

## RESOLUTION 01-16

### RESOLUTION 01-16 OF THE BOARD OF DIRECTORS OF THE RIO ALTO WATER DISTRICT AMENDING ARTICLE 13 OF RESOLUTION 8-73 (AND ALL ASSOCIATED RESOLUTIONS ESTABLISHING RULES AND REGULATIONS FOR THE DISTRIBUTION OF WATER) TO CHANGE WATER RATES.

**WHEREAS**, the Rio Alto Water District did provide on April 1<sup>st</sup> of 2016, a written notice by mail to all affected water customers in accordance with the requirements of State Law; and

**WHEREAS**, the Rio Alto Water District did properly notice a public hearing to be held on May 19, 2016, at 6:30 p.m.; and

**WHEREAS**, the Rio Alto Water District did conduct the above scheduled hearing at the specified time and date; and

**WHEREAS**, the Rio Alto Water District opened the Public Hearing at 6:30 p.m., and closed the Public Hearing at 7:20 p.m., after receiving verbal comments, now therefore

**BE IT RESOLVED**, that in the absence of a majority written protest, Article 13 of Resolution 8-73, a resolution establishing the rules and regulations for the distribution of water shall be amended in accordance with Exhibit A (Water Rate Analysis and Study prepared by Bartle Wells Associates) attached and incorporated herein to:

- A. Update rates to better reflect revenue requirements and the cost of service, including increasing operational and capital cost (Table 1).
- B. Align meter ratios with American Water Works Association (AWWA) recommended ratios, as well as
- C. Eliminate customer classifications and reconfigure tier break points in response to the recent San Juan Capistrano court ruling.

**RESOLVED FURTHER**, that Resolution 01-16 and Exhibit A (Water Rate Analysis and Study prepared by Bartle Wells Associates) shall replace any previous resolutions and schedules amending Article 13 of Resolution 8-73 and shall become effective July 1, 2016.

**PASSED AND ADOPTED** by the Rio Alto Water District Board of Directors at its regular meeting on June 15, 2016, by the following vote:

AYES: 5  
NOES: 0  
ABSTAINING: 0  
ABSENT: 0

Signed and approved by me after its passage this 15<sup>th</sup> day of June 2016.

Max Richman  
Max Richman, President, Board of Directors

Attest: Terri Taggart  
Terri Taggart, Secretary



**Rio Alto Water District**



**Rio Alto Water  
District  
Water Rate Analysis & Study**

**February 2016**



**BARTLE WELLS ASSOCIATES**  
INDEPENDENT PUBLIC FINANCE ADVISORS



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INDEPENDENT PUBLIC FINANCE ADVISORS

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February 26, 2016

Martha Slack, General Manager  
Rio Alto Water District  
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Cottonwood, CA 96022

Re: Water Rate Analysis and Study

Bartle Wells Associates is pleased to submit to the Rio Alto Water District the attached Water Rate Analysis and Study. The study presents BWA's analysis of the operating and non-operating expenses of the District's water system. The primary purpose of this study was to analyze the District's water enterprise funds and make recommendations that would achieve their financial sustainability.

The report recommends updating rates in order to more accurately recover the costs of providing service to the District's customers. Recommendations were developed with substantial input from District staff and Board of Directors. BWA finds that the rates and charges proposed in our report to be based on the cost of service, follow generally accepted rate design criteria, and adhere to the substantive requirements of Proposition 218. BWA believes that the proposed rates are fair and reasonable to the District's customers.

We have enjoyed working with the District on the rate study and appreciate the assistance of other District staff throughout the project. Please contact us if you have any future questions about this study and the rate recommendations.

Yours truly,

Doug Dove, CIPMA  
Principal

Geoffrey Michalczyk  
Financial Analyst

# TABLE OF CONTENTS

<b>1</b>	<b>Executive Summary.....</b>	<b>1</b>
1.1	Background.....	1
1.2	Proposition 218.....	2
1.3	Use of Generally Accepted Rate-Making Principles .....	3
1.4	Water Overview.....	4
1.4.1	Water Customers.....	4
1.4.2	Water System .....	4
1.4.3	Current Water Rates.....	5
1.4.4	Proposed Water Rates and Meter Ratios.....	5
<b>2</b>	<b>Water Finances &amp; Rates .....</b>	<b>6</b>
2.1	Water Financial Overview.....	6
2.2	Current Bi-Monthly Water Rates.....	7
2.3	Current Water Accounts.....	9
2.4	Water Consumption .....	10
2.5	Financial Challenges / Key Drivers of Rate Increases .....	10
2.5.1	Capital Improvements / Aging Infrastructure.....	10
2.5.2	Ongoing Operating Cost Inflation .....	11
2.5.3	Water Expense Projections.....	11
2.6	Water Enterprise Rate Scenarios & Revenue Requirements .....	12
2.6.1	Water Rate Options.....	12
2.6.2	Water Revenue Requirements: Cash Flow Projection .....	12
2.7	Cost of Service .....	14
2.8	Water Rate Structure Recommendations .....	16
2.8.1	Variable Charge Recommendations .....	16
2.8.2	Fixed Service Charge Recommendations.....	16
2.8.3	Water Rate Derivation.....	16
2.9	Proposed Water Rates.....	19
2.10	Sample Bill Impact .....	20
2.11	Regional Water Rate Survey .....	21

# TABLE OF TABLES

Table 1:	Proposed Rates .....	5
Table 2:	Current Water Rates .....	8
Table 3:	Total Meters & Meter Equivalents.....	9
Table 4:	Cost Allocation Analysis .....	15
Table 5:	Volumetric Rate Derivation.....	17
Table 6:	Base Rate Calculation.....	17
Table 7:	Total Bi-Monthly Fixed Charges .....	17
Table 8:	Proposed Water Rates .....	19
Table 9:	Sample Bi-Monthly Bill Impacts .....	20

## **TABLE OF FIGURES**

Figure 1: Water Consumption.....	10
Figure 2: Water Expense Projections .....	11
Figure 3: Regional Monthly Water Rate Survey.....	21

## **APPENDICES**

APPENDIX A: Water Tables

# 1 EXECUTIVE SUMMARY

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## 1.1 Background

The Rio Alto Water District (District) is located east of I-5 about 20 miles south of the City of Redding in a community known as Lake California. The District provides water and wastewater services to over 1,200 water customers in an area that encompasses more than 9 square miles.

The revenues from the District's water utilities are primarily derived from charges for services. The District must establish rates and charges adequate to fund the cost of providing water services, including costs for operations and capital improvements needed to keep the District's infrastructure in safe and reliable operating condition.

Water rates were last increased in 2012. Based on a survey of seven regional water agencies, the District has the lowest residential water rates in the region.

In September 2015, the District retained Bartle Wells Associates (BWA) to develop a comprehensive rate analysis and study for the District's water enterprise. Basic objectives of the rate study include:

- Identify rate setting principles.
- Develop long-term financial projections to determine future annual water enterprise revenue requirements.
- Evaluate rate alternatives and recommend water rates designed to equitably cover the costs of providing service.

Based on input from District staff, key guiding principles included developing rates that:

- Are fair and equitable to all customer classes.
- Cover the costs of providing service and generate adequate funding for capital needs.
- Are easy to understand and implement.
- Comply with the legal requirements of Proposition 218 and other California laws.

## 1.2 Proposition 218

Utility rates are subject to the procedural and substantive requirements as set forth in Proposition 218. Proposition 218 was adopted by California voters in 1996 and added Articles 13C and 13D to the California Constitution. Article 13D, Section 6 governs property-related charges, which the California Supreme Court subsequently ruled includes ongoing utility service charges such as water and wastewater. Article 13D, Section 6 establishes a) procedural requirements for imposing or increasing property-related charges, and b) substantive requirements for those charges. Article 13D also requires voter approval for new or increased property-related charges but exempts from this voting requirement rates for water and wastewater service. The substantive requirements of Article 13D, Section 6 require the District's utility rates to meet the following conditions:

- Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service.
- 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.
- 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.
- 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.
- 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.

The procedural requirements of Proposition 218 for all utility rate increases are as follows:

- **Noticing Requirement:** The District must mail a notice of proposed rate increases to all affected property owners. The notice must specify the basis of the fee, the reason for the fee, and the date/time/location of a public rate hearing at which the proposed rates will be considered/adopted.
- **Public Hearing:** The District must hold a public hearing prior to adopting the proposed rate increases. The public hearing must be held not less than 45 days after the required notices are mailed.
- **Rate Increases Subject to Majority Protest:** At the public hearing, the proposed rate increases are subject to majority protest. If more than 50% of affected property owners submit written protests against the proposed rate increases, the increases cannot be adopted.



### 1.3 Use of Generally Accepted Rate-Making Principles

The rates developed in this study use a straightforward methodology to establish an equitable system of fixed and variable charges that recover the cost of providing service and fairly apportion costs to each rate component. The rates were developed using generally accepted cost-based principles and methodologies for establishing water rates, charges, and fees contained and discussed in the American Water Works Association (AWWA) M1 Manual.

In developing water rates, it is important to know that 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.”<sup>1</sup>

In reviewing the District’s water rates and finances, BWA used the following criteria in developing our recommendations:

- 1) *Revenue Sufficiency*: Rates should cover the annual cost of service and provide revenue stability.
- 2) *Rate Impact*: While rates are calculated to generate sufficient revenue to cover operating and capital costs, they should be designed to minimize, as much as possible, the impacts on ratepayers.
- 3) *Equitable*: Rates should be fairly allocated among all customer classes based on their estimated demand characteristics. Each user class only pays its proportionate share.
- 4) *Practical*: Rates should be simple in form and, therefore, adaptable to changing conditions, easy to administer and easy to understand.

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

## **1.4 Water Overview**

### **1.4.1 Water Customers**

The District owns, operates, and maintains a potable water distribution system that serves over 1,200 connections, 99% of which are residential. The District anticipates low growth over the next five years at approximately 8 new connections per year.

### **1.4.2 Water System**

The District's potable water supply comes from groundwater that is pumped to customers. The system extracts water and pumps directly to customers.

The District's water system facilities include four active groundwater wells, four potable water storage tanks, two booster stations, and almost 25 miles of pipes. The District has made significant improvements over the last several years but faces the need for substantial additional investments in rehabilitation and replacement as aging facilities approach the end of their useful lives.

BWA recommends (1) updating rates to better reflect revenue requirements and the cost of service, including increasing operational and capital costs, (2) aligning meter ratios with American Water Works Association (AWWA) recommended ratios, as well as (3) eliminating customer classifications and reconfiguring tier breakpoints in response to the recent San Juan Capistrano court ruling.

### 1.4.3 Current Water Rates

Rates were last increased in FY2012 and are some of the lowest in the region. The current rates have three tiers for residential customers and two for commercial customers. The current rates and meter ratios are summarized in Section 2.2 Current Bi-Monthly Water Rates

### 1.4.4 Proposed Water Rates and Meter Ratios

Table 1 shows the proposed bi-monthly fixed charge and volumetric rate updates for the next five years. The proposed fixed charges include the costs associated with providing 15 hcf of water bi-monthly.

Table 1: Proposed Rates

Bi-Monthly Fixed Charges					
Meter Size	7/1/2016	7/1/2017	7/1/2018	7/1/2019	7/1/2020
3/4"	\$38.24	\$39.43	\$40.65	\$41.62	\$42.87
1"	\$50.73	\$52.72	\$54.75	\$56.37	\$58.45
2"	\$119.43	\$125.82	\$132.29	\$137.48	\$144.15

#### Variable Charges

Consumption	7/1/2016
15 hcf allowance	\$0.00
15+	\$1.30

After an initial adjustment on 7/1/2016, volumetric charges will stay constant over the 5-year period as future water sales are projected to rebound slowly as the state recovers from the drought.

## 2 WATER FINANCES & RATES

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### 2.1 Water Financial Overview

Bartle Wells Associates conducted an independent evaluation of the District's water enterprise finances. Key observations include:

- Water rates have not been increased since FY2012. Although the District strives to keep costs down, water expenses tend to increase due to inflationary factors.
- Based on a survey of seven other regional water agencies, the District's typical residential water bills (3/4" meter using 20 hundred cubic feet or about 15,000 gallons of water bi-monthly) are currently the lowest compared to the other regional agencies by a considerable margin.
- Water use has declined significantly in response to the ongoing drought. In calendar year 2014, customers used 15% less water than in calendar 2013. Customers used 20% less in 2015 than 2014.
- The District does not have a detailed Capital Improvement and Replacement Plan. Capital depreciations costs will be used as a proxy for estimating future capital improvement and replacement needs.
- The District's current meter ratios for the fixed rates are not consistent with those recommended by the AWWA.
- As mentioned in Section 1.3, the proposed water rates were developed using generally accepted cost-based principles and methodologies for establishing water rates, charges, and fees contained and discussed in the AWWA M1 Manual.
- Water expenses were determined by developing projections based on historical averages found from audits and budgets, as well as up to date information provided by the District. Annual revenue requirements were determined by taking into account projected expenses.
- Relative to other agencies, the District has a higher ratio of fixed to variable costs. Agencies that pump water tend to have a higher allocation of fixed costs than those that purchase water.

## 2.2 Current Bi-Monthly Water Rates

The District bills water service on a bi-monthly basis. As shown on Table 2, the current water rates include two components:

- 1) **Fixed Service Charge:** Each of the six customer classes are charged a different amount varying from \$34.56 for a Single Residential 3/4" meter to \$69.14 for a Triplex 3/4" meter. Included within each fixed meter charge is an allotment of water ranging from 2,000 cubic feet (about 15,000 gallons) to 4,000 cubic feet (about 30,000 gallons). Table 2 shows how much each customer class is paying in relation to one another adjusting for the varying allotments of water. Meter size is used as a proxy for the estimated demand that each customer can place on the water system. A significant portion of a water system's design and in turn, the utility's operating and capital costs are related to meeting capacity requirements. The fixed charge is levied regardless of water consumption and recognizes that even when a customer does not use any water, the District incurs fixed costs in connection with maintaining the ability or readiness to serve each connection.
  
- 2) **Variable Charges:** Four customer classes are billed according to a multiple-tiered inclining volumetric rate structure in which the cost per unit of water increases through the various tiers as customers use more water. Units are in hundred cubic feet (hcf) of water. One hundred cubic feet is equal to 748 gallons. The water consumption charges are intended to offset the costs that the District incurs in providing the water.

Table 2: Current Water Rates

<b>Base Monthly Charges</b>				
<b>Base Charge</b>	<b>Current</b>		<b>Base Rate per</b>	
<b>Meter Size</b>	<b>Meter Ratio</b>	<b>cf Included</b>	<b>Base Rate</b>	<b>1000 cf</b>
Single Residential 3/4"	1.00	2,000	\$34.56	\$17.28
Duplex 3/4"	1.50	3,000	\$51.84	\$17.28
Triplex 3/4"	2.00	4,000	\$69.14	\$17.29
Single Residential 1"	1.09	2,000	\$37.68	\$18.84
Duplex 1"	1.63	3,000	\$56.48	\$18.83
Comm 2"	1.81	4,000	\$62.40	\$15.60

**Volume Charge**

cubic feet consumed rate/hcf

**Customer Classification**

Single Residential 3/4" & 1"

0-2,000	free
2,000-6,000	\$0.73
6,000-1,0000	0.88
10,000+	1.07

Duplex 3/4" & 1"

0-3,000	free
3,000-9,000	\$0.73
9,000-15,000	0.88
15,000+	1.07

Triplex

0-4,000	free
4,000-12,000	\$0.73
12,000-20,000	0.88
20,000+	1.07

Commercial

0-4,000	free
4,000-300,000	\$0.73
300,000+	0.88

## 2.3 Current Water Accounts

Table 3 shows current number of water accounts by meter size. The number of meters for each category was translated into meter equivalents.

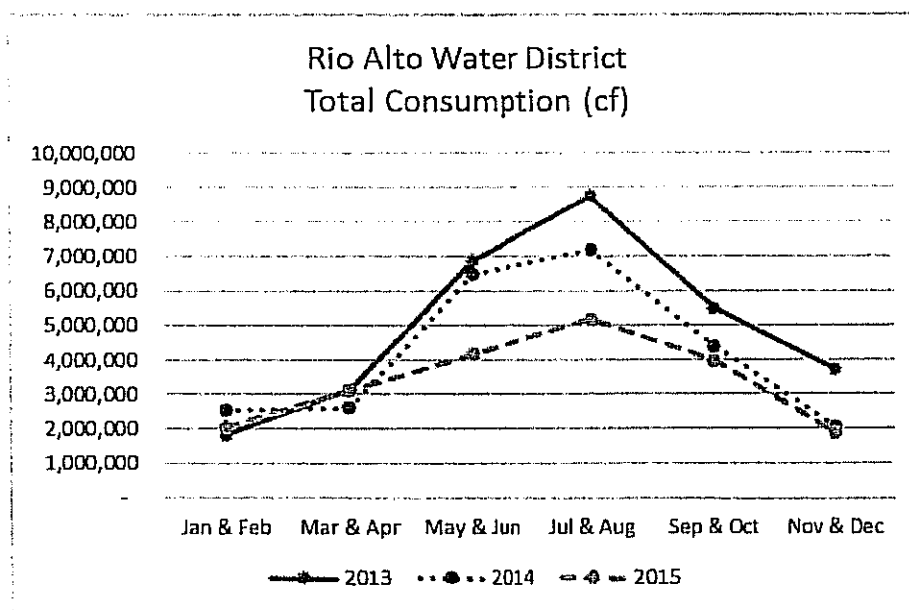
Table 3: Total Meters & Meter Equivalents

2015-16 Meter Equivalents				
Meter Class	Number of Meters	Max Flow Rate	Ratio	Meter Equivalents
SFR 3/4"	1184	30	1.00	1184
Duplex 3/4"	40	30	1.00	40
Triplex 3/4"	1	30	1.00	1
SFR 1"	32	50	1.67	53
Duplex 1"	7	50	1.67	12
Comm 2"	4	160	5.33	21
Total	1268			1311

## 2.4 Water Consumption

Figure 1 shows bi-monthly water consumption for calendar years 2013 – 2015. BWA’s analysis shows that fall and winter water consumption has remained relatively stable. However, 2015 shows a decrease in spring and summer use. Residents of the District have done an excellent job conserving water during the drought.

Figure 1: Water Consumption



## 2.5 Financial Challenges / Key Drivers of Rate Increases

Going forward, the District’s water enterprise is facing a number of financial challenges that will require the District to raise its water rates. Key drivers of future rate increases are summarized as follows.

### 2.5.1 Capital Improvements / Aging Infrastructure

Much of the District’s infrastructure was built in the 1970’s and is beginning to show its age. As mentioned above, the District does not have a formal Capital Improvement and Replacement Plan. Bartle Wells recommends that the District use the annual depreciation expense as an estimate for future capital rehab and replacement costs until a more detailed report is available. The annual depreciation for fiscal year 2015 was estimated at \$104,000.



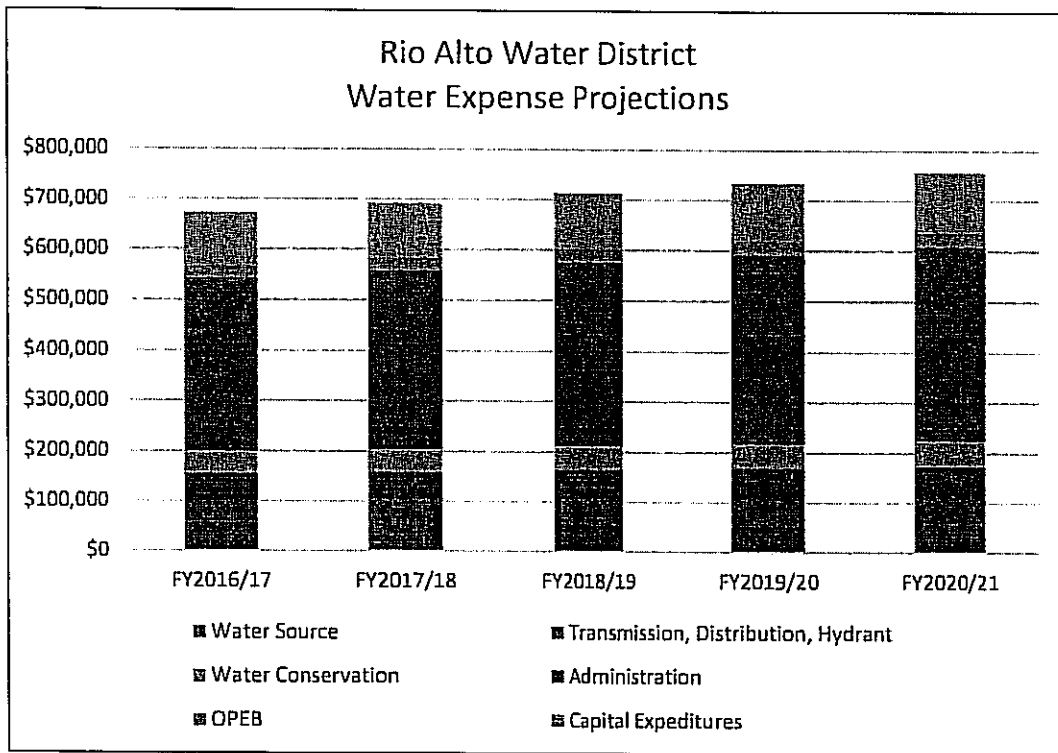
### 2.5.2 Ongoing Operating Cost Inflation

The District faces ongoing operating cost inflation due to annual increases in a range of expenses such as utilities, supplies, costly regulatory requirements, and salaries. Water operating cost inflation has historically been significantly higher than the Consumer Price Index (CPI) for consumer goods and services. Since 1996, the average annual CPI for all urban customers has been 2.3%, whereas the average for the Construction Cost Index Engineering News Record (CCI ENR) 20-Cities average is 3.1%. A 3% annual inflation rate was used for this analysis.

### 2.5.3 Water Expense Projections

Figure 2 shows a 5-year breakdown of projected water enterprise expense. Rate increases are needed to continue to fund increasing operating and capital expenses.

Figure 2: Water Expense Projections



## 2.6 Water Enterprise Rate Scenarios & Revenue Requirements

### 2.6.1 Water Rate Options

With input from District staff the Board of Directors, BWA developed three options (Options 1-3) of rate adjustments, and projected the District's finances accordingly. As mentioned above, the District's costs structure consists of 60% fixed costs and 40% variable costs.

- o Option A consisted of a rate structure with 60% fixed meter charges and 40% consumption charges.
- o Option B consisted of a rate structure with 75% fixed meter charges and 25% consumption charges.
- o Option C consisted of a rate structure with 50% fixed meter charges and 50% consumption charges.

BWA recommends Option A because this option provides a balance between the strong conservation incentive to customers with Option C and the revenue stability with Option B. A more detailed analysis is provided in subsequent sections of this report.

### 2.6.2 Water Revenue Requirements: Cash Flow Projection

The water cash flow projections incorporate the latest information available as well as a number of reasonable and slightly conservative assumptions. Key assumptions include:

#### Growth & Water Demand

- o With input from District staff, customer growth is projected to be about 8 new connections per year.
- o Future water sales are projected to rebound as the state recovers from the drought. BWA estimates that water consumption will increase slowly for the next five years.

#### Revenue Assumptions

- o Rate increases will become effective annually on July 1 of each year. The first rate increase will take effect on July 1, 2016. The District will adopt rate increases every July 1 for the five-year period from FY2017 through FY2021.
- o Administrative, interest, and penalties revenue increases by a conservative 2.5% annually.

- o Availability revenue is collected on parcels of land that have yet to be connected to the system. As connections are added, this revenue stream will slowly decrease and become connections revenue. Connections revenue is collected on every new connection to the system. It is assumed that there will be 8 new connections per year at a rate of \$4,641 per connection. This rate is assumed to increase by 3% annually.
- o Cell tower revenue will increase 12.5% in July 2019.

**Expense Assumptions**

- o Expenses are based on the FY2016 Budget and escalate at the annual rate of 3% to account for inflation.
- o Annual depreciation expense is used as a proxy for Capital Expenditures until a formal CIP can be adopted.
- o Non-meter revenues such as admin, availability, and cell tower revenue are used to offset the revenue required for fixed costs.

## 2.7 Cost of Service

Water utilities have used a wide range of approaches or perspectives for allocating and covering their costs for providing service, and these costs are most commonly covered from a combination of fixed and variable charges. The percentage of revenues derived from the fixed and variable charges varies for each agency and should be proportional to each system's expenditures and must not exceed the cost of providing service. A higher level of fixed charges provides better revenue stability and less dependence on variable sales. On the other hand, higher dependence on volumetric revenues provides a better conservation incentive.

Depending on perspective, some costs can reasonably be allocated 100 percent to fixed revenue recovery, 100 percent to variable rate recovery, or to some combination of the two. For example, debt service used to fund water treatment facilities can legitimately be treated as a) a fixed annual cost that should be recovered from fixed charges, b) a cost related to providing water supply to meet customer demand and therefore be recovered from variable rates, or c) a cost that can be recovered from both fixed and variable rates in recognition of the two alternative perspectives.

Many of the District's costs are variable costs that vary by water consumption, such as the cost associated with pumping water, as well as costs for personnel and utilities. However, a portion of these variable costs can reasonably be apportioned to fixed rate recovery, and vice-versa with fixed costs. 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. Likewise, debt service payments may be fixed annual costs, but it is reasonable to cover some of these costs from usage-based rates as the costs are incurred to fund infrastructure that will improve the water delivery system.

While there is no single correct approach, BWA believes that costs should be allocated within a reasonable range that reflects both a) underlying cost causation, to the extent such causation can reasonably be determined or estimated, and b) the policy preferences of the agency in cases where a range of reasonable approaches can be justified.

The water enterprise currently collects approximately 76% (FY2015) of total water sales revenues from fixed charges and 24% from the variable charges. After performing a costs analysis and with input from the District, BWA recommends altering this ratio to 60% fixed and 40% variable in order to provide a better conservation incentive to customers and to align with the cost profile of the District. Table 4 shows a breakdown of the water enterprise's operating and estimated capital reserve contributions for FY2016.

Table 4: Cost Allocation Analysis

FY2016						
Expenses		Allocation				
<u>Operating Expenses</u>		<u>Base Charges</u>		<u>Volumetric Charges</u>		<u>Total</u>
Water Source	\$99,205	0%	\$0	100%	\$99,205	100%
Transmission, Distribution, Hydrant	\$51,239	40%	\$20,496	60%	\$30,743	100%
Water Conservation	\$42,520	0%	\$0	100%	\$42,520	100%
OPEB	\$23,000	90%	\$20,700	10%	\$2,300	100%
Administration	\$332,969	90%	\$299,672	10%	\$33,297	100%
Total Expenditures	\$548,933		\$340,868		\$208,065	
Capital Expenditures	\$104,267	50%	\$52,134	50%	\$52,134	100%
Total Allocated Costs	\$653,200	60%	\$393,001	40%	\$260,199	100%

As indicated, the cost profile of the District is estimated at 60% fixed and 40% variable. However, as discussed above, these estimates are subjective and a reasonable range of fixed and variable cost recovery can be justified. Costs could easily be interpreted to range from 75% to 50% fixed.

## **2.8 Water Rate Structure Recommendations**

BWA evaluated the District's water rate structure for equity and compliance with the substantive provisions of Proposition 218. Rate structure recommendations listed below incorporate input received from District staff.

### **2.8.1 Variable Charge Recommendations**

#### **Modify Tiers**

Water sales are currently billed according to four customer classes, each with varying tier charges. BWA recommends the District revise the variable rate structure into one tier as well combining all customer classes into one. Doing this will better reflect the District's cost for providing water service, as well ensure variable rates are legally defensible.

#### **Reduce Allotment**

BWA recommends reducing the allotment for each class of customer to 15 hcf (about 11,000 gallons). This change is to further incentivize customers to conserve water as well as to give them more control over their bills.

### **2.8.2 Fixed Service Charge Recommendations**

The current fixed charges are based on building type (e.g., single residential, duplex, commercial, etc.) and meter size. The fixed meter charge ratios are not aligned with those recommended by the 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. For example, based on the AWWA meter capacity ratios, a customer that has a 2-inch meter has 5.33 times the capacity equivalency of a customer with a 3/4-inch meter. (A 2-inch meter has a safe operating capacity of 160 gallons per minute (gpm) compared to a 3/4-inch meter which has a safe operating capacity of 30 gpm).

These meter capacity ratios provide a basis for charging customers proportional to the capacity that is reserved for them in the water system. Larger meters have the ability to place a greater demand on the water system and are therefore, charged based on that potential demand. Meter ratios are widely used in California rate setting and are consistent with meter ratios adopted by the California Public Utility Commission for private water companies.

### **2.8.3 Water Rate Derivation**

#### **Variable Charges**

Table 5 shows the derivation of the variable costs (price per hcf). Consumption will increase as the state recovers from the drought and revenue requirements will also increase but at a lesser percentage. The calculation for the volumetric rate is required variable revenue divided by projected consumption.

Table 5: Volumetric Rate Derivation

Fiscal Year	Projected Consumption (hcf)	Required Variable Revenue	Volumetric Rate (\$/hcf)	Volumetric Revenue
2017	203,651	\$269,118	\$1.32	\$269,118
2018	213,731	\$277,192	\$1.30	\$277,192
2019	213,731	\$285,508	\$1.34	\$285,508
2020	238,876	\$294,073	\$1.23	\$294,073
2021	238,876	\$302,895	\$1.27	\$302,895

As shown, the volumetric rate hovers between \$1.23 to \$1.34 per hcf. BWA recommends that this rate be constant at \$1.30 for simplicity and straightforwardness to customers.

**Fixed Charge**

The fixed meter charge is designed to recover fixed costs from each meter proportional to meter capacity and the associated demand placed on the water system by each meter size. The proposed FY2017 fixed 3/4" base charge is calculated by dividing the revenue requirement allocation for fixed costs, by 6 (bi-monthly), by the total number of projected meter equivalents the District will serve each year. A meter equivalent represents the capacity of a base 3/4" meter. The fixed charges are then escalated by the revenue requirement increases each year. The fixed charges for larger meters are determined by multiplying the base charge by the corresponding meter equivalent ratio. The derivation for fixed rates through FY2021 is shown on Tables 6 & 7.

Table 6: Base Rate Calculation

Meter Class	Number of Meters	Max Flow Rate	Ratio	Meter Equivalents	Proposed Base Charge Structure
SFR 3/4"	1,184	30	1.0	1184	\$18.74
Duplex 3/4"	40	30	1.0	40	\$18.74
Triplex 3/4"	1	30	1.0	1	\$18.74
SFR 1"	40	50	1.7	67	\$31.23
Duplex 1"	7	50	1.7	12	\$31.23
Comm 2"	4	160	5.3	21	\$99.93

15 hcf is included in the fixed meter charge which adds an additional \$19.50 (15 x \$1.30) per bill. The final fixed meter charges for each class is shown as follows:

Table 7: Total Bi-Monthly Fixed Charges

<b>Total Bi-Monthly Fixed Charges</b>						
<u>Meter Class</u>	<u>Base Meter Rate</u>	<u>Bi-Monthly Allotment (hcf)</u>	<u>Cost per hcf</u>	<u>Allotment Costs</u>	<u>Total Base Costs</u>	
SFR 3/4"	\$18.74	15	\$1.30	\$19.50	\$38.24	✓
Duplex 3/4"	\$18.74	15	\$1.30	\$19.50	\$38.24	
Triplex 3/4"	\$18.74	15	\$1.30	\$19.50	\$38.24	
SFR 1"	\$31.23	15	\$1.30	\$19.50	\$50.73	
Duplex 1"	\$31.23	15	\$1.30	\$19.50	\$50.73	
Comm 2"	\$99.93	15	\$1.30	\$19.50	\$119.43	



## 2.9 Proposed Water Rates

Table 8 shows the proposed bi-monthly water rates that incorporate the updated meter ratios and volumetric rates. Under Proposition 218, the rates shown below are the maximum rates that the District can enact each year. The District can adopt rates that are lower than those shown based upon an annual review of the water enterprise's finances to ensure that revenues are in line with expenses.

Table 8: Proposed Water Rates

### Bi-Monthly Fixed Charges

Meter Size	7/1/2016	7/1/2017	7/1/2018	7/1/2019	7/1/2020
3/4"	\$38.24	\$39.43	\$40.65	\$41.62	\$42.87
1"	\$50.73	\$52.72	\$54.75	\$56.37	\$58.45
2"	\$119.43	\$125.82	\$132.29	\$137.48	\$144.15

### Variable Charges

Consumption	7/1/2016
15 hcf allowance	\$0.00
15+	\$1.30

## 2.10 Sample Bill Impact

Table 9 shows the impact of the projected water rates on a typical customer’s bill. The impact accounts for both overall rate increases as well as the various rate structure modifications discussed previously. Note that water consumption, particularly for single family customers, typically fluctuates due to seasonal variations in weather and/or other factors. Hence a single customer could face a range of impacts throughout the year.

Residential customers who are typical consumers (20 hcf or about 250 gallons per day) will see an increase in their bills of \$5.09 per month (billed on a bi-monthly basis). Low users will see an even smaller increase of just \$1.84 per month.

Residential customers living in duplexes may see a decrease in their bill. Previously, the fixed bi-monthly charge for duplexes suggested a meter ratio much higher than the AWWA recommendations. The proposed meter ratios adjust the fixed bi-monthly charges to AWWA recommendations which lowers the charge for duplexes. Low consumption therefore lowers the bill for residents living in duplexes.

Commercial accounts will see a large bill increase. Currently, commercial accounts consume a significant amount of water relative to residential users. Therefore, a large increase in the volumetric rate will generate a larger bill.

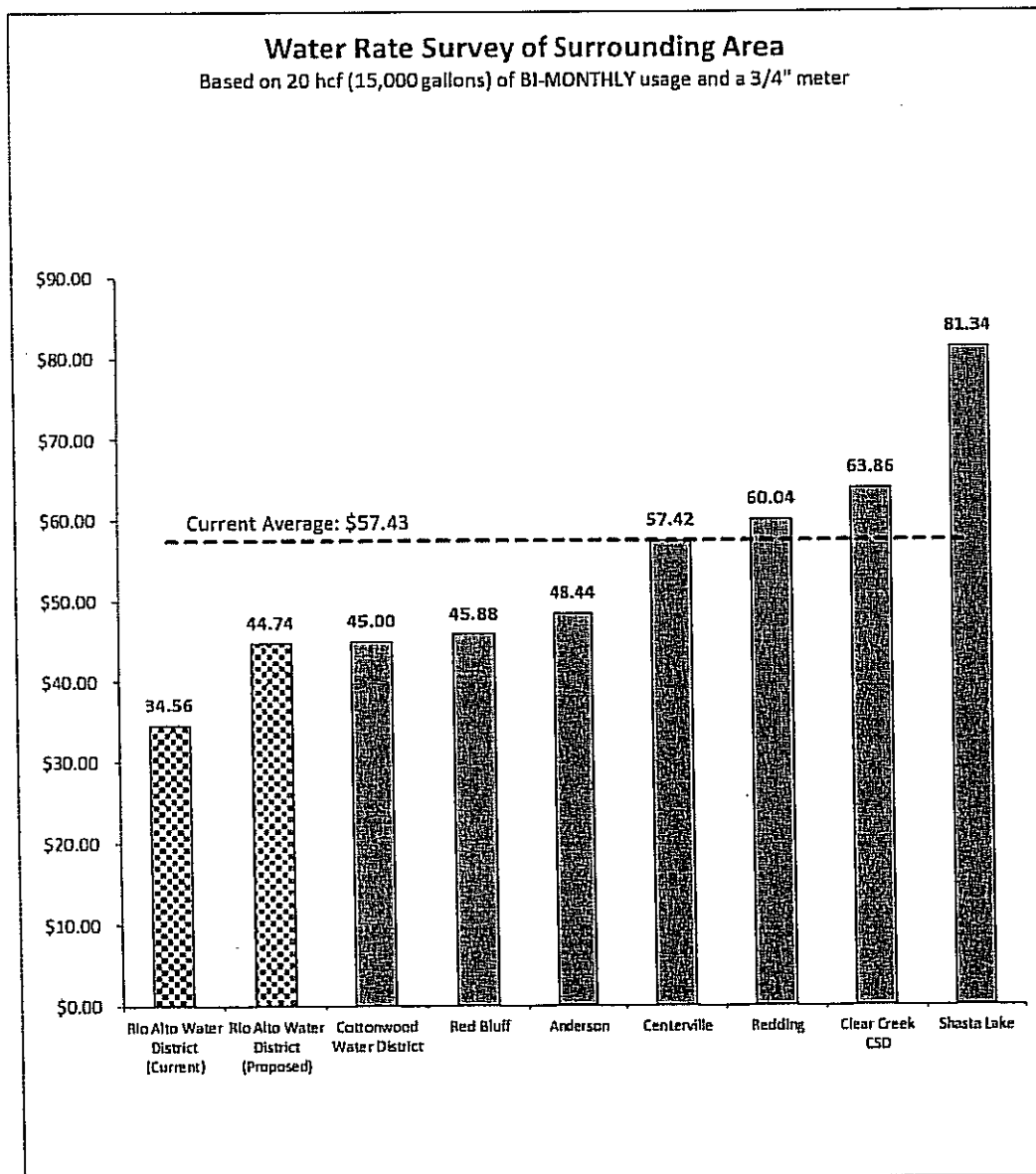
Table 9: Sample Bi-Monthly Bill Impacts

Class	Bi-Monthly Use (hcf)	Current Bill	Proposed Bill	Bill Increase (Decrease)
3/4" Residential - low use	12	\$34.56	\$38.24	\$3.68
3/4" Residential - typical use	20	\$34.56	\$44.74	\$10.18
3/4" Duplex -low use	20	\$51.84	\$44.74	(\$7.10)
3/4" Duplex - typical use	28	\$51.84	\$55.14	\$3.30
1" Residential	20	\$37.68	\$57.23	\$19.55
2" Commercial	900	\$690.20	\$1,269.93	\$579.73

## 2.11 Regional Water Rate Survey

Figure 3 compares the District's current and proposed monthly rates to those of other regional agencies for a single family home using 20 hcf or about 15,000 gallons of water (bi-monthly). The District's current water rates are significantly lower than all other regional agencies, and the District would remain near the bottom with the proposed rates for FY2017. Figure 3 is shown for comparative purposes only.

Figure 3: Regional Monthly Water Rate Survey



# **APPENDIX A**

## **Options B & C**

As mentioned in the report, BWA developed 3 options for the District to take into consideration:

- o Option A consisted of a rate structure with 60% fixed meter charges and 40% consumption charges.
- o Option B consisted of a rate structure with 75% fixed meter charges and 25% consumption charges.
- o Option C consisted of a rate structure with 50% fixed meter charges and 50% consumption charges.

The Board of Directors opted for Option A at the recommendation of BWA. The report discussed the derivation of the rates in Option A. The following are the rates that BWA calculated given the rate structures for Options B & C.

Option B:

Bi-Monthly Rates					
Meter Size	Proposed Bi-Monthly Charges				
	7/1/2016	7/1/2017	7/1/2018	7/1/2019	7/1/2020
3/4"	\$43.43	\$44.88	\$46.35	\$47.59	\$49.11
1"	\$64.39	\$66.80	\$69.26	\$71.32	\$73.85
2"	\$179.65	\$187.37	\$195.22	\$201.81	\$209.92

Volumetric Rates - all accounts					
Consumption	Proposed Rates				
	7/1/2016	7/1/2017	7/1/2018	7/1/2019	7/1/2020
15 hcf allowance	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
15+	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80

Option C:

Bi-Monthly Rates					
Meter Size	Proposed Bi-Monthly Charges				
	7/1/2016	7/1/2017	7/1/2018	7/1/2019	7/1/2020
3/4"	\$34.27	\$35.30	\$36.34	\$37.14	\$38.21
1"	\$41.90	\$43.15	\$45.62	\$44.99	\$47.69
2"	\$78.78	\$84.28	\$89.84	\$94.10	\$99.80

Volumetric Rates - all accounts					
Consumption	Proposed Rates				
	7/1/2016	7/1/2017	7/1/2018	7/1/2019	7/1/2020
15 hcf allowance	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
15+	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60