

**NOTICE OF CALL OF SPECIAL MEETING
TO THE MEMBERS OF THE SUSANVILLE CITY COUNCIL:**

You are hereby notified that a SPECIAL MEETING of the Susanville City Council will be held in the Council Chambers of City Hall in the City of Susanville at 66 North Lassen Street, Susanville, California on **August 24, 2016 at 5:30 p.m.** to transact the following business:

Call Meeting to Order
Roll Call of City Councilmembers
Pledge of Allegiance

1 **APPROVAL OF THE AGENDA:**

2 **PUBLIC COMMENT:** Members of the public may address the Council concerning **any item on the agenda** prior to or during consideration of that item.

3 **SCHEDULED MATTERS:**

A Water Rate Workshop

4 **ADJOURNMENT:**



Kathie Garnier, Mayor

ATTEST:



Gwenna MacDonald, City Clerk

AFFIDAVIT OF MAILING NOTICE

I, the undersigned City Clerk of the City of Susanville, California do hereby certify that an original of the **NOTICE OF CALL OF SPECIAL MEETING, August 24, 2016 at 5:30 p.m.** was delivered to each and every person set forth on the list contained herein on the 19th day of August, 2016. A copy of said Notice is attached hereto.

I declare under penalty of perjury that the foregoing is true and correct.

Dated at Susanville, California this 19th day of August, 2016.



Gwenna MacDonald, City Clerk

Kathie Garnier	emailed
Joe Franco	emailed
Brian Wilson	emailed
Rod De Boer	emailed
Kevin Stafford	emailed

Reviewed by: City Administrator
 City Attorney

- Motion only
- Public Hearing
- Resolution
- Ordinance
- Information

Submitted by: Dan Newton, Public Works Director

Action Date: August 24, 2016

CITY COUNCIL AGENDA ITEM

SUBJECT: Water Rate Work Shop

PRESENTED BY: Dan Newton, Public Works Director

SUMMARY: On August 17, 2016 City Council rescinded water rate modification resolution 16-5297. Council Directed staff to schedule a public workshop for August 24, 2016 to discuss modifying the water rate structure.

Staff will present a variety of water rate options for discussion. Including but not limited to:

- Option 1: No change in Base Rate, reduce Capital Improvement/Infrastructure Replacement Plan
- Option 2: Increase Base Rate, maintain Capital Improvement Project Plan/Infrastructure Replacement Plan
- Option 3: Increase Base Rate, reduce Capital Improvement Project Plan/Infrastructure Replacement Plan
- Option 4: Implement Rate Increase over a period of month/years

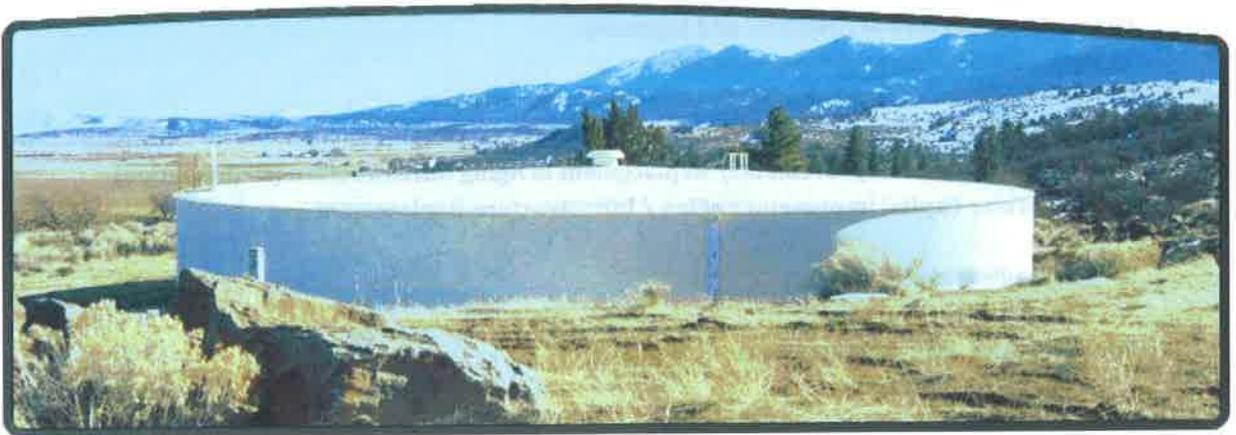
FISCAL IMPACT: None at this time

ACTION REQUESTED: Provide Direction to Staff.

ATTACHMENTS: Water Rate Analysis and Calculations Report – April 2016

City of Susanville

Water Rate Analysis and Calculations 2016



April 6, 2016

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1 INTRODUCTION

To ensure that water rates reflect the true cost of operation and distribution, the City of Susanville is required to periodically review water rates through the preparation of a comprehensive water rate study with the primary objective of maintaining water rates that protect the continued financial health and stability of the City's water enterprise and providing rate stability.

Analysis and Calculation objectives:

- Maintain financial health and stability of the City's water enterprise;
- Renewal of water rates to recover the full cost of service;
- Implementation of water shortage or drought rates;
- Preservation of rate equality and ensuring compliance with all legal requirements, including Proposition 218.

Background

Historically, water rates have remained stagnant with the last increase occurring in 2008. The primary objective of the 2008 increase was to create a modest funding stream to facilitate critical repairs to the aged infrastructure that has already exceeded its projected useful life. Revenues generated from the increase are placed in a restricted fund and are only used for the repair or replacement of existing infrastructure. The additional revenues have facilitated the replacement of water meters and replacement of some of the most venerable sections of pipeline. The increase did not consider or address ongoing operational deficits.

Prior to 2008, the last rate analysis and subsequent increase occurred in 2005, which has been insufficient to maintain ongoing operations especially with state mandated water conservation, resulting in declining revenues.

Declining water enterprise fund balances resulted in a negative cash balance at the end of the 2014/2015 fiscal year. During preparation of the 2015/2016 fiscal year budget staff recommended that a rate study be prepared as a more comprehensive approach to rate setting. In addition, the State's Emergency Water Regulations imposed a 36% conservation mandate which has had a significant impact on revenues and available operation funding. The State has also mandated that the City adopt a drought surcharge which has been included in this analysis and will be implemented and increased commensurately with each stage of the City's Water Shortage Contingency Plan.

This rate analysis and calculation forecasts the fundamental operation and delivery costs through 2021 and includes the following categories;

- Operations and Management
- Water Delivery
- Depreciation
- Capital Improvement
- Conservation Programs
- Long Term and Short Term Debt

Executive Summary

The system analysis and rate calculation concluded that insufficient cost recovery over the last two decades have resulted in inadequate funding to maintain and upgrade the continuously aging infrastructure and resulted in insufficient reserves to address increased operation and infrastructure replacement costs in a meaningful manner. Modest water rate increases will be required through 2021 to allow for the effective and prudent management of the enterprise in order to maintain service reliability and sustain a level of service that customers expect for a modern utility.

1.1 Current Water Rates

The City bills customers for water service on a monthly basis. *Table 1: Historic and Current Water Rates* shows rates from 2005 to 2016. Current water rates include 2 components, a Base Rate and a Quantity Rate.

1. **Base Rate (Fixed Charge):** All customers, residential and non-residential, are charged the same fixed rate based on meter size. The fixed charge applies regardless of water consumption and is designed to cover the fixed costs associated with system operation and maintaining the ability to serve each connection. Included in the fixed cost is the first 300 CF of water.

Meter size establishes the potential demand that a customer can place on the water system. Water system design is tied to the total capacity requirements and in turn, the utility's operating and capital costs. The City's smallest meter size is a 5/8" x 3/4" meter. Larger meters are charged based on their estimated capacity represented by meter ratios or maximum flow as recommended by the American Water Works Association (AWWA). The AWWA has established a set of capacity ratios using the maximum safe flow of various sizes of meters relative to the base or smallest meter size. These meter capacity ratios provide a basis for charging customers proportionally based on the capacity reserved for them in the water system.

Fixed charges were calculated in 2005 to recover approximately 50% of total water revenues.

2. **Quantity Rate (Water Consumption Charge):** All customer classes are currently billed according to a six-tiered inclining rate structure, with the cost for each unit of water increasing for each tier as customers use more water. Water is measured and billed at the hundred cubic feet (ccf) unit which is equal to 748 gallons of water.

The water consumption charges are currently set to recover about 50% of total water rate revenues.

Table 1: Historic and Current Water Rates

City of Susanville

Water Rate Analysis and Calculations 2016

Base Rate by Meter Size					
Meter Size	Max Flow* (GPM)	Meter Ratios**	2005 to 2008		2008 to Current
5/8"X3/4"	15	1.0	\$18.20		\$23.65
1"	25	1.7	\$26.39		\$31.93
1 1/2"	80	5.3	\$34.38		\$41.60
2"	100	6.6	\$44.72		\$54.11
3"	450	30	\$72.23		\$81.37
4"	1000	66.6	\$103.17		\$124.84
6"	2000	133.3	\$179.56		\$217.27
8"	3500	233.3	\$239.41		\$289.69
10"	5500	366.7	\$299.26		\$362.10
Water Quantity Rate Per ccf					
		0 - 300	\$0.855	0 - 300	included in base fee
		301 - 6300	\$1.057	301 - 1,500	\$1.245
		> 6301	\$1.235	1,501 - 4,000	\$1.365
				4,001 - 6,500	\$1.485
				6,501 - 10,000	\$1.565
				> 10,000	\$1.645
* Source: Badger Meter Product Data Sheets.					
**Meter ratios represent the capacity of each meter size relative to 5/8" X 3/4" meter.					

2 RATE SETTING LEGISLATION & PRINCIPLES

2.1 Constitutional Rate Requirements

The California Constitution includes two key articles that directly govern water rate calculation and implementation: Article 10 and Article 13D. The water rates developed in this analysis are compliant with both of these constitutional mandates and the provisions of the California Water Code in addition to the Government Code which adds further guidance for implementing these constitutional requirements. In accordance with the constitutional provisions, the proposed rates are designed to a) recover the cost of providing water service; b) allocate costs in proportion to the cost of serving each customer class; and c) promote conservation and discourage waste.

Article 10, Section 2

Article 10, Section 2 of the California Constitution was established by voter-approval in 1976 and requires public agencies to maximize the beneficial use of water, prevent waste, and encourage conservation. Section 2 states:

“It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare”.

Article 13D, Section 6 (Proposition 218)

Proposition 218 was adopted by California voters in 1996 and resulted in the addition of Article 13D to the California Constitution. Article 13D, Section 6 governs property-related charges, which the California Supreme Court subsequently ruled to include ongoing utility service charges such as water, sewer and garbage rates. Article 13D, Section 6 establishes a) procedural requirements for imposing or increasing property-related charges and b) substantive requirements for those charges. Article 13D requires voter approval for new or increased property-related charges but exempts from this voting requirement rates for water, sewer and garbage service.

The substantive requirements of Article 13D, Section 6 require that the City's water rates meet the following conditions:

- 1) Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service.
- 2) Revenues derived from the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.
- 3) The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.
- 4) No fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question.
- 5) No fee or charge may be imposed for general governmental services, such as police or fire services, where the service is available to the public at large in substantially the same manner as it is to property owners.

A subsequent appellate court decision in 2011 further clarified that agencies must demonstrate, satisfactory to a court's independent judgment, that property-related fees and charges meet the substantive requirements of Section 6 (3). This rate analysis provides the required justification. The water rates derived in this report are based on a cost-of-service methodology that fairly apportions costs to all customers.

2.2 Use of Industry Standard Rate-Making Principles

The rates calculated as a result of this analysis are based on a straightforward methodology that establishes an equitable system of calculating fixed charges that recover the cost of providing service and fairly apportion costs to each rate component. The rates were developed using cost-based principles and methodologies for establishing water rates, charges and fees contained and discussed in the AWWA M1 Manual. There is no "one-size-fits-all" approach for establishing cost-based water rates, "the (M1 Manual) is aimed at outlining the basic elements involved in water rates and suggesting alternative rules of procedure for formulating rates, thus permitting the exercise of judgment and preference to meet local conditions and requirements."¹

¹ AWWA Manual M1 Manual, Principles of Water Rates, Fees, and Charges, Sixth Edition, 2012, page 5.

In addition to the City's water rates and finances, the following criteria were used in rate calculation:

1. *Revenue Sufficiency:* Rates recover the annual cost of service and provide revenue stability.
2. *Rate Impact:* Rates are calculated to generate sufficient revenue to cover operating and capital costs and are designed to maximize rate stability.
3. *Equitable:* Rates are fairly allocated among all customer classes based on proportionate demand characteristics.
4. *Practical:* Rates are simple in form and adaptable to changing conditions. Rates are both easy to administer and easy to understand.
5. *Provide Incentive:* Rates provide price signals which serve as indicators to conserve and produce water efficiently.

3 WATER UTILITY OVERVIEW

3.1 Water System Overview

The City of Susanville is a general law city incorporated in 1900. The current population according to the City of Susanville 2015 Comprehensive Annual Financial Report is 9,129. The City's Public Works Department is responsible for the maintenance, operation and repair of the City's water distribution system. The water utility serves a number of customers who reside outside of the city limits and, as a result, the utility's service area is not coterminous with the City's boundaries.

The City utilizes two natural springs and four water wells as primary sources of water in addition to water rights along the Susan River as secondary non-potable water sources. Water is treated at all primary sources with a minimal amount of chlorine as a precautionary measure in the event that a contaminant entered the water system. Four water tanks are filled from springs by gravity flow and in irrigation months, water is pumped from wells to meet the demand. There are a number of pressure reducing valves (PRV's) in the system which regulate pressure across seven pressure zones. System pressures, flows, and a variety of other parameters are monitored through a supervisory control and data acquisition (SCADA) program. There are approximately 43.5 miles of pipeline in the City's domestic water system. The water system has mainlines ranging in diameter from 2 inches to 14 inches. There are just under 9 full time equivalent (FTE) staff positions performing the work functions required for the operations and maintenance, billing services, system planning, regulatory compliance, and capital improvement project planning and implementation. There are just under 0.6 full time equivalent staff positions performing administrative functions.

3.2 Water Customers

The water utility currently supports approximately 3,807 metered water accounts. **Table 2: 2015 Water Customers** summarizes the number of current accounts by meter size and customer class. Approximately 93% of customers are single family dwellings, 5% are commercial/industrial/irrigation/public agency accounts, and 2% are multi-family residential accounts. The water enterprise has seen an 11% increase in water customer accounts since 2001 as shown in **Figure 1: Historical Water Accounts**.

Table 2: 2015 Water Customers

City of Susanville

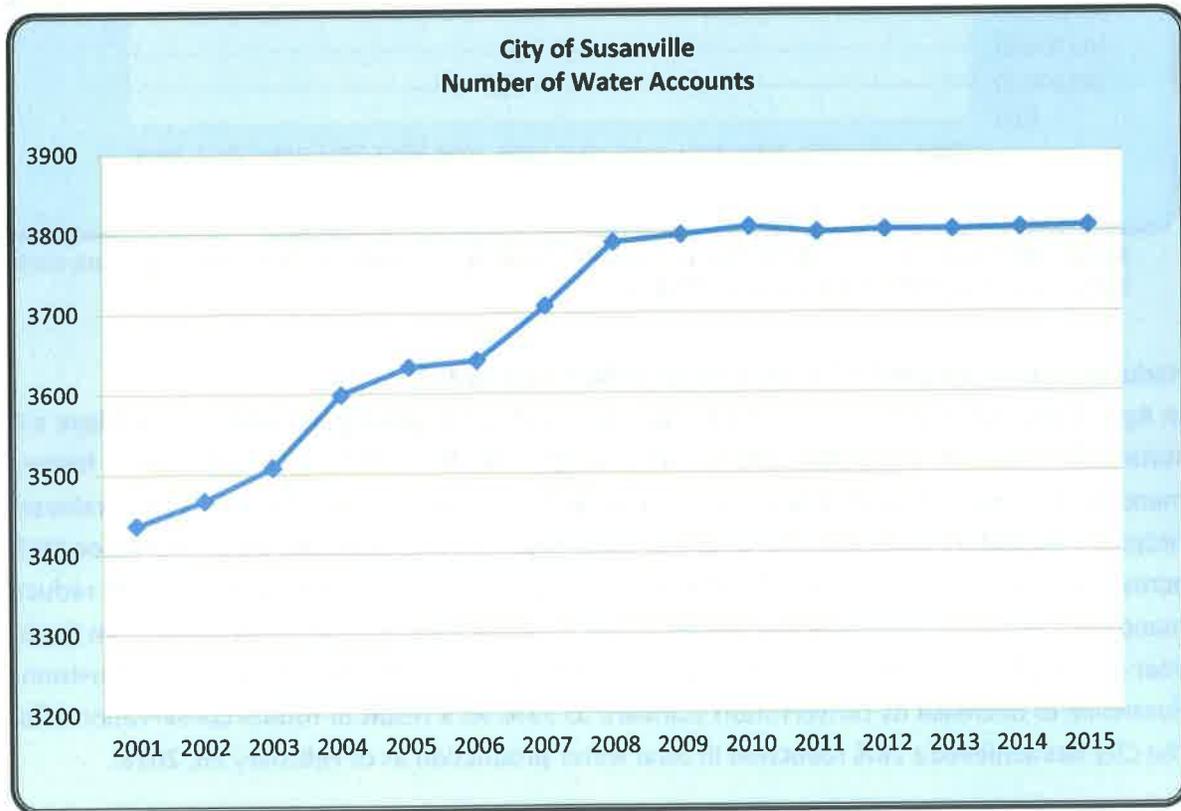
Water Rate Analysis and Calculations 2016

Meter Size	Residential- Single	Residential- Multi	Commercial	Total
5/8" X 3/4"	3,496			3,496
1"	38	21	69	128
1 1/2"	6	7	24	37
2"	4	29	95	128
3"		1	4	5
4"		3	5	8
6"			4	4
8"			1	1
10"				
TOTAL	3,544	61	202	3,807

Figure 1: Historical Water Accounts

City of Susanville

Water Rate Analysis and Calculations 2016



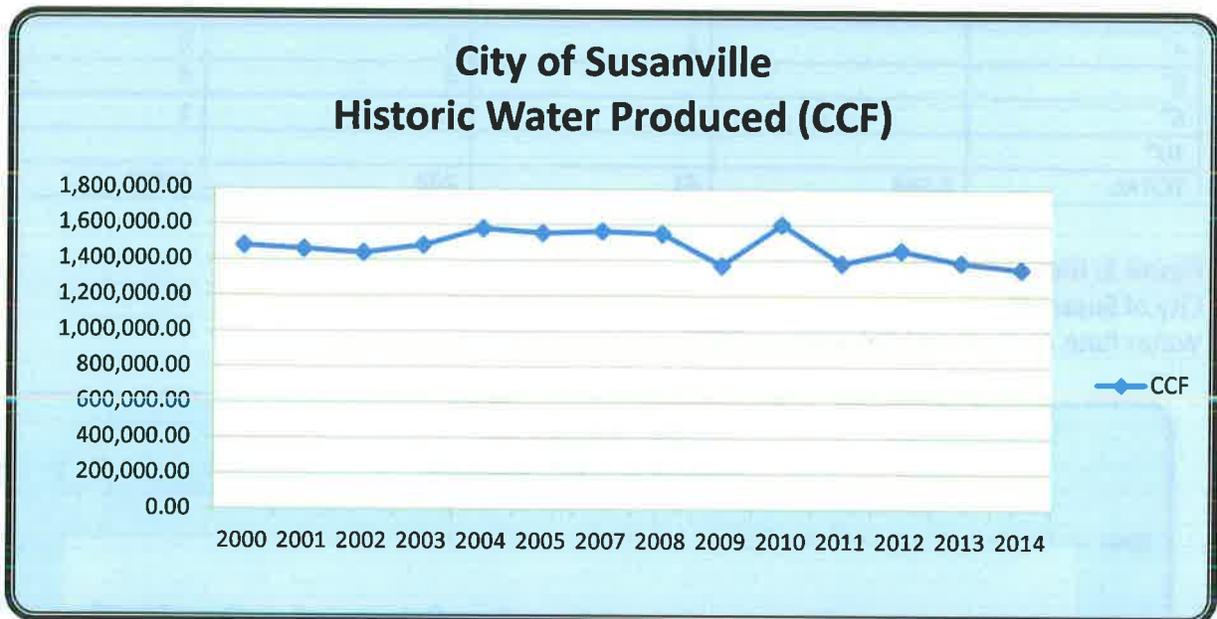
3.3 Water Production

Figure 2. Historical Water Produced illustrates historical water production for the past 14 years. Compared to prior years, water consumption has declined since 2010. The City measures water production at each water source and reports production in units of 100 cubic feet.

Figure 2. Historical Water Produced

City of Susanville

Water Rate Analysis and Calculations 2016



Source: 2010 Susanville Urban Water Management Plan Addendum #1; 2006 data omitted as significant outlier likely caused by a malfunctioning meter at Cady Springs.

Reductions in water production as a result of Executive Order.

In April 2015, the governor issued Executive Order B-29-15, imposing restrictions to achieve a 25% statewide reduction in potable urban water usage. For the first time in the State's history, a mandatory conservation of urban potable use was declared. The State Water Board released a proposed regulatory framework for all urban water suppliers that allocated the conservation savings across nine tiers of increasing levels of residential water use to reach the statewide 25% reduction mandate. The City of Susanville was placed in Tier 9, calling for a 36% decrease in use from the base year of 2013. Subsequently, the extension of the emergency regulation has included a provision for Susanville to decrease its conservation standard to 33%. As a result of robust conservation efforts, the City has achieved a 28% reduction in total water production as of February 28, 2016.

4 WATER FINANCES AND RATES

4.1 Water Financial Overview

The water enterprise is governed by the City Council and operates under the Direction of the City Administrator with the Public Works Department performing operations and maintenance functions and Administrative Services Department performing billing and various administrative functions. Low production and treatment costs allow the utility to operate much more efficiently than other utilities. There are also multiple areas where economies of scale are realized within the operation of the multiple divisions within Public Works. Areas such as: Equipment maintenance; shared facilities; shared equipment; and staffing resources.

An evaluation of water enterprise finances revealed the following:

- The water enterprise operation fund is currently operating at a deficit. Current and projected operating revenues from water rates do not meet current and projected operating expenses.
- The water enterprise does not have a dedicated operation reserve, it does however have a rate stabilization fund consisting of \$3 million which provides limited, short term security as funds must be replenished within 120 days after the end of the fiscal year. Additional water funds are held in a separate account (7114) but are restricted to infrastructure replacement.
- The City's water rates are currently low when compared to other communities throughout the state. The 2013 California/Nevada Water Rate Study, prepared by the California Water Works Association, compares monthly water charges by county. Of the 45 counties surveyed, 38 have rates higher than Susanville.
- Much of the City's existing water infrastructure has exceeded its projected useful life with the greatest infrastructure need being water main and service line replacement. An estimated 100 million gallons are lost annually to water system leaks. The most urgent infrastructure needs are estimated at \$4.15 million dollars. Infrastructure needs are included in Table 4: **Table 4: Water Capital Improvement Plan/Infrastructure Replacement Plan.**
- The State is in the fourth year of declared drought, although water supplies within the City have not been measurably impacted. The City has worked to be absolved from the oppressive water curtailments however, requests to be placed in a lower conservation tier have not been granted or acknowledged by the Water Board. The City is currently required to achieve 33% reduction in potable water produced.

4.2 Historical Financial Performance

As an enterprise fund, the water utility relies primarily on revenues generated from water rates to fund the total cost of providing water service. As a result of limited water revenues, the City has not fully allocated direct and indirect administrative cost to the enterprise, resulting in the City's General Fund providing a subsidy to water operations which is not a desirable practice. The water enterprise is currently not covering its annual operating and capital costs and revenues are not sufficient to pay for annual expenses, resulting in an annual operating deficit.

Figure 3: Comparison of Revenues and Expenses and **Table 3: Historical Revenue and Expenses** summarize the financial performance of the water utility since 2011/12 based on the City's Audited Financial Reports.

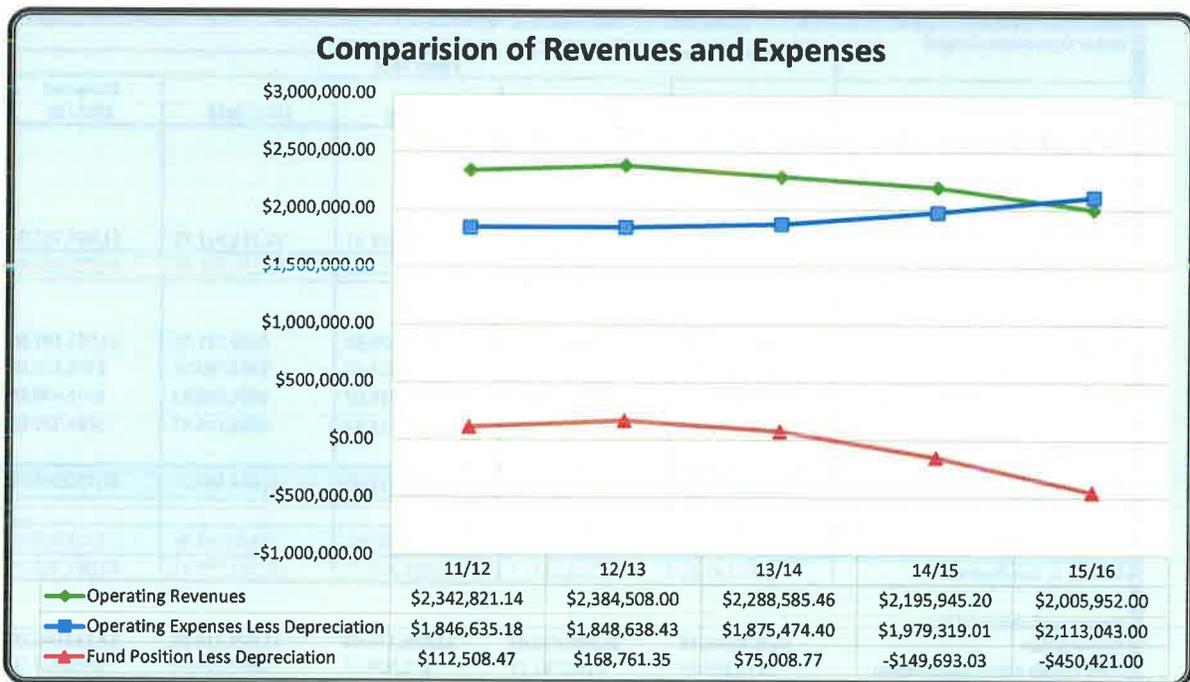
Table 3: Historical Revenue and Expenses
City of Susanville
Water Rate Analysis and Calculations 2016

Water Operations Budget					
	Fiscal Year				
	2011/12	2012/13	2013/14	2014/2015	Budgeted 2015/16
Water Operating Fund - 7110					
Revenues					
Water Sales	\$2,298,656.29	\$2,300,892.38	\$2,230,654.21	\$2,151,957.78	\$1,967,752.00
Total Operating Revenues	\$2,342,821.14	\$2,384,508.00	\$2,288,585.46	\$2,195,945.20	\$2,005,952.00
Expenses					
Personnel	\$818,648.79	\$812,196.47	\$861,628.36	\$930,733.53	\$1,073,191.00
Services and Supplies	\$341,751.56	\$348,338.19	\$328,434.47	\$361,799.01	\$355,125.00
Depreciation	\$721,520.73	\$686,951.59	\$646,948.00	\$664,868.53	\$616,498.00
Debt	\$686,234.83	\$688,103.77	\$685,411.57	\$686,786.47	\$684,727.00
Capital Improvement Program					
Total Operating Expenses	\$2,568,155.91	\$2,535,590.02	\$2,522,422.40	\$2,644,187.54	\$2,729,541.00
Net Operating Revenue	-\$225,334.77	-\$151,082.02	-\$233,836.94	-\$448,242.34	-\$723,589.00
Change in Net Position *	-\$450,541.41	-\$601,623.43	-\$835,460.37	-\$1,283,702.71	-\$2,007,291.71
Operating Expenses Less					
Depreciation	\$1,846,635.18	\$1,848,638.43	\$1,875,474.40	\$1,979,319.01	\$2,113,043.00
Fund Position less Depreciation	\$112,508.47	\$168,761.35	\$75,008.77	-\$149,693.03	-\$450,421.00
*Change in Net Position is claim on cash fiscal year 2010/2011 (-\$225,206.64) plus net operating revenue each year.					

Figure 3: Comparison of Revenues and Expenses

City of Susanville

Water Rate Analysis and Calculations 2016



4.3 Financial Challenges/Key Drivers of Rate Increases

As utility infrastructure matures, regulations change, and safety needs evolve, so too does the need of water security, monitoring and the implementation and use of required technologies. These changes carry with them additional costs and require vigilance and regular monitoring of operational expenses, identification of operational efficiencies, cost saving measures and rate structure evaluation. Without taking a proactive approach to cost management, the City's water enterprise would face financial challenges which would require the City to raise water rates more aggressively in the future as infrastructure replacement becomes more critical and expensive. Key rate indicators are included and summarized as follows.

4.3.1 Operating Deficit and Fund Reserves

To ensure that the City's water system remains financially stable and operationally sound long into the future, rate adjustments are required to ensure that the water enterprise does not proceed down a path of annual operational deficits. Moreover, onerous restrictions placed on the established \$3 million Rate Stabilization Fund make it an ineffective tool to manage short and medium term declines in revenue resulting from increased levels of precipitation, cooler temperatures and, most significantly, state mandated water curtailment. Creation of an Operating Fund Reserve will be necessary to provide the kind of operational and rate stabilization envisioned by the existing rate stabilization fund however, without the restrictions imposed by bond covenants. This operational reserve fund would be used as a water operations budget reserve and would provide additional short and medium-term stability. The existing Rate Stabilization Fund would only be used in an emergency, where repayment could be made within 120 days of the end of the fiscal year when the funds were borrowed.

4.3.2 Capital Improvements / Replacement of Aging Infrastructure (Depreciation)

Capital Improvements and Depreciation of Aging Infrastructure have been separated for the purpose of this report. In this report, a capital improvement is a new feature or upgrade to the water system; depreciation includes the replacement of infrastructure that has met or exceeded its service life and is in need of replacement. ***Table 4: Water Capital Improvement Plan / Infrastructure Replacement*** is the proposed 5-year capital improvement plan and represents the City's most critical water main and service line infrastructure needs based on the number of leaks over the years and field assessments.

The City's five-year capital improvement program (CIP) includes \$1.9 million of water system improvements through 2020/21. A need exists to develop a long-range capital improvement plan

over the next five years. The plan would allow for the evaluation of newly envisioned improvements that have the potential to provide increased security, reliability, source and storage that would be ranked and prioritized based on providing the greatest value to the system and users.

5 Cost to Provide Service

5.1 Cost to Provide Service

Each year the City evaluates system operational expenses and infrastructure needs and identifies opportunities to reduce cost through efficiency. Extensive analysis is also performed to calculate fair share costs to each customer. This effort is paramount in developing a nexus between the cost of providing service and the rate structure.

In preparing the rate study, staff separated costs based on the following categories:

- Operations and Management
- Water Delivery
- Depreciation
- Capital Improvement
- Conservation Programs
- Debt

Table 5: Water Operating Expenses reflect the results of the analysis. Costs presented have been developed through a detailed and comprehensive analysis of operational and maintenance needs, infrastructure replacement needs, regulatory requirements, and debt obligations over the next five years. Each year has been escalated 2% and the five year average represents the annual cost to provide service. The costs presented are minimally required to provide good stewardship of the City's water enterprise

The following chart shows a 5-year projected average of water enterprise expenses. As shown in **Table 5: Water Operating Expenses**, modest rate increases are needed to keep revenues stable in the short and medium-term and to allow sufficient funding to cover projected expenses and support balanced budgeting.

Table 5: Water Operating Expenses

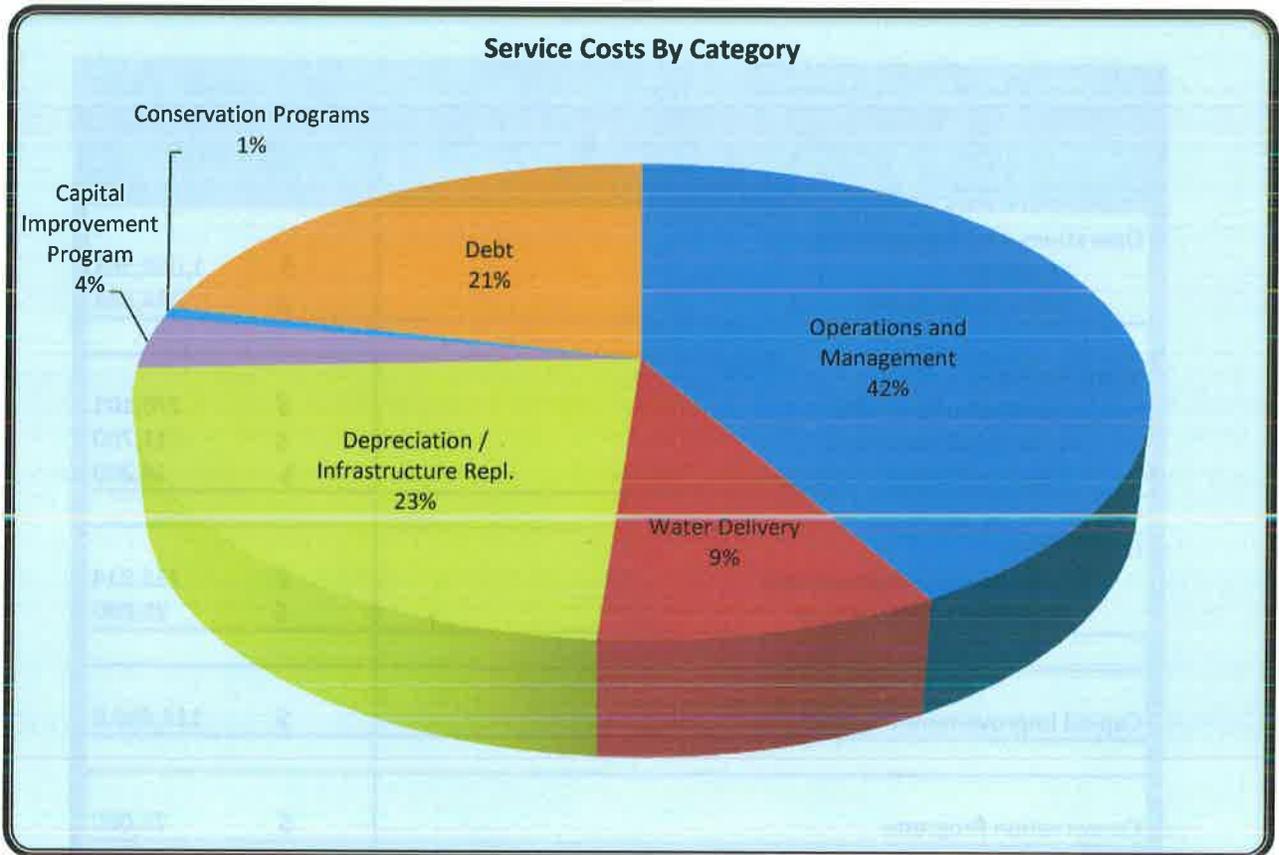
City of Susanville
Water Rate Study 2016

SERVICE COSTS	Projected 5-Year Average
Operations and Management	
Personnel	\$ 1,098,563
Services / Supplies	\$ 244,533
Water Delivery	
Services and Supplies	\$ 270,101
System Improvements	\$ 11,700
Equipment Improvements	\$ 14,200
Depreciation	
Infrastructure Replacement	\$ 715,914
Equipment Replacement	\$ 25,000
Capital Improvement Program	\$ 114,666.0
Conservation Programs	\$ 25,000
Debt	
Debt Repayment	\$ 686,979
Annual Cost to Provide Service	\$ 3,206,656

Figure 4: Operating Expenses

City of Susanville

Water Rate Study 2016



5.2 Fixed vs. Variable Cost Recovery

Water utilities use a wide range of approaches or perspectives to allocate and recover the costs of providing service and most commonly consider a combination of fixed and variable charges. The percentage of revenues derived from the fixed and variable charges varies by agency but should be proportional to each system's expenditures and cannot legally exceed the cost of providing service. As the percentage of the rate that is tied to fixed charges decreases, so does revenue stability, resulting in an increased dependence on consumption/sales. In addition, a higher dependence on volumetric revenues or variable revenues can provide greater financial incentive for customers to conserve.

Public agencies have used a wide range of approaches or perspectives for allocating and recovering costs, and industry practices provide flexibility regarding the actual percentages collected from fixed versus variable rates. However, as illustrated in the examples above, a balanced approach is desirable. It is important to note that many of the same costs can reasonably be allocated 100% to fixed revenue recovery, 100% to variable rate recovery or to a combination of the two. Many of the water utility's costs are fixed costs that do not vary with water consumption, such as salaries, benefits, and costs of building and maintaining infrastructure. However, a portion of these fixed costs can reasonably be apportioned to variable, usage-based rate recovery in recognition that a portion of these fixed costs relates to the volumetric water use. For example, a share of the fixed cost of salaries related to water production can reasonably be recovered from usage-based charges as these costs are incurred to provide water supply to meet customer demand.

6 WATER RATE DESIGN AND STRUCTURE

The final step of the water rate study process is the design of water rates that generate sufficient income to meet annual revenue requirements. The evaluation of rate structure options takes into account the need for rate modification, the level of increase or decrease over a set number of years and the structure of the rates. The level of increases refers to the amount of revenue collected from a specific rate design. The rate structure refers to the way in which the revenue collection from customers occurs. The rate development principles and methodology used to develop rates are based on the AWWA M1 Manual and comply with Article X and XIID of the California Constitution.

6.1 Base Rate - Fixed Charge Recommendation

Percent of service costs allocated to the base rate is not by formula. Doing so would likely result in a rate where a large percentage of service costs are recovered by the base rate, which neither promotes conservation or fairness to customers who use less water. The goal was to simplify the rate structure modifications, promote conservation, and provide fairness to customers. Therefore, the fixed meter charges or base rates are proposed to remain unchanged.

6.2 Quantity Rate - Variable Charge Recommendation

Quantity or variable charges recover system costs that vary based on consumption. These charges may also be labeled volumetric charges, usage rates, consumption charges, block rates, commodity rates, etc. Regardless of the name, all variable charges are based on metered water consumption and levied on a per-unit cost. Conservation in times of water decline is most effectively encouraged through the variable rate component. Some common variable rate structures that promote conservation pricing include uniform block, inclining block rates, water budget or allocation based rates, and seasonal block rates.

6.3 Proposed Rate Structure

Base Rate:

The proposed rate structure maintains the base rate at its current level.

Quantity Rate:

A key factor in determining the quantity rate is the estimated availability to sell water of the term of the study. State mandated conservation requires the City to reduce its per capita daily water use 20% by the year 2020. This is measured in terms of potable water produced allowing for reductions

to be obtained through means other than conservation on the customer's end. Water system reconfigurations and repairing leaky water mains has put the City well on track toward meeting its conservation requirements. The City is within 0.3% of its 2020 requirement. In addition population growth projections at 0.95% annually (City Housing Element) were considered when analyzing availability to sell water over the next 5 years.

The proposed rate structure includes two quantity rates, one for the irrigation season (April through September), one for the non-irrigation season (October through March). The rates are designed to promote conservation and represent a differentiation of cost in months where water is pumped to meet demand versus months where gravity spring flow is adequate to meet demand.

The proposed rate increase is in the Quantity Rate. Customers choosing to use more water to irrigate landscapes will pay more to do so. The proposed rate modification increases the percentage of revenue that comes from the Quantity Rate. Because the revenue received varies with use, there is an additional risk that projected revenues will not be realized. However, the proposed rate structure is more in line with the industry standard rate making principles (Section 2.2).

Table 6: Proposed Rate Structure

City of Susanville

Water Rate Study 2016

Proposed Rate Structure			
	Total Cost	Cost Split	Percent of Cost
Cost to provide Service	\$3,206,656		
Estimated Fixed Rate Revenue		\$1,173,565	37%
Estimated Variable Rate Revenue		\$2,033,091	63%

Base Rate Fixed		Quantity Rate - Variable	
Meter Size INCH	Rate		
5/8 x 3/4	\$23.65	Non Irrigation Season (October - March)	\$ 2.15 /CCF
1	\$31.93		
1.5	\$41.60	Irrigation Season (April - September)	\$ 2.57 /CCF
2	\$54.11		
3	\$81.37		
4	\$124.84		
6	\$217.27		
8	\$289.69		

7 DROUGHT SURCHARGE

7.1 Drought Surcharge Overview

After nearly four consecutive years of below-normal rainfall, many areas in California are experiencing severe drought. In May 2015, the State Water Board adopted an emergency regulation requiring water agencies to conserve at varying levels dependent upon per capita daily water use. Susanville's conservation requirement was set a 36%, the highest conservation requirement.

Susanville, although not significantly impacted by the drought, had an onerous conservation mandate imposed by the regulation. To avoid financial penalties and additional mandates the city called on customers to conserve at historic levels. While the mandated level of conservation (36%) was not attained, conservation efforts were sufficient to avoid financial penalties. As a result of the conservation, the utility saw an approximate 10% decrease in revenues which negatively impacted the Water Operations Budget.

During times of drought or imposed conservation requirements, a water utility has two core objectives: 1) to reduce the amount of water customers consume, and 2) to maintain an adequate amount of revenue to continue operations while paying for extraordinary drought-related expenses. The two competing objectives work against each other as less water sold results in less revenue to cover an agency's costs.

At the request of the State Water Board, this rate study proposes an emergency drought surcharge to promote financial stability during periods of reduced water sales. Drought surcharges are designed to recover lost revenue due to decreased levels of consumption. The emergency drought surcharge would be an additional, separate consumption charge levied on all usage. The City recognizes that ratepayers are already doing their part to conserve. Therefore, applying the drought surcharge to only the consumption charge component gives customers the increased ability to control a portion of their water bills. The surcharge would be charged on a temporary basis and removed when the City determines that water supply conditions have returned to normal, and drought-related costs and revenue reductions have been recovered.

7.2 Water Shortage Contingency Plan

As an Urban Water Supplier, the City is required to have a Water Shortage Contingency Plan. A

component of the City's 2010 Urban Water Management Plan, Susanville's Water Shortage Contingency Plan was implemented in 2014 as required by the State's emergency water regulation. It was discovered that the City had not previously adopted its Water Shortage Contingency Plan by ordinance, thereby making enforcement of its requirements difficult. The determination made was that there was no automatic mechanism in place to implement a drought surcharge during times of drought. As a component of the adoption of the proposed rate structure, a drought surcharge will be implemented automatically, when the City Council implements a stage of its most current water shortage contingency plan. A three-stage plan with conservation goals set at 0-15%; 16%-25%; and 26%-40% was used for the rate study.

7.3 Proposed Drought Surcharge

Table 7: Drought Surcharge details the proposed drought surcharge. Drought surcharge developed for Stages 1 through 3 of the Water Shortage Contingency Plan.

Table 7: Drought Surcharge

City of Susanville

Water Rate Study 2016

	Stage 1	Stage 2	Stage 3
Required Water Reduction %	Up to 15%	Up to 25%	Up to 40%
PROJECTED CONSUMPTION			
Total Water Consumption (ccf)	703,218	646,960	577,643
Total Reduction in Water Consumption (ccf)	105,483	161,740	231,057
% Reduction from Normal	15%	25%	40%
PROJECTED REVENUE LOSS			
Cost per unit – Irrigation Season	\$2.57	\$2.57	\$2.57
Total Consumption Revenue Loss with Conservation	\$271,257	\$415,927	\$594,181
Drought Surcharge (per ccf)	\$0.39	\$0.64	\$1.03
Drought Rate (per ccf)	\$2.96	\$3.21	\$3.60