



## Water Rates and Water Capacity Charges Study

---

Prepared for  
Aromas Water District  
Aromas, California  
June 2019

This Page Intentionally Blank.

# Table of Contents

List of Figures.....	iii
List of Tables .....	iv
List of Abbreviations .....	v
Executive Summary .....	ES-1
Overview of Study Findings.....	ES-1
Water System Description .....	ES-2
Impact of Updated Cost of Service Allocation Methodology.....	ES-2
Summary of Projected Revenues and Expenditures .....	ES-3
Summary of Projected Water Deliveries .....	ES-4
Recommended Water Fees .....	ES-5
Historical and Projected Single Family Monthly Bills.....	ES-6
Recommended Capacity Charges .....	ES-6
1. Introduction.....	1-1
1.1 Organization of the Report .....	1-1
1.2 Overview of Rate Setting Process.....	1-1
1.3 Rate-Making Objectives.....	1-3
1.4 Current Water Rates and Capacity Charges.....	1-3
2. Customer Characteristics.....	2-1
2.1 Historic Water Deliveries .....	2-1
2.2 Customer Water Use .....	2-3
2.3 Water Meter Equivalency Factors .....	2-3
2.4 Evaluation of Use by Tier and Customer Class .....	2-4
2.5 Current and Recommended Water Use Tier Ranges.....	2-5
2.5.1 Nonresidential Water Use Fees .....	2-5
2.5.2 Residential Water Use Fees .....	2-5
3. Development of Water Fees .....	3-1
3.1 Operating Revenues and Expenditures Summary .....	3-1
3.2 Financial Reserves Policy .....	3-1
3.3 Debt Service Coverage .....	3-1
3.4 Projected Capital Improvement Projects.....	3-2
3.5 Projected Operating Fund Cash Flow .....	3-3
3.6 Projected Capital Fund Cash Flow .....	3-4
3.7 Recommended Water Fees.....	3-6
3.8 Impact on FY20 Monthly Bills .....	3-7
3.8.1 Single Family Monthly Bills.....	3-7
3.8.2 Commercial/Institutional/Landscape Monthly Bills.....	3-8

- 3.9 Historic and Projected Monthly Bills .....3-9
  - 3.9.1 Historic and Projected Single Family Monthly Bills.....3-9
  - 3.9.2 Historic and Projected Commercial/Institutional/Landscape Monthly Bills .....3-10
- 4. Development of Water Capacity Charges .....4-1
  - 4.1 Regulatory Requirements.....4-1
  - 4.2 Current Capacity Charges and Conceptual Approach .....4-2
  - 4.3 Water System Valuation .....4-3
  - 4.4 Water System Capacity.....4-4
  - 4.5 Unit Cost Peak Month Capacity.....4-5
  - 4.6 Single Family Peak Month Use.....4-5
  - 4.7 Capacity Charge for 5/8 x 3/4-inch Meter.....4-5
  - 4.8 Schedule of Capacity Charges .....4-6
  - 4.9 Comparison of Current vs. Recommended Capacity Charges.....4-6
  - 4.10 Survey of Single Family Capacity Charges.....4-7
- 5. Water Rates Survey .....5-1
- 6. Limitations .....6-1
- Appendix A: Historical Water Use Data .....A
- Appendix B: Customer Characteristics Data .....B
- Appendix C: Financial Reserves Policy.....C
- Appendix D: Water Fees Development Tables .....D
- Appendix E: Water Capacity Charges Development Tables.....E

## List of Figures

---

Figure ES-1. Comparison of Historic and Projected Metered Water Deliveries.....	ES-4
Figure ES-2. Historic and Projected Single Family Monthly Water Bills .....	ES-6
Figure 1-1. Overview of Rate Setting Analytical Steps.....	1-1
Figure 2-1. Historic Water Deliveries, CCF .....	2-1
Figure 2-2. Historic and Projected Metered Water Use by Customer Class .....	2-2
Figure 2-3. 2018 Water Use by Customer Class and as a Percent of Total Use .....	2-3
Figure 2-4. 2018 Water Use by Tier and Customer Class and as a Percent of Total Use .....	2-4
Figure 2-5. 2018 Water Use for Single Family Customers.....	2-6
Figure 2-6. Single Family Water Use Profiles for and February 2018 and July 2018.....	2-7
Figure 2-7. Current and Recommended Tier Ranges for the Residential Customer Classes.....	2-8
Figure 3-1. Projected Operating Fund Cash Flow .....	3-5
Figure 3-2. Projected Capital Fund Cash Flow .....	3-5
Figure 3-3. Historic and Projected Single Family Monthly Water Bills .....	3-9
Figure 3-4. Historic and Projected Commercial/Institutional/Landscape Monthly Water Bills .....	3-10
Figure 4-1. Capacity Charge Development Methodology .....	4-2
Figure 5-1. Survey of Single Family Monthly Water Bills .....	5-1

## List of Tables

---

Table ES-2. Summary of Projected Revenues and Expenditures .....	ES-3
Table ES-3. Recommended Water Fees.....	ES-5
Table ES-4. Recommended Water Capacity Charges.....	ES-6
Table 2-1. Historic Water Deliveries, CCF.....	2-1
Table 2-2. Water Lateral and Meter Equivalency Factors .....	2-3
Table 2-3. Current Water Use Fees and Tiers .....	2-5
Table 3-1. Planned Capital Improvement Projects .....	3-2
Table 3-2. Operating Fund Cash Flow.....	3-3
Table 3-3. Capital Fund Cash Flow .....	3-4
Table 3-4. Recommended Water Fees.....	3-6
Table 3-5. Current and Projected FY20 Single Family Monthly Water Bills .....	3-7
Table 3-6. Current and Projected FY20 Commercial/Institutional/Landscape Monthly Water Bills .....	3-8
Table 4-1. Summary of Fixed Assets Valuation.....	4-3
Table 4-2. Valuation of Water System .....	4-4
Table 4-3. System Peak Month Production Capacity .....	4-4
Table 4-4. Unit Cost Peak Month Capacity.....	4-5
Table 4-5. Single Family Peak Month Use.....	4-5
Table 4-6. Capacity Charge for $\frac{5}{8}$ x $\frac{3}{4}$ -inch Meter .....	4-5
Table 4-7. Equivalency Factors and Capacity Charges.....	4-6
Table 4-8. Current and Recommended Capacity Charges.....	4-6
Table 4-9. Survey of Single Family Capacity Charges.....	4-7
Table 5-1. Water Rates Survey.....	5-2

## List of Abbreviations

---

AWWA	American Water Works Association
cf	cubic feet (equal to ~7.48 gallons)
CCF	Hundred Cubic Feet (equal to ~748.1 gallons)
CIP	Capital Improvement Program
COS	Cost of Service
District	Aromas Water District
DWR	Department of Water Resources
FY	Fiscal Year (July 1 to June 30)
gpd	gallons per day
mg	million gallons
mgd	million gallons per day
O&M	Operation and maintenance
PVWMA	Pajaro Valley Water Management Agency

This Page Intentionally Blank.



# Executive Summary

The Aromas Water District (District), in conjunction with Municipal Financial Services, has analyzed the adequacy of revenues to meet projected expenditures of the water enterprise fund to determine whether revenues will be adequate to cover operating and maintenance costs as well as needed capital costs while supporting debt service obligations and meeting target reserve levels. Water fees, which generate approximately 93% of water fund revenues, were evaluated for the six-year period Fiscal Year 2019 – 2020 (FY20) through FY25.<sup>1</sup> It is recommended that the District adopt fees for a five-year period (FY20 – FY24). Capacity charges for new connections to the water system were also updated. Charges for FY20, and an index appropriate for annual escalation of the charges, are recommended.

## Overview of Study Findings

The study evaluated the District's projected capital and operating expenditures, water sales and growth in accounts for the next six years.

For the five-year rate planning period, expenditures are projected to be approximately \$1,884,000 for capital requirements (including capital reserves), approximately \$4,925,000 for operating expenditures, and approximately \$626,000 for debt service for a total of \$7,435,000. Revenues (not including assessments) are projected to be approximately \$7,300,000. The difference between revenues and expenditures will be funded from the projected FY19 ending cash balance which is approximately \$1,110,000.

Water rates developed in 2014 were based on water deliveries of approximately 122,300 CCF for FY20 (one CCF equals approximately 748 gallons). Updated water delivery projections for FY20 are approximately 125,000 CCF – an increase of approximately 2.2 percent over the amount projected in 2014. Water delivery projections for FY24 (the end of the five-year planning period) are projected to decline by approximately 11.3 percent from the new FY20 projection to 113,600 CCF.

No new water connections are projected during FY19 through FY24. Although there may be new connections, the numbers will be so few that they will not materially influence the study findings.

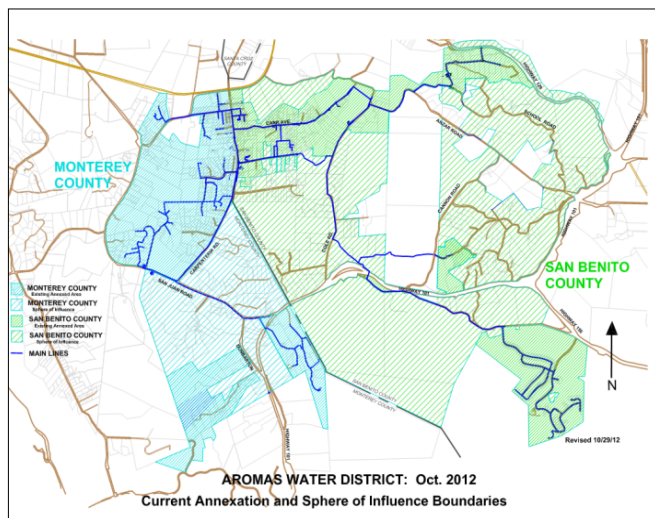
The recommended water use fee structure has a single, uniform fee for all nonresidential use and a three-tier structure for residential use that reflects recent and projected reductions in water use.

---

<sup>1</sup> This percentage excludes assessment district revenues from rate payers which are dedicated to bond payments for assets that benefit only those rate payers.

## Water System Description

The Aromas Water District was formed in 1959. The District's service area is approximately 20 square miles in Monterey and San Benito Counties. Water service is provided to most of the unincorporated area of Aromas (population 3,500) and a portion of the unincorporated area west of the City of San Juan Bautista. The District currently serves approximately 957 connections.



The primary assets in the District's water system are three deep-water wells, five pumps / booster stations, nine storage tanks at seven locations, a water treatment plant, approximately 35 miles of transmission and distribution lines, approximately 182 hydrants and an office building at 388 Blohm Avenue. The current replacement value of these assets, plus the meters and laterals for each connection, is estimated at \$31 million.

During 2018, the District produced approximately 98,000,000 gallons of water – an average of approximately 264,000 gallons per day. During the peak months of July, August September and October, water deliveries are approximately 40

percent higher than average (approximately 373,000 gallons per day).

Annual average daily use by single family customers was approximately 260 gallons per day (approximately 7,860 gallons per month). Average monthly use by single family customers varies from approximately 5,000 gallons during the winter months to over 12,000 gallons at the peak of summer.

## Impact of Updated Cost of Service Allocation Methodology

Cost allocation methodology refers to the allocation of costs among the functions of the water system – providing water “on demand”; providing fire protection capabilities; and administering the operation and maintenance of the system. Cost allocation ensures the allocation of costs among customer classes in relation to the level of water system use by each customer class. The District's current fee structure recovers approximately 40 percent of fee revenues from base rate fees (meter charges) and 60 percent of fee revenues from user fees (based on water use).

Currently, base rate fees for each meter size are based on a factor (an “equivalent meter factor”) relative to the fee for a  $\frac{5}{8} \times \frac{3}{4}$ -inch meter. Recommended base rate fees are developed using factors identical to the current factors.

The current user fees for the Commercial, Institutional and Irrigation customer classes are a uniform rate based on the average use for those customer classes.

The current user fees for the Single family and Multiple Family customer classes are based on the combined peak month and peak day characteristics of those two customer classes. In 2018, the peak month to average annual water use ratio was approximately 1.7 and the peak day to average annual water use ratio was approximately 2.8. Current user fees (in \$/CCF) are \$3.90 for Tier 1 water use, \$6.54 for Tier 2 water use and \$9.09 for Tier 3 water use – yielding ratios of 1.0:1.7:2.3 for each tier water use fee relative to the Tier 1 use fee. Recommended water use fees for the Single family and Multiple Family customer classes are developed using ratios very close to the current ratios.

The recommended cost allocation structure has two major differences from the current structure. First, the recommended water user fees for nonresidential customer classes (Commercial, Institutional and Irrigation) and for Bulk water use (through construction meters) are the same uniform rate based on the average cost of water use for those customer classes. Currently, the uniform water use fee for Bulk water is approximately six percent less than the uniform water use fee for nonresidential customer classes.

Second, the tier breaks for Single Family and Multi Family customer classes are changed to recover approximately the same amount of revenue from water use in each tier as was projected in the current rate structure.

## Summary of Projected Revenues and Expenditures

The District has three main types of expenditures – operating, capital and debt service. The District has two, primary sources of revenues – charges for services, which yield approximately 93 percent of revenues, and tax receipts, which yield approximately 6 percent of revenues.

Projected expenditures between FY20 and FY 24 total approximately \$7,435,000. The majority of expenditures (\$4,925,000) are for operating expenses. The remaining \$2,510,000 are for debt service, capital projects and capital reserves.

The projected expenditures should enable the District to accomplish the following:

- Meet or exceed the minimum operating reserve target of 60 days of operating expenses
- Service the Municipal Finance Corporation loan with maturity dates in 2021 and 2030
- Expend \$1,334,000 for capital projects during FY20 – FY24
- Direct \$550,000 to capital reserves during FY20 – FY24

FY19 budgeted revenues and expenditures and projections for FY20 – FY25 are shown in the table below.

Table ES-2. Summary of Projected Revenues and Expenditures								
Item	Budget	Projected Five-Year Rate Plan					Projected FY25	Projected FY20 - FY24
	FY19	FY20	FY21	FY22	FY23	FY24		
<b>Revenues</b>								
Operating	1,212,400	1,222,500	1,293,700	1,363,200	1,433,000	1,503,800	1,534,100	6,816,200
Non-Operating	85,000	85,000	85,000	85,000	85,000	85,000	85,000	425,000
Capacity Charges	13,300	12,000	12,000	12,000	12,000	12,000	12,000	60,000
<b>Total</b>	<b>1,310,700</b>	<b>1,319,500</b>	<b>1,390,700</b>	<b>1,460,200</b>	<b>1,530,000</b>	<b>1,600,800</b>	<b>1,631,100</b>	<b>7,301,200</b>
Annual Change		8,800	71,200	69,500	69,800	70,800	30,300	
% Annual change		1%	5%	5%	5%	5%	2%	
<b>Expenses</b>								
Operating	897,000	927,700	955,500	984,200	1,013,800	1,044,200	1,075,500	4,925,400
Debt Service	147,300	147,300	147,300	110,400	110,400	110,400	110,400	625,800
Capital Projects	153,000	174,000	405,000	405,000	275,000	75,000	650,000	1,334,000
Capital Emergency Reserve	0	80,000	80,000	80,000	80,000	80,000	80,000	400,000
Replacement Reserve	0	0	0	50,000	50,000	50,000	50,000	150,000
<b>Total</b>	<b>1,197,300</b>	<b>1,329,000</b>	<b>1,587,800</b>	<b>1,629,600</b>	<b>1,529,200</b>	<b>1,359,600</b>	<b>1,965,900</b>	<b>7,435,200</b>
Annual Change		131,700	258,800	41,800	(100,400)	(169,600)	606,300	
% Annual change		11%	19%	3%	-6%	-11%	45%	

## Summary of Projected Water Deliveries

For any water utility, accurately projecting the amount of water deliveries (sales) is of paramount importance. Projections of the amount of water deliveries are used to develop water use fees, project revenues from water use fees and project customer bills.

Water use projections are based mainly upon the net impact of two variables: 1) change in use due to changes in the number of metered accounts; and 2) decrease in use due to conservation. Water use projections are based on a percent reduction from water use for 2018.

Reductions are projected to be approximately 2.8 percent for 2019 and approximately 2.4 percent per year during 2020 - 2025. No new water connections are expected from 2019 - 2025. Although there may be new connections, the numbers will be so few that they will not materially influence the study findings.

Historic and projected metered water deliveries, by customer class, are shown in the figure below for 2010 - 2025.

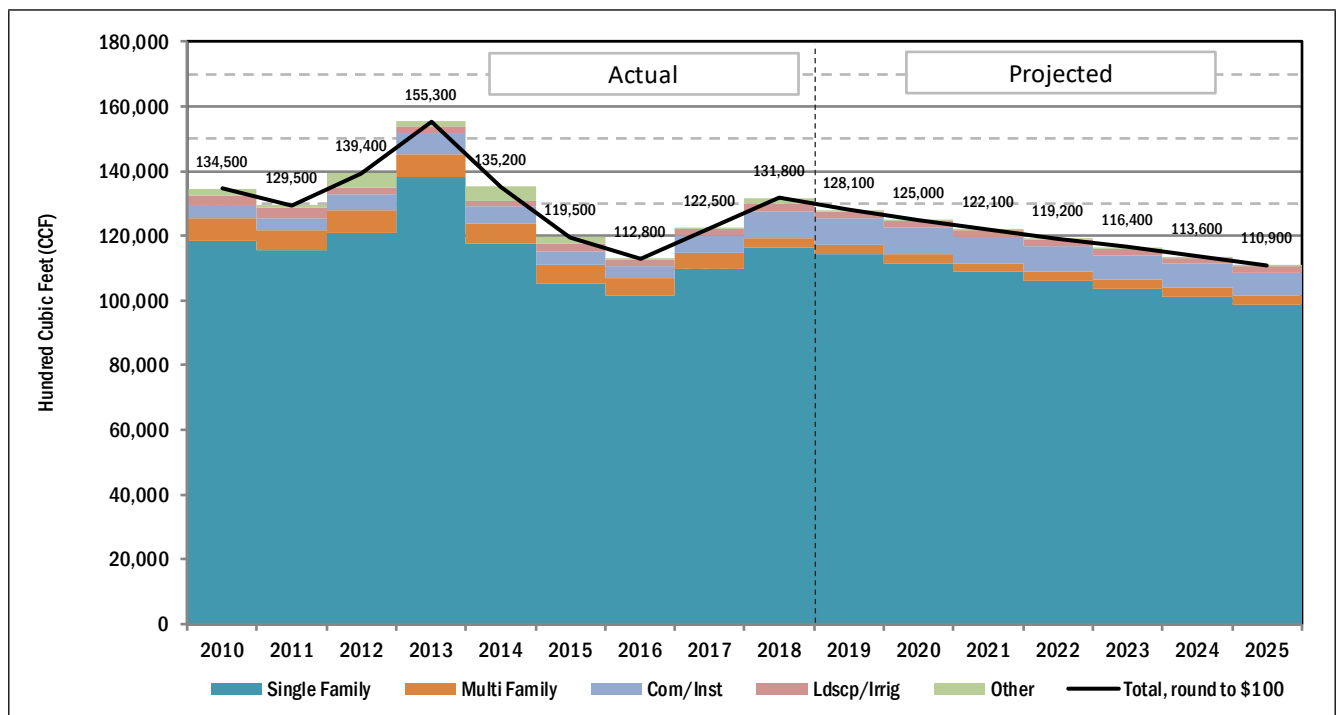


Figure ES-1. Comparison of Historic and Projected Metered Water Deliveries

## Recommended Water Fees

Recommended water fees to be listed in the Proposition 218 Notice of Public Hearing are shown in the table below.

Table ES-3. Recommended Water Fees											
Fee Category	Current FY19	Recommended Five-Year Rate Plan					Annual Percent Increases				
		FY20	FY21	FY22	FY23	FY24	FY20	FY21	FY22	FY23	FY24
<i>effective date &gt;</i>	<i>1-Jul-2018</i>	<i>1-Oct-2019</i>	<i>1-Jul-2020</i>	<i>1-Jul-2021</i>	<i>1-Jul-2022</i>	<i>1-Jul-2023</i>					
<b>Base Rate Fees, \$/ month</b>											
<b>Meter Size</b>											
5/8 x 3/4-inch	\$40.00	\$40.60	\$43.00	\$45.30	\$47.60	\$50.00	2%	6%	5%	5%	5%
1-inch	\$96	\$96	\$101	\$107	\$112	\$118	0%	5%	6%	5%	5%
1½-inch	\$189	\$188	\$198	\$209	\$220	\$231	-1%	5%	6%	5%	5%
2-inch	\$301	\$298	\$315	\$332	\$349	\$366	-1%	6%	5%	5%	5%
3-inch	\$655	\$647	\$684	\$721	\$758	\$795	-1%	6%	5%	5%	5%
4-inch	\$1,121	\$1,106	\$1,170	\$1,233	\$1,297	\$1,360	-1%	6%	5%	5%	5%
6-inch	\$2,330	\$2,300	\$2,430	\$2,560	\$2,700	\$2,830	-1%	6%	5%	5%	5%
Bulk Service	\$96	\$96	\$101	\$107	\$112	\$118	0%	5%	6%	5%	5%
<b>Water Use Rates, \$/CCF</b>											
Com/Inst/Ldsp/Bulk Service	\$6.07	\$6.06	\$6.57	\$7.09	\$7.64	\$8.22	0%	8%	8%	8%	8%
<b>Single/Multi Family</b>											
Tier 1	\$3.90	\$3.97	\$4.30	\$4.64	\$5.00	\$5.37	2%	8%	8%	8%	7%
Tier 2	\$6.54	\$6.70	\$7.26	\$7.84	\$8.44	\$9.06	2%	8%	8%	8%	7%
Tier 3	\$9.09	\$9.10	\$9.86	\$10.64	\$11.46	\$12.31	0%	8%	8%	8%	7%
<b>Water Use Tier Breaks, CCF</b>											
Single/Multi Family	<i>Current</i>	<i>Recommended</i>	<i>Recommended</i>	<i>Recommended</i>	<i>Recommended</i>	<i>Recommended</i>					
Tier 1	<i>0-8</i>	<i>0-6</i>	<i>0-6</i>	<i>0-6</i>	<i>0-6</i>	<i>0-6</i>					
Tier 2	<i>9-30</i>	<i>7-20</i>	<i>7-20</i>	<i>7-20</i>	<i>7-20</i>	<i>7-20</i>					
Tier 3	<i>&gt;30</i>	<i>&gt;20</i>	<i>&gt;20</i>	<i>&gt;20</i>	<i>&gt;20</i>	<i>&gt;20</i>					

## Historical and Projected Single Family Monthly Bills

Historical and projected Single Family monthly bills are shown in the figure below. Monthly bills do not include the PVWMA surcharge.

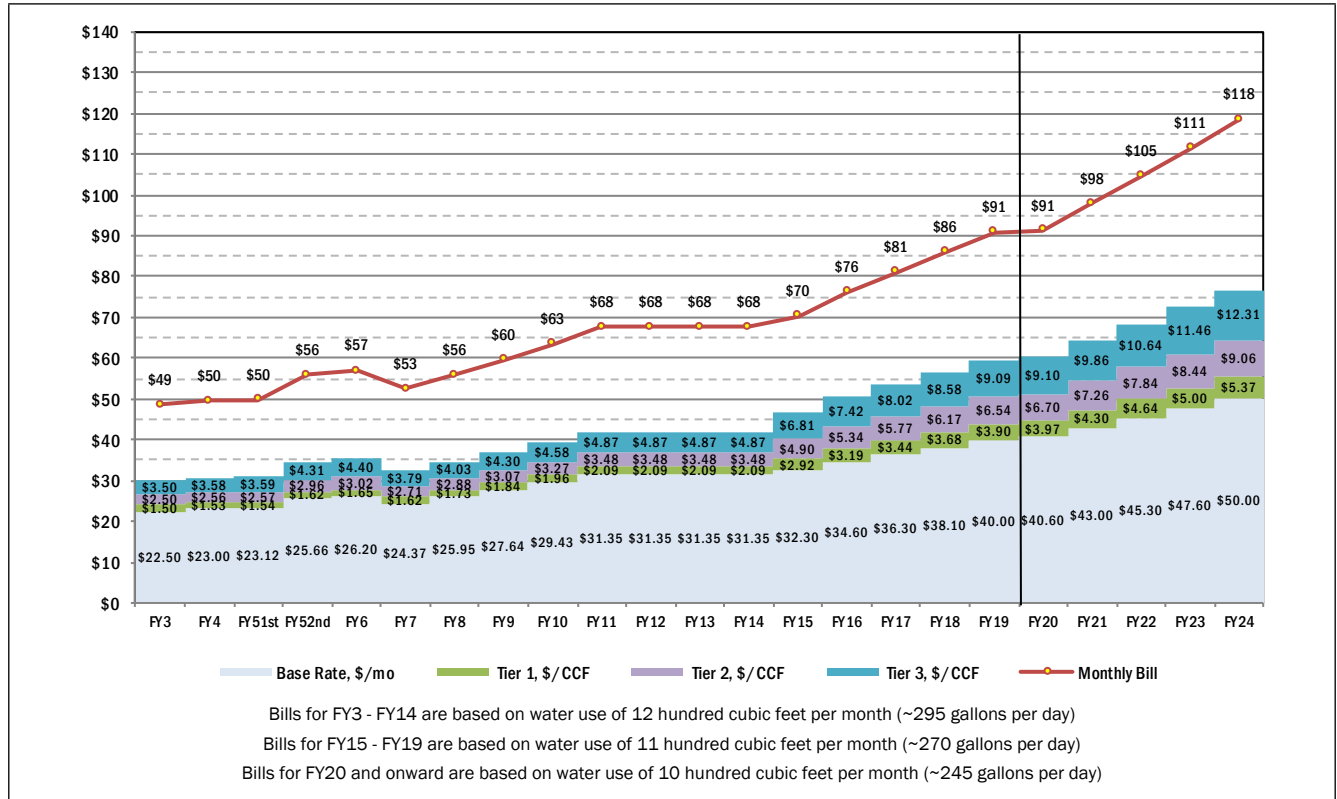


Figure ES-2. Historic and Projected Single Family Monthly Water Bills

## Recommended Capacity Charges

Recommended water capacity charges for 2020 are shown in the table below. It is recommended that the District escalate capacity charges using the *Engineering News Record 20-City Construction Cost Index*.

Table ES-4. Recommended Water Capacity Charges		
Agency	Meter Size	Charge
Watsonville	¾-inch	\$3,823
Pajaro/Sunny Mesa Community Services District	⅝ and ¾-inch	\$6,970
San Juan Bautista	⅝, ¾ or 1-inch	\$8,545
San Lorenzo Valley Water District	⅝ and ¾-inch	\$10,577
Sunnyslope Water District	⅝, ¾ or 1-inch	\$10,975
Aromas Water District, Current	⅝ x ¾-inch	\$13,302
<b>Aromas Water District, Recommended</b>	<b>⅝ x ¾-inch</b>	<b>\$13,940</b>

## Section 1

# Introduction

The District's water rates are intended to recover revenues sufficient to adequately fund water system operations, maintenance, and capital replacement expenditures, while keeping rates as low as possible and maintaining a prudent level of reserves. Capacity charges are a charge to pay for a prorated "buy-in" to facilities in existence at the time a charge is imposed.

## 1.1 Organization of the Report

This report is divided into six sections. This introduction provides an overview of the study objectives, rate setting process and the sources of data used in preparation of the report.

Section 2 discusses customer characteristics.

Section 3 describes the development of water rates.

Section 4 describes the development of capacity charges.

Section 5 describes the impact of changes in rates and charges on existing and new customers.

Section 6 describes the limitations of the study document.

## 1.2 Overview of Rate Setting Process

Rate studies classically have three categories of technical analysis – the development of revenue to be recovered from rates, the allocation of costs among functional cost categories (cost-of-service analysis) and the design of a rate structure. An overview of the rate-setting analytical steps is shown in Figure 1-1.

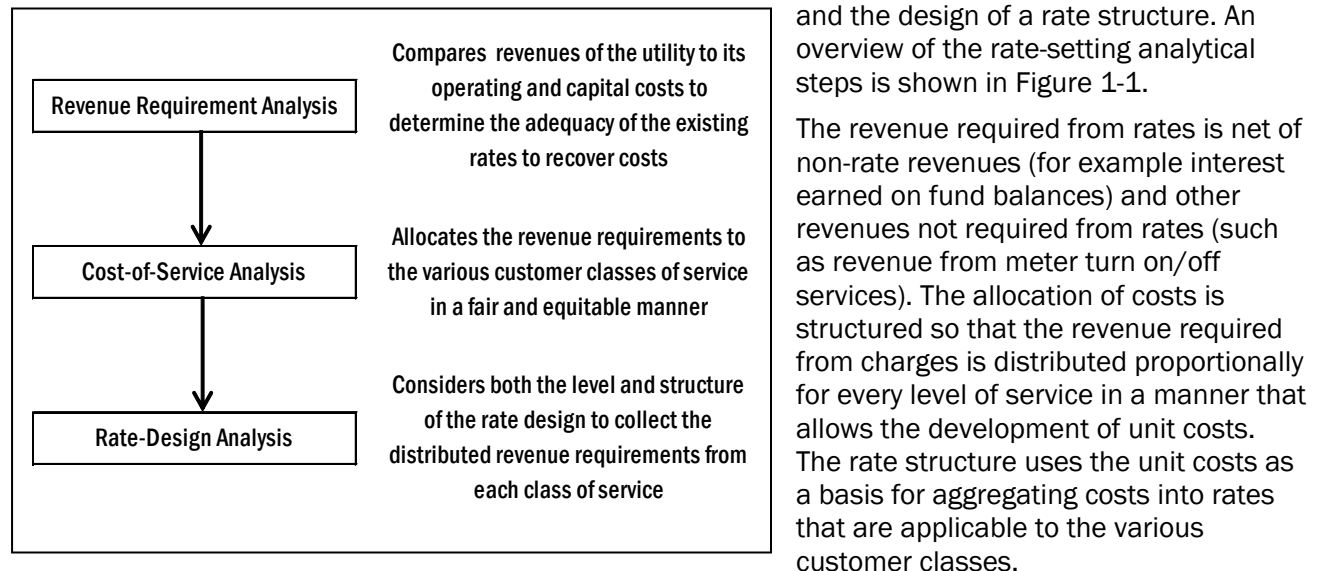


Figure 1-1. Overview of Rate Setting Analytical Steps

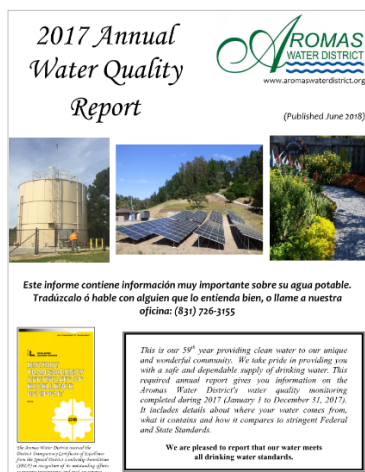


Information and data for the development of water rates and capacity charges include a number of documents provided by the District. The list of documents, and the key information and data from each used in this study, are summarized below.

### ***Aromas Water District Revised 2018-19 Annual Budget***

Prior to the start of FY19, the District adopted its annual budget. At its January 2019 Board meeting, the District Board adopted a mid-year budget revision. The revised budget is used in this study as the basis for projections of expenses and non-rate revenues for subsequent fiscal years.

### ***Aromas Water District 2017 Annual Water Quality Report***



This report provides information on the Aromas Water District water quality monitoring done during the year 2017. It includes details about where the District's water comes from, what it contains, and how it compares to State Standards. This report shows the results of testing for the period of January 1 - December 31, 2017.

The report also includes a message from the General Manager, statistics about the source of water supply and average water use, and information about water meters and outdoor water conservation tips.

### ***Aromas Water District Financial Statements and Supplementary Information 2018***

The Financial Statements provide discussion and analysis of the District financial performance and financial activities for the year ended June 30, 2018. The District presents a balance sheet; statements of revenues, expenses and changes in net position; and statements of cash flows.

### ***Aromas Water District Financial Reserves Policy***

During January 2014, the District passed Resolution 2014-1 adopting a Financial Reserves Policy. The purpose of the policy is to ensure the stability of the mission, programs, employment, and ongoing operations of the organization and to provide a secure source of internal funds for organization priorities such as building repair and improvement, capital projects, emergencies, program opportunity, and capacity building. The policy describes three types of reserves: Operating Reserve, Capital Emergency Reserve and Capital Funding Reserve. The policy states that the reserve funds will be funded with surplus unrestricted operating funds.

### ***Customer Billing Data***

The District provided a data base listing monthly water use for each metered account, for the time period February 2018 through January 2019 (12 months). Each account record had descriptive information of the account's meter size and customer class.

### ***Test Requirements for New, Rebuilt, and Repaired Cold-Water Meters***

The American Water Works Association publishes a manual, *M6 Water Meters - Selection, Installation, Testing and Maintenance*, (2012 Fifth Edition), that lists test requirements for new, rebuilt, and repaired cold-water meters. The test requirements are expressed in terms of a maximum flow rate for meters of various sized and types (displacement meters, Class I turbine meters, propeller meters, etc.).



## 1.3 Rate-Making Objectives

There are numerous rate-making objectives that must be considered when developing rates and rate structures.

- **Revenue sufficiency.** Generate sufficient revenue to fund operating and capital expenditures and maintain adequate reserves.
- **Revenue stability.** Recover revenue from base and commodity charges that will cover all expenditures.
- **Administrative effort.** Enable implementation and ongoing administration, including monitoring and updating.
- **Affordability.** Be affordable while maintaining the sound financial position of the enterprise.
- **Customer understanding.** Be as simple as possible to facilitate customer understanding and acceptance.
- **Fairness.** Provide for each customer class to pay its proportionate share of the required revenue in compliance with legal rate-making requirements.

## 1.4 Current Water Rates and Capacity Charges

Ordinance 72 sets forth Rules, Regulations and Charges for Water Service applicable to all water delivered by the District. Definitions of the various rates from Ordinance 72 that are evaluated as part of this study are included in this section along with the current values for each set of rates.

**Base Rate Fee.** A “base rate” is a fixed monthly fee that meets a portion of the estimated fixed cost to provide service to any existing meter, including but not limited to inspection, maintenance, accounting, meter reading and billing services for that water connection and for the provision of fire suppression capacity to that connection location. A base rate fee is based primarily on the number and size of meters installed.

**Water Use Fee.** A “water use charge” is a fee imposed to pay for water actually used by the property in question. A water use charge is a commodity charge based primarily on the amount consumed. Note that the Equivalent Meter Ratio is used to expand the range of each tier to compensate for greater water use as meter size increases.

**Bulk Service Fees.** The term “bulk service” means water supplies obtained from an Aromas Water District-designated bulk water station, or through a hydrant meter. All other service shall be deemed a “point of service” customer where water is delivered through a permanent and stationary meter. No “point of service” delivery is deemed a “bulk service” unless approved as an exception to this provision by the Board of Directors.

**Pajaro Valley Water Management Agency Surcharge.** The term “Pajaro Valley Water Management Agency surcharge” refers to a fee or charge imposed as a separate line item and additional charge to pay, pro-rata, for fees imposed by the Pajaro Valley Water Management Agency as they relate to each water service. The projected FY20 Pajaro Valley Water Management Agency surcharge is \$246 per acre foot of water production by the District – approximately \$0.005647 per cf (cubic foot). The District, in turn, charges \$0.000053 per cf of water use to account for water production that does not produce revenue. The total surcharge on District customer bills is \$0.0057 per cf. The surcharge amount is not evaluated as part of this study. The surcharge may appear on the notice of public hearing along with the other rates and charges evaluated as part of this study.

**Capacity Charge.** A “capacity charge” means a charge to pay for a prorata “buy-in” for facilities in existence at the time a charge is imposed. The capacity charge is based upon the meter size of the new connection. Any additional expense incurred directly as a result of a new customer connecting to the District system (e.g., main extensions, booster systems, etc.) is the responsibility of the new customer and is in addition to the capacity charge.

Water installation fees are not evaluated as part of this study. The term “water installation fee” refers to a charge to reimburse the District for all actual and necessary costs incurred, in the sole discretion of the District, in order to install a specific connection, including but not limited to labor and material expenses required to acquire and install pipes, mains, pumps and storage facilities and rights of way intended to serve that connection or set of new connections. The “water installation fee” includes administrative, legal, and contractor and sub-contractor oversight costs, and any other costs that may be associated with extending service to a new connection.

## Section 2

# Customer Characteristics

The purpose of this section is to summarize the number of connections to the water system and the amount of water delivered (metered customer water use). The data used in this section comes from well production reports, the District's billing invoices and the American Water Works Association.

### 2.1 Historic Water Deliveries

Historic water deliveries for the 13 years ending in 2018 are shown in the table below. The historic data illustrates the unpredictable variation in deliveries that should be expected. For example, water deliveries declined approximately 20 percent from 2008 to 2011 before increasing to a peak in 2013 and then declining approximately 27 percent from 2013 to 2016. The final decline was based on the State's requirement to reduce water use because of the drought.

Table 2-1. Historic Water Deliveries, CCF													
All Values in CCF	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total	150,348	159,931	161,014	152,689	134,541	129,458	139,376	155,278	135,170	119,494	112,768	122,521	131,791
Single Family	133,330	141,782	143,086	135,242	118,440	115,696	121,110	138,270	117,533	105,140	101,503	110,003	116,198
Multi Family	8,174	8,159	8,891	8,443	7,167	5,891	6,801	6,806	6,334	5,874	5,495	4,682	2,963
Com/Inst	3,645	5,534	5,669	4,984	4,018	3,829	5,006	6,482	5,255	4,174	3,815	5,325	8,398
Ldsp/Irig	2,441	3,820	2,855	1,729	2,848	3,131	1,957	2,318	1,671	2,222	1,890	2,007	2,316
Other	306	636	513	2,291	2,068	911	4,502	1,402	4,377	2,084	65	504	1,916

The figure below shows the tabular data from Table 2-1.

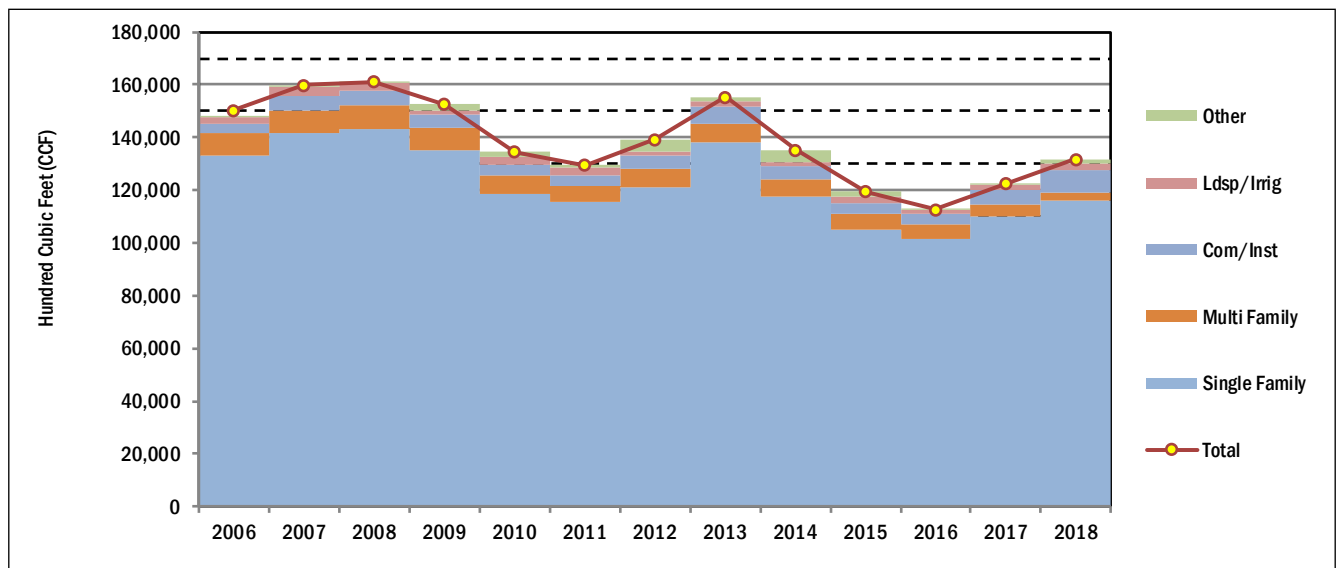


Figure 2-1. Historic Water Deliveries, CCF

Metered water delivery projections for 2019 and onward are required to develop water user fees, estimate revenues from user fees and estimate average customer bills. Water use projections are based mainly upon the decrease in use due to conservation. Water use projections are based on a percent reduction from water use for 2018.

Reductions are projected to be approximately 2.8 percent for 2019 and approximately 2.4 percent per year during 2020 - 2025. No new water connections are expected from 2019 - 2025. Although there may be new connections, the numbers will be so few that they will not materially influence study findings.

Historic and projected metered water deliveries, by customer class, is shown in the figure below for 2010 - 2025.

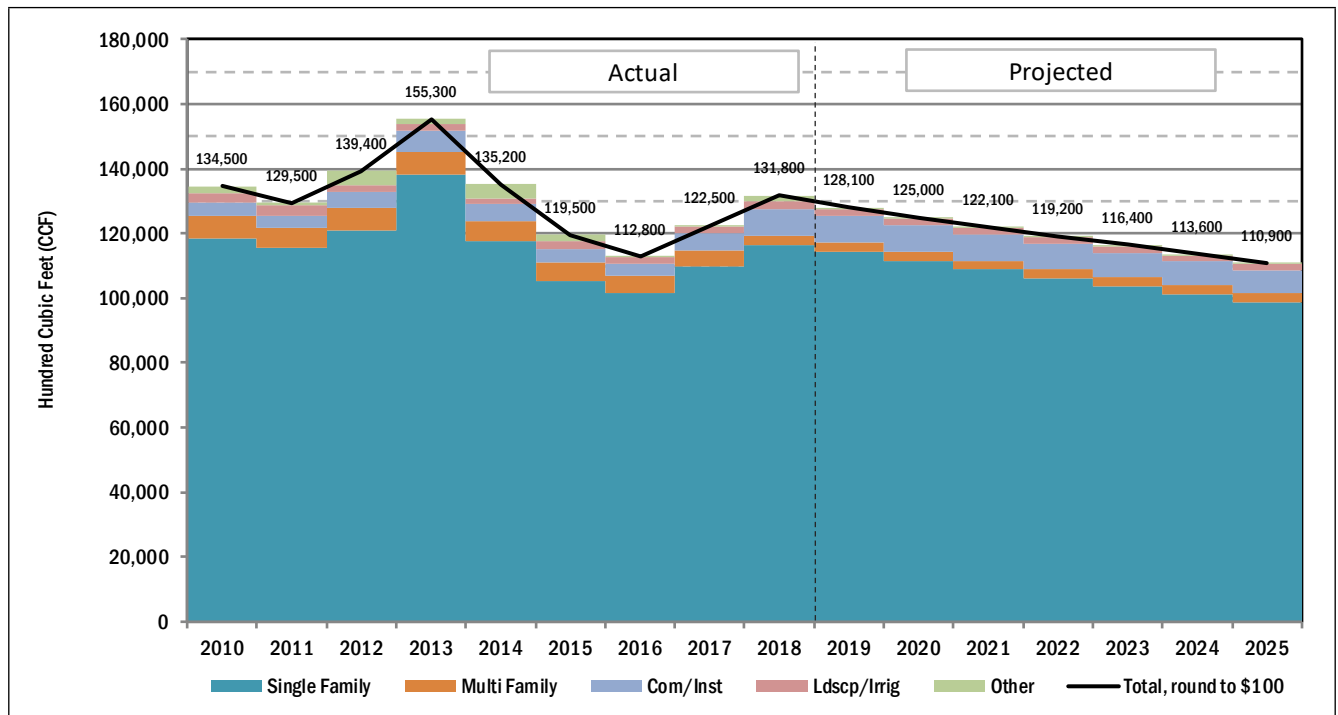


Figure 2-2. Historic and Projected Metered Water Use by Customer Class

## 2.2 Customer Water Use

Average metered water deliveries by customer class and month for 2018 are shown in Figure 2-3 in units of CCF. The chart on the left hand of the figure shows usage in CCF; the chart on the right hand of the figure shows usage for each customer class as a percent of total usage in each month.

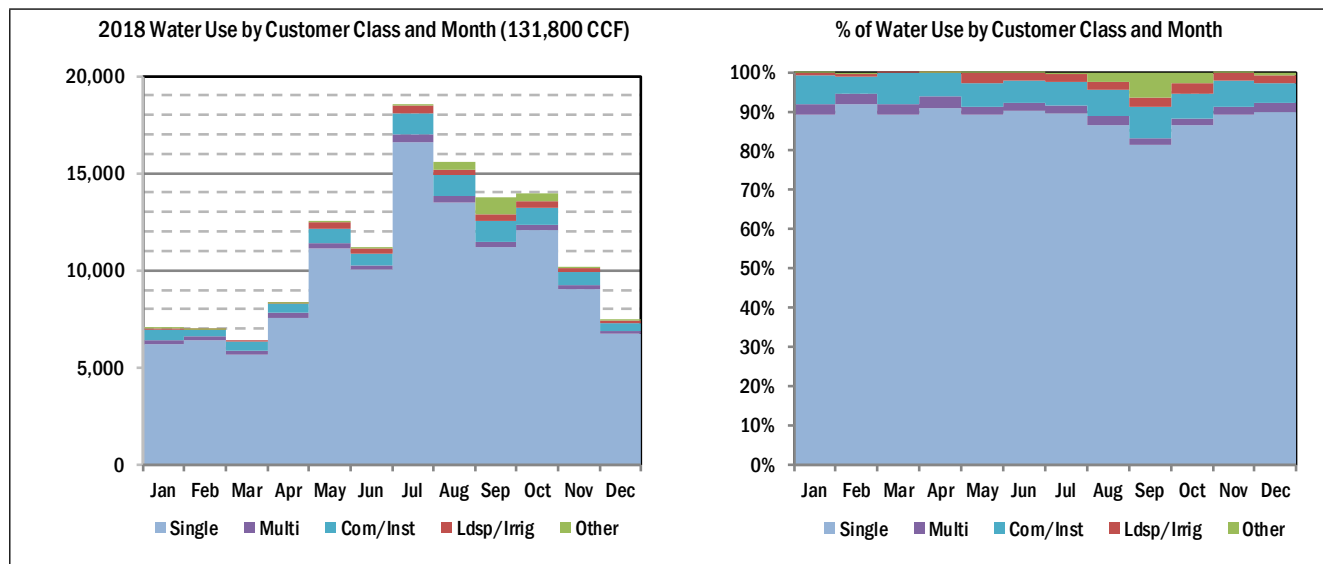


Figure 2-3. 2018 Water Use by Customer Class and as a Percent of Total Use

## 2.3 Water Meter Equivalency Factors

Base Rate fees for meter sizes greater than 5/8 x 3/4-inch are based, in part, on an "equivalency factor" that relates the design maximum flow capacity of a meter (in gallons per minute, gpm) to that of a standard 5/8 x 3/4-inch meter. The Maximum Flow Rates for 5/8 x 3/4-inch and 1-inch meters are based on the manufacturer's Specification Sheet for the most prevalent meter make and model installed by the District. Flow capacities for larger meters in use by the District are published by the American Water Works Association (AWWA). The water meter maximum flow capacity assignments used in this study and the calculation of equivalency factors are shown in the table below.

Table 2-2. Water Lateral and Meter Equivalency Factors				
Meter Size	Meter Type	AWWA M6 5th Edition (2012)		
		AWWA Class	Maximum Flow Rate	5/8 x 3/4-inch Equiv. Factor
5/8 x 3/4-inch	Multi-Jet	C708	20 gpm	1.0
1.00-inch	Multi-Jet	C708	50 gpm	2.5
1.50-inch	Class I Turbine	C701	100 gpm	5.0
2.00-inch	Class I Turbine	C701	160 gpm	8.0
3.00-inch	Class I Turbine	C701	350 gpm	17.5
4.00-inch	Class I Turbine	C701	600 gpm	30.0
6.00-inch	Class I Turbine	C701	1,250 gpm	62.5

## 2.4 Evaluation of Use by Tier and Customer Class

Water use by tier and customer class for 2018 are shown below in Figure 2-4. The chart on the left side of the figure shows usage in CCF; the chart on the right side of the figure shows usage for each customer class as a percent of total usage. The percent of total system-wide usage is 53% in Tier 1, 32% in Tier 2 and 15% in Tier 3. NOTE THAT ONLY SINGLE FAMILY AND MULTIPLE FAMILY USE IS BILLED AT DIFFERENT RATES; WATER USE FOR THE OTHER CUSTOMER CLASSES IS BILLED AT A UNIFORM RATE. Water use by tiers for all customer classes is shown to demonstrate why tiered rates are applied to the Single Family and Multiple Family customer classes and uniform rates are applied to other customer classes.

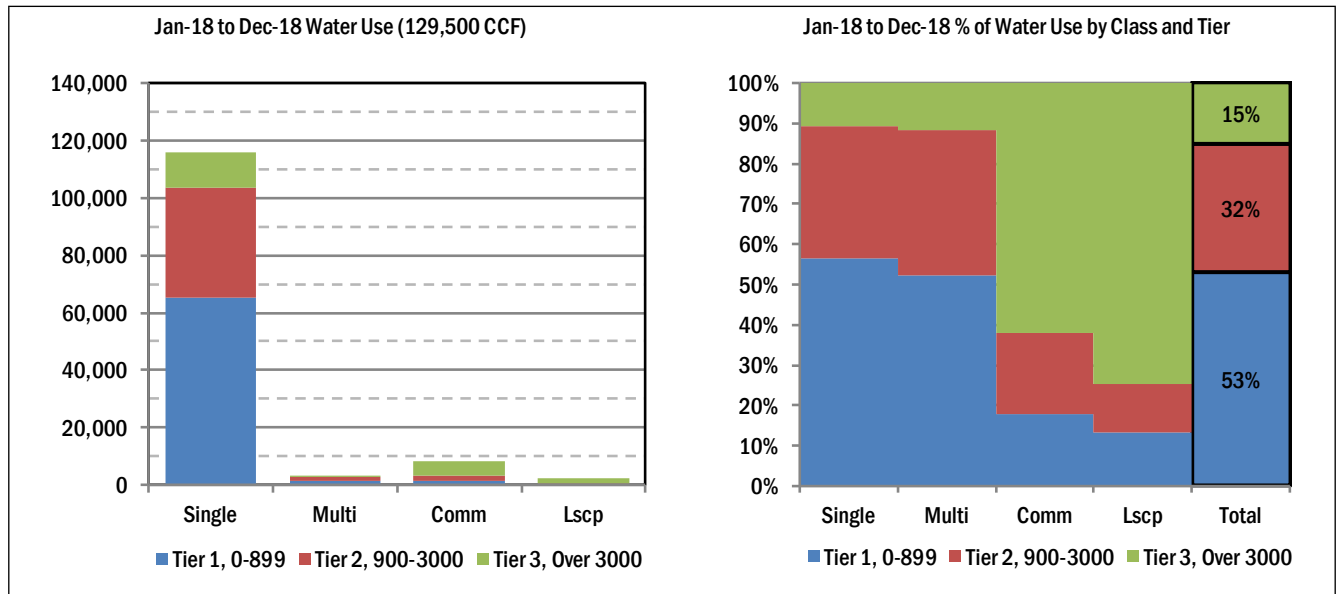


Figure 2-4. 2018 Water Use by Tier and Customer Class and as a Percent of Total Use

Note the differences in Tier 3 water use between the residential (Single Family and Multiple Family) customer classes (approximately 11 percent), the Commercial/Institutional customer class (approximately 62 percent), and the Landscape customer class (approximately 75 percent).

## 2.5 Current and Recommended Water Use Tier Ranges

Currently, there are three tiers of water use, each with its own fee, applicable to the Single Family and Multiple Family customer classes. All other customer classes pay a uniform rate for all levels of water use. Current water use fees and tiers are shown in the table below.

Customer Class	Rate, \$/cf	Use Range, cf
<b>Single and Multiple Family</b>		
Tier 1	\$0.0390	0 - 8
Tier 2	\$0.0654	9- 30
Tier 3	\$0.0909	> 30
All Other Classes	\$0.0607	all use
Bulk Meters	\$0.0572	all use

cf = cubic foot, equal to approximately 7.48 gallons

### 2.5.1 Nonresidential Water Use Fees

The District has three nonresidential customer classes:

- Commercial/Institutional
- Irrigation (Landscape)
- Other
- Bulk (hydrant meters)

There are 26 Commercial/Institutional accounts and eight Landscape Irrigation accounts. Except for six connections, all meter sizes are  $\frac{5}{8}$  x  $\frac{3}{4}$ -inch. Water use by these accounts is approximately eight percent of total water use. Water deliveries to the "Other" customer class are metered but not billed (and do not yield any revenue).

A single fee for all levels of water use is recommended for Commercial/Institutional, Landscape Irrigation and Bulk customer classes. A single fee for nonresidential customer classes is common. Nonresidential customer classes are mostly businesses or institutions with water demand that is dictated by their customers or service demands. A single fee for all levels of water use, complimented with conservation in response to the level of the fee, should result in equity with residential customers in terms of cost allocation between the two groups of customers.

### 2.5.2 Residential Water Use Fees

The District has two residential customer classes:

- Single Family
- Multi Family

The current tier ranges were developed in 2014, prior to mandatory conservation requirements during the extreme drought, and may not reflect the current needs of the District in terms of allocation of costs within the residential customer class, revenue stability, and conservation goals. Recommended tier ranges for residential customers were developed to maximize each of the competing needs. Recommended tier water use fees for residential customers are developed in a later section.

**Tier 1 Range.** Average, winter water use during 2018 was used to identify a level of water use which could be used as the upper end of the Tier 1 range. Winter water use is the average water per account use during February and March (two months). As shown in the figure below, winter water use during 2018 was approximately 6,050 CCF equal to approximately 6.6 CCF per month per Single Family connection. Average winter water use per Single Family connection in 2017 was 5.9 CCF per month and in 2016 it was 6.1 CCF per month.

The recommended Tier 1 range is 0 – 6 CCF per month for residential connections (which includes usage up to 600 cf). In 2018, Tier 1 water use based on the recommended tier break would include approximately 48 percent of all Single Family water use.

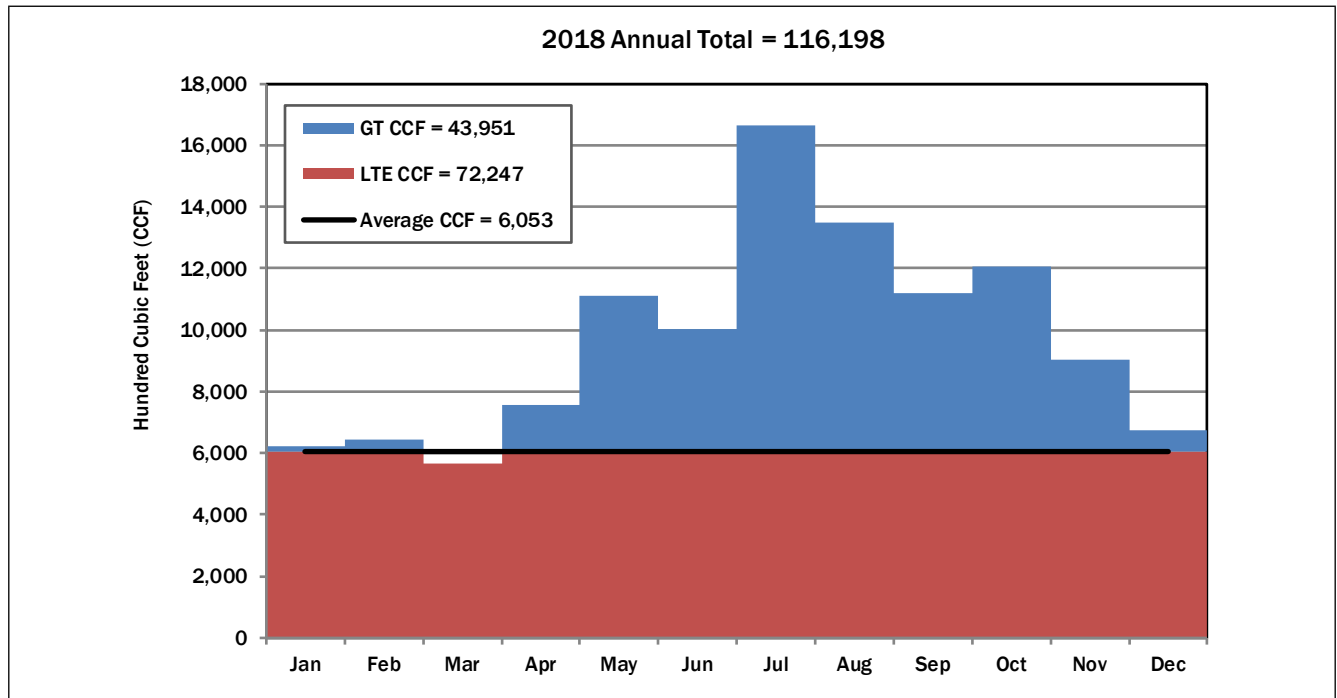
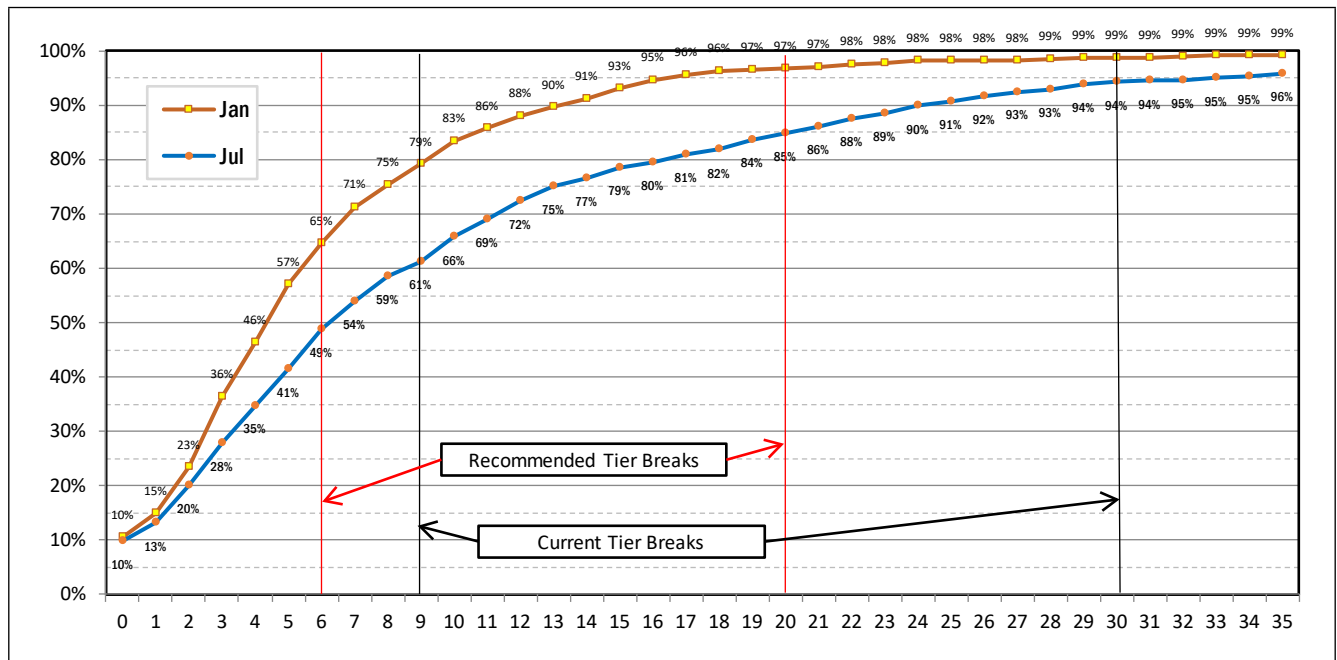


Figure 2-5. 2018 Water Use for Single Family Customers



**Tier 2 Range.** With a recommended Tier 1 range of 0 – 6 CCF for Single Family connections, the next consideration was the top range for Tier 2. Obviously, the choice for the top range of Tier 2 would simultaneously define the range for Tier 3 (all water use above Tier 2). The current Tier 2 range is 9 – 30 CCF.

The recommended Tier 2 range was developed with a consideration of water use during the months of highest and lowest use. For the District, these months are January (lowest water use) and July (highest water use). As shown in the figure below, approximately 97 percent of all Single Family water bills for January have water use less than or equal to 20 CCF. In July, approximately 85 percent of all Single Family water bills have water use less than or equal to 20 CCF. The recommended Tier 2 range is 6 – 20 CCF.



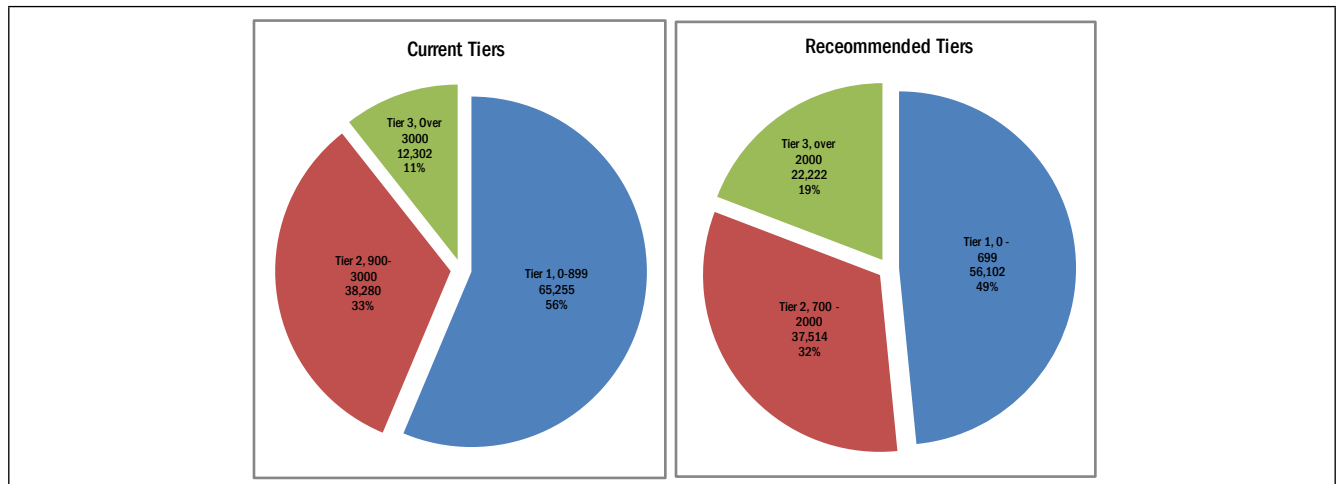
**Figure 2-6. Single Family Water Use Profiles for and February 2018 and July 2018**

**Tier 3 Range.** As noted in the previous section, the choice for the top range of Tier 2 would simultaneously define the range for Tier 3 (all water use above Tier 2). The current Tier 3 range, all use above 30 CCF, includes very little water use – for 2018, approximately 19 percent of all water use. The recommended Tier 3 range is all use above 20 CCF.

**Tier Water Use Summary.** Water Use in the current and recommended tier ranges for residential customer classes is summarized in the figure below. The summary is based on 12 months of water use for the 2018.

The recommended tier ranges should maintain stability of revenue from water use fees in the residential customer class with approximately 81 percent of revenues coming from water use in the lower two tiers.

Water use within the residential customer class is expected to decrease from approximately 10 CCF per month per account to approximately 9 CCF per month per account over a five-year period. Note that even with current water use fees, conservation of one unit of water (1 CCF = 748 gallons = 25 gallons per day) in the Tier 2 range reduces a monthly bill by \$6.54 (about eight percent of an average monthly bill).



**Figure 2-7. Current and Recommended Tier Ranges for the Residential Customer Classes**

## Section 3

# Development of Water Fees

Revenues, expenditures, reserve levels, debt service coverage, and the development of water fees for FY15 – FY 21 is summarized in this section.

### 3.1 Operating Revenues and Expenditures Summary

The District has three main types of expenditures – operating, capital and debt service. The District has two, primary sources of revenues – charges for services, which yield approximately 93 percent of revenues, and tax receipts, which yield approximately 6 percent of revenues.

Projected expenditures between FY20 and FY 24 total approximately \$7,435,000. The majority of expenditures (\$4,925,000) are for operating expenses. The remaining \$2,510,000 are for debt service, capital projects and capital reserves. The projected expenditures should enable the District to accomplish the following:

- Meet or exceed the minimum operating reserve target of 60 days of operating expenses
- Service the Municipal Finance Corporation loan with maturity dates in 2021 and 2030
- Expend \$1,334,000 for capital projects during FY20 – FY24
- Direct \$550,000 to capital reserves during FY20 – FY24

### 3.2 Financial Reserves Policy

During January 2014, the District passed Resolution 2014-1 adopting a Financial Reserves Policy. The purpose of the policy is to ensure the stability of the mission, programs, employment, and ongoing operations of the organization and to provide a secure source of internal funds for District priorities such as building repair and improvement, capital projects, emergencies, program opportunity, and capacity building. The policy describes three types of reserves: Operating Reserve, Capital Emergency Reserve and Capital Funding Reserve. The policy states that the reserve funds will be funded with surplus unrestricted operating funds.

### 3.3 Debt Service Coverage

In 2015, the District refinanced its loan obtained in 2011 from Santa Barbara Bank & Trust, with the Municipal Finance Corporation to refinance \$1,323,721 on a tax-exempt basis and borrowed \$201,966 on a taxable basis. The proceeds of the additional funds were used to acquire and install a solar energy project at the Carpenteria well site. The interest rates on the tax-exempt note and the taxable note are stated at 2.75% and 3.00%, respectively, and mature in 2021 and 2030, respectively. The terms of the notes call for semi-annual debt service payment of principal and interest payable on May 1st and November 1st of each year. The notes are secured by a pledge of and lien on the net revenues of the District's water system.

### 3.4 Projected Capital Improvement Projects

The District plans to continue rehabilitation and repair of its water system. The current (FY19) budget allocates \$153,000 for capital expenditures. Annual projected capital expenditures are shown in the table below for two, five-year periods – FY20 – FY24 and FY25 – FY29. Actual expenditures will vary from projections due to actual construction costs that are greater or less than projected, differences in actual timing and completion of projects and the need to address unplanned projects.

Table 3-1. Planned Capital Improvement Projects														
All Values in \$1,000														
Project Type	Projected Five-Year Rate Plan						Next Five-Year Rate Plan (FY25-FY29)					5-Years	5-Years	10-Years
	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY20-24	FY25-29	FY20-29
Distribution Pipe		25	25	25	25	25	50	50	75	75	75	125	325	450
Transmission Pipe		25	25	25	25	25	50	50	75	75	75	125	325	450
Operations HQ Improvements	15	8										8	0	8
Operations Shop (Marshall Yd)	8		150	150								300	0	300
Pressure Reducing Station - Aimee			150									150	0	150
Pressure Reducing Station - School				150								150	0	150
Booster Station Improvements	10										75	0	75	75
Ballantree Tanks Replacement					150							150	0	150
Tank Improvements	5								75	75		0	150	150
New Water Supply Well							500	500				0	1,000	1,000
Solar/Battery Backup	20	41										41	0	41
XiO Telemetry		30	30	30								90	0	90
Service Meters	25	25	25	25	25	25	25	25	25	25		125	100	225
Vehicles	50				50			50				50	50	100
Rate Study/Financial Plan	20						25					0	25	25
Other		20						20				20	20	40
<b>Total</b>	<b>153</b>	<b>174</b>	<b>405</b>	<b>405</b>	<b>275</b>	<b>75</b>	<b>650</b>	<b>695</b>	<b>250</b>	<b>250</b>	<b>225</b>	<b>1,334</b>	<b>2,070</b>	<b>3,404</b>
All Values in \$1,000														
Summary	Projected Five-Year Rate Plan						Next Five-Year Rate Plan (FY25-FY29)					5-Years	5-Years	10-Years
	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY20-24	FY25-29	FY20-29
Pipe	0	50	50	50	50	50	100	100	150	150	150	250	650	900
Operation Yard/Shop	23	8	150	150	0	0	0	0	0	0	0	308	0	308
Pressure Reducing Stations	10	0	150	150	0	0	0	0	0	0	75	300	75	375
Tanks	5	0	0	0	150	0	0	0	75	75	0	150	150	300
Wells	0	0	0	0	0	0	500	500	0	0	0	0	1,000	1,000
Meters/Telemetry	45	96	55	55	25	25	25	25	25	25	0	256	100	356
Other	70	20	0	0	50	0	25	70	0	0	0	70	95	165
<b>Total</b>	<b>153</b>	<b>174</b>	<b>405</b>	<b>405</b>	<b>275</b>	<b>75</b>	<b>650</b>	<b>695</b>	<b>250</b>	<b>250</b>	<b>225</b>	<b>1,334</b>	<b>2,070</b>	<b>3,404</b>

### 3.5 Projected Operating Fund Cash Flow

Revenues, expenditures, beginning and ending fund balance and target reserve levels are shown in the table below.

Item	Budget FY19	Projected Fiscal Year					Estimated FY25	Five-Years FY20 - FY24
		FY20	FY21	FY22	FY23	FY24		
<b>Operating Revenues</b>								
Charges for Services								
Base Rate	483,700	490,500	519,400	547,200	575,000	604,000	616,100	2,736,100
Water Use	726,600	729,400	771,600	813,200	855,200	896,900	915,100	4,066,300
Total Charges for Services	1,210,300	1,219,900	1,291,000	1,360,400	1,430,200	1,500,900	1,531,200	6,802,400
Bulk Water	2,100	2,600	2,700	2,800	2,800	2,900	2,900	13,800
Total Operating Revenues	1,212,400	1,222,500	1,293,700	1,363,200	1,433,000	1,503,800	1,534,100	6,816,200
<b>Operating Expenses</b>								
Administrative & General	76,100	78,400	80,800	83,200	85,700	88,200	90,900	416,300
Debt Payments	147,300	147,300	147,300	110,400	110,400	110,400	110,400	625,800
Communications	11,200	15,200	15,700	16,200	16,700	17,200	17,700	81,000
Payroll	439,100	452,300	465,900	479,800	494,200	509,100	524,300	2,401,300
Employee Costs	170,800	176,000	181,200	186,700	192,300	198,100	204,000	934,300
Office	22,000	22,700	23,300	24,000	24,800	25,500	26,300	120,300
Operations	106,500	109,700	113,000	116,400	119,900	123,500	127,200	582,500
Power	71,300	73,400	75,600	77,900	80,200	82,600	85,100	389,700
Total Operating Expenses	1,044,300	1,075,000	1,102,800	1,094,600	1,124,200	1,154,600	1,185,900	5,551,200
Operating Income (Loss)	168,100	147,500	190,900	268,600	308,800	349,200	348,200	1,265,000
<b>Non-Operating Revenues (Expenses)</b>								
Tax Receipts	66,000	66,000	66,000	66,000	66,000	66,000	66,000	330,000
Miscellaneous	2,000	2,000	2,000	2,000	2,000	2,000	2,000	10,000
Interest	17,000	17,000	17,000	17,000	17,000	17,000	17,000	85,000
Grants	0	0	0	0	0	0	0	0
Total Non-Operating Revenues	85,000	85,000	85,000	85,000	85,000	85,000	85,000	425,000
Net Income (Loss) Before Transfers	253,100	232,500	275,900	353,600	393,800	434,200	433,200	1,690,000
<b>Transfer to Reserves</b>								
Capital Projects	153,000	174,000	405,000	405,000	275,000	75,000	650,000	1,334,000
Capital Emergency Reserve	0	80,000	80,000	80,000	80,000	80,000	80,000	400,000
Replacement Reserve	0	0	0	50,000	50,000	50,000	50,000	150,000
Total Transfers to Reserves	153,000	254,000	485,000	535,000	405,000	205,000	780,000	1,884,000
Increase (Decrease) in Net Position	100,100	(21,500)	(209,100)	(181,400)	(11,200)	229,200	(346,800)	(194,000)
Beginning Cash Balance, July 1	[1] 1,010,316	1,110,416	1,088,916	879,816	698,416	687,216	916,416	
Ending Balance, June 30	1,110,416	1,088,916	879,816	698,416	687,216	916,416	569,616	
<b>Target Fund Balance</b>								
Minimum Target Ending Balance	171,700	176,700	181,300	179,900	184,800	189,800	194,900	
Maximum Target Ending Balance	515,000	530,100	543,800	539,800	554,400	569,400	584,800	
Amount Over (Under) Minimum Target	938,700	912,200	698,500	518,500	502,400	726,600	374,700	
Amount Over (Under) Maximum Target	595,400	558,800	336,000	158,600	132,800	347,000	(15,200)	
<b>Debt Service Coverage</b>								
Income	1,310,700	1,319,500	1,390,700	1,460,200	1,530,000	1,600,800	1,631,100	
Expenses (less debt service)	897,000	927,700	955,500	984,200	1,013,800	1,044,200	1,075,500	
Net Income	413,700	391,800	435,200	476,000	516,200	556,600	555,600	
Debt Service Principal & Interest	147,300	147,300	147,300	110,400	110,400	110,400	110,400	
Coverage Ratio	2.81	2.66	2.95	4.31	4.68	5.04	5.03	
Amount Over (Under) Coverage	192,750	170,850	214,250	310,400	350,600	391,000	390,000	

**Notes:**

[1] The FY19 value is from the District Annual Financial Report, June 30, 2018, p. 7, cash and cash equivalents. Values for FY20 and onward are calculated.

[2] The District's Financial Reserves Policy targets a minimum unrestricted cash fund balance of 60 days to a maximum of 180 days of annual operation expenses.

### 3.6 Projected Capital Fund Cash Flow

Revenues, expenditures, beginning and ending fund balance and target reserve levels are shown in the table below.

Table 3-3. Capital Fund Cash Flow									
Item	Budget FY19	Projected Fiscal Year					Estimated FY25	Five-Years FY20 - FY24	
		FY20	FY21	FY22	FY23	FY24			
<b>Capital Revenues</b>									
Capacity Charges [1]	13,300	12,000	12,000	12,000	12,000	12,000	12,000	60,000	
<b>Capital Expenses</b>									
Annual capital projects	153,000	174,000	405,000	405,000	275,000	75,000	650,000	1,334,000	
Total Capital Expenses	153,000	174,000	405,000	405,000	275,000	75,000	650,000	1,334,000	
<b>Transfer from Operating</b>									
Capital Projects	153,000	174,000	405,000	405,000	275,000	75,000	650,000	1,334,000	
Capital Emergency Reserve	0	80,000	80,000	80,000	80,000	80,000	80,000	400,000	
Replacement Reserve	0	0	0	50,000	50,000	50,000	50,000	150,000	
<b>Total Transfers from Operating</b>	153,000	254,000	485,000	535,000	405,000	205,000	780,000	1,884,000	
<b>Increase (Decrease) in Net Position</b>	13,300	92,000	92,000	142,000	142,000	142,000	142,000	610,000	
<b>Beginning Cash Balance, July 1</b> [2]	0	13,300	105,300	197,300	339,300	481,300	623,300		
<b>Ending Balance, June 30</b>	13,300	105,300	197,300	339,300	481,300	623,300	765,300		
<b>Target Balance</b> [3]									
Capital Projects Expense/ Reserve	330,700	330,700	330,700	330,700	330,700	330,700	330,700		
Capital Emergency Reserve									
2% of Capital Assets	620,000	638,600	657,800	677,500	697,800	718,700	740,300		
Risk Based	200,000	206,000	212,200	218,600	225,200	232,000	239,000		
<b>Total Target Balance</b>									
2% of Capital Assets	950,700	969,300	988,500	1,008,200	1,028,500	1,049,400	1,071,000		
Risk Based	530,700	536,700	542,900	549,300	555,900	562,700	569,700		
<b>Amount Over (Under) Target</b>									
2% of Capital Assets	(606,700)	(533,300)	(460,500)	(338,200)	(216,500)	(95,400)	25,000		
Risk Based	(186,700)	(100,700)	(14,900)	120,700	256,100	391,300	526,300		

Notes:

[1] Capacity Charges do not include Assessment District revenues.

[2] The FY19 value is zero to reflect the establishment of this fund.

[3] The District's Financial Reserves Policy for Capital Emergency is a minimum of 2% of total assets or a risk-based amount. The estimated replacement cost of the District's capital assets is \$31,000,000 in 2019 dollars. The value for FY20 onward is escalated by 3 percent per year.

Figures showing operating and capital funds cash flow are shown below.

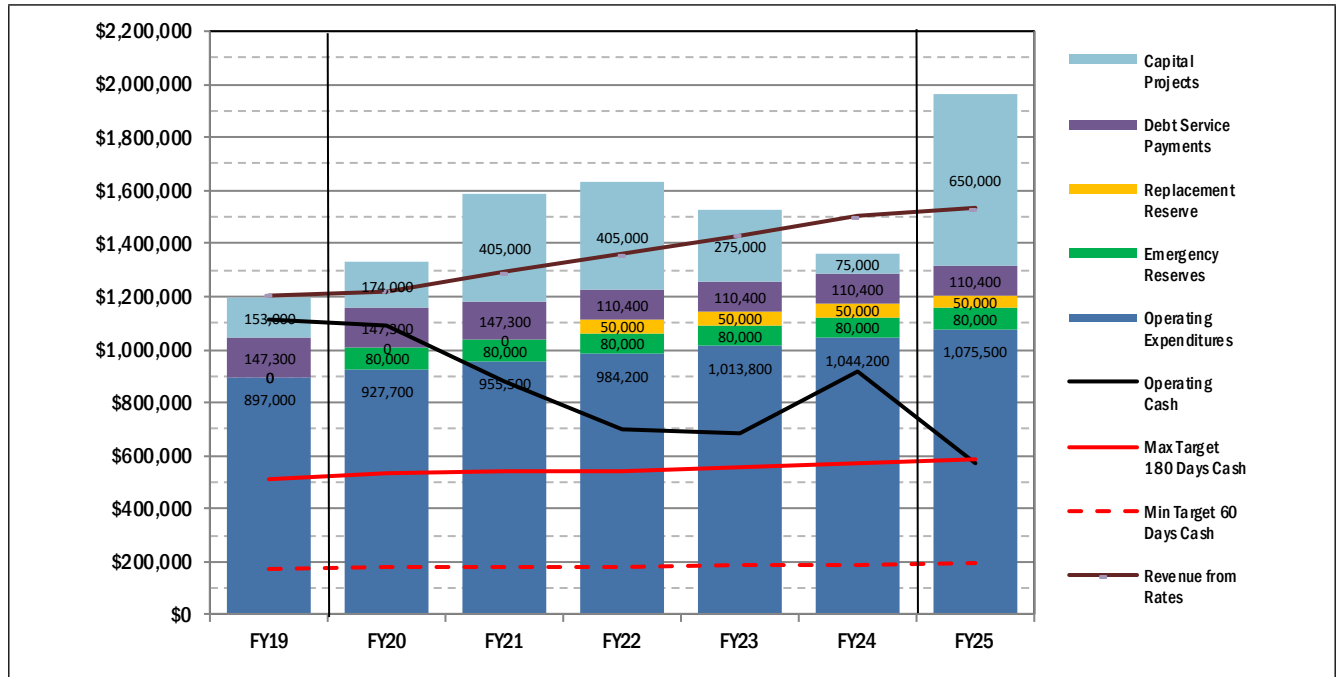


Figure 3-1. Projected Operating Fund Cash Flow

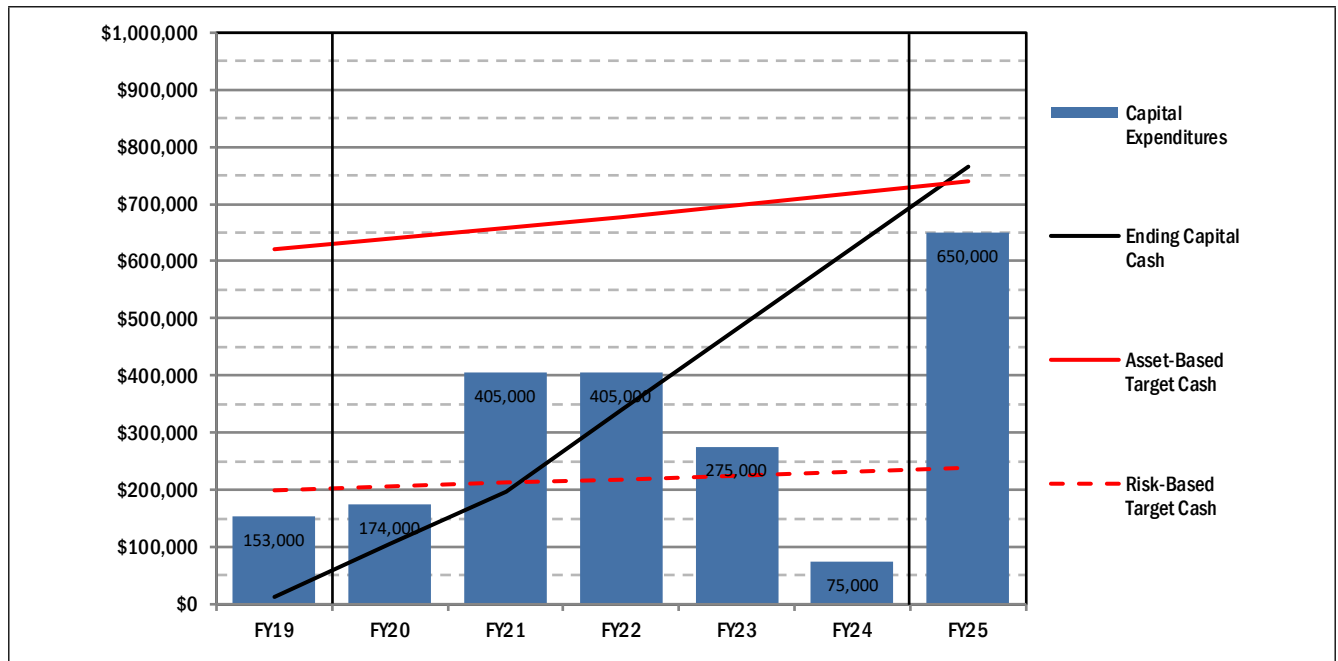


Figure 3-2. Projected Capital Fund Cash Flow

### 3.7 Recommended Water Fees

Recommended water fees are shown in the table below.

Table 3-4. Recommended Water Fees											
Fee Category	Current	Recommended Five-Year Rate Plan					Annual Percent Increases				
	FY19	FY20	FY21	FY22	FY23	FY24	FY20	FY21	FY22	FY23	FY24
<i>effective date &gt;</i>	<i>1-Jul-2018</i>	<i>1-Oct-2019</i>	<i>1-Jul-2020</i>	<i>1-Jul-2021</i>	<i>1-Jul-2022</i>	<i>1-Jul-2023</i>					
<b>Base Rate Fees, \$/ month</b>											
<b>Meter Size</b>											
¾ x ¾-inch	\$40.00	\$40.60	\$43.00	\$45.30	\$47.60	\$50.00	2%	6%	5%	5%	5%
1-inch	\$96	\$96	\$101	\$107	\$112	\$118	0%	5%	6%	5%	5%
1½-inch	\$189	\$188	\$198	\$209	\$220	\$231	-1%	5%	6%	5%	5%
2-inch	\$301	\$298	\$315	\$332	\$349	\$366	-1%	6%	5%	5%	5%
3-inch	\$655	\$647	\$684	\$721	\$758	\$795	-1%	6%	5%	5%	5%
4-inch	\$1,121	\$1,106	\$1,170	\$1,233	\$1,297	\$1,360	-1%	6%	5%	5%	5%
6-inch	\$2,330	\$2,300	\$2,430	\$2,560	\$2,700	\$2,830	-1%	6%	5%	5%	5%
Bulk Service	\$96	\$96	\$101	\$107	\$112	\$118	0%	5%	6%	5%	5%
<b>Water Use Rates, \$/CCF</b>											
Com/Inst/Ldsp/Bulk Service	\$6.07	\$6.06	\$6.57	\$7.09	\$7.64	\$8.22	0%	8%	8%	8%	8%
<b>Single/Multi Family</b>											
Tier 1	\$3.90	\$3.97	\$4.30	\$4.64	\$5.00	\$5.37	2%	8%	8%	8%	7%
Tier 2	\$6.54	\$6.70	\$7.26	\$7.84	\$8.44	\$9.06	2%	8%	8%	8%	7%
Tier 3	\$9.09	\$9.10	\$9.86	\$10.64	\$11.46	\$12.31	0%	8%	8%	8%	7%
<b>Water Use Tier Breaks, CCF</b>											
Single/Multi Family	<i>Current</i>	<i>Recommended</i>	<i>Recommended</i>	<i>Recommended</i>	<i>Recommended</i>	<i>Recommended</i>					
Tier 1	<i>0-8</i>	<i>0-6</i>	<i>0-6</i>	<i>0-6</i>	<i>0-6</i>	<i>0-6</i>					
Tier 2	<i>9-30</i>	<i>7-20</i>	<i>7-20</i>	<i>7-20</i>	<i>7-20</i>	<i>7-20</i>					
Tier 3	<i>&gt;30</i>	<i>&gt;20</i>	<i>&gt;20</i>	<i>&gt;20</i>	<i>&gt;20</i>	<i>&gt;20</i>					



### 3.8 Impact on FY20 Monthly Bills

#### 3.8.1 Single Family Monthly Bills

As shown in the table below, in FY20, the percent change in bills at each level of use will vary due to the combined impact of the small (two percent) change in the Base fee and the more noticeable impact of changes in tier breaks and Use fees at each tier break. In subsequent fiscal years, the percent change in bills will not vary much at different levels of water use.

Water bills will vary from month to month. As shown in Figure 2-6, approximately 65% of all water bills during January will have water use only in Tier 1. In peak summer months, approximately 19% of all water bills will have water use in Tier 3. Dashed horizontal lines at 6 CCF and 20 CCF show recommended tier breaks; solid horizontal lines at 8 CCF and 30 CCF show current tier breaks.

**Table 3-5. Current and Projected FY20 Single Family Monthly Water Bills**

Monthly Water Use CCF	gpd	Current Rates					Recommended Three-Tier Rates					Monthly Change			
		Tier 1	Tier 2	Tier 3	Use Fee	% x 3/4-inch Base Fee	Total	Tier 1	Tier 2	Tier 3	Use Fee			% x 3/4-inch Base Fee	Total
		0 - 8 \$3.90	9 - 30 \$6.54	>30 \$9.09	Total	\$40.00	Bill	0 - 6 \$3.97	7 - 20 \$6.70	>20 \$9.10	Total	\$40.60	Bill	Total	Total
0	0	\$0.00			\$0.00	\$40.00	\$40.00	\$0.00			\$0.00	\$40.60	\$40.60	\$0.60	2%
1	25	\$3.90			\$3.90	\$40.00	\$43.90	\$3.97			\$3.97	\$40.60	\$44.57	\$0.67	2%
2	49	\$7.80			\$7.80	\$40.00	\$47.80	\$7.94			\$7.94	\$40.60	\$48.54	\$0.74	2%
3	74	\$11.70			\$11.70	\$40.00	\$51.70	\$11.91			\$11.91	\$40.60	\$52.51	\$0.81	2%
4	98	\$15.60			\$15.60	\$40.00	\$55.60	\$15.88			\$15.88	\$40.60	\$56.48	\$0.88	2%
5	123	\$19.50			\$19.50	\$40.00	\$59.50	\$19.85			\$19.85	\$40.60	\$60.45	\$0.95	2%
6	148	\$23.40			\$23.40	\$40.00	\$63.40	\$23.82			\$23.82	\$40.60	\$64.42	\$1.02	2%
7	172	\$27.30			\$27.30	\$40.00	\$67.30	\$23.82	\$6.70		\$30.52	\$40.60	\$71.12	\$3.82	6%
8	197	\$31.20			\$31.20	\$40.00	\$71.20	\$23.82	\$13.40		\$37.22	\$40.60	\$77.82	\$6.62	9%
9	221	\$31.20	\$6.54		\$37.74	\$40.00	\$77.74	\$23.82	\$20.10		\$43.92	\$40.60	\$84.52	\$6.78	9%
10	246	\$31.20	\$13.08		\$44.28	\$40.00	\$84.28	\$23.82	\$26.80		\$50.62	\$40.60	\$91.22	\$6.94	8%
11	271	\$31.20	\$19.62		\$50.82	\$40.00	\$90.82	\$23.82	\$33.50		\$57.32	\$40.60	\$97.92	\$7.10	8%
12	295	\$31.20	\$26.16		\$57.36	\$40.00	\$97.36	\$23.82	\$40.20		\$64.02	\$40.60	\$104.62	\$7.26	7%
13	320	\$31.20	\$32.70		\$63.90	\$40.00	\$103.90	\$23.82	\$46.90		\$70.72	\$40.60	\$111.32	\$7.42	7%
14	344	\$31.20	\$39.24		\$70.44	\$40.00	\$110.44	\$23.82	\$53.60		\$77.42	\$40.60	\$118.02	\$7.58	7%
15	369	\$31.20	\$45.78		\$76.98	\$40.00	\$116.98	\$23.82	\$60.30		\$84.12	\$40.60	\$124.72	\$7.74	7%
16	394	\$31.20	\$52.32		\$83.52	\$40.00	\$123.52	\$23.82	\$67.00		\$90.82	\$40.60	\$131.42	\$7.90	6%
17	418	\$31.20	\$58.86		\$90.06	\$40.00	\$130.06	\$23.82	\$73.70		\$97.52	\$40.60	\$138.12	\$8.06	6%
18	443	\$31.20	\$65.40		\$96.60	\$40.00	\$136.60	\$23.82	\$80.40		\$104.22	\$40.60	\$144.82	\$8.22	6%
19	467	\$31.20	\$71.94		\$103.14	\$40.00	\$143.14	\$23.82	\$87.10		\$110.92	\$40.60	\$151.52	\$8.38	6%
20	492	\$31.20	\$78.48		\$109.68	\$40.00	\$149.68	\$23.82	\$93.80		\$117.62	\$40.60	\$158.22	\$8.54	6%
21	516	\$31.20	\$85.02		\$116.22	\$40.00	\$156.22	\$23.82	\$93.80	\$9.10	\$126.72	\$40.60	\$167.32	\$11.10	7%
22	541	\$31.20	\$91.56		\$122.76	\$40.00	\$162.76	\$23.82	\$93.80	\$18.20	\$135.82	\$40.60	\$176.42	\$13.66	8%
23	566	\$31.20	\$98.10		\$129.30	\$40.00	\$169.30	\$23.82	\$93.80	\$27.30	\$144.92	\$40.60	\$185.52	\$16.22	10%
24	590	\$31.20	\$104.64		\$135.84	\$40.00	\$175.84	\$23.82	\$93.80	\$36.40	\$154.02	\$40.60	\$194.62	\$18.78	11%
25	615	\$31.20	\$111.18		\$142.38	\$40.00	\$182.38	\$23.82	\$93.80	\$45.50	\$163.12	\$40.60	\$203.72	\$21.34	12%
26	639	\$31.20	\$117.72		\$148.92	\$40.00	\$188.92	\$23.82	\$93.80	\$54.60	\$172.22	\$40.60	\$212.82	\$23.90	13%
27	664	\$31.20	\$124.26		\$155.46	\$40.00	\$195.46	\$23.82	\$93.80	\$63.70	\$181.32	\$40.60	\$221.92	\$26.46	14%
28	689	\$31.20	\$130.80		\$162.00	\$40.00	\$202.00	\$23.82	\$93.80	\$72.80	\$190.42	\$40.60	\$231.02	\$29.02	14%
29	713	\$31.20	\$137.34		\$168.54	\$40.00	\$208.54	\$23.82	\$93.80	\$81.90	\$199.52	\$40.60	\$240.12	\$31.58	15%
30	738	\$31.20	\$143.88		\$175.08	\$40.00	\$215.08	\$23.82	\$93.80	\$91.00	\$208.62	\$40.60	\$249.22	\$34.14	16%
31	762	\$31.20	\$143.88	\$9.09	\$184.17	\$40.00	\$224.17	\$23.82	\$93.80	\$100.10	\$217.72	\$40.60	\$258.32	\$34.15	15%
32	787	\$31.20	\$143.88	\$18.18	\$193.26	\$40.00	\$233.26	\$23.82	\$93.80	\$109.20	\$226.82	\$40.60	\$267.42	\$34.16	15%
33	812	\$31.20	\$143.88	\$27.27	\$202.35	\$40.00	\$242.35	\$23.82	\$93.80	\$118.30	\$235.92	\$40.60	\$276.52	\$34.17	14%
34	836	\$31.20	\$143.88	\$36.36	\$211.44	\$40.00	\$251.44	\$23.82	\$93.80	\$127.40	\$245.02	\$40.60	\$285.62	\$34.18	14%
35	861	\$31.20	\$143.88	\$45.45	\$220.53	\$40.00	\$260.53	\$23.82	\$93.80	\$136.50	\$254.12	\$40.60	\$294.72	\$34.19	13%
36	885	\$31.20	\$143.88	\$54.54	\$229.62	\$40.00	\$269.62	\$23.82	\$93.80	\$145.60	\$263.22	\$40.60	\$303.82	\$34.20	13%
37	910	\$31.20	\$143.88	\$63.63	\$238.71	\$40.00	\$278.71	\$23.82	\$93.80	\$154.70	\$272.32	\$40.60	\$312.92	\$34.21	12%
38	935	\$31.20	\$143.88	\$72.72	\$247.80	\$40.00	\$287.80	\$23.82	\$93.80	\$163.80	\$281.42	\$40.60	\$322.02	\$34.22	12%
39	959	\$31.20	\$143.88	\$81.81	\$256.89	\$40.00	\$296.89	\$23.82	\$93.80	\$172.90	\$290.52	\$40.60	\$331.12	\$34.23	12%
40	984	\$31.20	\$143.88	\$90.90	\$265.98	\$40.00	\$305.98	\$23.82	\$93.80	\$182.00	\$299.62	\$40.60	\$340.22	\$34.24	11%

### 3.8.2 Commercial/Institutional/Landscape Monthly Bills

As shown in the table below, in FY20, the percent change in bills at each level of use will vary due to the combined impact of the small (two percent) change in the Base fee and the small impact of the change in the Use fee. In subsequent fiscal years, the percent change in bills will not vary much at different levels of water use. Tier breaks are shown with dashed (recommended) and solid (current) lines but do not apply to nonresidential users that are billed a uniform Use fee for all water use.

Table 3-6. Current and Projected FY20 Commercial/Institutional/Landscape Monthly Water Bills														
Monthly Water Use CCF gpd	Current Rates						Recommended Rates						Monthly Change Total \$ Total %	
	Tier 1 All Use \$6.07	Tier 2 na	Tier 3 na	Use Fee Total	% x 3/4-inch Base Fee \$40.00	Total Bill	Tier 1 All Use \$6.06	Tier 2 na	Tier 3 na	Use Fee Total	% x 3/4-inch Base Fee \$40.60	Total Bill		
	0	0	\$0		\$0	\$40	\$40	\$0		\$0	\$41	\$41		
10	246	\$61		\$61	\$40	\$101	\$61		\$61	\$41	\$101	\$0.50	0%	
20	492	\$121		\$121	\$40	\$161	\$121		\$121	\$41	\$162	\$0.40	0%	
30	738	\$182		\$182	\$40	\$222	\$182		\$182	\$41	\$222	\$0.30	0%	
40	984	\$243		\$243	\$40	\$283	\$242		\$242	\$41	\$283	\$0.20	0%	
50	1,230	\$304		\$304	\$40	\$344	\$303		\$303	\$41	\$344	\$0.10	0%	
60	1,476	\$364		\$364	\$40	\$404	\$364		\$364	\$41	\$404	\$0.00	0%	
70	1,722	\$425		\$425	\$40	\$465	\$424		\$424	\$41	\$465	-\$0.10	0%	
80	1,968	\$486		\$486	\$40	\$526	\$485		\$485	\$41	\$525	-\$0.20	0%	
90	2,214	\$546		\$546	\$40	\$586	\$545		\$545	\$41	\$586	-\$0.30	0%	
100	2,460	\$607		\$607	\$40	\$647	\$606		\$606	\$41	\$647	-\$0.40	0%	
110	2,705	\$668		\$668	\$40	\$708	\$667		\$667	\$41	\$707	-\$0.50	0%	
120	2,951	\$728		\$728	\$40	\$768	\$727		\$727	\$41	\$768	-\$0.60	0%	
130	3,197	\$789		\$789	\$40	\$829	\$788		\$788	\$41	\$828	-\$0.70	0%	
140	3,443	\$850		\$850	\$40	\$890	\$848		\$848	\$41	\$889	-\$0.80	0%	
150	3,689	\$911		\$911	\$40	\$951	\$909		\$909	\$41	\$950	-\$0.90	0%	
160	3,935	\$971		\$971	\$40	\$1,011	\$970		\$970	\$41	\$1,010	-\$1.00	0%	
170	4,181	\$1,032		\$1,032	\$40	\$1,072	\$1,030		\$1,030	\$41	\$1,071	-\$1.10	0%	
180	4,427	\$1,093		\$1,093	\$40	\$1,133	\$1,091		\$1,091	\$41	\$1,131	-\$1.20	0%	
190	4,673	\$1,153		\$1,153	\$40	\$1,193	\$1,151		\$1,151	\$41	\$1,192	-\$1.30	0%	
200	4,919	\$1,214		\$1,214	\$40	\$1,254	\$1,212		\$1,212	\$41	\$1,253	-\$1.40	0%	
210	5,165	\$1,275		\$1,275	\$40	\$1,315	\$1,273		\$1,273	\$41	\$1,313	-\$1.50	0%	
220	5,411	\$1,335		\$1,335	\$40	\$1,375	\$1,333		\$1,333	\$41	\$1,374	-\$1.60	0%	
230	5,657	\$1,396		\$1,396	\$40	\$1,436	\$1,394		\$1,394	\$41	\$1,434	-\$1.70	0%	
240	5,903	\$1,457		\$1,457	\$40	\$1,497	\$1,454		\$1,454	\$41	\$1,495	-\$1.80	0%	
250	6,149	\$1,518		\$1,518	\$40	\$1,558	\$1,515		\$1,515	\$41	\$1,556	-\$1.90	0%	
260	6,395	\$1,578		\$1,578	\$40	\$1,618	\$1,576		\$1,576	\$41	\$1,616	-\$2.00	0%	
270	6,641	\$1,639		\$1,639	\$40	\$1,679	\$1,636		\$1,636	\$41	\$1,677	-\$2.10	0%	
280	6,887	\$1,700		\$1,700	\$40	\$1,740	\$1,697		\$1,697	\$41	\$1,737	-\$2.20	0%	
290	7,133	\$1,760		\$1,760	\$40	\$1,800	\$1,757		\$1,757	\$41	\$1,798	-\$2.30	0%	
300	7,379	\$1,821		\$1,821	\$40	\$1,861	\$1,818		\$1,818	\$41	\$1,859	-\$2.40	0%	
310	7,624	\$1,882		\$1,882	\$40	\$1,922	\$1,879		\$1,879	\$41	\$1,919	-\$2.50	0%	
320	7,870	\$1,942		\$1,942	\$40	\$1,982	\$1,939		\$1,939	\$41	\$1,980	-\$2.60	0%	
330	8,116	\$2,003		\$2,003	\$40	\$2,043	\$2,000		\$2,000	\$41	\$2,040	-\$2.70	0%	
340	8,362	\$2,064		\$2,064	\$40	\$2,104	\$2,060		\$2,060	\$41	\$2,101	-\$2.80	0%	
350	8,608	\$2,125		\$2,125	\$40	\$2,165	\$2,121		\$2,121	\$41	\$2,162	-\$2.90	0%	
360	8,854	\$2,185		\$2,185	\$40	\$2,225	\$2,182		\$2,182	\$41	\$2,222	-\$3.00	0%	
370	9,100	\$2,246		\$2,246	\$40	\$2,286	\$2,242		\$2,242	\$41	\$2,283	-\$3.10	0%	
380	9,346	\$2,307		\$2,307	\$40	\$2,347	\$2,303		\$2,303	\$41	\$2,343	-\$3.20	0%	
390	9,592	\$2,367		\$2,367	\$40	\$2,407	\$2,363		\$2,363	\$41	\$2,404	-\$3.30	0%	
400	9,838	\$2,428		\$2,428	\$40	\$2,468	\$2,424		\$2,424	\$41	\$2,465	-\$3.40	0%	

### 3.9 Historic and Projected Monthly Bills

#### 3.9.1 Historic and Projected Single Family Monthly Bills

Historic and projected Single Family monthly bills are shown in the figure below. Monthly bills do not include the PVWMA surcharge. Bills are based on declining water use over the 22-year period.

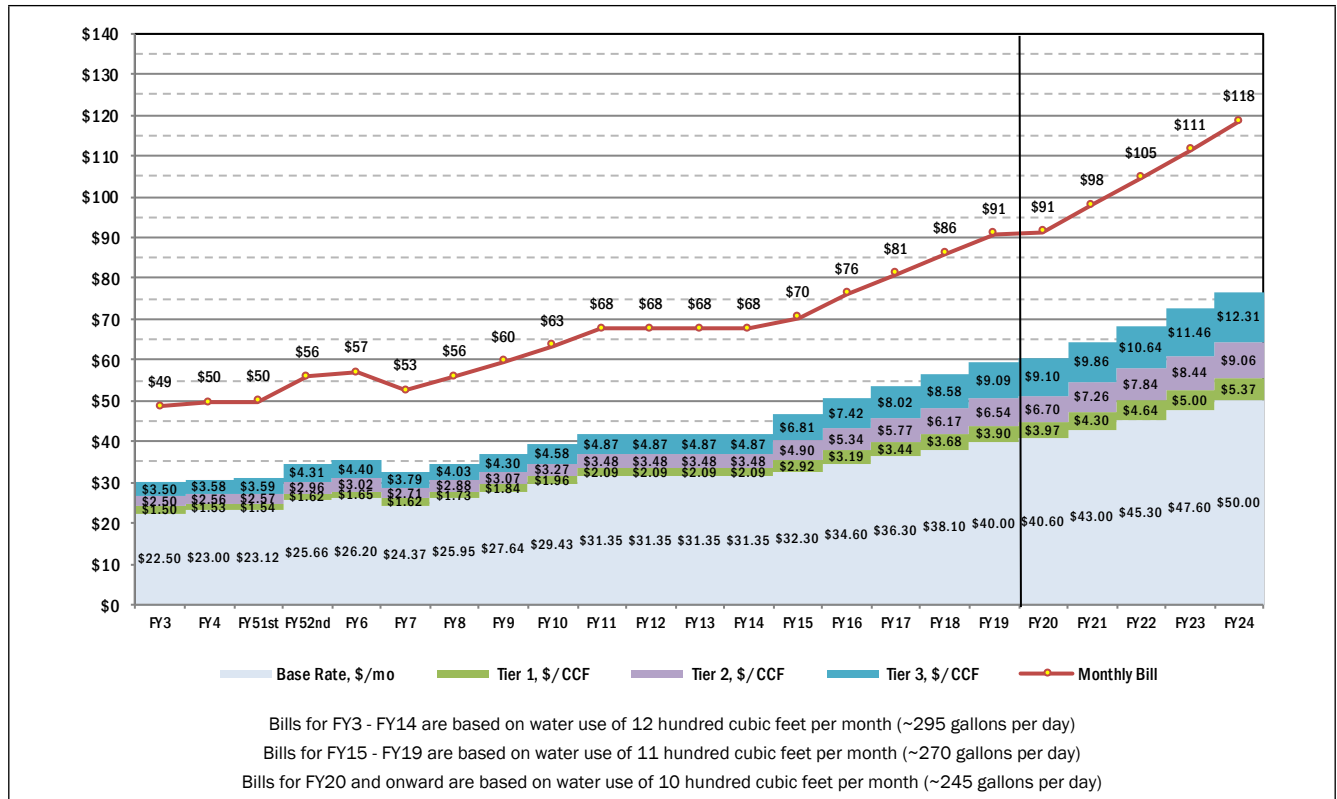


Figure 3-3. Historic and Projected Single Family Monthly Water Bills

### 3.9.2 Historic and Projected Commercial/Institutional/Landscape Monthly Bills

Historical and projected Commercial/Institutional/Landscape monthly bills are shown in the figure below. Monthly bills do not include the PVWMA surcharge. Bills are based on monthly water use of 200 CCF (approximately 4,920 gallons per day).

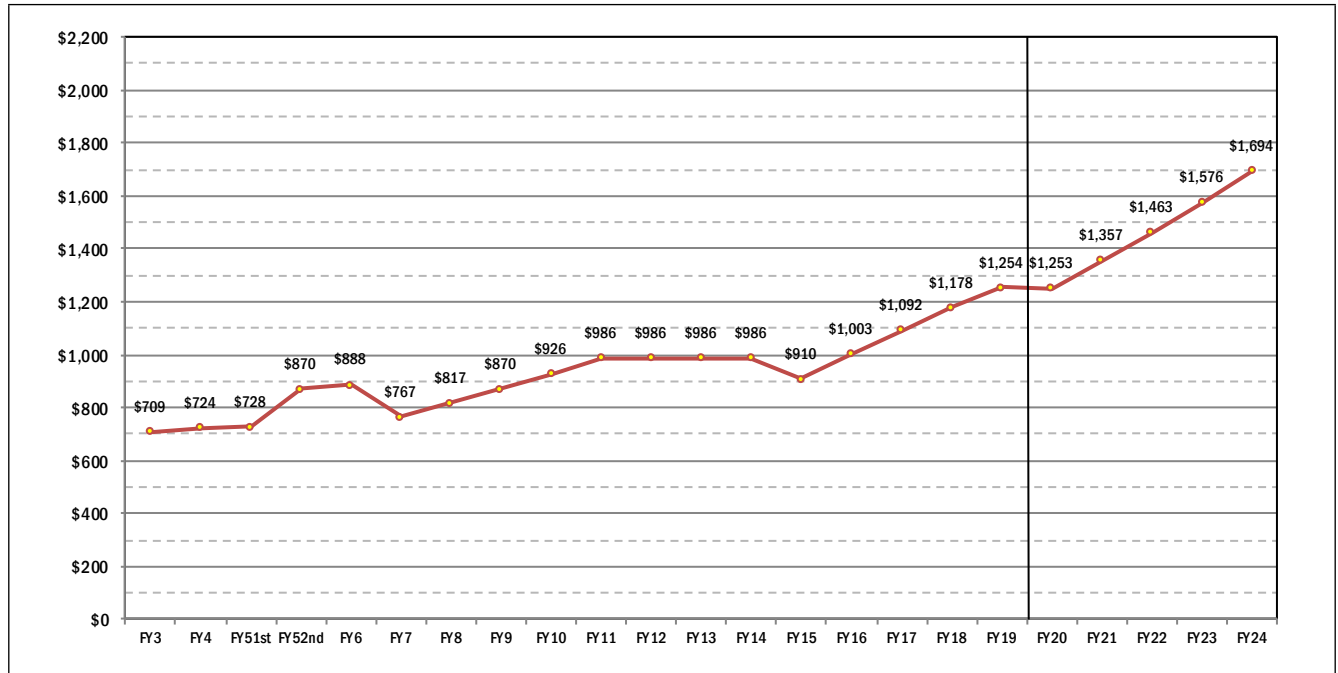


Figure 3-4. Historic and Projected Commercial/Institutional/Landscape Monthly Water Bills



## Section 4

# Development of Water Capacity Charges

Capacity charges are intended to recover both a portion of the District's proposed Capital Improvement Program (CIP) cost, and utility rate payers' prior investment in capital facilities that support land development by providing capacity for new connections. The capacity charges that are developed in this report meet the regulatory requirements found in Government Code Section 66000 *et sequentia* regarding the establishment of capacity charges.

### 4.1 Regulatory Requirements

Government Code Section 66013 defines a capacity charges as “a charge for public facilities in existence at the time a charge is imposed or charges for new public facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged, including supply or capacity contracts for rights or entitlements, real property interests, and entitlements and other rights of the local agency involving capital expense relating to its use of existing or new public facilities. A ‘capacity charge’ does not include a commodity charge.”

Section 66013 also describes requirements related to use of revenue from capacity charges and providing information to the public. This study does not examine the District's practices regarding those requirements.

In developing capacity charges, we have endeavored to satisfy the rational nexus criteria generally applied to these types of charges. A rational nexus-based capacity charge must:

- Be rationally based on public policy that demonstrates a nexus between new development (connections) and the need to expand or build facilities to accommodate it.
- Not exceed the new development's proportional share of the cost of facilities needed to serve that development, after crediting it for other contributions that it has already made or will make toward that cost.
- Not be arbitrary or discriminatory in its application to individuals or customer classes.

Capacity charges help ensure that the “growth pays for growth” by allocating the cost of new facilities and the cost of unused capacity in existing facilities to new development while allocating the cost of repairing and refurbishing facilities to current customers.

## 4.2 Current Capacity Charges and Conceptual Approach

The capacity charges developed in this study are based on the buy-in method and valuation of assets based on their current replacement value.

Meter Size	Current Charges
5/8 x 3/4-inch	\$13,302
1-inch	\$33,250
1½-inch	\$66,500
2-inch	\$106,400
3-inch	\$232,800
4-inch	\$398,900
6-inch	\$831,300

The system buy-in method recovers the replacement cost of capacity in those portions of the existing system in which there is capacity available (for example, the transmission, distribution, storage and pumping components of the system). The buy-in method excludes service laterals and meters as these assets do not benefit new users connecting to the system. The value of the water system is adjusted to account for contributed capital and assets, working capital, and the amount of debt service principal outstanding.

Capacity charges may be updated periodically using the *Engineering News Record 20-City Construction Cost Index (ENR 20-City CCI)*.

The District’s current capacity charges (shown in the adjacent table) were developed in 2014 using the buy-in method and valuation of assets based on their escalated acquisition cost less depreciation. The District escalated the 2014 values using the ENR 20-City CCI.

Methodology used in the development of capacity charges as part of this study is summarized in the figure below.

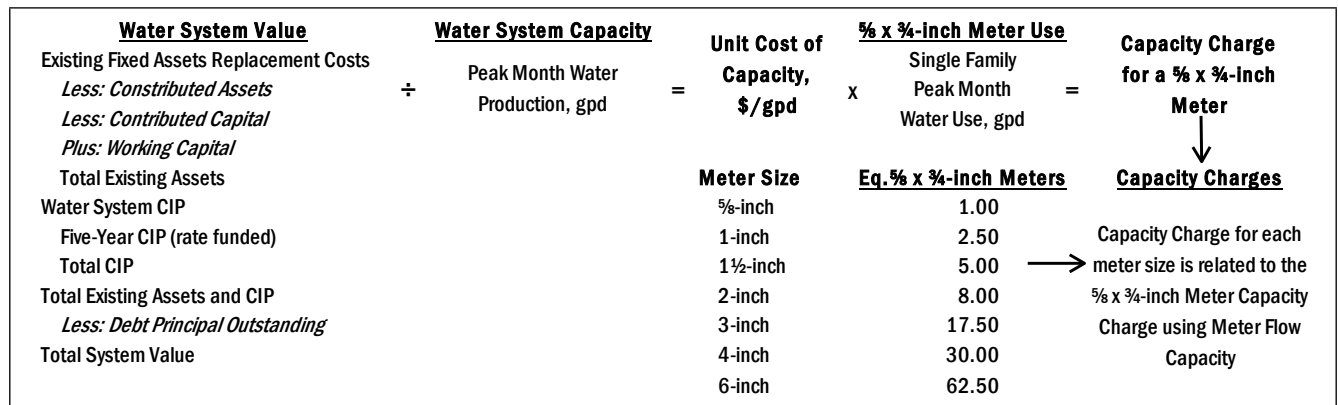


Figure 4-1. Capacity Charge Development Methodology

## 4.3 Water System Valuation

The system buy-in method of the capacity charge recovers the cost of capacity in those portions of the existing system in which there is capacity available (for example, the transmission, distribution, storage and pumping components of the system). The value of the existing system was developed using data for the following elements:

- Existing Fixed Assets
- Contributed Assets
- Contributed Capital
- Capital Improvement Program Expenditures
- Long Term Debt Principal Outstanding
- Working Capital

**Existing Fixed Assets.** The District compiled a list of its water system assets and grouped them into 11 categories. The list includes 32 items. Each item was assigned a replacement value (in current dollars). A detailed list of assets with showing the valuation for each item is included in Table E-1 in Appendix E.

Category	Total Value	Contributions	
		Percent	Dollars
Wells	\$2,000,000	0%	\$0
Treatment	\$400,000	0%	\$0
Pumps	\$850,000	0%	\$0
Storage	\$1,475,000	0%	\$0
Telemetry	\$274,000	0%	\$0
Transmission Mains	\$13,925,000	0%	\$0
Distribution Lines	\$7,211,000	73%	\$5,242,000
Hydrants	\$1,183,000	50%	\$592,000
Meters	\$717,800	100%	\$718,000
Service Laterals	\$2,392,500	100%	\$2,393,000
Buildings	\$650,000	0%	\$0
<b>Total</b>	<b>\$31,078,300</b>		<b>\$8,945,000</b>

**Contributed Assets.** In some cases, owners construct and contribute assets needed to serve their development. The value of contributed assets is subtracted from the value of the asset base for development of capacity charges. The amount of contributed assets was estimated by the District for each group of assets. The replacement value for each group, the contributed value for each group and the total system replacement value (with and without contributed assets) are summarized in Table 4-1.

**Contributed Capital.** The amount of revenue collected from capacity charges was obtained from District records for FY95 – FY19. The amount of revenue collected from these charges and fees for FY59 – FY94 was estimated. Annual revenue values were adjusted upward for the time value of money. The adjusted total of contributed capital is shown in Table E-2 in Appendix E.

**Capital Improvement Program.** Projected expenditures and source of funds for District Water System capital projects are estimated to be \$1,334,000 for FY20 – FY24.

**Long Term Debt Principal Outstanding.** The District has one debt issue outstanding – a 2015 Note. Debt principal outstanding is subtracted from the value of the asset base for development of capacity charges.

**Working Capital.** The District maintains a small cash balance in the Water Fund. During FY20 – FY24, cash from the fund balance will be used to fund a portion of capital expenditures. The projected average level of funding using cash reserves is approximately \$350,000.

The valuation of the Water System, net of adjustments, is shown in Table 4-2.

Table 4-2. Valuation of Water System		
Fixed Asset Category	Valuation	Adjusted Valuation
Wells	\$2,000,000	
Treatment	\$400,000	
Pumps	\$850,000	
Storage	\$1,475,000	
Transmission Mains	\$13,925,000	
Distribution Lines	\$7,211,000	
Hydrants	\$1,183,000	
Meters	\$717,800	
Service Laterals	\$2,392,500	
Buildings	\$650,000	
Total Fixed Asset Valuation		\$30,804,300
Adjustments		
1. Contributed Assets		
<i>Less: Value of Contributed Assets</i>		(\$8,945,000)
2. Contributed Capital		
<i>Less: Revenue from Capacity Charges</i>		(\$6,073,000)
3. Debt Principal Outstanding		
<i>Less: 2015 Debt Service Principal Outstanding</i>		(\$1,026,000)
4. Single User Assets		
<i>Less: Meters and Service Laterals</i>		(\$3,110,300)
5. Water System CIP (funded by rates)		
<i>Plus: CIP funded by rates, FY20 - FY24</i>		\$1,334,000
6. Working Capital		
<i>Plus: Average Reserve Balance, FY20 - FY24</i>		\$350,000
Net Valuation		\$13,334,000
	<i>round to \$1,000 &gt;</i>	\$13,330,000

## 4.4 Water System Capacity

The capacity of the water system was estimated using historical peak month water production data. The average of peak production during the summer of 2011 and 2012 was calculated as shown in Table 4-3.

Table 4-3. System Peak Month Production Capacity				
Calendar Year	Peak Month	Gallons	Days	Gallons
	Production			per Day
2012	July	14,127,120	31	455,714
2011	July	13,415,677	31	432,764
Average		13,771,399		444,239
			<i>round to 1,000 &gt;</i>	440,000



## 4.5 Unit Cost Peak Month Capacity

The calculation of capacity charges involves developing a unit charge applicable to any new connection (or increase in size for an existing connection). The unit charge is developed by dividing the adjusted value of the water system by the peak month production capacity of the system. The calculation is shown in Table 4-4.

System Net Valuation		Peak Month Water Production gallons per day		Unit Cost Peak Month
\$13,330,000	÷	440,000	=	\$30.30 / gpd

## 4.6 Single Family Peak Month Use

Single Family peak month use was estimated using recent water delivery data. Peak month water use during the summer of 2011 and 2012 was calculated as shown in Table 4-5. The monthly water use values and annual average number of accounts are from Department of Water Resources Form 38 Reports.

The projected peak month water use assigned to a  $\frac{5}{8}$  x  $\frac{3}{4}$ -inch meter connection for the development of capacity charges is 460 gallons per day.

Calendar Year	Peak Month Deliveries	Gallons	Days	Gallons per Day	Average Number of Accounts	Gallons per Day per Account
2012	July	12,364,597	31	398,858	840	475
2011	July	11,565,626	31	373,085	843	443
Average		11,965,111		385,971	842	459
					<i>round to 10 &gt;</i>	460

## 4.7 Capacity Charge for $\frac{5}{8}$ x $\frac{3}{4}$ -inch Meter

The capacity charge for a  $\frac{5}{8}$  x  $\frac{3}{4}$ -inch meter is calculated using the unit cost for peak month capacity (shown in Table 4-4) multiplied by the peak month water use assigned to a  $\frac{5}{8}$  x  $\frac{3}{4}$ -inch meter connection shown in Table 4-5. The calculation of the capacity charge for a  $\frac{5}{8}$  x  $\frac{3}{4}$ -inch meter is shown in Table 4-6.

Unit Cost Peak Month Development		Peak Month Water Use gallons per day		Capacity Charge $\frac{5}{8}$ x $\frac{3}{4}$ -inch Meter
\$30.30 / gpd	x	460	=	\$13,938
		<i>round to \$1,000 &gt;</i>		\$13,940

## 4.8 Schedule of Capacity Charges

The capacity charges for other meter sizes are based on an "equivalency factor" that relates the design maximum flow capacity of a meter size (in gallons per minute, gpm) to that of a standard  $\frac{5}{8}$  x  $\frac{3}{4}$ -inch size meter. Design capacities for meters are based on values published by the American Water Works Association (AWWA) and are the same capacities used in the development of water fees.<sup>2</sup> The equivalency factors and calculation of capacity charges for meter sizes up to 6-inch are shown in Table 4-7.

Meter Size	Equivalency Factor	Capacity Charge
$\frac{5}{8}$ x $\frac{3}{4}$ -inch	1.0	\$13,940
1-inch	2.5	\$34,850
1½-inch	5.0	\$69,690
2-inch	8.0	\$111,500
3-inch	17.5	\$243,900
4-inch	30.0	\$418,100
6-inch	62.5	\$871,100

## 4.9 Comparison of Current vs. Recommended Capacity Charges

The current and recommended schedule of capacity charges are shown in Table 4-8. The recommended capacity charges are for FY20. Charges for FY21 and onward may be escalated using an appropriate index such as the *Engineering News Record* 20-City Construction Cost Index.

Meter Size	Current Charges	Recommended Charges	Increase (Decrease)	
			Dollars	Percent
$\frac{5}{8}$ x $\frac{3}{4}$ -inch	\$13,302	\$13,940	\$638	5%
1-inch	\$33,250	\$34,850	\$1,600	5%
1½-inch	\$66,500	\$69,690	\$3,190	5%
2-inch	\$106,400	\$111,500	\$5,100	5%
3-inch	\$232,800	\$243,900	\$11,100	5%
4-inch	\$398,900	\$418,100	\$19,200	5%
6-inch	\$831,300	\$871,100	\$39,800	5%

<sup>2</sup> American Water Works Association, M6 Water Meters - Selection, Installation, Testing and Maintenance, 2012 Fifth Edition, pages 63 - 65.

## 4.10 Survey of Single Family Capacity Charges

The District's current and recommended capacity charges were compared to the capacity charges for other agencies. The comparison is made using the charge that is typical for a single family connection at each agency. Table 4-9 shows the results of the survey.

**Table 4-9. Survey of Single Family Capacity Charges**

<u>Agency</u>	<u>Meter Size</u>	<u>Charge</u>
Watsonville	$\frac{3}{4}$ -inch	\$3,823
Pajaro/Sunny Mesa Community Services District	$\frac{5}{8}$ and $\frac{3}{4}$ -inch	\$6,970
San Juan Bautista	$\frac{5}{8}$ , $\frac{3}{4}$ or 1-inch	\$8,545
San Lorenzo Valley Water District	$\frac{5}{8}$ and $\frac{3}{4}$ -inch	\$10,577
Sunnyslope Water District	$\frac{5}{8}$ , $\frac{3}{4}$ or 1-inch	\$10,975
Aromas Water District, Current	$\frac{5}{8}$ x $\frac{3}{4}$ -inch	\$13,302
<b>Aromas Water District, Recommended</b>	<b><math>\frac{5}{8}</math> x <math>\frac{3}{4}</math>-inch</b>	<b>\$13,940</b>

This Page Intentionally Blank.

## Section 5

# Water Rates Survey

Current and projected FY20 Single Family customer bills for the Aromas Water District were compared to those in the service areas of the Pajaro/Sunny Mesa Community Services District, the City of San Juan Bautista, the San Lorenzo Valley Water District, the Sunnyslope Water District and the City of Watsonville. Monthly bills are shown in the figure below and are for the smallest Single Family meter size and 10 CCF per month of water use.

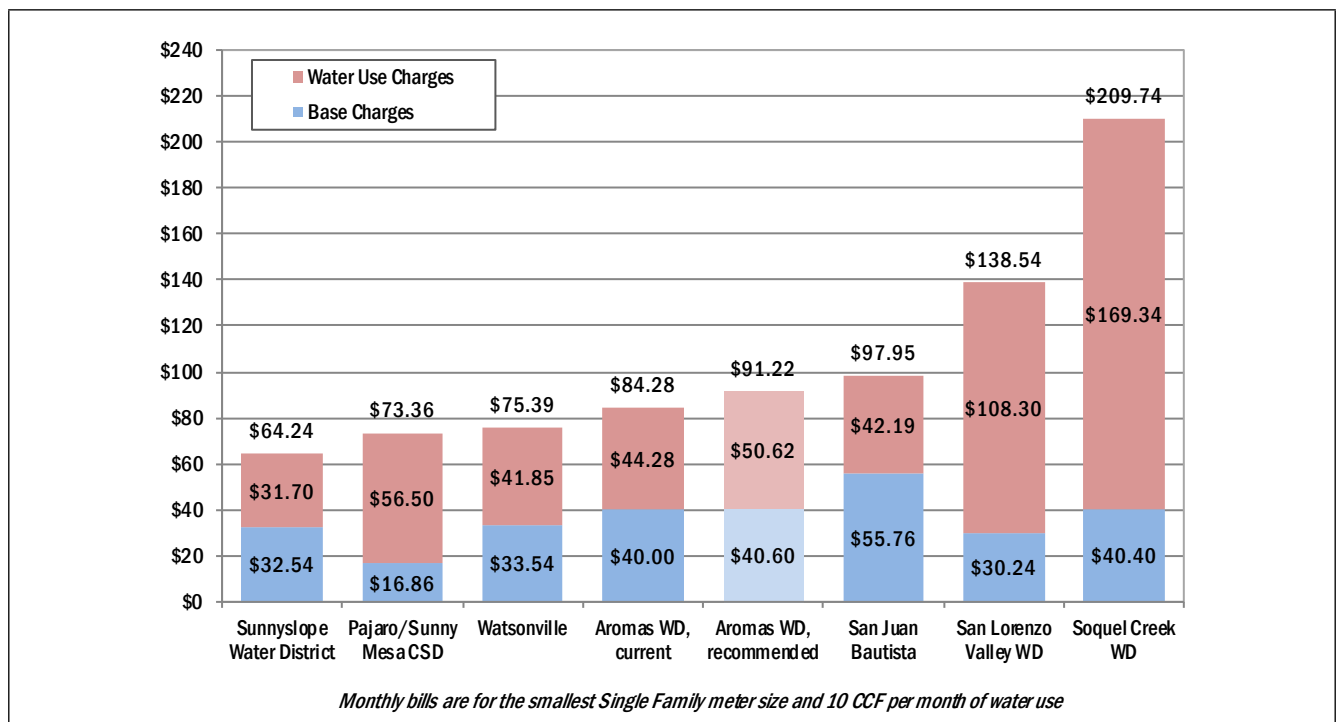


Figure 5-1. Survey of Single Family Monthly Water Bills

Rates and tier breaks for each agency are shown in the table below.

Table 5-1. Water Rates Survey								
Agency	Effective Date	Base Rate \$/month	Tier Rate		Monthly Water Bill			
			\$/CCF	Tier Breaks	5 CCF	10 CCF	20 CCF	40 CCF
Aromas Water District base meter = 5/8 x 3/4-inch	1-Jul-18	\$40.00	\$3.90	0 - 8	\$59.50	\$84.28	\$149.68	\$305.98
			\$6.54	9 - 30				
			\$9.09	>30				
Aromas Water District base meter = 5/8 x 3/4-inch	1-Oct-19 <i>projected</i>	\$40.60	\$3.97	0 - 6	\$60.45	\$91.22	\$158.22	\$340.22
			\$6.70	7 - 20				
			\$9.10	>20				
Pajaro/Sunny Mesa CSD base meter = 5/8 x 3/4-inch	1-Jan-20	\$16.86	\$5.65	all use	\$45.11	\$73.36	\$129.86	\$242.86
San Juan Bautista	1-Jul-19	\$55.76	\$5.64	all use	\$76.86	\$97.95	\$140.15	\$224.53
San Lorenzo Valley Water District base meter = 5/8 or 3/4-inch	1-Nov-18	\$30.24	\$10.83	all use	\$84.39	\$138.54	\$246.84	\$463.44
Soquel Creek Water District base meter = 5/8, 3/4 or 1-inch	1-Jan-20	\$40.40	\$7.01	0 - 6	\$75.45	\$209.74	\$527.94	\$763.34
			\$31.82	>6				
Sunnyslope Water District base meter = 5/8, 3/4 or 1-inch	21-Dec-18	\$32.54	\$3.17	0 - 10	\$48.39	\$64.24	\$111.24	\$250.64
			\$4.70	11 - 20				
Inside District, Zone 3 rates			\$6.97	>20				
Watsonville base meter = 5/8 or 3/4-inch	1-Jul-19	\$33.54	\$3.84	0 - 5	\$52.74	\$75.39	\$136.79	\$259.59
			\$4.53	6 - 10				
Inside City rates			\$6.14	>10				



## Section 6

# Limitations

This document was prepared solely for the Aromas Water District in accordance with professional standards at the time the services were performed and in accordance with the agreement between the Aromas Water District and Municipal Financial Services. This document is governed by the scope of work, dated February 7, 2019, authorized by the Aromas Water District; it is not intended to be relied upon by any other party. We have relied on information or instructions provided by the Aromas Water District and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

This Page Intentionally Blank.



## Appendix A: Historical Water Use Data

---

This Page Intentionally Blank.

**Table A-1**  
**2018 Water Deliveries**  
**All Values in Hundred Cubic Feet (CCF)**

*Values in cubic feet*

Tier 1	January	February	March	April	May	June	July	August	September	October	November	December	Total
Residential	428,379	427,512	410,138	457,219	484,998	475,708	530,083	513,915	486,032	498,908	478,259	419,006	5,610,157
Multi-Unit	10,596	10,191	10,268	10,752	10,877	10,815	11,850	11,644	11,537	10,364	10,502	9,583	128,979
Commercial	8,468	10,362	9,741	11,072	10,073	10,013	10,941	10,693	10,958	12,042	10,934	9,995	125,292
Ldscp/Irrig	1,521	2,661	835	1,413	2,344	2,141	2,318	2,213	2,800	2,800	2,803	1,401	25,250
Bulk Water	700	900	0	160	272	59	2,479	3,901	3,401	3,247	1,637	1,680	18,436
<b>Totals</b>	<b>449,664</b>	<b>451,626</b>	<b>430,982</b>	<b>480,616</b>	<b>508,564</b>	<b>498,736</b>	<b>557,671</b>	<b>542,366</b>	<b>514,728</b>	<b>527,361</b>	<b>504,135</b>	<b>441,665</b>	<b>5,908,114</b>

*Values in cubic feet*

Tier 2	January	February	March	April	May	June	July	August	September	October	November	December	Total
Residential	160,358	183,625	119,231	233,402	372,332	358,567	578,290	486,248	390,045	410,152	311,729	147,410	3,751,389
Multi-Unit	6,972	5,745	7,137	8,642	9,327	8,920	15,001	12,336	9,119	10,523	8,379	5,293	107,394
Commercial	7,974	7,122	8,249	9,008	10,136	11,455	14,841	12,833	13,425	14,962	11,992	9,003	131,000
Ldscp/Irrig	2,032	772	0	0	1,958	2,161	2,765	2,473	2,592	4,136	3,554	1,733	24,176
Bulk Water	463	1,400	0	0	0	0	3,504	6,772	3,462	4,000	116	1,542	21,259
<b>Totals</b>	<b>177,799</b>	<b>198,664</b>	<b>134,617</b>	<b>251,052</b>	<b>393,753</b>	<b>381,103</b>	<b>614,401</b>	<b>520,662</b>	<b>418,643</b>	<b>443,773</b>	<b>335,770</b>	<b>164,981</b>	<b>4,035,218</b>

*Values in cubic feet*

Tier 3	January	February	March	April	May	June	July	August	September	October	November	December	Total
Residential	35,010	33,083	36,998	66,576	254,485	167,573	554,397	347,722	242,881	297,200	115,333	70,899	2,222,157
Multi-Unit	2,612	3,474	1,056	5,321	6,552	5,017	10,783	10,626	6,547	4,380	1,775	1,626	59,769
Commercial	35,459	12,522	32,020	28,470	55,577	41,370	84,602	82,657	85,681	61,868	43,517	19,663	583,406
Ldscp/Irrig	0	0	0	0	28,900	17,900	29,500	27,100	25,300	26,200	15,249	12,092	182,241
Bulk Water	0	1,924	0	0	0	0	5,701	25,625	82,084	33,969	0	2,485	151,788
<b>Totals</b>	<b>73,081</b>	<b>51,003</b>	<b>70,074</b>	<b>100,367</b>	<b>345,514</b>	<b>231,860</b>	<b>684,983</b>	<b>493,730</b>	<b>442,493</b>	<b>423,617</b>	<b>175,874</b>	<b>106,765</b>	<b>3,199,361</b>

*Values in cubic feet*

Totals	January	February	March	April	May	June	July	August	September	October	November	December	Total
Residential	623,747	644,220	566,367	757,197	1,111,815	1,001,848	1,662,770	1,347,885	1,118,958	1,206,260	905,321	637,315	11,583,703
Multi-Unit	20,180	19,410	18,461	24,715	26,756	24,752	37,634	34,606	27,203	25,267	20,656	16,502	296,142
Commercial	51,901	30,006	50,010	48,550	75,786	62,838	110,384	106,183	110,064	88,872	66,443	38,661	839,698
Ldscp/Irrig	3,553	3,433	835	1,413	33,202	22,202	34,583	31,786	30,692	33,136	21,606	15,226	231,667
Bulk Water	1,163	4,224	0	160	272	59	11,684	36,298	88,947	41,216	1,753	5,707	191,483
<b>Totals</b>	<b>700,544</b>	<b>701,293</b>	<b>635,673</b>	<b>832,035</b>	<b>1,247,831</b>	<b>1,111,699</b>	<b>1,857,055</b>	<b>1,556,758</b>	<b>1,375,864</b>	<b>1,394,751</b>	<b>1,015,779</b>	<b>713,411</b>	<b>13,142,693</b>

Summary	January	February	March	April	May	June	July	August	September	October	November	December	Total
ResMult T1	438,975	437,703	420,406	467,971	495,875	486,523	541,933	525,559	497,569	509,272	488,761	428,589	5,739,136
ResMult T2	167,330	189,370	126,368	242,044	381,659	367,487	593,291	498,584	399,164	420,675	320,108	152,703	3,858,783
ResMult T3	37,622	36,557	38,054	71,897	261,037	172,590	565,180	358,348	249,428	301,580	117,108	72,525	2,281,926
Commercial	51,901	30,006	50,010	48,550	75,786	62,838	110,384	106,183	110,064	88,872	66,443	38,661	839,698
Ldscp/Irrig	3,553	3,433	835	1,413	33,202	22,202	34,583	31,786	30,692	33,136	21,606	15,226	231,667
Bulk Water	1,163	4,224	0	160	272	59	11,684	36,298	88,947	41,216	1,753	5,707	191,483
<b>Totals cf</b>	<b>700,544</b>	<b>701,293</b>	<b>635,673</b>	<b>832,035</b>	<b>1,247,831</b>	<b>1,111,699</b>	<b>1,857,055</b>	<b>1,556,758</b>	<b>1,375,864</b>	<b>1,394,751</b>	<b>1,015,779</b>	<b>713,411</b>	<b>13,142,693</b>
Total mgal	5	5	5	6	9	8	14	12	10	10	8	5	98
Total gpd	169,057	169,238	153,402	200,789	301,130	268,278	448,149	375,681	332,027	336,585	245,130	172,162	3,171,629
% of Total	5%	5%	5%	6%	9%	8%	14%	12%	10%	11%	8%	5%	100%

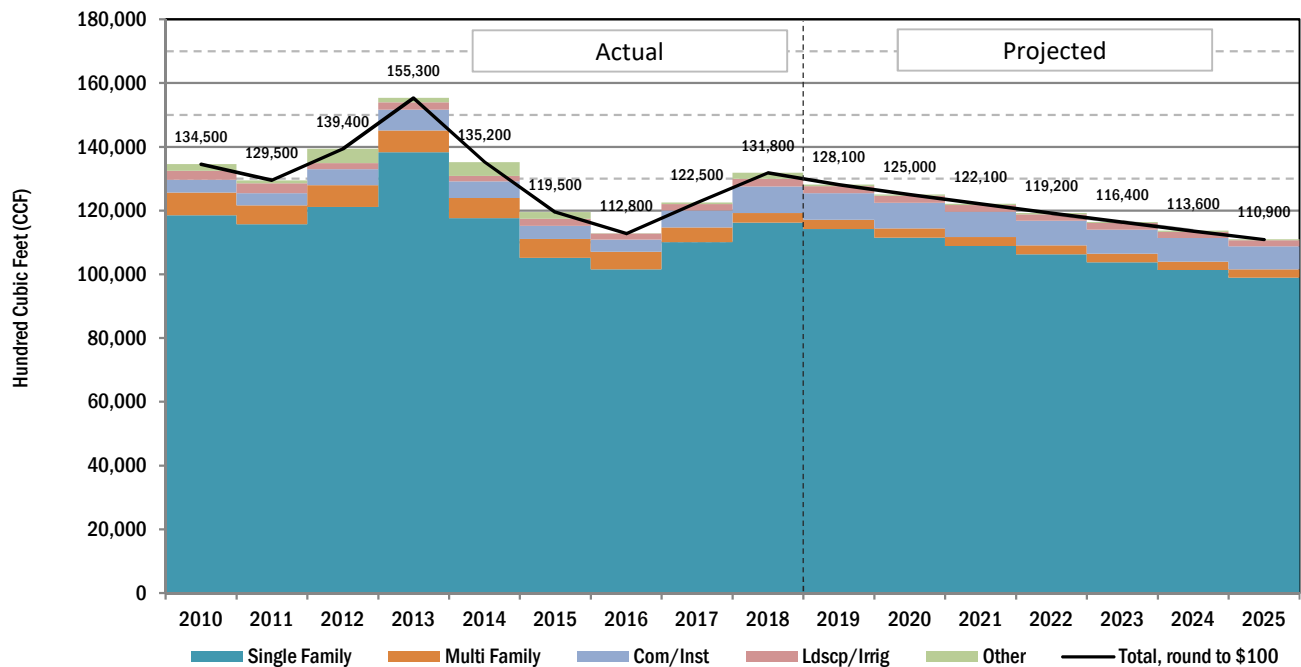
Summary	Total	% of Total
ResMult T1	5,739,136	44%
ResMult T2	3,858,783	29%
ResMult T3	2,281,926	17%
Commercial	839,698	6.4%
Ldscp/Irrig	231,667	1.8%
Bulk Water	191,483	1.5%
<b>Totals</b>	<b>13,142,693</b>	<b>100%</b>

Table A-1  
Historic and Projected Water Deliveries  
All Values in Hundred Cubic Feet (CCF)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	Projected						
	2019	2020	2021	2022	2023	2024	2025									
<b>Deliveries - LTE Off-Peak Average</b>																
Single Family	72,723	69,807	75,976	85,346	76,171	81,213	65,808	64,319	72,247	71,525	70,094	68,692	67,318	65,972	64,653	63,359
Multi Family	5,576	5,041	5,483	5,092	5,532	5,284	4,760	3,677	2,344	2,321	2,274	2,229	2,184	2,140	2,098	2,056
Com/Inst	1,523	1,722	2,097	3,151	2,655	2,354	1,757	2,777	5,447	5,393	5,285	5,179	5,075	4,974	4,874	4,777
Ldscp/Irrig	221	1,647	621	904	452	1,092	491	580	705	698	684	671	657	644	631	619
Other	1,276	592	1,313	311	2,105	1,719	24	81	167	84	79	75	72	68	65	61
<b>Total</b>	<b>81,318</b>	<b>78,809</b>	<b>85,489</b>	<b>94,804</b>	<b>86,916</b>	<b>91,662</b>	<b>72,838</b>	<b>71,435</b>	<b>80,910</b>	<b>80,019</b>	<b>78,417</b>	<b>76,846</b>	<b>75,307</b>	<b>73,798</b>	<b>72,320</b>	<b>70,872</b>
<i>x Other</i>	<i>80,042</i>	<i>78,217</i>	<i>84,176</i>	<i>94,493</i>	<i>84,811</i>	<i>89,943</i>	<i>72,815</i>	<i>71,353</i>	<i>80,743</i>	<i>79,936</i>	<i>78,337</i>	<i>76,770</i>	<i>75,235</i>	<i>73,730</i>	<i>72,256</i>	<i>70,811</i>
<b>Deliveries - GT Off-Peak Average</b>																
Single Family	45,718	45,889	45,135	52,925	41,362	23,927	35,695	45,684	43,951	42,632	41,353	40,113	38,910	37,742	36,610	35,512
Multi Family	1,591	850	1,319	1,715	802	590	736	1,005	619	613	607	601	595	589	583	577
Com/Inst	2,495	2,107	2,909	3,330	2,600	1,820	2,059	2,548	2,951	2,892	2,805	2,721	2,639	2,560	2,483	2,409
Ldscp/Irrig	2,628	1,484	1,336	1,413	1,219	1,130	1,400	1,427	1,611	1,578	1,531	1,485	1,441	1,397	1,355	1,315
Other	793	319	3,189	1,091	2,272	365	41	423	1,749	350	332	316	300	285	271	257
<b>Total</b>	<b>53,224</b>	<b>50,649</b>	<b>53,887</b>	<b>60,474</b>	<b>48,254</b>	<b>27,832</b>	<b>39,930</b>	<b>51,087</b>	<b>50,881</b>	<b>48,066</b>	<b>46,629</b>	<b>45,235</b>	<b>43,884</b>	<b>42,573</b>	<b>41,302</b>	<b>40,069</b>
<i>x Other</i>	<i>52,431</i>	<i>50,330</i>	<i>50,698</i>	<i>59,383</i>	<i>45,982</i>	<i>27,467</i>	<i>39,889</i>	<i>50,664</i>	<i>49,132</i>	<i>47,716</i>	<i>46,296</i>	<i>44,920</i>	<i>43,584</i>	<i>42,289</i>	<i>41,032</i>	<i>39,812</i>
<b>Total Deliveries</b>																
Single Family	118,440	115,696	121,110	138,270	117,533	105,140	101,503	110,003	116,198	114,157	111,448	108,805	106,228	103,714	101,262	98,871
Multi Family	7,167	5,891	6,801	6,806	6,334	5,874	5,495	4,682	2,963	2,933	2,881	2,829	2,779	2,729	2,680	2,633
Com/Inst	4,018	3,829	5,006	6,482	5,255	4,174	3,815	5,325	8,398	8,285	8,090	7,900	7,715	7,534	7,358	7,186
Ldscp/Irrig	2,848	3,131	1,957	2,318	1,671	2,222	1,890	2,007	2,316	2,277	2,215	2,156	2,098	2,041	1,987	1,933
Other	2,068	911	4,502	1,402	4,377	2,084	65	504	1,916	433	412	391	372	353	335	319
<b>Total</b>	<b>134,541</b>	<b>129,458</b>	<b>139,376</b>	<b>155,278</b>	<b>135,170</b>	<b>119,494</b>	<b>112,768</b>	<b>122,521</b>	<b>131,791</b>	<b>128,085</b>	<b>125,045</b>	<b>122,081</b>	<b>119,191</b>	<b>116,372</b>	<b>113,623</b>	<b>110,941</b>
<b>Total, round to \$100</b>	<b>134,500</b>	<b>129,500</b>	<b>139,400</b>	<b>155,300</b>	<b>135,200</b>	<b>119,500</b>	<b>112,800</b>	<b>122,500</b>	<b>131,800</b>	<b>128,100</b>	<b>125,000</b>	<b>122,100</b>	<b>119,200</b>	<b>116,400</b>	<b>113,600</b>	<b>110,900</b>
<i>x Other</i>	<i>132,473</i>	<i>128,547</i>	<i>134,874</i>	<i>153,876</i>	<i>130,793</i>	<i>117,410</i>	<i>112,703</i>	<i>122,017</i>	<i>129,875</i>	<i>127,652</i>	<i>124,634</i>	<i>121,690</i>	<i>118,819</i>	<i>116,019</i>	<i>113,287</i>	<i>110,623</i>
<b>Total Annual % Change</b>					0.5%	-11.6%	-5.6%	8.6%	7.6%	-2.8%	-2.4%	-2.4%	-2.4%	-2.4%	-2.4%	-2.4%
<i>Source: District Regulatory Filings</i>										<i>cumulative reduction FY20 - FY25 &gt;</i>						
<i>Projected % Reduction in Use is applied to the previous years' use.</i>											-2.4%	-4.7%	-6.9%	-9.1%	-11.3%	-13.4%

Projected % Reduction in Use is applied to the previous years' use.

LTE Annual Average Projected % Reduction in Use																
Single Family					1.0%	1.0%	1.0%	1.0%	0.5%	1.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Multi Family					1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Com/Inst					2.0%	2.0%	2.0%	2.0%	1.0%	1.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Ldscp/Irrig					2.0%	2.0%	2.0%	2.0%	1.0%	1.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Other					1.0%	1.0%	1.0%	1.0%	1.0%	50.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
GT Annual Average Projected % Reduction in Use																
Single Family					3.0%	3.0%	3.0%	3.0%	1.5%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Multi Family					1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Com/Inst					3.0%	3.0%	3.0%	3.0%	1.5%	2.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Ldscp/Irrig					3.0%	3.0%	3.0%	3.0%	1.5%	2.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Other					1.0%	1.0%	1.0%	1.0%	1.0%	80.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%



## Appendix B: Customer Characteristics Data

---

This Page Intentionally Blank.



Table B-2  
 Projected Water Use, CCF

Customer Class	Current	Recommended	Projected Fiscal Year						
			FY19	FY20	FY21	FY22	FY23	FY24	FY25
<b>Single Family</b>	<i>T2: 9-30</i>	<i>T2: 6-20</i>							
Tier 1	56%	49%	55,384	54,070	52,788	51,538	50,318	49,129	47,968
Tier 2	33%	32%	36,991	36,113	35,257	34,422	33,607	32,813	32,038
Tier 3	11%	19%	21,782	21,265	20,760	20,269	19,789	19,321	18,865
<b>Total Single Family</b>			<b>114,157</b>	<b>111,448</b>	<b>108,805</b>	<b>106,228</b>	<b>103,714</b>	<b>101,262</b>	<b>98,871</b>
<b>Multi Family</b>	<i>T2: 9-30</i>	<i>T2: 6-20</i>							
Tier 1	56%	49%	1,423	1,398	1,373	1,348	1,324	1,300	1,277
Tier 2	33%	32%	951	933	917	900	884	869	853
Tier 3	11%	19%	560	550	540	530	521	511	502
<b>Total Multi Family</b>			<b>2,933</b>	<b>2,881</b>	<b>2,829</b>	<b>2,779</b>	<b>2,729</b>	<b>2,680</b>	<b>2,633</b>
<b>Commercial</b>									
Tier 1									
Tier 2									
Tier 3									
<b>Total Commercial</b>			<b>8,285</b>	<b>8,090</b>	<b>7,900</b>	<b>7,715</b>	<b>7,534</b>	<b>7,358</b>	<b>7,186</b>
<b>Irrigation</b>									
Tier 1									
Tier 2									
Tier 3									
<b>Total Irrigation</b>			<b>2,277</b>	<b>2,215</b>	<b>2,156</b>	<b>2,098</b>	<b>2,041</b>	<b>1,987</b>	<b>1,933</b>
<b>All Billable Meters</b>									
Tier 1			56,808	55,468	54,161	52,886	51,642	50,429	49,246
Tier 2			37,941	37,046	36,173	35,322	34,491	33,681	32,891
Tier 3			22,341	21,814	21,300	20,799	20,310	19,833	19,367
<b>Total All Billable Meters</b>			<b>127,652</b>	<b>124,634</b>	<b>121,690</b>	<b>118,819</b>	<b>116,019</b>	<b>113,287</b>	<b>110,623</b>
<b>Annual Change</b>									
CCF				(3,018)	(2,944)	(2,871)	(2,800)	(2,731)	(2,664)
% Annual				-2.4%	-2.4%	-2.4%	-2.4%	-2.4%	-2.4%
% Cumulative				-2.4%	-4.7%	-6.9%	-9.1%	-11.3%	-13.3%



## Appendix C: Financial Reserves Policy

---

This Page Intentionally Blank.

# **Aromas Water District Resolution 2014-1 Adopting Financial Reserves Policy**

## **Purpose:**

The purpose of the Reserves policy for *AROMAS WATER DISTRICT* is to ensure the stability of the mission, programs, employment, and ongoing operations of the organization and to provide a source of internal funds for organizational priorities such as building repair and improvement, capital projects, emergencies, program opportunity, and capacity building.

The Reserves policy will be implemented in concert with the other governance and financial polices of *AROMAS WATER DISTRICT* and is intended to support the goals and strategies contained in these related policies and in strategic and operational plans.

## **Definitions and Goals:**

### Types of Reserves

The **Operating Reserve** is intended to provide an internal source of funds for situations such as a sudden increase in expenses, one-time unbudgeted expenses, unanticipated loss in funding, or uninsured losses. Operating Reserves are not intended to replace a permanent loss of funds or eliminate an ongoing budget gap. It is the intention of *AROMAS WATER DISTRICT* for Operating Reserves to be used and replenished within a reasonably short period of time. The Operating Reserve Fund is defined as the designated fund set aside by action of the Board of Directors.

The target minimum Operating Reserve Fund is equal to three months of average operating costs. The calculation of average monthly operating costs includes all recurring, predictable expenses such as salaries and benefits, occupancy, office, travel, program, and ongoing professional services. Depreciation, in-kind, and other non-cash expenses are not included in the calculation. The calculation of average monthly expenses also excludes one-time or unusual capital expenses.

The amount of the Operating Reserve fund target minimum will be calculated each year after approval of the annual budget, reported to the Board of Directors, and included in the regular financial reports.

The District should consider the level of needed unrestricted fund balance in order to have sufficient unrestricted operation or working capital to provide cash to cover cash balance fluctuations on a month to month basis. Typically this minimum cash balance would be a minimum of 60 days to a maximum of 180 days of its annual operation expenses. For Aromas Water District that unrestricted amount would be between \$150,000 and \$300,000.

The **Capital Emergency Reserve** is intended to handle costs associated with system failures due to unplanned or catastrophic events. The District should consider if it is prudent to establish and maintain a reserve to handle such events. Methods used to

calculate could be (1) a small percent of overall assets (such as 2% of total assets) or (2) the cost of the items at most risk/most vulnerable component of the system (say a specific pumping station, key water transmission line or water storage site). An Emergency Reserve at 2% of total assets would be about \$125,000. For replacement estimates, the District should consider potential catastrophic failures to the most vulnerable parts of the system. For example, during a major earthquake, this could include storage tank replacement, well loss and multiple water line ruptures. The estimates here could easily exceed \$500,000.

The **Capital Funding Reserve** would typically have projections out to 15 to 30 years, and include a plan for ongoing funding and use of the reserve funds. This fund does not have a rule of thumb as the two reserves above; the reserve needs to be specific to the planned rehabilitation of infrastructure and needed capital improvements.

Once the reserves are determined annual resolutions should be made to designate funds in accordance with the policy and in relation to planned capital improvements as recommended in the Strategic Plan.

### **Funding of Reserves:**

The Reserve funds will be funded with surplus unrestricted operating funds. The Board of Directors may from time to time direct that a specific source of revenue be set aside for the Reserves. Examples could include one-time gifts or bequests, special grants, or special assessments.

### **Use of Reserves:**

Use of the Reserves requires three steps:

#### 1. Identification of appropriate use of reserve funds.

The General Manager and staff will identify the need for access reserve funds and confirm that the use is consistent with the purpose of the reserves as described in this Policy. This step requires analysis of the reason for the shortfall, the availability of any other sources of funds before using reserves, and evaluation of the time period that the funds will be needed and replenished.

#### 2. Authority to use Reserves.

Authority for use of up to 20% of Reserves is delegated to the General Manager in consultation with the President of the Board of Directors. The use of Reserves will be reported to the Executive Committee/Board of Directors at their next scheduled meeting, accompanied by a description of the analysis and determination of the use of funds and plans for replenishment to restore the Reserve fund to the target minimum amount. The General Manager must receive prior approval from the Board of Directors for use of Reserves in excess of 20%

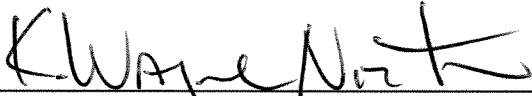
3. Reporting and monitoring.

The General Manager is responsible for assuring that the Reserve funds are maintained and used only as described in this Policy. Upon approval for the use of Reserve funds, the General Manager will maintain records of the use of funds and plan for replenishment, if required. He/she will provide regular reports to the Board of Directors of progress to restore the fund to the target minimum amount, if required.

**Review of Policy:**

This Policy will be reviewed every 5 years or sooner if warranted by internal or external events or changes. Changes to the Policy will be recommended by the General Manager and approved by the Board of Directors.

Approved:

  
\_\_\_\_\_  
Director K. WAYNE NORTON, PRESIDENT

I hereby certify that the foregoing Resolution was duly passed and adopted by the Board of Directors of the Aromas Water District at a legal meeting held on the 28th day of January, 2014 by the following vote:

Ayes: HOLMAN, MAHLER, DUTRA, NORTON, LEAP

Noes: NONE

Absent: NONE

In Witness Hereof, I have hereunto set my hand and affixed the official seal of the Aromas Water District.

  
\_\_\_\_\_  
Lisa Dobbins, District Secretary



This Page Intentionally Blank.

## Appendix D: Water Fees Development Tables

---

This Page Intentionally Blank.



Table D-1  
Expenditures, \$

Expense Category	Budget	<i>Proj.</i>	Budget	Projected Fiscal Year						Total
	FY19	<i>Cost Esc.</i>	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY20 - FY25
<b>Operating Expenses</b>										
Administrative & General	76,125	3%	76,125	78,409	80,761	83,184	85,679	88,250	90,897	583,305
Debt Payments	147,257	na	147,257	147,257	147,257	110,437	110,437	110,437	110,437	883,519
Communications	11,200	3%	11,200	15,244	15,701	16,172	16,658	17,157	17,672	109,804
Payroll	439,114	3%	439,114	452,287	465,856	479,832	494,227	509,054	524,325	3,364,694
Employee Costs	170,840	3%	170,840	175,965	181,244	186,682	192,282	198,050	203,992	1,309,055
Office	22,000	3%	22,000	22,660	23,340	24,040	24,761	25,504	26,269	168,574
Operations	106,500	3%	106,500	109,695	112,986	116,376	119,867	123,463	127,167	816,053
Power	71,250	3%	71,250	73,388	75,589	77,857	80,193	82,598	85,076	545,950
<b>Total Operating Expenses</b>	<b>1,044,286</b>		<b>1,044,286</b>	<b>1,074,905</b>	<b>1,102,734</b>	<b>1,094,579</b>	<b>1,124,103</b>	<b>1,154,513</b>	<b>1,185,835</b>	<b>7,780,955</b>
<b>Capital Expenses</b>										
Capital Projects Expense/Reserve	153,000	na	153,000	174,000	405,000	405,000	275,000	75,000	650,000	2,137,000
Capital Emergency Reserve	0	na	0	80,000	80,000	80,000	80,000	80,000	80,000	480,000
Loan Prepayment Reserve	0	na	0	0	0	50,000	50,000	50,000	50,000	200,000
<b>Total Capital Expenses</b>	<b>153,000</b>		<b>153,000</b>	<b>254,000</b>	<b>485,000</b>	<b>535,000</b>	<b>405,000</b>	<b>205,000</b>	<b>780,000</b>	<b>2,817,000</b>
<b>Total Operating &amp; Capital Expenses</b>	<b>1,197,286</b>		<b>1,197,286</b>	<b>1,328,905</b>	<b>1,587,734</b>	<b>1,629,579</b>	<b>1,529,103</b>	<b>1,359,513</b>	<b>1,965,835</b>	<b>10,597,955</b>
<b>Other Impacts (Credits)</b>										
Bulk Water	(15,000)	0%	(2,123)	(2,626)	(2,704)	(2,773)	(2,838)	(2,901)	(2,880)	(18,845)
Connection	(13,300)	na	0	0	0	0	0	0	0	0
Oakridge/OAWA Assmt										
Tax Receipts	(66,000)	0%	(66,000)	(66,000)	(66,000)	(66,000)	(66,000)	(66,000)	(66,000)	(462,000)
Miscellaneous	(2,000)	0%	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(14,000)
Interest	(17,000)	0%	(17,000)	(17,000)	(17,000)	(17,000)	(17,000)	(17,000)	(17,000)	(119,000)
Grants	(2,600)	na	0	0	0	0	0	0	0	0
<b>Total Other Impacts (Credits)</b>	<b>(115,900)</b>		<b>(87,123)</b>	<b>(87,626)</b>	<b>(87,704)</b>	<b>(87,773)</b>	<b>(87,838)</b>	<b>(87,901)</b>	<b>(87,880)</b>	<b>(613,845)</b>
<b>Add/(Use) Fund Balance</b>										
Revenue Required from Rates	1,081,386		1,110,163	1,241,279	1,500,030	1,541,806	1,441,265	1,271,612	1,877,955	9,984,110
<b>Annual Change in Revenue Requirements</b>										
Dollars			28,777	131,116	258,751	41,776	(100,541)	(169,653)	606,343	
Percent			0%	11%	19%	3%	-6%	-11%	45%	

Table D-2  
 "Plant in Service" Factors

Plant in Service, \$	Replacement Values [1]	Base (BASE)	Extra Capacity (CAP)	Fire Protection (FP)	Meters and Service Lat. (MTR)	Customer (CUS)	Basis of Allocation				
							(BASE)	(CAP)	(FP)	(MTR)	(CUS)
Wells	2,000,000	1,380,000	220,000	400,000			69% BASE	11% CAP	20% PFP		
Pumps	400,000	188,000	84,000	128,000			47% BASE	21% CAP	32% PFP		
Treatment	850,000	586,500	93,500	170,000			69% BASE	11% CAP	20% PFP		
Storage	1,475,000	693,250	309,750	472,000			47% BASE	21% CAP	32% PFP		
Transmission Mains	13,925,000	6,544,750	2,924,250	4,456,000			47% BASE	21% CAP	32% PFP		
Distribution Lines	7,211,000	3,389,170	1,514,310	2,307,520			47% BASE	21% CAP	32% PFP		
Hydrants	1,183,000			1,183,000					100% PFP		
Meters	717,750				717,750					100% MTR	
Service Laterals	2,392,500				2,392,500					100% MTR	
Buildings	650,000					650,000					100% CUS
<b>Total</b>	<b>30,804,250</b>	<b>12,781,670</b>	<b>5,145,810</b>	<b>9,116,520</b>	<b>3,110,250</b>	<b>650,000</b>					
% of Total		41%	17%	30%	10%	2%	"Plant in Service" Factors				

[1] Replacement values were developed by the District.

Table D-3  
Functional Allocation of Revenue Requirements, \$

Item	Projected FY19	Base (BASE)	Extra Capacity (CAP)	Fire Protection (FP)	Meters and Service Lat. (MTR)	Customer (CUS)	Basis of Allocation [1,2]
<b>Operating Expenses</b>							
Administrative & General	76,125	31,587	12,717	22,529	7,686	1,606	"Plant in Service" Factors
Debt Payments	147,257	61,102	24,599	43,581	14,868	3,107	"Plant in Service" Factors
Communications	11,200	4,647	1,871	3,315	1,131	236	"Plant in Service" Factors
Payroll	439,114	182,202	73,353	129,956	44,337	9,266	"Plant in Service" Factors
Employee Costs	170,840	70,887	28,539	50,560	17,249	3,605	"Plant in Service" Factors
Office	22,000	0	0	0	0	22,000	100% CUS
Operations	106,500	44,190	17,791	31,519	10,753	2,247	"Plant in Service" Factors
Power	71,250	42,750	28,500	0	0	0	"Power" Factors
<b>Total Operating Expenses</b>	<b>1,044,286</b>	<b>437,365</b>	<b>187,369</b>	<b>281,459</b>	<b>96,024</b>	<b>42,068</b>	
<b>Capital Expenses</b>							
Construction	153,000	63,485	25,558	45,280	15,448	3,228	"Plant in Service" Factors
Debt Payment Reserve	0	0	0	0	0	0	"Plant in Service" Factors
Depreciation Reserve	0	0	0	0	0	0	"Plant in Service" Factors
<b>Total Capital Expenses</b>	<b>153,000</b>	<b>63,485</b>	<b>25,558</b>	<b>45,280</b>	<b>15,448</b>	<b>3,228</b>	
<b>Other Impacts (Credits)</b>							
Bulk Water	(2,123)	(2,123)	0	0	0	0	100% BASE
Connection	0	0	0	0	0	0	"Plant in Service" Factors
Oakridge/OAWA Assmt	0	0	0	0	0	0	"Plant in Service" Factors
Tax Receipts	(66,000)	(27,386)	(11,025)	(19,533)	(6,664)	(1,393)	"Plant in Service" Factors
Miscellaneous	(2,000)	0	0	0	0	(2,000)	100% CUS
Interest	(17,000)	(7,054)	(2,840)	(5,031)	(1,716)	(359)	"Plant in Service" Factors
Grants	0	0	0	0	0	0	"Plant in Service" Factors
<b>Total Other Impacts (Credits)</b>	<b>(87,123)</b>	<b>(36,563)</b>	<b>(13,865)</b>	<b>(24,564)</b>	<b>(8,380)</b>	<b>(3,751)</b>	
Revenue Required from Rates	1,110,163	464,287	199,063	302,176	103,092	41,545	
<b>REVENUE REQUIREMENT ALLOCATION</b>		<b>41.8%</b>	<b>17.9%</b>	<b>27.2%</b>	<b>9.3%</b>	<b>3.7%</b>	

Notes:

[1] The "Plant in Service" factors are from Table D-2.

[2] The "Power" factors are based on a 60 percent allocation to Base and 40 percent allocation to Extra Capacity.

Table D-4  
Revenue Requirement Allocations, \$

Expense Category	Cost Allocation	Projected Fiscal Year					Total FY20 - FY24	
		FY20	FY21	FY22	FY23	FY24		FY25
Revenue Required from Rates		1,220,000	1,290,000	1,360,000	1,430,000	1,500,000	1,530,000	6,800,000
Base	42%	510,223	539,498	568,773	598,048	627,323	639,870	2,843,865
Extra Capacity	18%	218,758	231,309	243,861	256,413	268,964	274,344	1,219,305
Fire Protection	27%	332,072	351,126	370,179	389,232	408,286	416,451	1,850,895
Meters/Service Laterals	9%	113,292	119,792	126,293	132,793	139,293	142,079	631,463
Customer	4%	45,655	48,275	50,894	53,514	56,133	57,256	254,472

Notes:

[1] Cost allocation percentages are from Table D-3.

Table D-5  
Unit Costs of Service

Expense Category	Cost Allocation [1]	Projected Fiscal Year					
		FY20	FY21	FY22	FY23	FY24	FY25
<b>Revenue Required from Rates</b>		<b>\$1,220,000</b>	<b>\$1,290,000</b>	<b>\$1,360,000</b>	<b>\$1,430,000</b>	<b>\$1,500,000</b>	<b>\$1,530,000</b>
<b>Base + Extra Capacity</b>							
Revenue Allocation	60%	\$728,981	\$770,807	\$812,634	\$854,461	\$896,288	\$914,213
Units of Use (hundred cubic feet)		125,000	122,100	119,200	116,400	113,600	110,900
Average Commodity Rate (\$/CCF)		\$5.83	\$6.31	\$6.82	\$7.34	\$7.89	\$8.24
<b>Fire Protection</b>							
Revenue Allocation	27%	\$332,072	\$351,126	\$370,179	\$389,232	\$408,286	\$416,451
Units of Use (equivalent meters)		1,010	1,010	1,010	1,010	1,010	1,010
Fire Protection Rate (\$/eq. mtr-month)		\$27.40	\$28.97	\$30.54	\$32.11	\$33.69	\$34.36
<b>Meters/Service Laterals</b>							
Revenue Allocation	9%	\$113,292	\$119,792	\$126,293	\$132,793	\$139,293	\$142,079
Units of Use (equivalent meters)		1,010	1,010	1,010	1,010	1,010	1,010
Meter/Lateral Rate (\$/eq. mtr-month)		\$9.35	\$9.88	\$10.42	\$10.96	\$11.49	\$11.72
<b>Customer</b>							
Revenue Allocation	4%	\$45,655	\$48,275	\$50,894	\$53,514	\$56,133	\$57,256
Units of Use (accounts)		975	975	975	975	975	975
Account Rate (\$/acct-month)		\$3.90	\$4.13	\$4.35	\$4.57	\$4.80	\$4.89

Notes:

[1] Cost allocation percentages are from Table D-3.

Table D-6  
Base Cost Allocations

Expense Category		Projected Fiscal Year					
		FY20	FY21	FY22	FY23	FY24	FY25
<b>Revenue Required from Rates</b>		<b>\$1,220,000</b>	<b>\$1,290,000</b>	<b>\$1,360,000</b>	<b>\$1,430,000</b>	<b>\$1,500,000</b>	<b>\$1,530,000</b>
Base Allocation	42%	\$510,223	\$539,498	\$568,773	\$598,048	\$627,323	\$639,870
	<i>% Revenue Allocation [1]</i>						
Single Family	89.5%	\$456,492	\$482,684	\$508,876	\$535,068	\$561,260	\$572,486
Muli Family	2.3%	\$11,640	\$12,308	\$12,976	\$13,644	\$14,312	\$14,598
Commercial/Instiutional	6.5%	\$32,992	\$34,885	\$36,778	\$38,671	\$40,564	\$41,375
Landscape Irrigation	1.8%	\$9,099	\$9,621	\$10,143	\$10,665	\$11,187	\$11,410

Notes:

[1] Cost allocation percentages are based on average daily use during 2018.

Table D-7  
Extra Capacity Cost Allocations

Expense Category		Projected Fiscal Year					
		FY20	FY21	FY22	FY23	FY24	FY25
<b>Revenue Required from Rates</b>		<b>\$1,220,000</b>	<b>\$1,290,000</b>	<b>\$1,360,000</b>	<b>\$1,430,000</b>	<b>\$1,500,000</b>	<b>\$1,530,000</b>
Extra Capacity Allocation	18%	\$218,758	\$231,309	\$243,861	\$256,413	\$268,964	\$274,344
	<i>% Revenue Allocation [1]</i>						
Single Family	88.7%	\$194,062	\$205,197	\$216,332	\$227,466	\$238,601	\$243,373
Muli Family	2.0%	\$4,388	\$4,640	\$4,892	\$5,144	\$5,395	\$5,503
Commercial/Instiutional	7.1%	\$15,461	\$16,349	\$17,236	\$18,123	\$19,010	\$19,390
Landscape Irrigation	2.2%	\$4,846	\$5,124	\$5,402	\$5,680	\$5,958	\$6,077

Notes:

[1] Cost allocation percentages are based on maximum month use during 2018.

Table D-8  
Single Family and Multi Family Water Use Fees

Expense Category	Projected Fiscal Year					
	FY20	FY21	FY22	FY23	FY24	FY25
<b>Revenue Allocation</b>						
<b>Single Family</b>						
Base	\$456,492	\$482,684	\$508,876	\$535,068	\$561,260	\$572,486
Extra Capacity	\$194,062	\$205,197	\$216,332	\$227,466	\$238,601	\$243,373
<b>Total</b>	<b>\$650,554</b>	<b>\$687,881</b>	<b>\$725,208</b>	<b>\$762,535</b>	<b>\$799,862</b>	<b>\$815,859</b>
<b>Multi Family</b>						
Base	\$11,640	\$12,308	\$12,976	\$13,644	\$14,312	\$14,598
Extra Capacity	\$4,388	\$4,640	\$4,892	\$5,144	\$5,395	\$5,503
<b>Total</b>	<b>\$16,029</b>	<b>\$16,948</b>	<b>\$17,868</b>	<b>\$18,788</b>	<b>\$19,707</b>	<b>\$20,101</b>
<b>Single / Multi Family</b>						
Base	\$468,132	\$494,992	\$521,852	\$548,712	\$575,572	\$587,084
Extra Capacity	\$198,450	\$209,837	\$221,223	\$232,610	\$243,996	\$248,876
<b>Total Single / Multi Family</b>	<b>\$666,583</b>	<b>\$704,829</b>	<b>\$743,076</b>	<b>\$781,322</b>	<b>\$819,569</b>	<b>\$835,960</b>
<b>Water Use Fees</b>						
<b>Customer Class Average</b>						
Revenue Allocation	\$666,583	\$704,829	\$743,076	\$781,322	\$819,569	\$835,960
Single Family	111,448	108,805	106,228	103,714	101,262	98,871
Multi Family	2,881	2,829	2,779	2,729	2,680	2,633
Units of Use (hundred cubic feet)	114,328	111,634	109,007	106,443	103,943	101,504
Average Commodity Rate (\$/ccf)	\$5.84	\$6.32	\$6.82	\$7.35	\$7.89	\$8.24
<b>Three-Tiers [1]</b>						
<b>Tier 1 Revenue Allocation</b>						
Single Family	54,070	52,788	51,538	50,318	49,129	47,968
Multi Family	1,398	1,373	1,348	1,324	1,300	1,277
Units of Use (hundred cubic feet)	55,468	54,161	52,886	51,642	50,429	49,246
Average Commodity Rate (\$/ccf)	\$3.97	\$4.30	\$4.64	\$5.00	\$5.37	\$5.61
<b>Tier 2 Revenue Allocation</b>						
Single Family	36,113	35,257	34,422	33,607	32,813	32,038
Multi Family	933	917	900	884	869	853
Units of Use (hundred cubic feet)	37,046	36,173	35,322	34,491	33,681	32,891
Average Commodity Rate (\$/ccf)	\$6.70	\$7.26	\$7.84	\$8.44	\$9.06	\$9.47
<b>Tier 3 Revenue Allocation</b>						
Single Family	21,265	20,760	20,269	19,789	19,321	18,865
Multi Family	550	540	530	521	511	502
Units of Use (hundred cubic feet)	21,814	21,300	20,799	20,310	19,833	19,367
Average Commodity Rate (\$/ccf)	\$9.10	\$9.86	\$10.64	\$11.46	\$12.31	\$12.86



Table D-9  
Commercial/Institutional/Landscape Water Use Fees

Expense Category	Projected Fiscal Year					
	FY20	FY21	FY22	FY23	FY24	FY25
<b>Multiple Family</b>						
Base	\$11,640	\$12,308	\$12,976	\$13,644	\$14,312	\$14,598
Extra Capacity	\$4,388	\$4,640	\$4,892	\$5,144	\$5,395	\$5,503
<b>Total</b>	<b>\$16,029</b>	<b>\$16,948</b>	<b>\$17,868</b>	<b>\$18,788</b>	<b>\$19,707</b>	<b>\$20,101</b>
<b>Water Use Fees</b>						
<b>Customer Class Average</b>						
Revenue Allocation	\$16,029	\$16,948	\$17,868	\$18,788	\$19,707	\$20,101
Units of Use (CCF)	2,881	2,829	2,779	2,729	2,680	2,633
Average Commodity Rate (\$/CCF)	\$5.57	\$6.00	\$6.44	\$6.89	\$7.36	\$7.64
<b>Commercial/Institutional</b>						
Base	\$32,992	\$34,885	\$36,778	\$38,671	\$40,564	\$41,375
Extra Capacity	\$15,461	\$16,349	\$17,236	\$18,123	\$19,010	\$19,390
<b>Total</b>	<b>\$48,454</b>	<b>\$51,234</b>	<b>\$54,014</b>	<b>\$56,794</b>	<b>\$59,574</b>	<b>\$60,766</b>
<b>Water Use Fees</b>						
<b>Customer Class Average</b>						
Revenue Allocation	\$48,454	\$51,234	\$54,014	\$56,794	\$59,574	\$60,766
Units of Use (CCF)	8,090	7,900	7,715	7,534	7,358	7,186
Average Commodity Rate (\$/CCF)	\$5.99	\$6.49	\$7.01	\$7.54	\$8.10	\$8.46
<b>Landscape</b>						
Base	\$9,099	\$9,621	\$10,143	\$10,665	\$11,187	\$11,410
Extra Capacity	\$4,846	\$5,124	\$5,402	\$5,680	\$5,958	\$6,077
<b>Total</b>	<b>\$13,944</b>	<b>\$14,744</b>	<b>\$15,544</b>	<b>\$16,345</b>	<b>\$17,145</b>	<b>\$17,488</b>
<b>Water Use Fees</b>						
<b>Customer Class Average</b>						
Revenue Allocation	\$13,944	\$14,744	\$15,544	\$16,345	\$17,145	\$17,488
Units of Use (CCF)	2,215	2,156	2,098	2,041	1,987	1,933
Average Commodity Rate (\$/CCF)	\$6.30	\$6.84	\$7.41	\$8.01	\$8.63	\$9.05
<b>Nonresidential (Commercial/Institutional/Landscape)</b>						
Base	\$42,091	\$44,506	\$46,921	\$49,336	\$51,751	\$52,786
Extra Capacity	\$20,307	\$21,472	\$22,638	\$23,803	\$24,968	\$25,467
<b>Total</b>	<b>\$62,398</b>	<b>\$65,978</b>	<b>\$69,558</b>	<b>\$73,139</b>	<b>\$76,719</b>	<b>\$78,253</b>
<b>Water Use Fees</b>						
<b>Customer Class Average</b>						
Revenue Allocation	#####	\$62,398	\$65,978	\$69,558	\$73,139	\$76,719
Units of Use (CCF)	6,150	10,305	10,056	9,813	9,576	9,119
Average Commodity Rate (\$/CCF)	\$6.07	\$6.06	\$6.57	\$7.09	\$7.64	\$8.22

Notes:

[1] Cost allocation percentages are from Table D-6 and Table D-7.

Table D-10  
Base Rate Fees

Expense Category	Projected Fiscal Year						
	FY20	FY21	FY22	FY23	FY24	FY25	
<b>Unit Costs</b>							
Fire Protection Rate (\$/eq. mtr-month)	\$27.40	\$28.97	\$30.54	\$32.11	\$33.69	\$34.36	
Meter/Lateral Rate (\$/eq. mtr-month)	\$9.35	\$9.88	\$10.42	\$10.96	\$11.49	\$11.72	
Account Rate (\$/acct-month)	\$3.90	\$4.13	\$4.35	\$4.57	\$4.80	\$4.89	
<b>Base Rate Fees</b>							
Meter Size	<i>Meter Ratio</i>						
5/8 x 3/4-inch	1.0	\$40.60	\$43.00	\$45.30	\$47.60	\$50.00	\$51.00
1-inch	2.5	\$96.00	\$101.00	\$107.00	\$112.00	\$118.00	\$120.00
1½-inch	5.0	\$188.00	\$198.00	\$209.00	\$220.00	\$231.00	\$235.00
2-inch	8.0	\$298.00	\$315.00	\$332.00	\$349.00	\$366.00	\$374.00
3-inch	17.5	\$647.00	\$684.00	\$721.00	\$758.00	\$795.00	\$811.00
4-inch	30.0	\$1,106.00	\$1,170.00	\$1,233.00	\$1,297.00	\$1,360.00	\$1,387.00
6-inch	62.5	\$2,300.00	\$2,430.00	\$2,560.00	\$2,700.00	\$2,830.00	\$2,890.00

Notes:

[1] Unit costs are from Table D-5.

## Appendix E: Water Capacity Charges Development Tables

This Page Intentionally Blank.

Table E-1

## List of Assets and Estimated Replacement Values

Item	Category	Description	Count	Units	Unit Cost	Total Cost
1	Wells	San Juan Well/Building	1	each	\$700,000	\$700,000
2	Wells	Carpenteria	1	each	\$400,000	\$400,000
3	Wells	Pleasant Acres	1	each	\$500,000	\$500,000
4	Wells	Marshall(inactive)	1	each	\$400,000	\$400,000
5	Treatment	San Juan Treatment Plant and Tank	1	each	\$400,000	\$400,000
6	Pumps	Seely Cole 4-25 hp	1	each	\$350,000	\$350,000
7	Pumps	Seely/Rea 10 & 15 hp	1	each	\$150,000	\$150,000
8	Pumps	Leo Pump Station 4-5 hp	1	each	\$150,000	\$150,000
9	Pumps	Carr Station/Building 2-20hp	1	each	\$200,000	\$200,000
10	Pump Station	Upper Oakridge Booster 1-2 hp	1	each	\$32,110	\$32,000
11	Pump Station	Lower Oakridge Booster 2-15 hp	1	each	\$68,513	\$69,000
12	Telemetry	XiO H/W & S/W Monitor & control	1	each	\$24,105	\$24,000
13	Telemetry	SCADA	1	each	\$250,000	\$250,000
14	Storage	Carr-214,000 gallons	1	each	\$250,000	\$250,000
15	Storage	Cole -214,000 gallons	1	each	\$250,000	\$250,000
16	Storage	RLS 240,000 gallons	1	each	\$275,000	\$275,000
17	Storage	Rea 214,000 gallons	1	each	\$250,000	\$250,000
18	Storage	Pinetree 214,000 gallons	1	each	\$250,000	\$250,000
19	Storage	Ballantree 15,000 gallons	2	each	\$50,000	\$100,000
20	Storage	School 15,000 gallons	2	each	\$50,000	\$100,000
21	Transmission Mains	4-inch diameter	3,000	lineal feet	\$110	\$330,000
22	Transmission Mains	6-inch diameter	24,100	lineal feet	\$110	\$2,651,000
23	Transmission Mains	8-inch diameter	38,285	lineal feet	\$130	\$4,977,000
24	Transmission Mains	10-inch diameter	26,550	lineal feet	\$140	\$3,717,000
25	Transmission Mains	12-inch diameter	15,000	lineal feet	\$150	\$2,250,000
26	Distribution Lines	other	350	lineal feet	\$110	\$39,000
27	Distribution Lines	4-inch diameter	6,750	lineal feet	\$110	\$743,000
28	Distribution Lines	6-inch diameter	46,820	lineal feet	\$110	\$5,150,000
29	Distribution Lines	8-inch diameter	2,000	lineal feet	\$130	\$260,000
30	Distribution Lines	10-inch diameter	7,281	lineal feet	\$140	\$1,019,000
31	Hydrants		182	each	\$6,500	\$1,183,000
32	Meters		957	each	\$750	\$717,800
33	Service Laterals		957	each	\$2,500	\$2,392,500
34	Buildings	388 Blohm Avenue	1	lot	\$500,000	\$500,000
35	Buildings	Marshall Operations Center	1	lot	\$150,000	\$150,000
<b>Total</b>						<b>\$31,179,300</b>

Table E-2  
 Estimated Revenue from Capacity Charges

Fiscal Year	Revenue [1]	Time Value Factor [2]			Adjusted Revenue
		Annual %	Year	Factor	
FY19	\$0	3.0%	0	1.00	\$0
FY18	\$51,560	3.0%	1	1.03	\$53,107
FY17	\$0	3.0%	2	1.06	\$0
FY16	\$12,790	3.0%	3	1.09	\$13,976
FY15	\$577,005	3.0%	4	1.13	\$649,424
FY14	\$32,529	3.0%	5	1.16	\$37,710
FY13	\$10,843	3.0%	6	1.19	\$12,947
FY12	\$0	3.0%	7	1.23	\$0
FY11	\$20,362	3.0%	8	1.27	\$25,794
FY10	\$28,678	3.0%	9	1.30	\$37,418
FY09	\$107,712	3.0%	10	1.34	\$144,756
FY08	\$32,459	3.0%	11	1.38	\$44,931
FY07	\$25,609	3.0%	12	1.43	\$36,512
FY06	\$20,980	3.0%	13	1.47	\$30,810
FY05	\$311,700	3.0%	14	1.51	\$471,474
FY04	\$15,000	3.0%	15	1.56	\$23,370
FY03	\$4,200	3.0%	16	1.60	\$6,740
FY02	\$61,230	3.0%	17	1.65	\$101,204
FY01	\$30,351	3.0%	18	1.70	\$51,671
FY00	\$727,600	3.0%	19	1.75	\$1,275,851
FY99	\$54,600	3.0%	20	1.81	\$98,614
FY98	\$21,850	3.0%	21	1.86	\$40,647
FY97	\$37,800	3.0%	22	1.92	\$72,429
FY96	\$29,400	3.0%	23	1.97	\$58,023
FY95	\$66,980	3.0%	24	2.03	\$136,157
FY94	\$20,000	3.0%	25	2.09	\$41,876
FY93	\$20,000	3.0%	26	2.16	\$43,132
FY92	\$20,000	3.0%	27	2.22	\$44,426
FY91	\$20,000	3.0%	28	2.29	\$45,759
FY90	\$20,000	3.0%	29	2.36	\$47,131
FY89	\$20,000	3.0%	30	2.43	\$48,545
FY88	\$20,000	3.0%	31	2.50	\$50,002
FY87	\$20,000	3.0%	32	2.58	\$51,502
FY86	\$20,000	3.0%	33	2.65	\$53,047
FY85	\$20,000	3.0%	34	2.73	\$54,638
FY84	\$20,000	3.0%	35	2.81	\$56,277
FY83	\$20,000	3.0%	36	2.90	\$57,966
FY82	\$20,000	3.0%	37	2.99	\$59,705
FY81	\$20,000	3.0%	38	3.07	\$61,496
FY80	\$20,000	3.0%	39	3.17	\$63,341
FY79	\$20,000	3.0%	40	3.26	\$65,241
FY78	\$20,000	3.0%	41	3.36	\$67,198
FY77	\$20,000	3.0%	42	3.46	\$69,214
FY76	\$20,000	3.0%	43	3.56	\$71,290
FY75	\$20,000	3.0%	44	3.67	\$73,429
FY74	\$20,000	3.0%	45	3.78	\$75,632
FY73	\$20,000	3.0%	46	3.90	\$77,901
FY72	\$20,000	3.0%	47	4.01	\$80,238
FY71	\$20,000	3.0%	48	4.13	\$82,645
FY70	\$20,000	3.0%	49	4.26	\$85,124
FY69	\$20,000	3.0%	50	4.38	\$87,678
FY68	\$20,000	3.0%	51	4.52	\$90,308
FY67	\$20,000	3.0%	52	4.65	\$93,018
FY66	\$20,000	3.0%	53	4.79	\$95,808
FY65	\$20,000	3.0%	54	4.93	\$98,682
FY64	\$20,000	3.0%	55	5.08	\$101,643
FY63	\$20,000	3.0%	56	5.23	\$104,692
FY62	\$20,000	3.0%	57	5.39	\$107,833
FY61	\$20,000	3.0%	58	5.55	\$111,068
FY60	\$20,000	3.0%	59	5.72	\$114,400
FY59	\$20,000	3.0%	60	5.89	\$117,832
<b>Total</b>	<b>\$3,001,238</b>				<b>\$6,073,280</b>

[1] Revenue for FY95 - FY19 is from the accounting system. The annual average value for years prior to FY95 were estimated by the District.

[2] The annual percent adjustment is for the time value of money.