requirement from the cost of service analysis (Table 4-2).

Table 5 - 1
Summary of the Classification of the Revenue Requirement ($000)

Class of Service	Total	Commodity Related	Capacity Related	Customer Related	Direct Assign.
Net Revenue Requirement	$3,285	$535	$454	$2,289	$7

The total of the above classified costs, of approximately $3.3 million, is the same as the total costs allocated in Table 4 - 2 of the cost of service analysis. This classification of the total revenue requirement for FY 2016/17 is then allocated to the various customer classes of service. Prior to the recent legal decisions, the analyses would have been complete. However, with the legal requirement to provide the cost-basis for tiered pricing, the classified costs are further allocated between the various rate structure components based on the appropriate allocation factors. The allocation factors were discussed for the costs of service in Section 4 of this report. Provided below is a discussion of the approach used to allocate the revenue requirement between the various customer classes of service as established in Sections 3 and 4 to the various rate components for each customer class of service.

5.4.1 Commodity Allocation Factor

The commodity allocation factor is based on the average annual use for each of the customer classes of service, and more importantly by tier or seasons. For the development of the pricing of the proposed rates the following customer class components were used:

- Residential – Tier 1
- Residential – Tier 2
- Residential – Tier 2
- Non-Residential – Tier 1
- Non-Residential – Tier 2
- Non-Residential – Tier 3
- Irrigation – All consumption

To develop the commodity allocation factor for each customer class, the usage for each class was divided by the total usage of the system. This produces the percent of the system that each class is responsible for and, therefore, their contribution to commodity related costs. Shown below in Table 5 – 2 is a summery of the commodity allocation factor.

Table 5 - 2
Summary of the Commodity Allocation Factor

Reference Calculation	A	B	C C = A + B	D
	FY 2016/17 Consumption (1,000 gal)	Est. System Losses (1,000 gal)	Total Annual Use (1,000 gal)	% of Total
Residential				
Tier 1	483,475	72,521	555,996	51.2%
Tier 2	82,967	12,445	95,411	8.8%
Tier 3	112,285	16,843	129,127	11.9%
Non-Residential				
Tier 1	31,723	4,758	36,481	3.4%
Tier 2	12,074	1,811	13,885	1.3%
Tier 3	163,513	24,527	188,040	17.3%
Irrigation				
All Consumption	57,825	8,674	66,498	6.1%
Total	**943,861**	**141,579**	**1,085,440**	**100.0%**

As can be seen, the development of the commodity allocation factor is fairly straightforward. It is important to note that the allocation factors are based on of the amount of water for each class including the assumed losses on the system. As an example, Tier 1 consumption of the residential class of service represents 51.2% of the total consumption on the system. As a result, 51.2% of the commodity related costs are allocated to Tier 1 of the residential customers.

This approach is used for each of the customer classes of service for each rate component, either tier or season. The allocated commodity costs are shown below in Table 5 – 3.

Table 5 - 3 Allocated Commodity Costs ($000s)				
Reference Calculation	A	B	C	D D = B / C
	% of Total	Commodity Costs	Water Sales	Unit Cost ($/1,000 gal)
Residential				
Tier 1	51.2%	$274	483,475	$0.57
Tier 2	8.8%	47	82,967	0.57
Tier 3	11.9%	64	112,285	0.57
Residential Total	**71.9%**	**$384**	**678,726**	
Non-Residential				
Tier 1	3.4%	$18	31,723	$0.57
Tier 2	1.3%	7	12,074	0.57
Tier 3	17.3%	93	163,513	0.57
Non-Residential Total	**22.0%**	**$117**	**207,310**	
Irrigation				
All Consumption	6.1%	$32	57,825	$0.57
Irrigation Total	**6.1%**	**$32**	**57,825**	
Total	**100.0%**	**$535**	**943,861**	**$0.57**

The figures in column A are from column D in Table 5 – 2. The costs shown in column B are based on the total commodity related costs from column A of Table 5 – 1. Column C is from column A in Table 5 – 2, or the actual consumption that is billed to the customers.

From the unit costs developed in Table 5 – 3 above, the per unit cost basis of the tired and seasonal rates can be determined for the commodity related costs identified in the cost of service analysis (Column D).

5.4.2 Capacity Allocation Factor

The capacity allocation factor utilizes the same customer classes as in the development of the commodity allocation factor. Whereas commodity costs are related to the volume of water used by each class of service by tier or season, capacity is related to how the class uses that water in each tier or season. Customers use water in different ways and at different times, thus creating different usage patterns and resulting in different peaking factors. These usage patterns drive how the City must size the system to meet the demands of customers regardless of when they occur. To determine the allocation by tier or season, peaking factors need to be developed for each customer class of service tier or season. The peaking factors for a class of service must be reasonably estimated due to a lack of specific metered data related to peak day usage by the classes of service. The method used to estimate a class's peaking factor is to review the average monthly volume of water consumed and compare it to the maximum

monthly usage of water. By dividing the maximum month by the average month, a peak-day factor is calculated. Essentially, this factor provides a seasonal surrogate for the difference between the average use and peak day use in each tier or season. For example, if a customer used 10,000 gallons per month on average and in the peak month 15,000 gallons was used, the peaking factor would be 1.50 (15,000 / 10,000 = 1.50). In this example, the peaking factor is stating that the maximum usage in a month is 1.50 time higher than the average usage per month. Using this same calculation for each customer class tier or season, the allocation factors for capacity can be developed. To develop the peaking factors for the City's study the average consumption from the past three (3) years was averaged to develop a peaking factor for the residential and non-residential customers and a peaking factor for the irrigation customers. Provided in Table 5 – 4 is a summary of the capacity allocation factor for each customer class.

Table 5 - 4
Summary of the Capacity Allocation Factor

Reference Calculation	A	B	C C = A * B	D
	Average Consumption (MGD)	Peaking Factors	Peak Day Use (MGD)	% of Total
Residential				
Tier 1	1.52	1.69	2.57	45.6%
Tier 2	0.26	1.92	0.50	8.9%
Tier 3	0.35	2.00	0.71	12.6%
Non-Residential				
Tier 1	0.10	1.69	0.17	3.0%
Tier 2	0.04	1.92	0.07	1.3%
Tier 3	0.52	2.00	1.03	18.3%
Irrigation				
All Consumption	0.18	2.18	0.40	7.1%
Total [1]	**2.97**		**5.63**	**100.0%**

Table 5 – 4 above shows the development of the capacity allocation factor. Similar to the allocation of commodity costs to the tiers or seasons, the capacity related costs are allocated in the same manner. For example, 45.6% of the capacity costs are allocated to Tier 1 of the residential customers based on column D in Table 5-4.

Table 5 – 5 provides a summary of the allocated capacity costs to each tier and season.

Table 5 - 5 Allocated Capacity Costs ($000s)				
Reference Calculation	A	B	C	D D = B / C
	% of Total	Capacity Costs	Water Sales	Unit Cost ($/1,000)
Residential				
Tier 1	45.6%	$207	483,475	$0.43
Tier 2	8.9%	40	82,967	0.49
Tier 3	12.6%	57	112,285	0.51
SF Total	**67.1%**	**$305**	**678,726**	
Non-Residential				
Tier 1	3.0%	$14	31,723	$0.43
Tier 2	1.3%	6	12,074	0.49
Tier 3	18.3%	83	163,513	0.51
Non-Residential Total	**22.6%**	**$103**	**207,310**	
Irrigation				
All Consumption	7.1%	$32	57,825	$0.56
Irrigation Total	**7.1%**	**$32**	**57,825**	
Total [1]	**100.0%**	**$454**	**943,861**	

The figures in column A are from column D in Table 5 – 4. The costs shown in column B are based on the total capacity related costs from column B of Table 5 – 1. Column C is from column A in Table 5 – 2.

Combining the unit costs from the commodity and capacity unit costs result in the basis of the tiered or seasonal pricing. It is important to note that there is an additional $0.01/1,000 gallons from the costs classified as direct assignment related costs as identified in Table 4-2 and 5-1. This was calculated by totaling the amount which equals $6,798 and dividing it by the total consumption amount of 943,861 1,000 gallons ($6,798 / 943,861 1,000 gal = $0.01/1,000 gal). It is important to note that these costs were assigned to specific tiers based on associated costs; therefore, not all tiers receive directly assigned costs.

The summary Table 5 – 6 below shows the summation of the costs for each tier / rate. This table sums the costs from Table 5 – 3 column D and Table 5 – 5 column D and the additional $0.01/1,000 gal.

Table 5 - 6
Summary of the Unit Costs for Rate Design

Reference	A	B	C	D	E
	Commodity Costs ($/1,000 gal)	Capacity Costs ($/1,000 gal)	Other Costs ($/1,000 gal) [1]	Total Unit Cost ($/1,000 gal)	Differential ($/1,000 gal)
Single Family					
Tier 1	$0.57	$0.43	$0.00	**$1.00**	
Tier 2	0.57	0.49	0.00	**1.05**	*$0.05*
Tier 3	0.57	0.51	0.02	**1.10**	*0.10*
Non-Residential					
Tier 1	$0.57	$0.43	$0.00	**$1.00**	
Tier 2	0.57	0.49	0.00	**1.05**	*$0.05*
Tier 3	0.57	0.51	0.02	**1.10**	*0.10*
Irrigation All Consumption	$0.57	$0.56	$0.01	**$1.14**	

[1] – Includes revenue related, public fire protection, and direct assigned

The results shown in Table 5 – 6 above are the basis for the City's consumption pricing for the proposed tiered rate structures. The analysis and costs shown above have been developed in compliance with the recent legal decisions related to developing cost-based water rates.

It is also important to note that the customer related costs are used to establish the monthly service charge which varies by meter size. As a result, the total customer costs were divided by the number of equivalent meters on the system. An equivalent meter uses the capacity ratio of a 1-inch meter to the larger meter sizes to determine the pricing for each meter size. In this way the meter charge reflects the equitable proportion of fixed costs on the system based on the capacity demands the customer can place on the system based on the size of the meter.

5.5 Summary of the Present and Proposed Water Rates

Given the development of the unit costs for rate design purposes, the next step is to develop the proposed rates for the next five year period. As a note, the proposed rates are being developed for FY 2016/17 based on the results of the comprehensive rate study. The rates provided for FY 2017/18 through FY 202/21 are for illustration purposes only as the rates for future years will be based on the actual 10 year average consumer price index (CPI). Provided in the following is a summary of the present and proposed rates for each customer class of service.

5.5.1 Review of the Present and Proposed Residential Water Rates

As noted, the current rate structure is being maintained based on the review of the customer consumption data. Given that, only the level of the rates is being revised to reflect the results of

the revenue requirement and cost of service analysis. Provided below in Table 5 - 7 is a summary of the current and proposed rates for the City's single family customers.

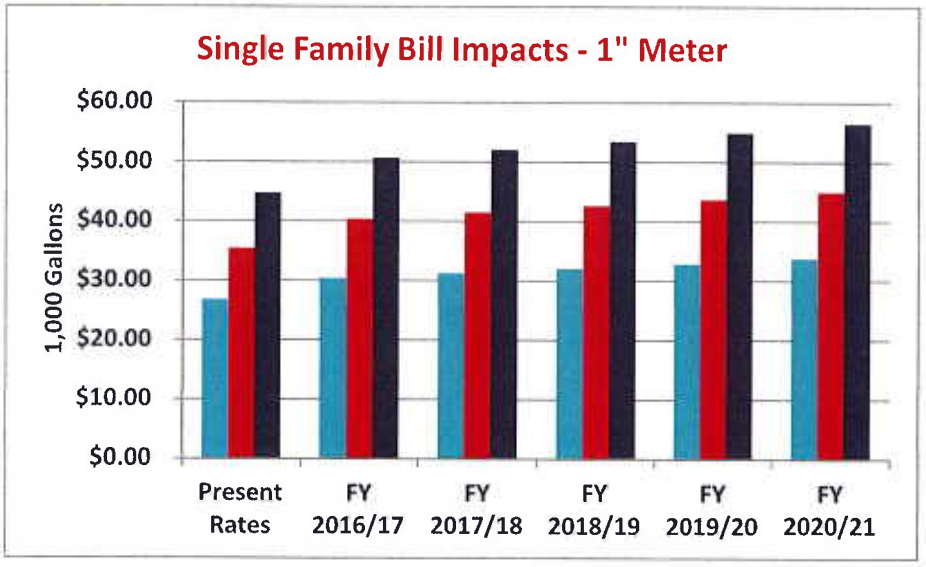
Table 5 - 7
Summary of the Proposed Single Family Water Rates [1]

	Present Rate	FY 2016/17 [2]	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Service Charge	*$/Acct/Mo*					
3/4" and 1"	$26.71	$30.35	$31.15	$32.00	$32.80	$33.70
1 1/2"	31.18	35.51	36.45	37.44	38.38	39.43
2"	35.62	40.37	41.43	42.56	43.62	44.82
Commodity Charge	***$/1,000 gal***					
0 – 15,000	$0.87	$1.00	$1.03	$1.06	$1.09	$1.12
15,000 – 25,000	0.98	1.05	1.08	1.11	1.14	1.18
>25,000	1.05	1.10	1.13	1.17	1.20	1.23

[1] Proposed rates after FY 2016/17 are for illustration purposes only and based on an estimated CPI of 2.5% in each year. The actual rates for years after FY 2016/17 will be based on the historical 10 year average of the Department of Labor Consumer Price Index (CPI)

[2] The proposed FY 2016/17 rates will be effective August 1, 2016.

The proposed rates in Table 5 – 7 maintain the current rate structure. Also shown in the table are the proposed tiered rates for FY 2016/17 which is taken directly from column D in Table 5 – 6, or the calculated unit costs from the cost of service analysis. The chart below shows the impact to single family residential customers at different usage levels for a 1" service meter.



5.5.2 Review of the Present and Proposed Non-Residential Water Rates

Similar to the multi-family rates, the non-residential proposed rates were adjusted to reflect the overall revenue needs as identified in the cost of service results. To maintain the service charges for all customers, the monthly service charge for the residential customers will combine the meter size for all less than 1-inch as is the case for the residential customers. Provided in Table 5 - 9 is a summary of the present and proposed non-residential water rates.

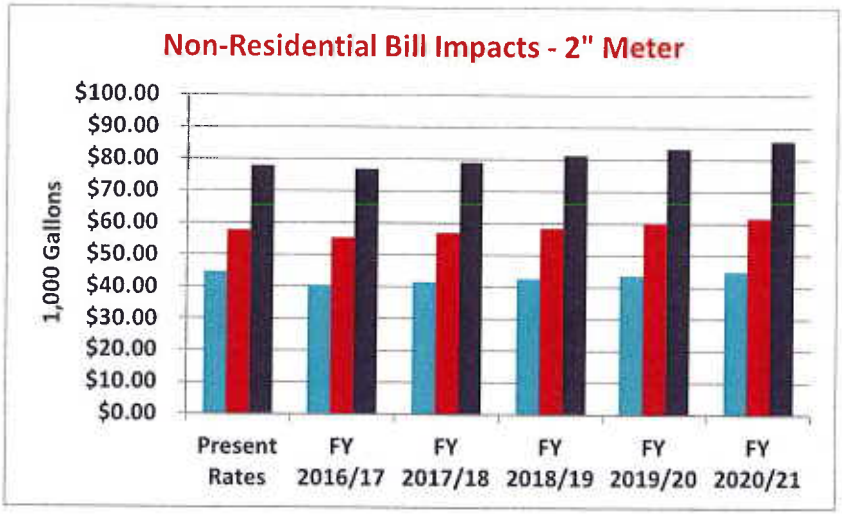
Table 5 - 9
Summary of the Proposed Non-Residential Water Rates

	Present Rate	FY 2016/17 [2]	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Service Charge	*$/Acct/Mo*					
3/4"	$33.41	$30.35	$31.15	$32.00	$32.80	$33.70
1"	36.86	30.35	31.15	32.00	32.80	33.70
1 1/2"	38.98	35.51	36.45	37.44	38.38	39.43
2"	44.54	40.37	41.43	42.56	43.62	44.82
3"	50.11	45.53	46.72	48.00	49.20	50.55
4"	72.39	65.86	67.60	69.44	71.18	73.13
6"	144.81	131.42	134.88	138.56	142.02	145.92
8"	231.71	210.63	216.18	222.08	227.63	233.88
Commodity Charge	*$/1,000 gal*					
0 – 15,000	$0.87	$1.00	$1.03	$1.06	$1.09	$1.12
15,000 – 25,000	0.98	1.05	1.08	1.11	1.14	1.18
>25,000	1.05	1.10	1.13	1.17	1.20	1.23

[1] Proposed rates after FY 2016/17 are for illustration purposes only and based on an estimated CPI of 2.5% in each year. The actual rates for years after FY 2016/17 will be based on the historical 10 year average of the Department of Labor Consumer Price Index (CPI)

[2] The proposed FY 2016/17 rates will be effective August 1, 2016.

As can be seen in Table 5 - 9, the proposed non-residential commodity charge is a three tiered increasing rate structure. It should also be noted that the proposed monthly service charge is identical to residential customers and the commodity charges are based on the unit costs as developed in the cost of service analysis and provided in Table 5-6. A chart has been provided to illustrate the bill impacts for a non-residential customer at various levels of consumption.



5.5.3 Review of the Present & Proposed Irrigation Water Rates

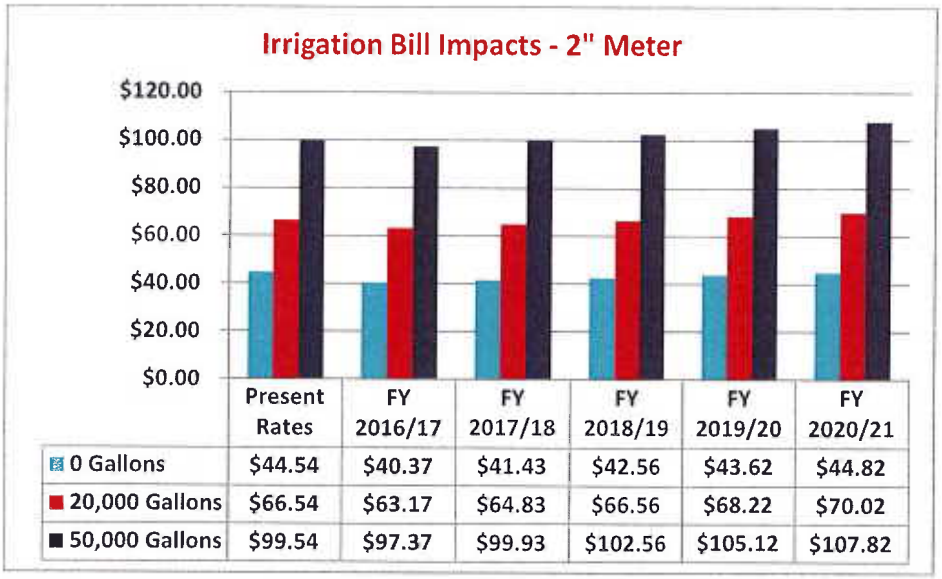
The proposed irrigation rate maintains the current rate structure of a monthly service charge and a uniform commodity charge. As with the non-residential customers, the monthly service charge for all meters 1-inch and smaller were combined. The proposed rates are the direct output of the calculated cost of service analysis as shown in Table 5 – 6 in column D. Provided in Table 5 - 10 is a summary of the current and proposed rates for the irrigation customers.

Table 5 - 10
Summary of the Proposed Irrigation Water Rates

	Present Rate	FY 2016/17 [2]	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Service Charge	*$/Acct/Mo*					
3/4"	$33.41	$30.35	$31.15	$32.00	$32.80	$33.70
1"	36.86	30.35	31.15	32.00	32.80	33.70
1 1/2"	38.98	35.51	36.45	37.44	38.38	39.43
2"	44.54	40.37	41.43	42.56	43.62	44.82
3"	50.11	45.53	46.72	48.00	49.20	50.55
4"	72.39	65.86	67.60	69.44	71.18	73.13
6"	144.81	131.42	134.88	138.56	142.02	145.92
8"	231.71	210.63	216.18	222.08	227.63	233.88
Commodity Charge	*$/1,000 gal*					
All Consumption	$1.10	$1.14	$1.17	$1.20	$1.23	$1.26

The proposed rates reflect the results of the cost of service analysis and equitable allocation of costs to the irrigation customers. The uniform commodity charge was maintained and only the

level of the rates was revised. The chart provides the anticipated bill impacts that an irrigation customer may see.



	Present Rates	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
0 Gallons	$44.54	$40.37	$41.43	$42.56	$43.62	$44.82
20,000 Gallons	$66.54	$63.17	$64.83	$66.56	$68.22	$70.02
50,000 Gallons	$99.54	$97.37	$99.93	$102.56	$105.12	$107.82

5.6 Summary of the Proposed Rate Revenues

The rates for each customer class of service meet the results of the revenue requirement and cost of service results. Provided in Table 5 - 11 is a summary of the revenue targets based on the revenue requirement and cost of service analyses for the FY 2016/17 proposed rate adjustments.

Table 5 - 11
Comparison of the FY 2016/17 Proposed Revenues and Allocated Costs ($000's)

	Present Revenues	Cost of Service Adjustment	Target Revenues	Proposed Revenues	$ Difference
Single Family	$2,358	13.2%	$2,668	$2,613	($55)
Non-Residential	458	-6.0%	430	437	6
Irrigation	94	-4.2%	90	91	1
Fire Protection	90	7.1%	96	96	0
Total	$3,000	9.5%	$3,285	$3,237	($48)

As can be seen, the proposed revenues closely reflect the proportional allocation of costs to the various customer classes of service. A more detailed analysis of the projection of the proposed revenues is included within the Technical Appendix of this report.

This concludes the discussion of the proposed water rates. Detailed exhibits for the various rate designs are included within the water technical appendices.

5.7 Development of the Proposed Drought Rate Structure

As part of the water rate study, a drought rate structure was developed to maintain sufficient revenues during drought or water shortage periods. Drought rates are an important tool that allows the City to maintain adequate revenues when consumption declines due to voluntary or mandatory conservation resulting from drought conditions, such as the current drought California is experiencing, or other water shortage emergencies (e.g., supply constraints due to infrastructure failure).

When properly designed, drought rates address the issues of the financial/revenue impacts of decreased consumption. When a utility enters a drought stage, it is not uncommon for a utility to have a set of drought rates to maintain sufficient revenues due to reductions in usage.

The water rates being proposed in this water rate study assume "normal" water conditions. Under drought conditions, the City will need to have customers reduce their consumption and provide sufficient conservation savings to meet the City's conservation savings goals (State mandated) under the various stages of drought. For purposes of establishing rates for the drought rate structure, the City has four different stages reflecting water use restrictions. Each subsequent stage results in additional reductions in consumption as established in the City's conservation plan. These four stages are summarized below along with the estimated consumption reductions resulting from additional conservation restrictions.

- Stage 1 – Limited Irrigation/Outdoor Use
  - Approximately a 10% reduction in consumptive use
- Stage 2 – Minimal Irrigation/Outdoor Use
  - Approximately a 25% reduction in consumptive use
- Stage 3 – Limited Irrigation/Outdoor Use
  - Approximately a 45% reduction in consumptive use
- Stage 4 – Limited Irrigation/Outdoor Use
  - Approximately a 60% reduction in consumptive use

To maintain the target level of revenue during each stage of the drought, the drought rates are developed to collect the same revenue level with the lower level of consumption at each stage. The difference, stated in dollars per 1,000 gallons, is then added to the water rates for each stage.

At the same time, during a drought, a utility may incur additional costs over and above the revenue requirements incurred during normal water conditions as a result of each stage of the drought. These additional expenses can be incurred for items such as additional water supply, pumping, advertising and notification, additional customer outreach, temporary staffing, enforcement, etc. As a part of developing the City's proposed drought rates no additional or incremental costs have been considered or factored into the drought rates.

Based on the City's planning, the development of the proposed drought rates takes into consideration where the consumption savings will occur. Typically this first targets discretionary use and then, if needed, non-discretionary use. As an example, discretionary use for a residential customer is often defined as outdoor usage, while non-discretionary water use is typically considered indoor use.

In developing the proposed drought rates, the monthly meter charge remains fixed at the same level regardless of the drought stage. Based on the conservation savings estimated for each drought stage, the drought rates were developed to maintain the current level of revenues for each customer class of service. The drought rates were developed by taking the targeted consumption at each level of conservation savings and dividing the revenue reduction by the remaining consumption. This resulted in drought rates that would need to be added to the proposed rates to maintain the target level of revenues during a drought or water shortage period. Provided below in Table 5 - 12 is a summary of the drought rates for each level based on the proposed FY 2016/17 rates.

Table 5 – 12
Summary of the Drought Rates– $/1,000 gal

	Stage 1	Stage 2	Level 3	Level 4
	10%	25%	45%	60%
Residential and Non-Residential				
0 – 15,000 gal	$0.12	$0.35	$0.85	$1.55
15,0000 – 25,000 gal	0.12	0.35	0.85	1.55
>25,000 gal	0.12	0.35	0.85	1.55
Irrigation				
All Consumption	$0.13	$0.38	$0.93	$1.71

The drought rates in Table 5 - 12 are added to the adopted rates in place at the time the drought stage is declared. The drought rates in Table 5 - 12 would be applied to each tier of the City's rates. For example, the proposed rate (FY 2016/17) for single family's first tier is currently $1.00/1,000 gallons and if the City declares a Stage 2 drought, then the first tier rate will change to $1.12/1,000 gallons ($1.00 + $0.12).

Implementation of these drought rates will help the City maintain revenue levels during drought related consumption reductions. It is important to note that the drought rates will not automatically go into effect once a drought stage is declared, rather the City Council will have to take action to implement the rates. This allows for the City Council and City staff to evaluate each situation on a case by case basis in order to decide if the water utility's financial health is at risk.

To better understand how the drought rates work, Table 5 - 13 shows a comparison of the residential and non-residential monthly bill assuming a customer does, and does not, adjust their consumption in response to the requested savings in each drought stage.

Table 5 - 13
Residential and Non-Residential Drought Rate Bill Impacts [1]

	Normal Condition 0%	Level 1 10%	Level 2 25%	Level 3 45%	Level 4 60%
Customer Using 10,000 gal					
Assumes No Change in Use (10,000 gal)	$40.35	$41.50	$43.81	$48.83	$55.90
Assumes Reduced Usage -					
Revised 1,000 gal Usage	10.0	9.0	8.0	6.0	4.0
Total Bi-Monthly Bill	$40.35	$40.39	$41.11	$41.44	$40.57
Customer Using 20,000 gal					
Assumes No Change in Use (20,000 gal)	$50.85	$53.15	$57.76	$67.81	$81.94
Assumes Reduced Usage -					
Revised 1,000 gal Usage	20.0	18.0	15.0	11.0	8.0
Total Bi-Monthly Bill	$50.85	$50.82	$50.78	$50.73	$50.79
Customer Using 40,000 gal					
Assumes No Change in Use (40,000 gal)	$72.85	$77.46	$86.67	$106.77	$135.04
Assumes Reduced Usage -					
Revised 1,000 gal Usage	40.0	36.0	30.0	22.0	16.0
Total Bi-Monthly Bill	$72.85	$72.60	$72.22	$71.71	$71.53

[1] Assumes a 1" meter charge for a typical single family customer.

As can be seen in the above table, if a customer does not modify their consumption, their utility bill will increase. However, if the customer does do provide the requested savings, his or her bill will be relatively the same as the pre-drought bill and provide the City with sufficient revenue to maintain normal operations. For example, a customer using 10,000 gallons would pay $40.35 at the proposed rates. With no reduction in use for stage 1 drought, the customer would pay $41.50. With a reduction in use they will pay $40.39 or roughly the same as their current bill.

As noted, the purpose of the drought rates is to maintain sufficient revenues during times of declining consumption and subsequent revenues. Therefore, as water rates are adjusted, the drought rates will also need to be adjusted to reflect the target revenue needs with the proposed rate adjustments. The adjustment of the drought rates is based on the percentage basis to reflect the change in the overall consumption revenues. It should be noted that this is not the same as the overall rate adjustment, only the percentage change in the consumption revenues resulting from the rate increase. Provided in Table 5 - 14 is a summary of the proposed drought rates for the five-year rate setting period.

Table 5 - 14
Summary of the Drought Rate Schedule – $/1,000 Gallons

	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Residential and Non-Residential					
Stage 1	$0.12	$0.15	$0.18	$0.22	$0.25
Stage 2	0.35	0.38	0.43	0.47	0.51
Stage 3	0.85	0.90	0.96	1.01	1.07
Stage 4	1.55	1.63	1.71	1.78	1.86
Irrigation					
Stage 1	$0.13	$0.16	$0.19	$0.23	$0.26
Stage 2	0.38	0.42	0.46	0.50	0.54
Stage 3	0.93	0.99	1.04	1.10	1.15
Stage 4	1.71	1.79	1.86	1.94	2.01

[1] Proposed rates after FY 2016/17 are for illustration purposes only and based on an estimated CPI of 2.5% in each year. The actual rates for years after FY 2016/17 will be based on the historical 10 year average of the Department of Labor Consumer Price Index (CPI)

As noted, the above drought rates are added to the water rates adopted for the time period specified. Updating the drought rates each time the water rates are updated will maintain the sufficient revenue levels necessary to fund the operating and capital needs of the water utility during times of drought and reduced consumption levels. The technical appendix provides the calculation of the drought rates for each customer class of service.

5.8 Water Rate Study Recommendations

Based on the results of the water rate study, HDR recommends the following:

- Rate adjustments are necessary to prudently fund operating and capital renewal and replacement expenses.
- Water rates should be adjusted 9.5% based on the proposed rates as part of this study starting in FY 2016/17.
- The proposed rates would be effective August 1, 2016.
- Each July 1st thereafter, the rates will be adjusted by historical 10 year average of the Department of Labor Consumer Price Index (CPI).
- The proposed rates reflect the results of the cost of service analysis and the proportional allocation of costs to the various customer classes of service.
- A drought rate structure is proposed to maintain sufficient revenues for operating and capital needs during drought or water shortage events.
- The drought rates are recommended to be implemented at the appropriate level in FY 2016/17 along with the proposed rates.

- The drought rates should be adjusted when water rates are adjusted after the proposed FY 2016/17 rate adjustment.
- After five (5) years, the City should complete a review of the water rates to confirm the basis for future proposed rates.

5.9 Summary of the Water Rate Study

This completes the analysis for the City of Reedley's water utility. This study has provided a comprehensive review and development of proposed water rates, and drought rates, for the City. Adoption of the proposed water rates and drought rates will allow the City to meet their current and projected water system financial obligations for the time period reviewed based on the assumed customer growth, capital plan, and projected increases in operating costs. Should these assumptions change, the proposed rate adjustments may also need to be revised to reflect the current conditions.

Technical Appendix A –Water Rate Analysis

City of Reedley
Water Rate Study
Revenue Requirement Summary
Exhibit 1

	Actual	Budget	Projected				
	FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Revenues							
Rate Revenues	$2,883,972	$2,937,347	$3,000,021	$3,062,988	$3,126,352	$3,156,615	$3,187,182
Other Misc. Revenues	942,527	132,463	135,157	138,352	141,875	145,771	149,749
Total Revenues	**$3,826,499**	**$3,069,810**	**$3,135,178**	**$3,201,340**	**$3,268,227**	**$3,302,387**	**$3,336,930**
Expenses							
Engineering Water	$108,204	$107,394	$110,955	$114,648	$118,480	$122,456	$126,582
Water Maintenance	3,009,814	1,740,975	1,713,623	1,766,516	1,752,954	1,724,116	1,780,631
Finance Department	513,030	544,633	562,377	580,738	599,738	619,402	639,755
Total O&M Expenses	**$3,631,048**	**$2,393,002**	**$2,386,955**	**$2,461,902**	**$2,471,172**	**$2,465,975**	**$2,546,969**
Taxes/Transfer Payments	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Rate Funded Capital	**$0**	**$0**	**$150,000**	**$200,000**	**$250,000**	**$300,000**	**$350,000**
Net Debt Service	**$915,363**	**$916,863**	**$917,763**	**$916,188**	**$912,550**	**$914,831**	**$917,506**
Reserve Funding To/(From)	**($719,911)**	**($240,054)**	**($34,538)**	**($1,916)**	**$104,815**	**$187,231**	**$187,541**
Total Revenue Requirements	**$3,826,499**	**$3,069,810**	**$3,420,179**	**$3,576,173**	**$3,738,538**	**$3,868,037**	**$4,002,016**
Bal./(Def.) of Funds	**$0**	**$0**	**($285,002)**	**($374,833)**	**($470,311)**	**($565,650)**	**($665,085)**
Bal. as a % of Rate Revenues	**0.0%**	**0.0%**	**-9.5%**	**-12.2%**	**-15.0%**	**-17.9%**	**-20.9%**
Proposed Rate Adjustment	**0.0%**	**0.0%**	**9.5%**	**2.5%**	**2.5%**	**2.5%**	**2.5%**
Add'l Revenue from Rate Adj.	**$0**	**$0**	**$285,002**	**$374,833**	**$470,311**	**$565,650**	**$665,085**
Total Balance/(Deficiency) of Funds	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Additional Rate Adjustment Required	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Reserve Funds	**$1,369,299**	**$1,063,058**	**$1,028,520**	**$864,123**	**$802,071**	**$817,928**	**$829,469**

City of Reedley
Water Rate Study
Escalation Factors
Exhibit 2

	Actual	Budget	Projected					
	FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	Notes:
Revenues								
Customer Growth	Actual	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
Other Revenues	Actual	Budget	2.5%	2.5%	2.5%	2.5%	2.5%	
Expenses								
Labor	Actual	Budget	2.5%	2.5%	2.5%	2.5%	2.5%	
Benefits	Actual	Budget	5.0%	5.0%	5.0%	5.0%	5.0%	
Materials and Supplies	Actual	Budget	3.0%	3.0%	3.0%	3.0%	3.0%	
Equipment	Actual	Budget	3.0%	3.0%	3.0%	3.0%	3.0%	
Utilities	Actual	Budget	3.0%	3.0%	3.0%	3.0%	3.0%	
Miscellaneous Expense	Actual	Budget	3.0%	3.0%	3.0%	3.0%	3.0%	
New Debt Service								
Revenue Bond								
Term in Years	Actual	20	20	20	20	20	20	
Interest Rate	Actual	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
Low Interest Loan:								
Term in Years	Actual	10	10	10	10	10	10	
Interest Rate	Actual	0.5%	0.6%	0.7%	0.8%	0.9%	1.0%	

Acct. #	Actual FY 2014/15	Budget FY 2015/16	Projected FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	Notes:
Revenues								
Rate Revenues								
Water Sales	$2,883,972	$2,937,347	$2,966,721	$2,996,388	$3,026,352	$3,056,615	$3,087,182	As Customer Growth
Water meter replacement revenue	0	0	33,300	66,600	100,000	100,000	100,000	Flat
Total Rate Revenues	$2,883,972	$2,937,347	$3,000,021	$3,062,988	$3,126,352	$3,156,615	$3,187,182	
Other Misc. Revenues								
Interest Earnings	$4,643	$3,300	$2,765	$2,650	$2,781	$3,200	$3,613	Calculated @ 0.8% [avg]
Temporary Water	0	8,063	8,264	8,471	8,683	8,900	9,122	As Other Revenues
Water Meters & Water Boxes	5,666	10,000	10,250	10,506	10,769	11,038	11,314	As Other Revenues
Water Service Collection Fee	35	0	0	0	0	0	0	As Other Revenues
Water Application Service Fee	5,250	6,000	6,150	6,304	6,461	6,623	6,788	As Other Revenues
Water Sale of Surplus Equipment	1,770	2,000	2,050	2,101	2,154	2,208	2,263	As Other Revenues
Water DBCP Litigation Fees	0	0	0	0	0	0	0	As Other Revenues
Other Miscellaneous Revenues	54,567	65,000	66,625	68,291	69,998	71,748	73,542	As Other Revenues
Water Tower Space Rental	1,800	1,800	1,845	1,891	1,938	1,987	2,037	As Other Revenues
Annuitant Medical Premium	4,302	6,300	6,458	6,619	6,784	6,954	7,128	As Other Revenues
Water Tower EDA Construction	799,178	0	0	0	0	0	0	As Other Revenues
Water Tower EDA Const. - Inspection	65,315	0	0	0	0	0	0	As Other Revenues
GAC Settlement	0	30,000	30,750	31,519	32,307	33,114	33,942	As Other Revenues
Total Other Misc. Revenues	$942,527	$132,463	$135,157	$138,352	$141,875	$145,771	$149,749	
Total Sources of Funds	**$3,826,499**	**$3,069,810**	**$3,135,178**	**$3,201,340**	**$3,268,227**	**$3,302,387**	**$3,336,930**	

Acct. #		Actual FY 2014/15	Budget FY 2015/16	Projected FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	Notes:
	Expenses								
	Engineering Water								
	Personnel Costs								
050-4402.1010	F/T Salaries	$71,593	$72,358	$74,167	$76,021	$77,922	$79,870	$81,866	As Labor
050-4402.1030	O/T Salaries	60	0	0	0	0	0	0	As Labor
050-4402.1040	Social Security & Medical - F/T	5,595	5,581	5,860	6,153	6,461	6,784	7,123	As Benefits
050-4402.1041	Social Security & Medical - P/T	0	0	0	0	0	0	0	As Benefits
050-4402.1050	PERS	10,964	9,699	10,184	10,693	11,228	11,789	12,379	As Benefits
050-4402.1060	Health Insurance	16,873	17,124	17,980	18,879	19,823	20,814	21,855	As Benefits
050-4402.1070	Workers Comp - F/T	1,778	1,857	1,950	2,047	2,150	2,257	2,370	As Benefits
050-4402.1080	LTD Insurance	182	175	184	193	203	213	223	As Benefits
050-4402.1095	Special Compensation	781	600	630	662	695	729	766	As Benefits
050-4402.2600	Unemployment Insurance	378	0	0	0	0	0	0	As Benefits
	Total Personnel Costs	$108,204	$107,394	$110,955	$114,648	$118,480	$122,456	$126,582	
	Total Engineering Water	***$108,204***	***$107,394***	***$110,955***	***$114,648***	***$118,480***	***$122,456***	***$126,582***	
	Water Maintenance								
	Personnel Costs								
050-4150.1010	F/T Salaries	$392,326	$382,463	$392,025	$401,825	$411,871	$422,168	$432,722	As Labor
050-4150.1020	P/T Salaries	30,237	31,000	31,775	32,569	33,384	34,218	35,074	As Labor
050-4150.1030	O/T Salaries	5,841	12,000	12,300	12,608	12,923	13,246	13,577	As Labor
050-4150.1040	Social Security & Medical - F/T	30,458	30,281	31,795	33,385	35,054	36,807	38,647	As Benefits
050-4150.1041	Social Security & Medical - P/T	2,313	2,372	2,491	2,615	2,746	2,883	3,027	As Benefits
050-4150.1050	PERS	61,032	64,650	67,883	71,277	74,840	78,582	82,512	As Benefits
050-4150.1060	Health Insurance	135,919	138,090	144,995	152,244	159,856	167,849	176,242	As Benefits
050-4150.1070	Workers Comp - F/T	46,487	48,649	51,081	53,636	56,317	59,133	62,090	As Benefits
050-4150.1071	Workers Comp - P/T	2,762	2,765	2,903	3,048	3,201	3,361	3,529	As Benefits
050-4150.1080	LTD Insurance	953	921	967	1,015	1,066	1,119	1,175	As Benefits
050-4150.1091	Uniform Expense	4,868	4,600	4,830	5,072	5,325	5,591	5,871	As Benefits
050-4150.1095	Special Compensation	1,501	1,368	1,436	1,508	1,584	1,663	1,746	As Benefits
	Total Personnel Costs	$714,697	$719,159	$744,480	$770,802	$798,167	$826,621	$856,211	

Acct. #		Actual FY 2014/15	Budget FY 2015/16	Projected FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	Notes:
	Maintenance & Operation								
050-4500.2010	Office Supplies	$3,572	$3,000	$3,090	$3,183	$3,278	$3,377	$3,478	As Materials and Supplies
050-4500.2020	Special Supplies	20,120	25,000	25,750	26,523	27,318	28,138	28,982	As Materials and Supplies
050-4500.2025	Lab Supplies	2,852	4,000	4,120	4,244	4,371	4,502	4,637	As Materials and Supplies
050-4500.2040	Small Tools	7,014	6,000	6,180	6,365	6,556	6,753	6,956	As Equipment
050-4500.2170	Road Materials	14,813	25,000	25,750	26,523	27,318	28,138	28,982	As Miscellaneous Expense
050-4500.2240	Meters and Boxes	82,489	125,000	128,750	132,613	68,295	70,344	72,455	As Equipment
050-4500.2250	Personal Safety	0	0	0	0	0	0	0	As Equipment
050-4500.2265	Chlorine	15,372	35,000	36,050	37,132	38,245	39,393	40,575	As Materials and Supplies
050-4500.2530	Memberships	9,143	9,200	9,476	9,760	10,053	10,355	10,665	As Materials and Supplies
050-4500.2540	Meetings & Conferences	0	0	0	0	0	0	0	As Materials and Supplies
050-4500.2550	Telephone	5,057	5,000	5,150	5,305	5,464	5,628	5,796	As Utilities
050-4500.2551	Emergency Notification	350	350	361	371	382	394	406	As Utilities
050-4500.2560	Natural Gas	646	1,000	1,030	1,061	1,093	1,126	1,159	As Utilities
050-4500.2570	Electrical	388,461	400,000	412,000	424,360	437,091	450,204	463,710	As Utilities
050-4500.2600	Unemployment Insurance	1,410	0	0	0	0	0	0	As Miscellaneous Expense
050-4500.2680	Taxes	38	40	41	42	44	45	46	As Miscellaneous Expense
050-4500.3000	Professional	65,140	60,000	61,800	63,654	65,564	67,531	69,556	As Miscellaneous Expense
050-4500.3007	Professional Development	2,616	3,000	3,090	3,183	3,278	3,377	3,478	As Miscellaneous Expense
050-4500.3035	Lab Testing	14,879	15,000	15,450	15,914	16,391	16,883	17,389	As Miscellaneous Expense
050-4500.3042	ELAP Certification	954	1,000	1,030	1,061	1,093	1,126	1,159	As Miscellaneous Expense
050-4500.3045	Certifications	435	1,000	1,030	1,061	1,093	1,126	1,159	As Miscellaneous Expense
050-4500.3140	Legal Services	1,839	2,500	2,575	2,652	2,732	2,814	2,898	As Miscellaneous Expense
050-4500.3145	Landscape Audit	0	2,000	2,060	2,122	2,185	2,251	2,319	As Miscellaneous Expense
050-4500.3148	Low Flow Toilet	150	2,000	2,060	2,122	2,185	2,251	2,319	As Miscellaneous Expense
050-4500.3150	Education Program	0	2,000	2,060	2,122	2,185	2,251	2,319	As Miscellaneous Expense
050-4500.3153	Conservation Certification	0	600	618	637	656	675	696	As Miscellaneous Expense
050-4500.4010	Maintenance Contracts	54	0	0	0	0	0	0	As Miscellaneous Expense
050-4500.4016	Internet Access	1,074	800	824	849	874	900	927	As Miscellaneous Expense
050-4500.4020	Equipment Repairs	670	2,000	2,060	2,122	2,185	2,251	2,319	As Equipment
050-4500.4022	Software License	1,665	1,000	1,030	1,061	1,093	1,126	1,159	As Miscellaneous Expense
050-4500.4023	Well Repairs	72,049	100,000	77,250	79,568	81,955	84,413	86,946	As Miscellaneous Expense
050-4500.4027	Server Contract	7,130	5,100	5,253	5,411	5,573	5,740	5,912	As Miscellaneous Expense
050-4500.4030	Building Repairs	1,913	1,000	1,030	1,061	1,093	1,126	1,159	As Miscellaneous Expense
050-4500.4031	Copier Lease	2,515	1,000	1,030	1,061	1,093	1,126	1,159	As Miscellaneous Expense
050-4500.5260	Water Tower EDA	73,137	0	0	0	0	0	0	As Miscellaneous Expense
050-4500.5261	Water Tower Other	805,578	0	0	0	0	0	0	As Miscellaneous Expense
050-4500.5318	Water Tower	76,729	0	0	0	0	0	0	As Miscellaneous Expense
050-4500.5320	Water Tower Other (2)	32,084	0	0	0	0	0	0	As Miscellaneous Expense
050-4500.5437	GIS Software	0	0	0	0	0	0	0	As Miscellaneous Expense
050-4500.5910	Transfer Switch	0	0	0	0	0	0	0	As Miscellaneous Expense
050-4500.6021	Computers	6,118	5,000	5,150	5,305	5,464	5,628	5,796	As Miscellaneous Expense
050-4500.7010	Equipment Shop	26,094	41,323	42,563	43,840	45,155	46,509	47,905	As Miscellaneous Expense
050-4500.7044	Trans Water Cap	184,500	0	0	0	0	0	0	As Miscellaneous Expense
050-4500.7205	Meter Radio	327,000	83,432	83,432	83,432	83,432	0	0	As Debt Schedule
050-4500.8020	Prior Yr PO's	39,457	53,471	0	0	0	0	0	As Miscellaneous Expense
	Total Maintenance & Operation	$2,295,117	$1,021,816	$969,142	$995,714	$954,787	$897,495	$924,420	
	Total Water Maintenance	***$3,009,814***	***$1,740,975***	***$1,713,623***	***$1,766,516***	***$1,752,954***	***$1,724,116***	***$1,780,631***	

Acct. #		Actual FY 2014/15	Budget FY 2015/16	Projected FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	Notes:
	Finance Department								
	Personnel Costs								
050-4150.1010	F/T Salaries	$105,541	$93,320	$95,653	$98,044	$100,495	$103,008	$105,583	As Labor
050-4150.1020	P/T Salaries	18,603	18,914	19,387	19,872	20,368	20,878	21,399	As Labor
050-4150.1030	O/T Salaries	5	0	0	0	0	0	0	As Labor
050-4150.1040	Social Security & Medical - F/T	8,055	7,192	7,552	7,929	8,326	8,742	9,179	As Benefits
050-4150.1041	Social Security & Medical - P/T	1,431	1,447	1,519	1,595	1,675	1,759	1,847	As Benefits
050-4150.1050	PERS	15,574	12,826	13,467	14,141	14,848	15,590	16,370	As Benefits
050-4150.1060	Health Insurance	25,966	22,704	23,839	25,031	26,283	27,597	28,977	As Benefits
050-4150.1066	Retiree Medicare	32,584	21,600	22,680	23,814	25,005	26,255	27,568	As Benefits
050-4150.1067	Retiree NonMedicare	31,861	24,000	25,200	26,460	27,783	29,172	30,631	As Benefits
050-4150.1068	CalPERS Trust	0	6,840	7,182	7,541	7,918	8,314	8,730	As Benefits
050-4150.1070	Workers Comp - F/T	842	689	723	760	798	837	879	As Benefits
050-4150.1071	Workers Comp - P/T	135	93	98	103	108	113	119	As Benefits
050-4150.1080	LTD Insurance	269	226	237	249	262	275	288	As Benefits
050-4150.1095	Special Compensation	774	698	733	770	808	848	891	As Benefits
	Total Personnel Costs	$241,640	$210,549	$218,271	$226,308	$234,676	$243,388	$252,460	
	Maintenance and Operation								
050-4150.2010	Office Supplies	$2,866	$4,600	$4,738	$4,880	$5,027	$5,177	$5,333	As Materials and Supplies
050-4150.2011	Postage & Meter	15,165	15,500	15,965	16,444	16,937	17,445	17,969	As Materials and Supplies
050-4150.2021	Utility Billing	0	4,800	4,944	5,092	5,245	5,402	5,565	As Materials and Supplies
050-4150.2530	Memberships	210	200	206	212	219	225	232	As Equipment
050-4150.2540	Meetings & Conferences	667	500	515	530	546	563	580	As Miscellaneous Expense
050-4150.2550	Telephone	755	600	618	637	656	675	696	As Equipment
050-4150.2551	Emergency Notification	370	370	381	393	404	416	429	As Equipment
050-4150.2560	Natural Gas	58	100	103	106	109	113	116	As Materials and Supplies
050-4150.2570	Electrical	1,119	1,300	1,339	1,379	1,421	1,463	1,507	As Materials and Supplies
050-4150.2590	RMA Insurance	58,730	76,213	78,499	80,854	83,280	85,778	88,352	As Utilities
050-4150.2591	LAFCO	0	0	0	0	0	0	0	As Utilities
050-4150.2592	CSJVRMA Retro	0	24,000	24,720	25,462	26,225	27,012	27,823	As Utilities
050-4150.2600	Unemployment Insurance	810	150	155	159	164	169	174	As Utilities
050-4150.2850	Employee Awards	620	700	721	743	765	788	811	As Miscellaneous Expense
050-4150.3000	Professional	8,301	8,000	8,240	8,487	8,742	9,004	9,274	As Miscellaneous Expense
050-4150.3002	Online Web Payment Services	16,841	18,500	19,055	19,627	20,215	20,822	21,447	As Miscellaneous Expense
050-4150.3012	Payroll Service	6,252	6,500	6,695	6,896	7,103	7,316	7,535	As Miscellaneous Expense
050-4150.3037	Datavault Strorage	1,194	1,000	1,030	1,061	1,093	1,126	1,159	As Equipment
050-4150.3049	Fire Protection	13,284	13,284	13,683	14,093	14,516	14,951	15,400	As Miscellaneous Expense
050-4150.3120	Management Services	107,395	120,340	123,950	127,669	131,499	135,444	139,507	As Miscellaneous Expense
050-4150.3125	Police Services - Calls for Service	14,152	14,152	14,577	15,014	15,464	15,928	16,406	As Miscellaneous Expense
050-4150.3126	Legal Services	248	0	0	0	0	0	0	As Miscellaneous Expense
050-4150.4010	Maintenance Contracts	2,624	3,500	3,605	3,713	3,825	3,939	4,057	As Miscellaneous Expense
050-4150.4012	Credit Card Machine Fees	5,485	7,000	7,210	7,426	7,649	7,879	8,115	As Miscellaneous Expense
050-4150.4016	Internet Access	214	200	206	212	219	225	232	As Equipment
050-4150.4022	Software Licenses	917	650	670	690	710	732	754	As Equipment
050-4150.4027	Server Contract	1,920	1,800	1,854	1,910	1,967	2,026	2,087	As Miscellaneous Expense
050-4150.4031	Copier Lease	3,572	3,225	3,322	3,421	3,524	3,630	3,739	As Miscellaneous Expense
050-4150.4037	MOM Software	6,631	6,400	6,592	6,790	6,993	7,203	7,419	As Miscellaneous Expense
050-4150.6021	Computers	990	500	515	530	546	563	580	As Miscellaneous Expense
	Total Maintenance and Operation	$271,390	$334,084	$344,107	$354,430	$365,063	$376,014	$387,295	
	Total Finance Department	***$513,030***	***$544,633***	***$562,377***	***$580,738***	***$599,738***	***$619,402***	***$639,755***	

Acct. #		Actual	Budget	Projected					Notes:
		FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	
	Total O & M Expenses	$3,631,048	$2,393,002	$2,386,955	$2,461,902	$2,471,172	$2,465,975	$2,546,969	
	Taxes/Transfer Payments								
	Transfers	$0	$0	$0	$0	$0	$0	$0	As Labor
	Total Taxes/Transfer Payments	$0	$0	$0	$0	$0	$0	$0	
	Rate Funded Capital	$0	$0	$150,000	$200,000	$250,000	$300,000	$350,000	2014/15 Depr. Exp. = $535,985
	Debt Service								
	2007 Water Bond	$915,363	$916,863	$917,763	$916,188	$912,550	$914,831	$917,506	Debt Schedule
	New Debt Issue	0	0	0	0	0	0	0	
	Total Debt Service	$915,363	$916,863	$917,763	$916,188	$912,550	$914,831	$917,506	
	Less:								
	Water Holding DIF (107)	$0	$0	$0	$0	$0	$0	$0	
	Water Distribution DIF (111)	0	0	0	0	0	0	0	
		$0	$0	$0	$0	$0	$0	$0	
	Net Debt Service	$915,363	$916,863	$917,763	$916,188	$912,550	$914,831	$917,506	
	Reserve Funding To/(From)								
	Operating Reserve (050)	($719,911)	($240,054)	($34,538)	($164,397)	($62,053)	$15,858	$11,540	
	Capital Reserve (49)	0	0	0	0	0	0	0	
	Dept. building/shop/yard Fund-CVTC	0	0	0	54,160	55,623	57,124	58,667	
	SCADA Master Plan Implementation	0	0	0	54,160	55,623	57,124	58,667	
	GAC carbon media replacement	0	0	0	54,160	55,623	57,124	58,667	
	Total Reserve Funding To/(From)	($719,911)	($240,054)	($34,538)	($1,916)	$104,815	$187,231	$187,541	
	Total Revenue Requirement	$3,826,499	$3,069,810	$3,420,179	$3,576,173	$3,738,538	$3,868,037	$4,002,016	
	Bal./(Def.) of Funds	$0	$0	($285,002)	($374,833)	($470,311)	($565,650)	($665,085)	
	Bal. as a % of Rate Revenues	0.0%	0.0%	9.5%	12.2%	15.0%	17.9%	20.9%	
	Proposed Rate Adjustment	0.0%	0.0%	9.5%	2.5%	2.5%	2.5%	2.5%	
	Add'l Rate Rev from Proposed Adj.	$0	$0	$285,002	$374,833	$470,311	$565,650	$665,085	
	Net Bal./(Def.) of Funds After Rate Adj.	$0	$0	$0	($0)	($0)	$0	$0	
	Additional Rate Increase Needed	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Debt Service Coverage before Rate Adj.	(0.82)	0.59	0.67	0.66	0.72	0.75	0.70	
	Debt Service Coverage after Rate Adj.	(0.82)	0.59	0.98	1.07	1.23	1.37	1.42	
	Residential Bill Comparison			14.0%	2.7%	2.8%	2.6%	2.7%	
	Before Rate Adjustment	$35.41	*(3/4" meter + 10,000 gallons)*						
	After Rate Adjustment	$35.41	$35.41	$40.35	$41.45	$42.60	$43.70	$44.90	
	Cumulative $ Change	0.00	0.00	4.94	6.04	7.19	8.29	9.49	
	Annual $ Change	0.00	0.00	4.94	1.10	1.15	1.10	1.20	

Acct. #	Actual FY 2014/15	Budget FY 2015/16	Projected FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	Notes:
Operating Reserve (050)								
Beginning Balance	$2,089,211	$1,196,206	$956,151	$921,614	$757,217	$695,164	$711,022	
Source of Funds	(719,911)	(240,054)	(34,538)	(164,397)	(62,053)	15,858	11,540	
Use of Funds	0	0	0	0	0	0	0	
Ending Balance	$1,369,299	$956,151	$921,614	$757,217	$695,164	$711,022	$722,562	
Target Min: 90 Days of O&M Expense	*$895,327*	*$590,055*	*$588,564*	*$607,044*	*$609,330*	*$608,049*	*$628,020*	
Capital Reserve (49)								
Beginning Balance	$0	$172,202	$350,034	$455,171	$723,801	$1,049,823	$1,376,556	
Source of Funds	184,500	0	0	0	0	0	0	
Connection Fees	318,936	322,125	325,347	328,600	331,886	335,205	338,557	As Customer Growth
Use of Funds	0	(144,293)	(220,210)	(59,970)	(5,864)	(8,472)	0	
Ending Balance	$503,436	$350,034	$455,171	$723,801	$1,049,823	$1,376,556	$1,715,113	
Target Min: Averge annual CIP	*$298,401*	*$298,401*	*$298,401*	*$298,401*	*$298,401*	*$298,401*	*$298,401*	
Water Holding Development Impact Fee (107)								
Beginning Balance	$0	$0	$0	$0	$0	$0	$0	
Source of Funds	0	0	0	0	0	0	0	
Use of Funds	0	0	0	0	0	0	0	
Ending Balance	$0	$0	$0	$0	$0	$0	$0	
Water Distribution Development Impact Fee (111)								
Beginning Balance	$0	$106,907	$106,907	$106,907	$106,907	$106,907	$106,907	
Source of Funds	0	0	0	0	0	0	0	
Use of Funds	0	0	0	0	0	0	0	
Ending Balance	$0	$106,907	$106,907	$106,907	$106,907	$106,907	$106,907	
Water Bond 2007 (per OS)								
Beginning Balance	$0	$0	$0	$0	$0	$0	$0	
Source of Funds	0	0	0	0	0	0	0	
Use of Funds	0	0	0	0	0	0	0	
Interest Income	0	0	0	0	0	0	0	
Ending Balance	$0	$0	$0	$0	$0	$0	$0	
Total Reserve Funds	$1,369,299	$1,063,058	$1,028,520	$864,123	$802,071	$817,928	$829,469	

City of Reedley
Water Rate Study
Capital Improvement Projects
Exhibit 4

Inflation	2.7%

Project Description	FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	*Notes*
Capital Outlay Projects									
Financial System Software & Conversion	$0	$0	$27,423	$0	$0	$0	$0	$0	
GIS	0	514	0	0	0	0	0	0	
Fire Hydrant Installation Project	0	15,405	0	0	0	0	0	0	
GAC Carbon Media Replacement	0	51,350	0	0	0	0	0	0	
SCADA Master Plan Implementation	0	51,350	0	0	0	0	0	0	
Tower Master Plan (Downtown Towers)	0	25,675	0	0	0	0	0	0	
Transfer Switch	0	0	21,095	0	0	0	0	0	
Well #6A Electrical Upgrade	0	0	31,642	0	0	0	0	0	
Standby Generator	0	0	105,473	0	0	0	0	0	
Water Main Replacement Upgrades	0	0	184,578	189,561	194,679	199,936	205,334	210,878	
Well #12 Electrical Upgrade	0	0	0	32,496	0	0	0	0	
Vehicle Replacement Fund	0	0	0	37,912	0	39,987	0	42,176	
Sports Park Water Tower Inspection	0	0	0	0	27,811	0	0	0	
Water Well #11 Electrical Upgrade	0	0	0	0	33,374	0	0	0	
Well #10 Electrical Upgrade	0	0	0	0	0	34,275	0	0	
Well #13 Electrical Upgrade	0	0	0	0	0	34,275	0	0	
Future Well Electrical Upgrades	0	0	0	0	0	0	35,200	36,151	
Total Capital Outlay Projects	$0	$144,294	$370,210	$259,970	$255,864	$308,472	$240,534	$289,204	
Future Unidentified Capital Projects	$0	$0	$0	$0	$0	$0	$109,466	$110,796	
Total Capital Improvement Projects	**$0**	**$144,294**	**$370,210**	**$259,970**	**$255,864**	**$308,472**	**$350,000**	**$400,000**	

Inflation	2.7%

Project Description	FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	*Notes*
Less: Outside Funding Sources									
Grants	$0	$0	$0	$0	$0	$0	$0	$0	
Water Holding DIF Reserves	0	0	0	0	0	0	0	0	
Water Distribution DIF Reserves	0	0	0	0	0	0	0	0	
Direct Capital Contributions	0	0	0	0	0	0	0	0	
Operating Reserve	0	0	0	0	0	0	0	0	
Capital Reserves	0	144,293	220,210	59,970	5,864	8,472	0	0	
From Water Bond 2007	0	0	0	0	0	0	0	0	
New Revenue Bond Issue	0	0	0	0	0	0	0	0	
Total Less: Outside Funding Sources	**$0**	**$144,293**	**$220,210**	**$59,970**	**$5,864**	**$8,472**	**$0**	**$0**	
Rate Funded Capital	**$0**	**$0**	**$150,000**	**$200,000**	**$250,000**	**$300,000**	**$350,000**	**$400,000**	

Data is average of CY 2014 & CY 2015

	Rates Effective 5/14/2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Residential														
Service Charge	$/Acct.													
3/4" & 1"	$26.71	5,125	5,125	5,125	5,125	5,125	5,125	5,125	5,125	5,125	5,125	5,125	5,125	5,125
1 1/2"	31.18	17	17	17	17	17	17	17	17	17	17	17	17	17
2"	35.62	93	93	93	93	93	93	93	93	93	93	93	93	93
	Total # of Meters	5,235	5,235	5,235	5,235	5,235	5,235	5,235	5,235	5,235	5,235	5,235	5,235	5,235
Commodity Charge	$/1,000 gal													
0 - 15,000	$0.87	31,279	30,453	31,354	29,188	41,371	43,153	50,423	50,140	50,624	47,546	43,043	34,903	483,475
15,000 - 25,000	0.98	3,120	2,934	3,075	2,285	5,356	5,974	13,319	12,601	12,947	10,084	6,842	4,433	82,967
25,000 +	1.05	6,821	6,305	6,633	4,660	7,818	7,559	14,166	14,064	15,448	11,731	9,140	7,943	112,285
	Total Consumption	41,219	39,691	41,061	36,133	54,544	56,685	77,908	76,805	79,018	69,360	59,025	47,279	678,726
Revenues														
Service Charge		$140,731	$140,731	$140,731	$140,731	$140,731	$140,731	$140,731	$140,731	$140,731	$140,731	$140,731	$140,731	$1,688,778
Commodity Charge		37,431	35,989	37,255	32,525	49,450	51,334	71,794	70,737	72,950	63,564	53,750	43,050	619,829
	Total Revenues	$178,163	$176,720	$177,986	$173,257	$190,181	$192,065	$212,526	$211,469	$213,682	$204,295	$194,481	$183,782	$2,308,607
Non-Residential														
Service Charge	$/Acct.													
3/4"	$33.41	168	168	168	168	168	168	168	168	168	168	168	168	168
1"	36.86	82	82	82	82	82	82	82	82	82	82	82	82	82
1 1/2"	38.98	17	17	17	17	17	17	17	17	17	17	17	17	17
2"	44.54	114	114	114	114	114	114	114	114	114	114	114	114	114
3"	50.11	11	11	11	11	11	11	11	11	11	11	11	11	11
4"	72.39	41	41	41	41	41	41	41	41	41	41	41	41	41
6"	144.81	13	13	13	13	13	13	13	13	13	13	13	13	13
8"	231.71	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total # of Meters	446	446	446	446	446	446	446	446	446	446	446	446	446
Commodity Charge	$/1,000 gal													
0 - 15,000	$0.87	2,524	2,335	2,499	2,365	2,670	2,637	2,860	2,780	2,893	2,797	2,691	2,676	31,723
15,000 - 25,000	0.98	924	834	892	810	1,005	1,036	1,164	1,087	1,178	1,078	1,045	1,024	12,074
25,000 +	1.05	10,182	9,046	9,411	7,333	10,329	10,581	16,562	18,066	20,790	19,220	17,789	14,208	163,513
	Total Consumption	13,630	12,215	12,801	10,508	14,003	14,254	20,585	21,932	24,860	23,094	21,524	17,907	207,310
Revenues														
Service Charge		$19,777	$19,777	$19,777	$19,777	$19,777	$19,777	$19,777	$19,777	$19,777	$19,777	$19,777	$19,777	$237,328
Commodity Charge		13,793	12,347	12,928	10,550	14,152	14,419	21,018	22,452	25,500	23,669	22,043	18,249	211,120
	Total Revenues	$33,570	$32,124	$32,706	$30,328	$33,929	$34,196	$40,795	$42,229	$45,277	$43,447	$41,820	$38,026	$448,448

Data is average of CY 2014 & CY 2015

	Rates Effective *5/14/2015*	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Irrigation														
Service Charge	$/Acct.													
3/4"	$33.41	5	5	5	5	5	5	5	5	5	5	5	5	5
1"	36.86	19	19	19	19	19	19	19	19	19	19	19	19	19
1 1/2"	38.98	2	2	2	2	2	2	2	2	2	2	2	2	2
2"	44.54	18	18	18	18	18	18	18	18	18	18	18	18	18
3"	50.11	3	3	3	3	3	3	3	3	3	3	3	3	3
4"	72.39	5	5	5	5	5	5	5	5	5	5	5	5	5
6"	144.81	1	1	1	1	1	1	1	1	1	1	1	1	1
8"	231.71	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total # of Meters	**53**	**53**	**53**	**53**	**53**	**53**	**53**	**53**	**53**	**53**	**53**	**53**	**53**
Commodity Charge	$/1,000 gal													
All Consumption	$1.10	1,145	1,005	1,104	1,388	4,461	5,026	8,038	7,419	9,184	8,006	6,955	4,096	57,825
	Total Consumption	**1,145**	**1,005**	**1,104**	**1,388**	**4,461**	**5,026**	**8,038**	**7,419**	**9,184**	**8,006**	**6,955**	**4,096**	**57,825**
Revenues														
Service Charge		$2,404	$2,404	$2,404	$2,404	$2,404	$2,404	$2,404	$2,404	$2,404	$2,404	$2,404	$2,404	$28,850
Commodity Charge		1,260	1,106	1,214	1,526	4,907	5,529	8,841	8,160	10,102	8,806	7,651	4,506	63,607
	Total Revenues	**$3,664**	**$3,510**	**$3,618**	**$3,930**	**$7,311**	**$7,933**	**$11,245**	**$10,565**	**$12,507**	**$11,210**	**$10,055**	**$6,910**	**$92,457**
Temporary Water														
Service Charge	$/Acct.													
Meter Rental	$60.06	11	11	11	11	11	11	11	11	11	11	11	11	11
	Total # of Meters	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**
Commodity Charge	$/1,000 gal													
All Consumption	$0.87	4	8	8	5	56	10	5	5	7	0	34	16	155
	Total Consumption	**4**	**8**	**8**	**5**	**56**	**10**	**5**	**5**	**7**	**0**	**34**	**16**	**155**
Revenues														
Service Charge		$661	$661	$661	$661	$661	$661	$661	$661	$661	$661	$661	$661	$7,928
Commodity Charge		3	7	7	4	48	8	4	4	6	0	30	13	135
	Total Revenues	**$664**	**$668**	**$667**	**$665**	**$709**	**$669**	**$665**	**$665**	**$666**	**$661**	**$690**	**$674**	**$8,063**

Data is average of CY 2014 & CY 2015

	Rates Effective 5/14/2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Fire Protection														
Service Charge	$/Acct.													
Less than 2"	$30.99	11	11	11	11	11	11	11	11	11	11	11	11	**11**
3"	61.76	2	2	2	2	2	2	2	2	2	2	2	2	**2**
4"	92.78	22	22	22	22	22	22	22	22	22	22	22	22	**22**
6"	123.42	24	24	24	24	24	24	24	24	24	24	24	24	**24**
8" & greater	154.33	12	12	12	12	12	12	12	12	12	12	12	12	**12**
	Total # of Meters	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**	**71**
Revenues														
Service Charge		$7,320	$7,320	$7,320	$7,320	$7,320	$7,320	$7,320	$7,320	$7,320	$7,320	$7,320	$7,320	**$87,835**
	Total Revenues	**$7,320**	**$7,320**	**$7,320**	**$7,320**	**$7,320**	**$7,320**	**$7,320**	**$7,320**	**$7,320**	**$7,320**	**$7,320**	**$7,320**	**$87,835**
Summary														
Number of Customers														
Residential		5,235	5,235	5,235	5,235	5,235	5,235	5,235	5,235	5,235	5,235	5,235	5,235	**5,235**
Non-Residential		446	446	446	446	446	446	446	446	446	446	446	446	**446**
Irrigation		53	53	53	53	53	53	53	53	53	53	53	53	**53**
Temporary Water		11	11	11	11	11	11	11	11	11	11	11	11	**11**
Fire Protection		71	71	71	71	71	71	71	71	71	71	71	71	**71**
	Total Number of Customers	**5,816**	**5,816**	**5,816**	**5,816**	**5,816**	**5,816**	**5,816**	**5,816**	**5,816**	**5,816**	**5,816**	**5,816**	**5,816**
Consumption														
Residential		41,219	39,691	41,061	36,133	54,544	56,685	77,908	76,805	79,018	69,360	59,025	47,279	**678,726**
Non-Residential		13,630	12,215	12,801	10,508	14,003	14,254	20,585	21,932	24,860	23,094	21,524	17,907	**207,310**
Irrigation		1,145	1,005	1,104	1,388	4,461	5,026	8,038	7,419	9,184	8,006	6,955	4,096	**57,825**
Temporary Water		4	8	8	5	56	10	5	5	7	0	34	16	**155**
Fire Protection		0	0	0	0	0	0	0	0	0	0	0	0	**0**
	Total Consumption	**55,998**	**52,919**	**54,972**	**48,032**	**73,063**	**75,974**	**106,535**	**106,160**	**113,069**	**100,459**	**87,538**	**69,298**	**944,016**
Revenues														
Residential		$178,163	$176,720	$177,986	$173,257	$190,181	$192,065	$212,526	$211,469	$213,682	$204,295	$194,481	$183,782	$2,308,607
Non-Residential		33,570	32,124	32,706	30,328	33,929	34,196	40,795	42,229	45,277	43,447	41,820	38,026	448,448
Irrigation		3,664	3,510	3,618	3,930	7,311	7,933	11,245	10,565	12,507	11,210	10,055	6,910	92,457
Temporary Water		664	668	667	665	709	669	665	665	666	661	690	674	8,063
Fire Protection		7,320	7,320	7,320	7,320	7,320	7,320	7,320	7,320	7,320	7,320	7,320	7,320	87,835
	Total Revenue	**$223,380**	**$220,341**	**$222,297**	**$215,499**	**$239,450**	**$242,183**	**$272,551**	**$272,248**	**$279,452**	**$266,933**	**$254,366**	**$236,712**	**$2,945,410**
													2015/16 Budget	$3,007,800
													Difference	*($62,390)*
													Percent	*-2.1%*

City of Reedley
Water Rate Study
Development of Commodity Allocation Factor
Exhibit 6

	2015 Consumption in 1,000 Gal	15% Losses	Net Water Delivered (Use + Losses)	Average Day Use (MGD)	% of Total
Residential	**678,726**	**101,809**	**780,535**	**2.14**	**71.9%**
Res - Tier 1	483,475	72,521	555,996	1.52	51.2%
Res - Tier 2	82,967	12,445	95,411	0.26	8.8%
Res - Tier 3	112,285	16,843	129,127	0.35	11.9%
Non-Residential	**207,310**	**31,097**	**238,407**	**0.65**	**22.0%**
Non-Res Tier 1	31,723	4,758	36,481	0.10	3.4%
Non-Res Tier 2	12,074	1,811	13,885	0.04	1.3%
Non-Res Tier 3	163,513	24,527	188,040	0.52	17.3%
Irrigation	**57,825**	**8,674**	**66,498**	**0.18**	**6.1%**
Fire Protection	**0**	**0**	**0**	**0.00**	**0.0%**
Total	**943,861**	**141,579**	**1,085,440**	**2.97**	**100.0%**
	Actual Production (1,000 gallons) [1]		***1,298,227***	**3.56**	

(COMM)

Notes:

[1] - Acutal Production for CY 2015

City of Reedley
Water Rate Study
Development of Capacity Allocation Factor
Exhibit 7

	Total Consumption in 1,000 Gal	Average Consumption (MGD)	Peaking Factors *[1]*	Peak Day Use (MGD)	% of Total
Residential	**780,535**	**2.14**	**1.77**	**3.78**	**67.1%**
Res - Tier 1	555,996	1.52	1.69	2.57	45.6%
Res - Tier 2	95,411	0.26	1.92	0.50	8.9%
Res - Tier 3	129,127	0.35	2.00	0.71	12.6%
Non-Residential	**238,407**	**0.65**	**1.95**	**1.27**	**22.6%**
Non-Res Tier 1	36,481	0.10	1.69	0.17	3.0%
Non-Res Tier 2	13,885	0.04	1.92	0.07	1.3%
Non-Res Tier 3	188,040	0.52	2.00	1.03	18.3%
Irrigation	**66,498**	**0.18**	2.18	**0.40**	**7.1%**
Fire Protection	**0**	**0.00**	**0.00**	**0.18**	**3.2%**
Total	**1,085,440**	**2.97**		**5.63**	**100.0%**
		Actual Peak Day (MGD)		**0.00**	
					(CAP)

Notes:

[1] - Peaking Factors calculated using customer consumption data from 2012 - 2015; calculated

City of Reedley
Water Rate Study
Development of the Customer Allocation Factor
Exhibit 8

	Actual Customer		*Customer Service & Accounting*			*Meters & Services*	
	Number of Customers	% of Total	Weighting Factor	Weighted Customer	% of Total	Weighted Customer	% of Total
Residential	5,235	90.2%	1.00	5,235	89.6%	5,269	85.3%
Non-Residential	446	7.7%	1.00	446	7.6%	583	9.4%
Irrigation	53	0.9%	1.00	53	0.9%	70	1.1%
Fire Protection	71	1.2%	1.50	107	1.8%	253	4.1%
Total	5,805	100.0%		5,841	100.0%	6,174	100.0%
		(AC)			***(WCA)***		***(WCMS)***

Notes:

City of Reedley
Water Rate Study
Development Of Equivalent Meter Allocation Factor

	Number of Meters								
	3/4"	**1"**	**1 1/2"**	**2"**	**3"**	**4"**	**6"**	**8"**	**Total**
Residential	0	5,125	17	93	0	0	0	0	**5,235**
Non-Residential	168	82	17	114	11	41	13	0	**446**
Irrigation	5	19	2	18	3	5	1	0	**53**
Fire Protection	0	0	0	11	2	22	24	12	**71**
Total Meters	**173**	**5,226**	**36**	**236**	**16**	**68**	**38**	**12**	**5,805**
Meter Charge Equivalencies	1.00	1.00	1.17	1.33	1.50	2.17	4.33	6.94	

	Equivalent Meters										
	3/4"	**1"**	**1 1/2"**	**2"**	**3"**	**4"**	**6"**	**8"**	**Total**	**Ave**	**Wt Factor**
Residential	0	5,125	20	124	0	0	0	0	**5,269**	1.01	85.3%
Non-Residential	168	82	20	152	17	89	56	0	**583**	1.31	9.4%
Irrigation	5	19	2	24	5	11	4	0	**70**	1.32	1.1%
Fire Protection	0	0	0	15	3	48	104	83	**253**	3.56	4.1%
Total Equivalent Meters	**173**	**5,226**	**42**	**314**	**24**	**148**	**165**	**83**	**6,174**		100.0%

City of Reedley
Water Rate Study
Development of the Public Fire Protection Allocation Factor
Exhibit 9

	Number of Meters	Fire Prot. Reqmnts (gals/min)	Duration (minutes)	Total FP Reqmnts (1,000 g/min)	% of Total
Residential	5,235	1,000	60	314,100	79.6%
Non-Residential	446	2,000	90	80,280	20.4%
Irrigation	53	0	0	0	0.0%
Fire Protection	71	0	0	0	0.0%
Total	5,805			394,380	100.0%
				(FP)	

Notes:

City of Reedley
Water Rate Study
Development of the Revenue Related Allocation Factor
Exhibit 10

	FY 2016/17 Revenue	% of Total
Residential	$2,357,865	78.6%
Non-Residential	458,017	15.3%
Irrigation	94,430	3.1%
Fire Protection	89,709	3.0%
Total	$3,000,021	100.0%

(RR)

Notes:

City of Reedley
Water Rate Study
Functionalization and Classification of the
Revenue Requirement
Exhibit 11

Acct. #		Expenses FY 2016/17	Commodity (COMM)	Capacity (CAP)	Customer Related: Actual Customer (AC)	Customer Related: Weighted for: Cust. Acctg. (WCA)	Customer Related: Weighted for: Meters & Services (WCMS)	Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification			
	Expenses													
	Engineering Water													
	Personnel Costs													
050-4402.1010	F/T Salaries	$74,167	$17,689	$17,429	$0	$0	$39,049	$0	$0	$0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4402.1030	O/T Salaries	0	0	0	0	0	0	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4402.1040	Social Security & Medical - F/T	5,860	1,398	1,377	0	0	3,085	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4402.1041	Social Security & Medical - P/T	0	0	0	0	0	0	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4402.1050	PERS	10,184	2,429	2,393	0	0	5,362	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4402.1060	Health Insurance	17,980	4,288	4,225	0	0	9,467	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4402.1070	Workers Comp - F/T	1,950	465	458	0	0	1,027	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4402.1080	LTD Insurance	184	44	43	0	0	97	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4402.1095	Special Compensation	630	150	148	0	0	332	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4402.2600	Unemployment Insurance	0	0	0	0	0	0	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
	Total Personnel Costs	$110,955	$26,463	$26,074	$0	$0	$58,418	$0	$0	$0				
	Total Engineering Water	**$110,955**	**$26,463**	**$26,074**	**$0**	**$0**	**$58,418**	**$0**	**$0**	**$0**				
	Water Maintenance													
	Personnel Costs													
050-4150.1010	F/T Salaries	$392,025	$93,498	$92,126	$0	$0	$206,401	$0	$0	$0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4150.1020	P/T Salaries	31,775	7,578	7,467	0	0	16,730	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4150.1030	O/T Salaries	12,300	2,934	2,891	0	0	6,476	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4150.1040	Social Security & Medical - F/T	31,795	7,583	7,472	0	0	16,740	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4150.1041	Social Security & Medical - P/T	2,491	594	585	0	0	1,311	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4150.1050	PERS	67,883	16,190	15,952	0	0	35,740	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4150.1060	Health Insurance	144,995	34,581	34,074	0	0	76,340	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4150.1070	Workers Comp - F/T	51,081	12,183	12,004	0	0	26,894	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4150.1071	Workers Comp - P/T	2,903	692	682	0	0	1,529	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4150.1080	LTD Insurance	967	231	227	0	0	509	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4150.1091	Uniform Expense	4,830	1,152	1,135	0	0	2,543	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
050-4150.1095	Special Compensation	1,436	343	338	0	0	756	0	0	0	23.9% COMM	23.5% CAP	0% AC	53% WCMS
	Total Personnel Costs	$744,480	$177,559	$174,953	$0	$0	$391,969	$0	$0	$0				

City of Reedley
Water Rate Study
Functionalization and Classification of the
Revenue Requirement
Exhibit 11

Acct. #		Expenses FY 2016/17	Commodity (COMM)	Capacity (CAP)	Customer Related: Actual Customer (AC)	Customer Related: Weighted for: Cust. Acctg. (WCA)	Customer Related: Weighted for: Meters & Services (WCMS)	Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
	Maintenance & Operation										
050-4500.2010	Office Supplies	$3,090	$737	$726	$0	$0	$1,627	$0	$0	$0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.2020	Special Supplies	25,750	6,141	6,051	0	0	13,557	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.2025	Lab Supplies	4,120	983	968	0	0	2,169	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.2040	Small Tools	6,180	1,474	1,452	0	0	3,254	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.2170	Road Materials	25,750	6,141	6,051	0	0	13,557	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.2240	Meters and Boxes	128,750	0	0	0	0	128,750	0	0	0	100% WCMS
050-4500.2250	Personal Safety	0	0	0	0	0	0	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.2265	Chlorine	36,050	36,050	0	0	0	0	0	0	0	100% COMM
050-4500.2530	Memberships	9,476	2,260	2,227	0	0	4,989	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.2540	Meetings & Conferences	0	0	0	0	0	0	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.2550	Telephone	5,150	1,228	1,210	0	0	2,711	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.2551	Emergency Notification	361	86	85	0	0	190	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.2560	Natural Gas	1,030	246	242	0	0	542	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.2570	Electrical	412,000	218,360	193,640	0	0	0	0	0	0	53% COMM 47% CAP
050-4500.2600	Unemployment Insurance	0	0	0	0	0	0	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.2680	Taxes	41	10	10	0	0	22	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.3000	Professional	61,800	14,739	14,523	0	0	32,538	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.3007	Professional Development	3,090	737	726	0	0	1,627	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.3035	Lab Testing	15,450	15,450	0	0	0	0	0	0	0	100% COMM
050-4500.3042	ELAP Certification	1,030	246	242	0	0	542	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.3045	Certifications	1,030	246	242	0	0	542	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.3140	Legal Services	2,575	614	605	0	0	1,356	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.3145	Landscape Audit	2,060	0	0	0	0	0	0	0	2,060	100% DA
050-4500.3148	Low Flow Toilet	2,060	0	0	0	0	0	0	0	2,060	100% DA
050-4500.3150	Education Program	2,060	0	0	0	0	0	0	0	2,060	100% DA
050-4500.3153	Conservation Certification	618	0	0	0	0	0	0	0	618	100% DA
050-4500.4010	Maintenance Contracts	0	0	0	0	0	0	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.4016	Internet Access	824	197	194	0	0	434	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.4020	Equipment Repairs	2,060	491	484	0	0	1,085	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.4022	Software License	1,030	246	242	0	0	542	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.4023	Well Repairs	77,250	40,943	36,308	0	0	0	0	0	0	53% COMM 47% CAP
050-4500.4027	Server Contract	5,253	1,253	1,234	0	0	2,766	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.4030	Building Repairs	1,030	246	242	0	0	542	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.4031	Copier Lease	1,030	246	242	0	0	542	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.5260	Water Tower EDA	0	0	0	0	0	0	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.5261	Water Tower Other	0	0	0	0	0	0	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.5318	Water Tower	0	0	0	0	0	0	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.5320	Water Tower Other (2)	0	0	0	0	0	0	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.5437	GIS Software	0	0	0	0	0	0	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.5910	Transfer Switch	0	0	0	0	0	0	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.6021	Computers	5,150	1,228	1,210	0	0	2,711	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.7010	Equipment Shop	42,563	10,151	10,002	0	0	22,409	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.7044	Trans Water Cap	0	0	0	0	0	0	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
050-4500.7205	Meter Radio	83,432	0	0	0	0	83,432	0	0	0	100% WCMS
050-4500.8020	Prior Yr PO's	0	0	0	0	0	0	0	0	0	23.9% COMM 23.5% CAP 0% AC 53% WCMS
	Total Maintenance & Operation	$969,142	$360,747	$279,159	$0	$0	$322,438	$0	$0	$6,798	
	Total Water Maintenance	**$1,713,623**	**$538,306**	**$454,112**	**$0**	**$0**	**$714,407**	**$0**	**$0**	**$6,798**	

City of Reedley
Water Rate Study
Functionalization and Classification of the
Revenue Requirement
Exhibit 11

Acct. #		Expenses FY 2016/17	Commodity (COMM)	Capacity (CAP)	Customer Related: Actual Customer (AC)	Customer Related: Weighted for: Cust. Acctg. (WCA)	Customer Related: Weighted for: Meters & Services (WCMS)	Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
	Finance Department										
	Personnel Costs										
050-4150.1010	F/T Salaries	$95,653	$0	$0	$0	$95,653	$0	$0	$0	$0	100% WCA
050-4150.1020	P/T Salaries	19,387	0	0	0	19,387	0	0	0	0	100% WCA
050-4150.1030	O/T Salaries	0	0	0	0	0	0	0	0	0	100% WCA
050-4150.1040	Social Security & Medical - F/T	7,552	0	0	0	7,552	0	0	0	0	100% WCA
050-4150.1041	Social Security & Medical - P/T	1,519	0	0	0	1,519	0	0	0	0	100% WCA
050-4150.1050	PERS	13,467	0	0	0	13,467	0	0	0	0	100% WCA
050-4150.1060	Health Insurance	23,839	0	0	0	23,839	0	0	0	0	100% WCA
050-4150.1066	Retiree Medicare	22,680	0	0	0	22,680	0	0	0	0	100% WCA
050-4150.1067	Retiree NonMedicare	25,200	0	0	0	25,200	0	0	0	0	100% WCA
050-4150.1068	CalPERS Trust	7,182	0	0	0	7,182	0	0	0	0	100% WCA
050-4150.1070	Workers Comp - F/T	723	0	0	0	723	0	0	0	0	100% WCA
050-4150.1071	Workers Comp - P/T	98	0	0	0	98	0	0	0	0	100% WCA
050-4150.1080	LTD Insurance	237	0	0	0	237	0	0	0	0	100% WCA
050-4150.1095	Special Compensation	733	0	0	0	733	0	0	0	0	100% WCA
	Total Personnel Costs	$218,271	$0	$0	$0	$218,271	$0	$0	$0	$0	
	Maintenance and Operation										
050-4150.2010	Office Supplies	$4,738	$0	$0	$0	$4,738	$0	$0	$0	$0	100% WCA
050-4150.2011	Postage & Meter	15,965	0	0	0	15,965	0	0	0	0	100% WCA
050-4150.2021	Utility Billing	4,944	0	0	0	4,944	0	0	0	0	100% WCA
050-4150.2530	Memberships	206	0	0	0	206	0	0	0	0	100% WCA
050-4150.2540	Meetings & Conferences	515	0	0	0	515	0	0	0	0	100% WCA
050-4150.2550	Telephone	618	0	0	0	618	0	0	0	0	100% WCA
050-4150.2551	Emergency Notification	381	0	0	0	381	0	0	0	0	100% WCA
050-4150.2560	Natural Gas	103	0	0	0	103	0	0	0	0	100% WCA
050-4150.2570	Electrical	1,339	0	0	0	1,339	0	0	0	0	100% WCA
050-4150.2590	RMA Insurance	78,499	0	0	0	78,499	0	0	0	0	100% WCA
050-4150.2591	LAFCO	0	0	0	0	0	0	0	0	0	100% WCA
050-4150.2592	CSJVRMA Retro	24,720	0	0	0	24,720	0	0	0	0	100% WCA
050-4150.2600	Unemployment Insurance	155	0	0	0	155	0	0	0	0	100% WCA
050-4150.2850	Employee Awards	721	0	0	0	721	0	0	0	0	100% WCA
050-4150.3000	Professional	8,240	0	0	0	8,240	0	0	0	0	100% WCA
050-4150.3002	Online Web Payment Services	19,055	0	0	0	19,055	0	0	0	0	100% WCA
050-4150.3012	Payroll Service	6,695	0	0	0	6,695	0	0	0	0	100% WCA
050-4150.3037	Datavault Strorage	1,030	0	0	0	1,030	0	0	0	0	100% WCA
050-4150.3049	Fire Protection	13,683	0	0	0	13,683	0	0	0	0	100% WCA
050-4150.3120	Management Services	123,950	0	0	0	123,950	0	0	0	0	100% WCA
050-4150.3125	Police Services - Calls for Service	14,577	0	0	0	14,577	0	0	0	0	100% WCA
050-4150.3126	Legal Services	0	0	0	0	0	0	0	0	0	100% WCA
050-4150.4010	Maintenance Contracts	3,605	0	0	0	3,605	0	0	0	0	100% WCA
050-4150.4012	Credit Card Machine Fees	7,210	0	0	0	7,210	0	0	0	0	100% WCA
050-4150.4016	Internet Access	206	0	0	0	206	0	0	0	0	100% WCA
050-4150.4022	Software Licenses	670	0	0	0	670	0	0	0	0	100% WCA
050-4150.4027	Server Contract	1,854	0	0	0	1,854	0	0	0	0	100% WCA
050-4150.4031	Copier Lease	3,322	0	0	0	3,322	0	0	0	0	100% WCA
050-4150.4037	MOM Software	6,592	0	0	0	6,592	0	0	0	0	100% WCA
050-4150.6021	Computers	515	0	0	0	515	0	0	0	0	100% WCA
	Total Maintenance and Operation	$344,107	$0	$0	$0	$344,107	$0	$0	$0	$0	
	Total Finance Department	**$562,377**	**$0**	**$0**	**$0**	**$562,377**	**$0**	**$0**	**$0**	**$0**	

City of Reedley
Water Rate Study
Functionalization and Classification of the
Revenue Requirement
Exhibit 11

Acct. #		Expenses FY 2016/17	Commodity (COMM)	Capacity (CAP)	Customer Related: Actual Customer (AC)	Customer Related: Weighted for: Cust. Acctg. (WCA)	Customer Related: Weighted for: Meters & Services (WCMS)	Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
	Total O & M Expenses	$2,386,955	$564,769	$480,187	$0	$562,377	$772,824	$0	$0	$6,798	
	Taxes/Transfer Payments										
	Transfers	$0	$0	$0	$0	$0	$0	$0	$0	$0	As O&M Expense
	Total Taxes/Transfer Payments	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
	Rate Funded Capital	**$150,000**	**$0**	**$0**	**$0**	**$0**	**$150,000**	**$0**	**$0**	**$0**	100% WCMS
	Debt Service										
	2007 Water Bond	$917,763	$0	$0	$0	$0	$917,763	$0	$0	$0	100% WCMS
	New Debt Issue	0	0	0	0	0	0	0	0	0	100% WCMS
	Total Debt Service	$917,763	$0	$0	$0	$0	$917,763	$0	$0	$0	
	Less:										
	Water Holding DIF (107)	$0	$0	$0	$0	$0	$0	$0	$0	$0	As Debt Service
	Water Distribution DIF (111)	0	0	0	0	0	0	0	0	0	As Debt Service
	Net Debt Service	**$917,763**	**$0**	**$0**	**$0**	**$0**	**$917,763**	**$0**	**$0**	**$0**	
	Reserve Funding To/(From)										
	Operating Reserve (050)	($34,538)	($8,195)	($6,968)	$0	($8,160)	($11,214)	$0	$0	$0	As O&M Expense Less DA
	Capital Reserve (49)	0	0	0	0	0	0	0	0	0	As O&M Expense Less DA
	Dept. building/shop/yard Fund-CVTC	0	0	0	0	0	0	0	0	0	As O&M Expense Less DA
	SCADA Master Plan Implementation	0	0	0	0	0	0	0	0	0	As O&M Expense Less DA
	GAC carbon media replacement	0	0	0	0	0	0	0	0	0	As O&M Expense Less DA
	Total Reserve Funding To/(From)	**($34,538)**	**($8,195)**	**($6,968)**	**$0**	**($8,160)**	**($11,214)**	**$0**	**$0**	$0	
	Total Revenue Requirement	**$3,420,179**	**$556,573**	**$473,219**	**$0**	**$554,217**	**$1,829,373**	**$0**	**$0**	**$6,798**	
	Less: Miscellaneous Revenues										
	Interest Earnings	$2,765	$451	$383	$0	$449	$1,482	$0	$0	$0	As Total Revenue Requirement Less DA
	Temporary Water	8,264	1,348	1,146	0	1,342	4,429	0	0	0	As Total Revenue Requirement Less DA
	Water Meters & Water Boxes	10,250	1,671	1,421	0	1,664	5,493	0	0	0	As Total Revenue Requirement Less DA
	Water Service Collection Fee	0	0	0	0	0	0	0	0	0	As Total Revenue Requirement Less DA
	Water Application Service Fee	6,150	1,003	853	0	999	3,296	0	0	0	As Total Revenue Requirement Less DA
	Water Sale of Surplus Equipment	2,050	334	284	0	333	1,099	0	0	0	As Total Revenue Requirement Less DA
	Water DBCP Litigation Fees	0	0	0	0	0	0	0	0	0	As Total Revenue Requirement Less DA
	Other Miscellaneous Revenues	66,625	10,864	9,237	0	10,818	35,707	0	0	0	As Total Revenue Requirement Less DA
	Water Tower Space Rental	1,845	301	256	0	300	989	0	0	0	As Total Revenue Requirement Less DA
	Annuitant Medical Premium	6,458	1,053	895	0	1,048	3,461	0	0	0	As Total Revenue Requirement Less DA
	Water Tower EDA Construction	0	0	0	0	0	0	0	0	0	As Total Revenue Requirement Less DA
	Water Tower EDA Const. - Inspection	0	0	0	0	0	0	0	0	0	As Total Revenue Requirement Less DA
	GAC Settlement	30,750	5,014	4,263	0	4,993	16,480	0	0	0	As Total Revenue Requirement Less DA
	Total Other Misc. Revenues	**$135,157**	**$22,038**	**$18,738**	**$0**	**$21,945**	**$72,436**	**$0**	**$0**	**$0**	
	Net Revenue Requirement	**$3,285,023**	**$534,535**	**$454,481**	**$0**	**$532,272**	**$1,756,936**	**$0**	**$0**	**$6,798**	

City of Reedley
Water Rate Study
Direct Assignment of Expenses
Exhibit 11.2

		Total Direct Expenses	Res - Tier 1	Res - Tier 2	Res - Tier 3	Non-Res Tier 1	Non-Res Tier 2	Non-Res Tier 3	Irrigation	Fire Protection	Notes
	Expenses										
	Engineering Water										
	Personnel Costs										
050-4402.1010	F/T Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	
050-4402.1030	O/T Salaries	0	0	0	0	0	0	0	0	0	
050-4402.1040	Social Security & Medical - F/T	0	0	0	0	0	0	0	0	0	
050-4402.1041	Social Security & Medical - P/T	0	0	0	0	0	0	0	0	0	
050-4402.1050	PERS	0	0	0	0	0	0	0	0	0	
050-4402.1060	Health Insurance	0	0	0	0	0	0	0	0	0	
050-4402.1070	Workers Comp - F/T	0	0	0	0	0	0	0	0	0	
050-4402.1080	LTD Insurance	0	0	0	0	0	0	0	0	0	
050-4402.1095	Special Compensation	0	0	0	0	0	0	0	0	0	
050-4402.2600	Unemployment Insurance	0	0	0	0	0	0	0	0	0	
	Total Personnel Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	
	Total Engineering Water	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
	Water Maintenance										
	Personnel Costs										
050-4150.1010	F/T Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	
050-4150.1020	P/T Salaries	0	0	0	0	0	0	0	0	0	
050-4150.1030	O/T Salaries	0	0	0	0	0	0	0	0	0	
050-4150.1040	Social Security & Medical - F/T	0	0	0	0	0	0	0	0	0	
050-4150.1041	Social Security & Medical - P/T	0	0	0	0	0	0	0	0	0	
050-4150.1050	PERS	0	0	0	0	0	0	0	0	0	
050-4150.1060	Health Insurance	0	0	0	0	0	0	0	0	0	
050-4150.1070	Workers Comp - F/T	0	0	0	0	0	0	0	0	0	
050-4150.1071	Workers Comp - P/T	0	0	0	0	0	0	0	0	0	
050-4150.1080	LTD Insurance	0	0	0	0	0	0	0	0	0	
050-4150.1091	Uniform Expense	0	0	0	0	0	0	0	0	0	
050-4150.1095	Special Compensation	0	0	0	0	0	0	0	0	0	
	Total Personnel Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	

		Total Direct Expenses	Res - Tier 1	Res - Tier 2	Res - Tier 3	Non-Res Tier 1	Non-Res Tier 2	Non-Res Tier 3	Irrigation	Fire Protection	Notes
	Maintenance & Operation										
050-4500.2010	Office Supplies	$0	$0	$0	$0	$0	$0	$0	$0	$0	
050-4500.2020	Special Supplies	0	0	0	0	0	0	0	0	0	
050-4500.2025	Lab Supplies	0	0	0	0	0	0	0	0	0	
050-4500.2040	Small Tools	0	0	0	0	0	0	0	0	0	
050-4500.2170	Road Materials	0	0	0	0	0	0	0	0	0	
050-4500.2240	Meters and Boxes	0	0	0	0	0	0	0	0	0	
050-4500.2250	Personal Safety	0	0	0	0	0	0	0	0	0	
050-4500.2265	Chlorine	0	0	0	0	0	0	0	0	0	
050-4500.2530	Memberships	0	0	0	0	0	0	0	0	0	
050-4500.2540	Meetings & Conferences	0	0	0	0	0	0	0	0	0	
050-4500.2550	Telephone	0	0	0	0	0	0	0	0	0	
050-4500.2551	Emergency Notification	0	0	0	0	0	0	0	0	0	
050-4500.2560	Natural Gas	0	0	0	0	0	0	0	0	0	
050-4500.2570	Electrical	0	0	0	0	0	0	0	0	0	
050-4500.2600	Unemployment Insurance	0	0	0	0	0	0	0	0	0	
050-4500.2680	Taxes	0	0	0	0	0	0	0	0	0	
050-4500.3000	Professional	0	0	0	0	0	0	0	0	0	
050-4500.3007	Professional Development	0	0	0	0	0	0	0	0	0	
050-4500.3035	Lab Testing	0	0	0	0	0	0	0	0	0	
050-4500.3042	ELAP Certification	0	0	0	0	0	0	0	0	0	
050-4500.3045	Certifications	0	0	0	0	0	0	0	0	0	
050-4500.3140	Legal Services	0	0	0	0	0	0	0	0	0	
050-4500.3145	Landscape Audit	2,060	0	0	694	0	0	1,009	356	0	*As Usage*
050-4500.3148	Low Flow Toilet	2,060	0	0	839	0	0	1,221	0	0	*As Usage*
050-4500.3150	Education Program	2,060	0	0	694	0	0	1,009	356	0	*As Usage*
050-4500.3153	Conservation Certification	618	0	0	208	0	0	303	107	0	*As Usage*
050-4500.4010	Maintenance Contracts	0	0	0	0	0	0	0	0	0	
050-4500.4016	Internet Access	0	0	0	0	0	0	0	0	0	
050-4500.4020	Equipment Repairs	0	0	0	0	0	0	0	0	0	
050-4500.4022	Software License	0	0	0	0	0	0	0	0	0	
050-4500.4023	Well Repairs	0	0	0	0	0	0	0	0	0	
050-4500.4027	Server Contract	0	0	0	0	0	0	0	0	0	
050-4500.4030	Building Repairs	0	0	0	0	0	0	0	0	0	
050-4500.4031	Copier Lease	0	0	0	0	0	0	0	0	0	
050-4500.5260	Water Tower EDA	0	0	0	0	0	0	0	0	0	
050-4500.5261	Water Tower Other	0	0	0	0	0	0	0	0	0	
050-4500.5318	Water Tower	0	0	0	0	0	0	0	0	0	
050-4500.5320	Water Tower Other (2)	0	0	0	0	0	0	0	0	0	
050-4500.5437	GIS Software	0	0	0	0	0	0	0	0	0	
050-4500.5910	Transfer Switch	0	0	0	0	0	0	0	0	0	
050-4500.6021	Computers	0	0	0	0	0	0	0	0	0	
050-4500.7010	Equipment Shop	0	0	0	0	0	0	0	0	0	
050-4500.7044	Trans Water Cap	0	0	0	0	0	0	0	0	0	
050-4500.7205	Meter Radio	0	0	0	0	0	0	0	0	0	
050-4500.8020	Prior Yr PO's	0	0	0	0	0	0	0	0	0	
	Total Maintenance & Operation	$6,798	$0	$0	$2,435	$0	$0	$3,543	$820	$0	
	Total Water Maintenance	**$6,798**	**$0**	**$0**	**$2,435**	**$0**	**$0**	**$3,543**	**$820**	**$0**	

		Total Direct Expenses	Res - Tier 1	Res - Tier 2	Res - Tier 3	Non-Res Tier 1	Non-Res Tier 2	Non-Res Tier 3	Irrigation	Fire Protection	Notes
	Finance Department										
	Personnel Costs										
050-4150.1010	F/T Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	
050-4150.1020	P/T Salaries	0	0	0	0	0	0	0	0	0	
050-4150.1030	O/T Salaries	0	0	0	0	0	0	0	0	0	
050-4150.1040	Social Security & Medical - F/T	0	0	0	0	0	0	0	0	0	
050-4150.1041	Social Security & Medical - P/T	0	0	0	0	0	0	0	0	0	
050-4150.1050	PERS	0	0	0	0	0	0	0	0	0	
050-4150.1060	Health Insurance	0	0	0	0	0	0	0	0	0	
050-4150.1066	Retiree Medicare	0	0	0	0	0	0	0	0	0	
050-4150.1067	Retiree NonMedicare	0	0	0	0	0	0	0	0	0	
050-4150.1068	CalPERS Trust	0	0	0	0	0	0	0	0	0	
050-4150.1070	Workers Comp - F/T	0	0	0	0	0	0	0	0	0	
050-4150.1071	Workers Comp - P/T	0	0	0	0	0	0	0	0	0	
050-4150.1080	LTD Insurance	0	0	0	0	0	0	0	0	0	
050-4150.1095	Special Compensation	0	0	0	0	0	0	0	0	0	
	Total Personnel Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	
	Maintenance and Operation										
050-4150.2010	Office Supplies	$0	$0	$0	$0	$0	$0	$0	$0	$0	
050-4150.2011	Postage & Meter	0	0	0	0	0	0	0	0	0	
050-4150.2021	Utility Billing	0	0	0	0	0	0	0	0	0	
050-4150.2530	Memberships	0	0	0	0	0	0	0	0	0	
050-4150.2540	Meetings & Conferences	0	0	0	0	0	0	0	0	0	
050-4150.2550	Telephone	0	0	0	0	0	0	0	0	0	
050-4150.2551	Emergency Notification	0	0	0	0	0	0	0	0	0	
050-4150.2560	Natural Gas	0	0	0	0	0	0	0	0	0	
050-4150.2570	Electrical	0	0	0	0	0	0	0	0	0	
050-4150.2590	RMA Insurance	0	0	0	0	0	0	0	0	0	
050-4150.2591	LAFCO	0	0	0	0	0	0	0	0	0	
050-4150.2592	CSJVRMA Retro	0	0	0	0	0	0	0	0	0	
050-4150.2600	Unemployment Insurance	0	0	0	0	0	0	0	0	0	
050-4150.2850	Employee Awards	0	0	0	0	0	0	0	0	0	
050-4150.3000	Professional	0	0	0	0	0	0	0	0	0	
050-4150.3002	Online Web Payment Services	0	0	0	0	0	0	0	0	0	
050-4150.3012	Payroll Service	0	0	0	0	0	0	0	0	0	
050-4150.3037	Datavault Storage	0	0	0	0	0	0	0	0	0	
050-4150.3049	Fire Protection	0	0	0	0	0	0	0	0	0	
050-4150.3120	Management Services	0	0	0	0	0	0	0	0	0	
050-4150.3125	Police Services - Calls for Service	0	0	0	0	0	0	0	0	0	
050-4150.3126	Legal Services	0	0	0	0	0	0	0	0	0	
050-4150.4010	Maintenance Contracts	0	0	0	0	0	0	0	0	0	
050-4150.4012	Credit Card Machine Fees	0	0	0	0	0	0	0	0	0	
050-4150.4016	Internet Access	0	0	0	0	0	0	0	0	0	
050-4150.4022	Software Licenses	0	0	0	0	0	0	0	0	0	
050-4150.4027	Server Contract	0	0	0	0	0	0	0	0	0	
050-4150.4031	Copier Lease	0	0	0	0	0	0	0	0	0	
050-4150.4037	MOM Software	0	0	0	0	0	0	0	0	0	
050-4150.6021	Computers	0	0	0	0	0	0	0	0	0	
	Total Maintenance and Operation	$0	$0	$0	$0	$0	$0	$0	$0	$0	
	Total Finance Department	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	

	Total Direct Expenses	Res - Tier 1	Res - Tier 2	Res - Tier 3	Non-Res Tier 1	Non-Res Tier 2	Non-Res Tier 3	Irrigation	Fire Protection	Notes
Total O & M Expenses	$6,798	$0	$0	$2,435	$0	$0	$3,543	$820	$0	
Taxes/Transfer Payments										
Transfers	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Total Taxes/Transfer Payments	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Rate Funded Capital	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Debt Service										
2007 Water Bond	$0	$0	$0	$0	$0	$0	$0	$0	$0	
New Debt Issue	0	0	0	0	0	0	0	0	0	
Total Debt Service	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Less:										
Water Holding DIF (107)	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Water Distribution DIF (111)	0	0	0	0	0	0	0	0	0	
Net Debt Service	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Reserve Funding To/(From)										
Operating Reserve (050)	$0	$0	$0	$0	$0	$0	$0	$0	$0	As Rev Req
Capital Reserve (49)	0	0	0	0	0	0	0	0	0	As Rev Req
Dept. building/shop/yard Fund-CVTC	0	0	0	0	0	0	0	0	0	As Rev Req
SCADA Master Plan Implementation	0	0	0	0	0	0	0	0	0	As Rev Req
GAC carbon media replacement	0	0	0	0	0	0	0	0	0	As Rev Req
Total Reserve Funding To/(From)	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Total Revenue Requirement	$6,798	$0	$0	$2,435	$0	$0	$3,543	$820	$0	
Less: Miscellaneous Revenues										
Interest Earnings	$0	$0	$0	$0	$0	$0	$0	$0	$0	*As Above*
Temporary Water	0	0	0	0	0	0	0	0	0	*As Above*
Water Meters & Water Boxes	0	0	0	0	0	0	0	0	0	*As Above*
Water Service Collection Fee	0	0	0	0	0	0	0	0	0	*As Above*
Water Application Service Fee	0	0	0	0	0	0	0	0	0	*As Above*
Water Sale of Surplus Equipment	0	0	0	0	0	0	0	0	0	*As Above*
Water DBCP Litigation Fees	0	0	0	0	0	0	0	0	0	*As Above*
Other Miscellaneous Revenues	0	0	0	0	0	0	0	0	0	*As Above*
Water Tower Space Rental	0	0	0	0	0	0	0	0	0	*As Above*
Annuitant Medical Premium	0	0	0	0	0	0	0	0	0	*As Above*
Water Tower EDA Construction	0	0	0	0	0	0	0	0	0	*As Above*
Water Tower EDA Const. - Inspection	0	0	0	0	0	0	0	0	0	*As Above*
GAC Settlement	0	0	0	0	0	0	0	0	0	*As Above*
Total Other Misc. Revenues	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Net Revenue Requirement	$6,798	$0	$0	$2,435	$0	$0	$3,543	$820	$0	

City of Reedley
Water Rate Study
Allocation of Net Revenue Requirements
Exhibit 12a - Consumption Components

Cost Component	Net Revenue Requirement	Res - Tier 1	Res - Tier 2	Res - Tier 3	Non-Res Tier 1	Non-Res Tier 2	Non-Res Tier 3	Irrigation	Fire Protection	
Commodity Related	$534,535	$273,806	$46,986	$63,590	$17,966	$6,838	$92,602	$32,748	$0	*COMM*
Capacity Related	$454,481	$207,299	$40,495	$57,221	$13,602	$5,893	$83,327	$32,116	$14,528	*CAP*
Direct Assignment	$6,798	$0	$0	$2,435	$0	$0	$3,543	$820	$0	*DA*
Net Revenue Requirement	**$995,815**	**$481,105**	**$87,481**	**$123,246**	**$31,567**	**$12,731**	**$179,472**	**$65,684**	**$14,528**	

City of Reedley
Water Rate Study
Allocation of Net Revenue Requirements
Exhibit 12b - Total Components

Cost Component	Net Revenue Requirement	Residential	Non-Residential	Irrigation	Fire Protection	
Commodity Related	$534,535	$384,382	$117,406	$32,748	$0	***COMM***
Capacity Related	$454,481	$305,014	$102,822	$32,116	$14,528	***CAP***
Customer Related						
Actual Customer	$0	$0	$0	$0	$0	***AC***
Customer Accounting	532,272	477,090	40,646	4,830	9,706	***WCA***
Meters & Services	1,756,936	1,499,189	165,971	19,907	71,869	***WCMS***
Total Customer Related	$2,289,208	$1,976,278	$206,617	$24,737	$81,575	
Fire Protection Related	$0	$0	$0	$0	$0	***FP***
Revenue Related	$0	$0	$0	$0	$0	***RR***
Direct Assignment	$6,798	$2,435	$3,543	$820	$0	***DA***
Net Revenue Requirement	**$3,285,023**	**$2,668,110**	**$430,388**	**$90,421**	**$96,104**	

City of Reedley
Water Rate Study
Summary of Average Embedded Water Cost of Service Study
Exhibit 13

Classification Components		Residential	Non-Residential	Irrigation	Fire Protection	*Source*
Revenues at Present Rates	$3,000,021	$2,357,865	$458,017	$94,430	$89,709	*Exhibit 10*
Less: Allocated Revenue Requirement	$3,285,023	$2,668,110	$430,388	$90,421	$96,104	*Exhibit 12b*
Balance/(Deficiency) of Funds	**($285,002)**	**($310,245)**	**$27,629**	**$4,008**	**($6,394)**	
% Change Over Present Rates	**9.5%**	**13.2%**	**-6.0%**	**-4.2%**	**7.1%**	

City of Reedley
Water Rate Study
Average Unit Costs
Exhibit 14

	Total	Res - Tier 1	Res - Tier 2	Res - Tier 3	Non-Res Tier 1	Non-Res Tier 2	Non-Res Tier 3	Irrigation	Fire Protection
Commodity Costs - $/1,000 gal.	$0.57	$0.57	$0.57	$0.57	$0.57	$0.57	$0.57	$0.57	$0.00
Capacity Costs - $/1,000 gal.	$0.48	$0.43	$0.49	$0.51	$0.43	$0.49	$0.51	$0.56	$0.00
Public Fire Protection - $/1,000 gal.	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Revenue Related - $/1,000 gal.	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Direct Assignment - $/1,000 gal.	$0.01	$0.00	$0.00	$0.02	$0.00	$0.00	$0.02	$0.01	$0.00
Total Cost - $/1,000 gal.	**$1.05**	**$1.00**	**$1.05**	**$1.10**	**$1.00**	**$1.05**	**$1.10**	**$1.14**	**$0.00**
Cost Differential			*$0.05*	*$0.05*		*$0.05*	*$0.05*		
Allocated Customer Costs -									
Customer Costs - $/Eq Mtr/Mth	$30.90	$31.26			$29.52			$29.47	$26.92

		Residential	Non-Residential	Irrigation	Fire Protection
Current Average Revnue / 1,000 gal.	$3.18	$3.47	$2.21	$1.63	$0.00
Current Avg Allocated Revenue / 1,000 gal	3.48	3.93	2.08	1.56	0.00

City of Reedley
Water Rate Study
Rate Summary - Residential

	Present Rates	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Service Charge	***$/Acct.***					
3/4" & 1"	$26.71	$30.35	$31.15	$32.00	$32.80	$33.70
1 1/2"	31.18	35.51	36.45	37.44	38.38	39.43
2"	35.62	40.37	41.43	42.56	43.62	44.82
Commodity Charge	***$/1,000 gal***					
0 - 15,000	$0.87	$1.00	$1.03	$1.06	$1.09	$1.12
15,000 - 25,000	0.98	1.05	1.08	1.11	1.14	1.18
25,000 +	1.05	1.10	1.13	1.17	1.20	1.23

City of Reedley
Water Rate Study
Residential Montly Bill
Proposed Rates: Year 1 - 2016/17

Meter Type	Use per 1,000 gal	Present Rates	Present Rates	Difference $	Difference %
3/4" & 1"	0	$26.71	$30.35	$3.64	13.6%
	5	31.06	35.35	4.29	13.8%
	10	35.41	40.35	4.94	14.0%
	15	39.76	45.35	5.59	14.1%
	20	44.66	50.60	5.94	13.3%
	25	49.56	55.85	6.29	12.7%
	35	60.06	66.85	6.79	11.3%
	45	70.56	77.85	7.29	10.3%
	60	86.31	94.35	8.04	9.3%
	75	102.06	110.85	8.79	8.6%
	100	128.31	138.35	10.04	7.8%
	150	180.81	193.35	12.54	6.9%
	200	233.31	248.35	15.04	6.4%

Present Rates

Service Charge	$/Acct.
3/4" & 1"	$26.71
1 1/2"	31.18
2"	35.62

Commodity Charge	$/1,000 gal
0 - 15,000	$0.87
15,000 - 25,000	0.98
25,000 +	1.05

Proposed Rates

Service Charge	$/Acct.
3/4" & 1"	$30.35
1 1/2"	35.51
2"	40.37

Commodity Charge	$/1,000 gal
0 - 15,000	$1.00
15,000 - 25,000	1.05
25,000 +	1.10

City of Reedley
Water Rate Study
Rate Summary - Non-Residential

	Present Rates	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Service Charge	***$/Acct.***					
3/4"	$33.41	$30.35	$31.15	$32.00	$32.80	$33.70
1"	36.86	30.35	31.15	32.00	32.80	33.70
1 1/2"	38.98	35.51	36.45	37.44	38.38	39.43
2"	44.54	40.37	41.43	42.56	43.62	44.82
3"	50.11	45.53	46.72	48.00	49.20	50.55
4"	72.39	65.86	67.60	69.44	71.18	73.13
6"	144.81	131.42	134.88	138.56	142.02	145.92
8"	231.71	210.63	216.18	222.08	227.63	233.88
Commodity Charge	***$/1,000 gal***					
0 - 15,000	$0.87	$1.00	$1.03	$1.06	$1.09	$1.12
15,000 - 25,000	0.98	1.05	1.08	1.11	1.14	1.18
25,000 +	1.05	1.10	1.13	1.17	1.20	1.23

City of Reedley
Water Rate Study
Non-Residential Montly Bill
Proposed Rates: Year 1 - 2016/17

Meter Type	Use per 1,000 gal	Present Rates	Present Rates	Difference $	Difference %
3/4"	0	$33.41	$30.35	($3.06)	-9.2%
	10	42.11	40.35	(1.76)	-4.2%
	20	51.36	50.60	(0.76)	-1.5%
	30	61.51	61.35	(0.16)	-0.3%
	50	82.51	83.35	0.84	1.0%
	70	103.51	105.35	1.84	1.8%
	100	135.01	138.35	3.34	2.5%
	150	187.51	193.35	5.84	3.1%
	200	240.01	248.35	8.34	3.5%
	250	292.51	303.35	10.84	3.7%
	300	345.01	358.35	13.34	3.9%
	400	450.01	468.35	18.34	4.1%
	500	555.01	578.35	23.34	4.2%

Present Rates		Proposed Rates	
Service Charge	**$/Acct.**	**Service Charge**	**$/Acct.**
3/4"	$33.41	3/4"	$30.35
1"	36.86	1"	30.35
1 1/2"	38.98	1 1/2"	35.51
Commodity Charge	**$/1,000 gal**	**Commodity Charge**	**$/1,000 gal**
0 - 15,000	$0.87	0 - 15,000	$1.00
15,000 - 25,000	0.98	15,000 - 25,000	1.05
25,000 +	1.05	25,000 +	1.10

City of Reedley
Water Rate Study
Rate Summary - Irrigation

	Present Rates	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Service Charge	***$/Acct.***					
3/4"	$33.41	$30.35	$31.15	$32.00	$32.80	$33.70
1"	36.86	30.35	31.15	32.00	32.80	33.70
1 1/2"	38.98	35.51	36.45	37.44	38.38	39.43
2"	44.54	40.37	41.43	42.56	43.62	44.82
3"	50.11	45.53	46.72	48.00	49.20	50.55
4"	72.39	65.86	67.60	69.44	71.18	73.13
6"	144.81	131.42	134.88	138.56	142.02	145.92
8"	231.71	210.63	216.18	222.08	227.63	233.88
Commodity Charge	***$/1,000 gal***					
All Consumption	$1.10	$1.14	$1.17	$1.20	$1.23	$1.26

City of Reedley
Water Rate Study
Irrigation Montly Bill
Proposed Rates: Year 1 - 2016/17

Meter Type	Use per 1,000 gal	Present Rates	Present Rates	Difference $	Difference %
3/4"	0	$33.41	$30.35	($3.06)	-9.2%
	10	44.41	41.75	(2.66)	-6.0%
	25	60.91	58.85	(2.06)	-3.4%
	50	88.41	87.35	(1.06)	-1.2%
	75	115.91	115.85	(0.06)	-0.1%
	100	143.41	144.35	0.94	0.7%
	125	170.91	172.85	1.94	1.1%
	150	198.41	201.35	2.94	1.5%
	175	225.91	229.85	3.94	1.7%
	200	253.41	258.35	4.94	1.9%
	300	363.41	372.35	8.94	2.5%
	400	473.41	486.35	12.94	2.7%
	500	583.41	600.35	16.94	2.9%

Present Rates

Service Charge	$/Acct.
3/4"	$33.41
1"	36.86
1 1/2"	38.98

Commodity Charge	$/1,000 gal
All Consumption	$1.10

Proposed Rates

Service Charge	$/Acct.
3/4"	$30.35
1"	30.35
1 1/2"	35.51

Commodity Charge	$/1,000 gal
All Consumption	$1.14

City of Reedley
Water Rate Study
Rate Summary - Fire Protection

Rate Adjustment	*Present Rates*	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21
Service Charge	***$/Acct.***					
Less than 2"	$30.99	$33.50	$34.35	$35.25	$36.15	$37.05
3"	61.76	66.76	68.46	70.25	72.04	73.84
4"	92.78	100.29	102.84	105.53	108.23	110.92
6"	123.42	133.42	136.80	140.39	143.97	147.55
8" & greater	154.33	166.83	171.06	175.54	180.03	184.51

City of Reedley
Water Rate Study
Fire Protection Montly Bill
Proposed Rates: Year 1 - 2016/17

Meter Type	Present Rates	Present Rates	Difference $	Difference %
Less than 2"	$30.99	$33.50	$2.51	8.1%
3"	61.76	66.76	5.00	8.1%
4"	92.78	100.29	7.51	8.1%
6"	123.42	133.42	10.00	8.1%
8" & greater	154.33	166.83	12.50	8.1%

Present Rates

Service Charge	$/Acct.
Less than 2"	$30.99
3"	61.76
4"	92.78
6"	123.42
8" & greater	154.33

Proposed Rates

Service Charge	$/Acct.
Less than 2"	$33.50
3"	66.76
4"	100.29
6"	133.42
8" & greater	166.83

Technical Appendix B – Drought Rate Structure

City of Reedley
Water Rate Study
Res & Non Res Drought Rates - 2016/17

Savings Target	*Normal Conditions*	Stage 1 *10%*	Stage 2 *25%*	Stage 3 *45%*	Stage 4 *60%*
Drought Rates					
0 - 15,000		$0.12	$0.35	$0.85	$1.55
15,000 - 25,000		0.12	0.35	0.85	1.55
25,000 +		0.12	0.35	0.85	1.55
Commodity Charge	***$/1,000 gal***				
0 - 15,000	$1.00	$1.12	$1.35	$1.85	$2.55
15,000 - 25,000	1.05	1.17	1.40	1.90	2.60
25,000 +	1.10	1.22	1.45	1.95	2.65

City of Reedley
Water Rate Study
Res & Non Res Drought Rates - Rate Schedule

Rate Adjustment	Present Rates	FY 2016/17 0.0%	FY 2017/18 0.0%	FY 2018/19 0.0%	FY 2019/20 0.0%	FY 2020/21 0.0%
Commodity Charge	***$/1,000 gal***					
Stage 1						
0 - 15,000	$1.00	$1.12	$1.15	$1.18	$1.22	$1.25
15,000 - 25,000	1.05	1.17	1.20	1.24	1.27	1.31
25,000 +	1.10	1.22	1.25	1.29	1.32	1.36
Stage 2						
0 - 15,000	$1.00	$1.35	$1.38	$1.43	$1.47	$1.51
15,000 - 25,000	1.05	1.40	1.44	1.48	1.52	1.56
25,000 +	1.10	1.45	1.49	1.53	1.58	1.62
Stage 3						
0 - 15,000	$1.00	$1.85	$1.90	$1.96	$2.01	$2.07
15,000 - 25,000	1.05	1.90	1.95	2.01	2.07	2.13
25,000 +	1.10	1.95	2.01	2.07	2.12	2.18
Stage 4						
0 - 15,000	$1.00	$2.55	$2.63	$2.71	$2.78	$2.86
15,000 - 25,000	1.05	2.60	2.68	2.76	2.84	2.92
25,000 +	1.10	2.65	2.73	2.81	2.89	2.97

Total Monthly 3/4" and 1" Meter Bill

	Normal Water Conditions	Mandatory Conservation Stage 1	Mandatory Conservation Stage 2	Mandatory Conservation Stage 3	Mandatory Conservation Stage 4
Target Reduction Goal	0%	10%	25%	45%	60%
Res/Non Res Customer Using 10,000 gal					
Assuming No Change in Use (10,000 gal)	$40.35	$41.50	$43.81	$48.83	$55.90
Assuming Reduced Usage -					
Revised 1,000 gal Usage	10.0	9.0	8.0	6.0	4.0
Total Monthly Bill	$40.35	$40.39	$41.11	$41.44	$40.57
Res/Non Res Customer Using 20,000 gal					
Assuming No Change in Use (20,000 gal)	$50.85	$53.15	$57.76	$67.81	$81.94
Assuming Reduced Usage -					
Revised 1,000 gal Usage	20.0	18.0	15.0	11.0	8.0
Total Monthly Bill	$50.85	$50.82	$50.78	$50.73	$50.79
Res/Non Res Customer Using 40,000 gal					
Assuming No Change in Use (40,000 gal)	$72.85	$77.46	$86.67	$106.77	$135.04
Assuming Reduced Usage -					
Revised 1,000 gal Usage	40.0	36.0	30.0	22.0	16.0
Total Monthly Bill	$72.85	$72.60	$72.22	$71.71	$71.53

Step 1 - Determine Total Targeted Stage 1 Savings and Savings Achieved from Voluntary Impacts

STAGE 1 - REQUIRED TOTAL SAVINGS	Estimated % Savings	Est. Savings in Total	
Stage 1 - Target Conservation (Savings)	10.0%	88,604	*1,000 gallons*

Step 2 - Estimate the Voluntary Impacts (Savings) By Price Block

	Normal Water Conditions (1,000 gal) [1]	Voluntary Savings Impacts: Estimated % Savings by Block	Estimated Savings (1,000 gal)	Volume Savings (1,000 gal)
0 - 15,000	515,198	10.0%	51,520	463,678
15,000 - 25,000	95,041	10.0%	9,504	85,536
25,000 +	275,798	10.0%	27,580	248,218
Total Consumption	886,036		88,604	797,432
Target Savings			88,604	
Difference (1,000 gal)			0	

Step 3 - Determine the Price (Rate) By Block Needed to Achieve Needed Savings and Meet Revenue Requirement

Revenue @ Present Rates	
Revenue	$826,531
Balance/(Deficiency)	($91,837)
Consumption	797,432
Needed Increase per 1,000 gal	$0.12
Needed Rev Increase	10.0%

	Usage After Vol. & Rate Impact (1,000 gal)	STAGE 1: *% Adjst. to Rates*	Proposed $/1,000 gal	Current Rates	Commodity Revenue
0 - 15,000	463,678	11.5%	$1.12	$1.00	$517,094
15,000 - 25,000	85,536	11.0%	1.17	1.05	99,667
25,000 +	248,218	10.5%	1.22	1.10	301,634
Total	797,432				$918,395
Plus: Targeted Additional Stage 1 Costs (Residential Share)					$0
Target - Total Revenue					$918,368
$ Difference					$27

[1] - Assumes Average of CY 2014 & 2015 is normal consumption

Step 1 - Determine Total Targeted Stage 1 Savings and Savings Achieved from Voluntary Impacts

STAGE 2 - REQUIRED TOTAL SAVINGS	Estimated % Savings	Est. Savings in Total	
Stage 2 - Target Conservation (Savings)	25.0%	221,509	*1,000 gallons*

Step 2 - Estimate the Voluntary Impacts (Savings) By Price Block

	Normal Water Conditions (1,000 gal) [1]	Voluntary Savings Impacts: Estimated % Savings by Block	Estimated Savings (1,000 gal)	Volume Savings (1,000 gal)
0 - 15,000	515,198	25.0%	128,800	386,399
15,000 - 25,000	95,041	25.0%	23,760	71,280
25,000 +	275,798	25.0%	68,949	206,848
Total Consumption	886,036		221,509	664,527
Target Savings			221,509	
Difference (1,000 gal)			0	

Step 3 - Determine the Price (Rate) By Block Needed to Achieve Needed Savings and Meet Revenue Requirement

Revenue @ Present Rates	
Revenue	$688,776
Balance/(Deficiency)	($229,592)
Consumption	664,527
Needed Increase per 1,000 gal	$0.35
Needed Rev Increase	25.0%

	Usage After Vol. & Rate Impact (1,000 gal)	STAGE 2: *% Adjst. to Rates*	Proposed $/1,000 gal	Current Rates	Commodity Revenue
0 - 15,000	386,399	34.6%	$1.35	$1.00	$519,899
15,000 - 25,000	71,280	32.9%	1.40	1.05	99,472
25,000 +	206,848	31.4%	1.45	1.10	298,999
Total	664,527				$918,370
Plus: Targeted Additional Stage 2 Costs (Residential Share)					$0
Target - Total Revenue					$918,368
$ Difference					$2

[1] - Assumes Average of CY 2014 & 2015 is normal consumption

Step 1 - Determine Total Targeted Stage 1 Savings and Savings Achieved from Voluntary Impacts

STAGE 3 - REQUIRED TOTAL SAVINGS	Estimated % Savings	Est. Savings in Total	
Stage 3 - Target Conservation (Savings)	45.0%	398,716	*1,000 gallons*

Step 2 - Estimate the Voluntary Impacts (Savings) By Price Block

	Normal Water Conditions (1,000 gal) [1]	Voluntary Savings Impacts: Estimated % Savings by Block	Estimated Savings (1,000 gal)	Volume Savings (1,000 gal)
0 - 15,000	515,198	45.0%	231,839	283,359
15,000 - 25,000	95,041	45.0%	42,768	52,272
25,000 +	275,798	45.0%	124,109	151,689
Total Consumption	886,036		398,716	487,320
Target Savings			398,716	
Difference (1,000 gal)			0	

Step 3 - Determine the Price (Rate) By Block Needed to Achieve Needed Savings and Meet Revenue Requirement

Revenue @ Present Rates	
Revenue	$505,102
Balance/(Deficiency)	($413,265)
Consumption	487,320
Needed Increase per 1,000 gal	$0.85
Needed Rev Increase	45.0%

	Usage After Vol. & Rate Impact (1,000 gal)	STAGE 3: *% Adjst. to Rates*	Proposed $/1,000 gal	Current Rates	Commodity Revenue
0 - 15,000	283,359	84.8%	$1.85	$1.00	$523,647
15,000 - 25,000	52,272	80.8%	1.90	1.05	99,213
25,000 +	151,689	77.1%	1.95	1.10	295,489
Total	487,320				$918,349
Plus: Targeted Additional Stage 3 Costs (Residential Share)					*$0*
Target - Total Revenue					$918,368
$ Difference					($18)

[1] - Assumes Average of CY 2014 & 2015 is normal consumption

Step 1 - Determine Total Targeted Stage 1 Savings and Savings Achieved from Voluntary Impacts

STAGE 4 - REQUIRED TOTAL SAVINGS

	Estimated % Savings	Est. Savings in Total	
Stage 4 - Target Conservation (Savings)	60.0%	531,622	*1,000 gallons*

Step 2 - Estimate the Voluntary Impacts (Savings) By Price Block

	Normal Water Conditions (1,000 gal) [1]	Voluntary Savings Impacts: Estimated % Savings by Block	Estimated Savings (1,000 gal)	Volume Savings (1,000 gal)
0 - 15,000	515,198	60.0%	309,119	206,079
15,000 - 25,000	95,041	60.0%	57,024	38,016
25,000 +	275,798	60.0%	165,479	110,319
Total Consumption	886,036		531,622	354,414
Target Savings			531,622	
Difference (1,000 gal)			0	

Step 3 - Determine the Price (Rate) By Block Needed to Achieve Needed Savings and Meet Revenue Requirement

Revenue @ Present Rates

Revenue	$367,347
Balance/(Deficiency)	($551,021)
Consumption	354,414
Needed Increase per 1,000 gal	$1.55
Needed Rev Increase	60.0%

	Usage After Vol. & Rate Impact (1,000 gal)	STAGE 4: *% Adjst. to Rates*	Proposed $/1,000 gal	Current Rates	Commodity Revenue
0 - 15,000	206,079	155.5%	$2.55	$1.00	$526,471
15,000 - 25,000	38,016	148.1%	2.60	1.05	99,021
25,000 +	110,319	141.3%	2.65	1.10	292,864
Total	354,414				$918,355
Plus: Targeted Additional Stage 4 Costs (Residential Share)					$0
Target - Total Revenue					$918,368
$ Difference					($13)

[1] - Assumes Average of CY 2014 & 2015 is normal consumption

City of Reedley
Water Rate Study
Irrigation Drought Rates - 2016/17

Savings Target	*Normal Conditions*	Stage 1 *10.0%*	Stage 2 *25.0%*	Stage 3 *45.0%*	Stage 4 *60.0%*
Drought Rates					
All Consumption		$0.13	$0.38	$0.93	$1.71
Commodity Charge	***$/1,000 gal***				
All Consumption	$1.14	$1.27	$1.52	$2.07	$2.85

City of Reedley
Water Rate Study
Irrigation Drought Rates - Rate Schedule

Rate Adjustment	Present Rates	FY 2016/17 0.0%	FY 2017/18 0.0%	FY 2018/19 0.0%	FY 2019/20 0.0%	FY 2020/21 0.0%
Commodity Charge	***$/1,000 gal***					
Stage 1						
All Consumption	$1.14	$1.27	$1.30	$1.33	$1.37	$1.40
Stage 2						
All Consumption	$1.14	$1.52	$1.56	$1.60	$1.64	$1.68
Stage 3						
All Consumption	$1.14	$2.07	$2.13	$2.18	$2.24	$2.29
Stage 4						
All Consumption	$1.14	$2.85	$2.93	$3.00	$3.08	$3.15

Total Monthly 3/4" and 1" Meter Bill

	Normal Water Conditions	Mandatory Conservation Stage 1	Mandatory Conservation Stage 2	Mandatory Conservation Stage 3	Mandatory Conservation Stage 4	Mandatory Conservation Stage 5
Target Reduction Goal	0%	10%	25%	45%	60%	50%
Irrigation Customer Using 30,000 gal						
Assuming No Change in Use (30,000 gal)	$64.55	$68.35	$75.95	$92.53	$115.85	$98.75
Assuming Reduced Usage -						
Revised 1,000 gal Usage	30.0	27.0	23.0	17.0	12.0	15.0
Total Monthly Bill	$64.55	$64.55	$65.31	$65.59	$64.55	$64.55
Irrigation Customer Using 60,000 gal						
Assuming No Change in Use (60,000 gal)	$98.75	$106.35	$121.55	$154.71	$201.35	$167.15
Assuming Reduced Usage -						
Revised 1,000 gal Usage	60.0	54.0	45.0	33.0	24.0	30.0
Total Monthly Bill	$98.75	$98.75	$98.75	$98.75	$98.75	$98.75
Irrigation Customer Using 90,000 gal						
Assuming No Change in Use (90,000 gal)	$132.95	$144.35	$167.15	$216.89	$286.85	$235.55
Assuming Reduced Usage -						
Revised 1,000 gal Usage	90.0	81.0	68.0	50.0	36.0	45.0
Total Monthly Bill	$132.95	$132.95	$133.71	$133.99	$132.95	$132.95

Step 1 - Determine Total Targeted Stage 1 Savings and Savings Achieved from Voluntary Impacts

STAGE 1 - REQUIRED TOTAL SAVINGS	Estimated % Savings	Est. Savings in Total	
Stage 1 - Target Conservation (Savings)	10.0%	5,782	*1,000 gallons*

Step 2 - Estimate the Voluntary Impacts (Savings) By Price Block

	Normal Water Conditions (1,000 gal) [1]	Voluntary Savings Impacts: Estimated % Savings by Block	Estimated Savings (1,000 gal)	Volume Savings (1,000 gal)
All Consumption	57,825	10.0%	5,782	52,042
Total Consumption	57,825		5,782	52,042
Target Savings			5,782	
Difference (1,000 gal)			0	

Step 3 - Determine the Price (Rate) By Block Needed to Achieve Needed Savings and Meet Revenue Requirement

Revenue @ Present Rates	
Revenue	$59,328
Balance/(Deficiency)	($6,592)
Consumption	52,042
Needed Increase per 1,000 gal	$0.13
Needed Rev Increase	10.0%

	Usage After Vol. & Rate Impact (1,000 gal)	STAGE 1: *% Adjst. to Rates*	Proposed $/1,000 gal	Current Rates	Commodity Revenue
All Consumption	52,042	11.1%	$1.27	$1.14	$65,922
Total	52,042				$65,922
Plus: Targeted Additional Stage 1 Costs (Irrigation Share)					$0
Target - Total Revenue					$65,920
$ Difference					$2

[1] - Assumes Average of CY 2014 & 2015 is normal consumption

Step 1 - Determine Total Targeted Stage 1 Savings and Savings Achieved from Voluntary Impacts

	STAGE 2 - REQUIRED TOTAL SAVINGS		
	Estimated % Savings	Est. Savings in Total	
Stage 2 - Target Conservation (Savings)	25.0%	14,456	*1,000 gallons*

Step 2 - Estimate the Voluntary Impacts (Savings) By Price Block

	Normal Water Conditions (1,000 gal) [1]	Voluntary Savings Impacts: Estimated % Savings by Block	Estimated Savings (1,000 gal)	Volume Savings (1,000 gal)
All Consumption	57,825	25.0%	14,456	43,368
Total Consumption	57,825		14,456	43,368
Target Savings			14,456	
Difference (1,000 gal)			0	

Step 3 - Determine the Price (Rate) By Block Needed to Achieve Needed Savings and Meet Revenue Requirement

Revenue @ Present Rates	
Revenue	$49,440
Balance/(Deficiency)	($16,480)
Consumption	43,368
Needed Increase per 1,000 gal	$0.38
Needed Rev Increase	25.0%

	Usage After Vol. & Rate Impact (1,000 gal)	STAGE 2: *% Adjst. to Rates*	Proposed $/1,000 gal	Current Rates	Commodity Revenue
All Consumption	43,368	33.3%	$1.52	$1.14	$65,920
Total	43,368				$65,920
Plus: Targeted Additional Stage 2 Costs (Irrigation Share)					$0
Target - Total Revenue					$65,920
$ Difference					$0

[1] - Assumes Average of CY 2014 & 2015 is normal consumption

Step 1 - Determine Total Targeted Stage 1 Savings and Savings Achieved from Voluntary Impacts

STAGE 3 - REQUIRED TOTAL SAVINGS	Estimated % Savings	Est. Savings in Total	
Stage 3 - Target Conservation (Savings)	45.0%	26,021	*1,000 gallons*

Step 2 - Estimate the Voluntary Impacts (Savings) By Price Block

	Normal Water Conditions (1,000 gal) [1]	Voluntary Savings Impacts: Estimated % Savings by Block	Voluntary Savings Impacts: Estimated Savings (1,000 gal)	Voluntary Savings Impacts: Volume Savings (1,000 gal)
All Consumption	57,825	45.0%	26,021	31,803
Total Consumption	57,825		26,021	31,803
Target Savings			26,021	
Difference (1,000 gal)			0	

Step 3 - Determine the Price (Rate) By Block Needed to Achieve Needed Savings and Meet Revenue Requirement

Revenue @ Present Rates	
Revenue	$36,256
Balance/(Deficiency)	($29,664)
Consumption	31,803
Needed Increase per 1,000 gal	$0.93
Needed Rev Increase	45.0%

	Usage After Vol. & Rate Impact (1,000 gal)	STAGE 3: *% Adjst. to Rates*	Proposed $/1,000 gal	Current Rates	Commodity Revenue
All Consumption	31,803	81.8%	$2.07	$1.14	$65,919
Total	31,803				$65,919
Plus: Targeted Additional Stage 3 Costs (Irrigation Share)					$0
Target - Total Revenue					$65,920
$ Difference					($1)

[1] - Assumes Average of CY 2014 & 2015 is normal consumption

Step 1 - Determine Total Targeted Stage 1 Savings and Savings Achieved from Voluntary Impacts

STAGE 4 - REQUIRED TOTAL SAVINGS	Estimated % Savings	Est. Savings in Total	
Stage 4 - Target Conservation (Savings)	60.0%	34,695	*1,000 gallons*

Step 2 - Estimate the Voluntary Impacts (Savings) By Price Block

	Normal Water Conditions (1,000 gal) [1]	Voluntary Savings Impacts: Estimated % Savings by Block	Estimated Savings (1,000 gal)	Volume Savings (1,000 gal)
All Consumption	57,825	60.0%	34,695	23,130
Total Consumption	57,825		34,695	23,130
Target Savings			34,695	
Difference (1,000 gal)			0	

Step 3 - Determine the Price (Rate) By Block Needed to Achieve Needed Savings and Meet Revenue Requirement

Revenue @ Present Rates	
Revenue	$26,368
Balance/(Deficiency)	($39,552)
Consumption	23,130
Needed Increase per 1,000 gal	$1.71
Needed Rev Increase	60.0%

	Usage After Vol. & Rate Impact (1,000 gal)	STAGE 4: *% Adjst. to Rates*	Proposed $/1,000 gal	Current Rates	Commodity Revenue
All Consumption	23,130	150.0%	$2.85	$1.14	$65,920
Total	23,130				$65,920
Plus: Targeted Additional Stage 4 Costs (Irrigation Share)					$0
Target - Total Revenue					$65,920
$ Difference					$0

[1] - Assumes Average of CY 2014 & 2015 is normal consumption