



FINAL

Water and Wastewater Charges Study

Prepared for
San Lorenzo Valley Water District, California
March 2013

**MUNICIPAL
FINANCIAL
SERVICES**

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List of Abbreviations

BOD	Biochemical Oxygen Demand
Ccf	Hundred Cubic Feet (equal to ~ 748.1 gallons)
CCI	Construction Cost Index
CIP	Capital improvement program
District	San Lorenzo Valley Water District
FY	Fiscal year (July 1 to June 30)
ENR	Engineering News Record
FY 14	July 1, 2013 to June 30, 2014
gpd	gallons per Day
mgd	million gallons per day
NPDES	National Pollutant Discharge Elimination System
OMWC	Olympia Mutual Water Company
O&M	Operation and maintenance
SLVWD	San Lorenzo Valley Water District
TSS	Total Suspended Solids

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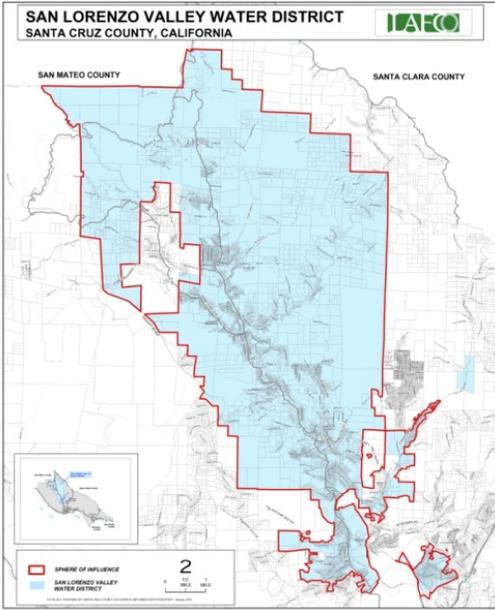
Executive Summary

The precursor to the San Lorenzo Valley Water District (SLVWD or District) was formed in 1941 pursuant to provisions in the California Water Code. The District is located in the mountains of Northern Santa Cruz County in the community of Boulder Creek. It was created to develop a water supply for domestic requirements as well as for fire protection and recreational facilities in the San Lorenzo Valley. The District contains approximately 60 square miles and serves approximately 7,300 water customers and 55 sewer customers. The District is governed by a five person Board of Directors elected to four year terms by registered voters throughout the District’s boundaries.

The District has two proprietary funds – the Water Enterprise Fund and the Wastewater Enterprise Fund. The objective of this study is to develop rates that adequately provide for utility operations, capital costs, reserves, and bonded debt, while minimizing the impact on users as much as is reasonably possible.

Water System Description

The District supplies water to the communities of Boulder Creek, Brookdale, Ben Lomond, Zayante, Scotts Valley, Manana Woods and Felton.



The District relies on six surface water sources in the upper watershed, primarily during the wet season, and on several groundwater sources, which tap the Santa Margarita Sandstone and the Lompico aquifers, primarily in the dry season.

The District owns approximately 1,800 acres serving as watershed for its surface water intakes and wells.

The District has four separate water systems: the Northern, the Southern, Felton, and Mañana Woods. Felton is served by surface and spring water. The Northern system is served by both surface water and groundwater. The Southern system and Mañana Woods are currently served only by groundwater.

Key elements of the District’s water production, treatment and distribution system are: 1) 8 groundwater wells and pumps with peak capacity of 1.25 million gallons per day (mgd); 2) Surface Water Treatment Plant with peak capacity of 1.5 mgd; 3) 150 miles of water lines, 4) approximately

2000 level indicators, alarms, switches as part of the Supervisory, Control and Data Acquisition (SCADA) system; and 5) the Administrative Headquarters Building.

Wastewater System Description

The District supplies wastewater collection and treatment services to the community of Bear Creek Estates.

Recommended Water Charges and Projected Revenues from Water Charges

Current and FY14 – FY18 recommended quantity charges and basic charges are listed in the tables below. The recommended quantity charges for each rate structure (the current structure and an updated structure using a combination of tier rate structure options) are shown in a table separate from the basic charges. Note that the quantity charges for the updated tier rate structure are projected to produce approximately \$163,000 less (two percent) over the five year period than the quantity charges for the current tier rate structure.

Table ES-1. Current and Recommended Basic Charges						
Basic Charges, \$/2 months	Current	Recommended				
		FY14	FY15	FY16	FY17	FY18
Annual Increase, %		13%	13%	9%	9%	9%
5/8-inch	\$49.73	\$56.19	\$63.49	\$69.20	\$75.43	\$82.22
5/8A-inch	\$82.90	\$93.68	\$106.00	\$116.00	\$126.00	\$137.00
5/8B-inch	\$166.92	\$189.00	\$214.00	\$233.00	\$254.00	\$277.00
5/8C-inch	\$265.68	\$300.00	\$339.00	\$370.00	\$403.00	\$439.00
3/4-inch	\$49.73	\$56.19	\$63.49	\$69.20	\$75.43	\$82.22
3/4A-inch	\$82.90	\$93.68	\$106.00	\$116.00	\$126.00	\$137.00
1-inch	\$82.90	\$93.68	\$106.00	\$116.00	\$126.00	\$137.00
1A-inch	\$166.92	\$189.00	\$214.00	\$233.00	\$254.00	\$277.00
1B-inch	\$265.68	\$300.00	\$339.00	\$370.00	\$403.00	\$439.00
1F-inch	\$49.73	\$56.19	\$63.49	\$69.20	\$75.43	\$82.22
1-1/2-inch	\$166.92	\$189.00	\$214.00	\$233.00	\$254.00	\$277.00
1-1/2A-inch	\$265.68	\$300.00	\$339.00	\$370.00	\$403.00	\$439.00
1-1/2C-inch	\$829.76	\$938.00	\$1,060.00	\$1,155.00	\$1,259.00	\$1,372.00
1-1/2F-inch	\$82.90	\$93.68	\$106.00	\$116.00	\$126.00	\$137.00
1-1/2G-inch	\$49.73	\$56.19	\$63.49	\$69.20	\$75.43	\$82.22
1-1/2S-inch	\$531.36	\$600.00	\$678.00	\$739.00	\$806.00	\$879.00
2-inch	\$265.68	\$300.00	\$339.00	\$370.00	\$403.00	\$439.00
2A-inch	\$498.62	\$563.00	\$636.00	\$693.00	\$755.00	\$823.00
2G/L-inch	\$82.90	\$93.68	\$106.00	\$116.00	\$126.00	\$137.00
3-inch	\$498.62	\$563.00	\$636.00	\$693.00	\$755.00	\$823.00
4-inch	\$829.76	\$938.00	\$1,060.00	\$1,155.00	\$1,259.00	\$1,372.00

Table ES-2. Current and Recommended Quantity Charges						
Current Rate Structure	Current	Recommended				
		FY14	FY15	FY16	FY17	FY18
Annual Increase, %		13%	13%	8%	8%	8%
First 10 units	\$2.71	\$3.06	\$3.46	\$3.74	\$4.04	\$4.36
11 - 40 units	\$3.54	\$4.00	\$4.52	\$4.88	\$5.27	\$5.69
41 - 100 units	\$4.24	\$4.79	\$5.41	\$5.84	\$6.31	\$6.81
101 - 200 units	\$4.59	\$5.19	\$5.86	\$6.33	\$6.84	\$7.39
Over 200 units	\$5.00	\$5.65	\$6.38	\$6.89	\$7.44	\$8.04
Updated Rate Structure, All Options						
Annual Increase, %		16%	13%	8%	8%	8%
First 8 units	\$2.71	\$3.14	\$3.55	\$3.83	\$4.14	\$4.47
9 - 30 units	\$3.54	\$4.11	\$4.64	\$5.01	\$5.41	\$5.84
31 - 100 units	\$4.24	\$4.93	\$5.57	\$6.02	\$6.50	\$7.02
Over 100 units	na	\$5.45	\$6.16	\$6.65	\$7.18	\$7.76
Flat Rate	na	\$3.84	\$4.34	\$4.69	\$5.07	\$5.48

The recommended water charges are projected to increase revenues by approximately \$9.2 million over the next five fiscal years, FY14 – FY18. The annual amount of revenues from basic and quantity charges, and the cumulative revenues from increases in the water charges, are shown in the figure below.

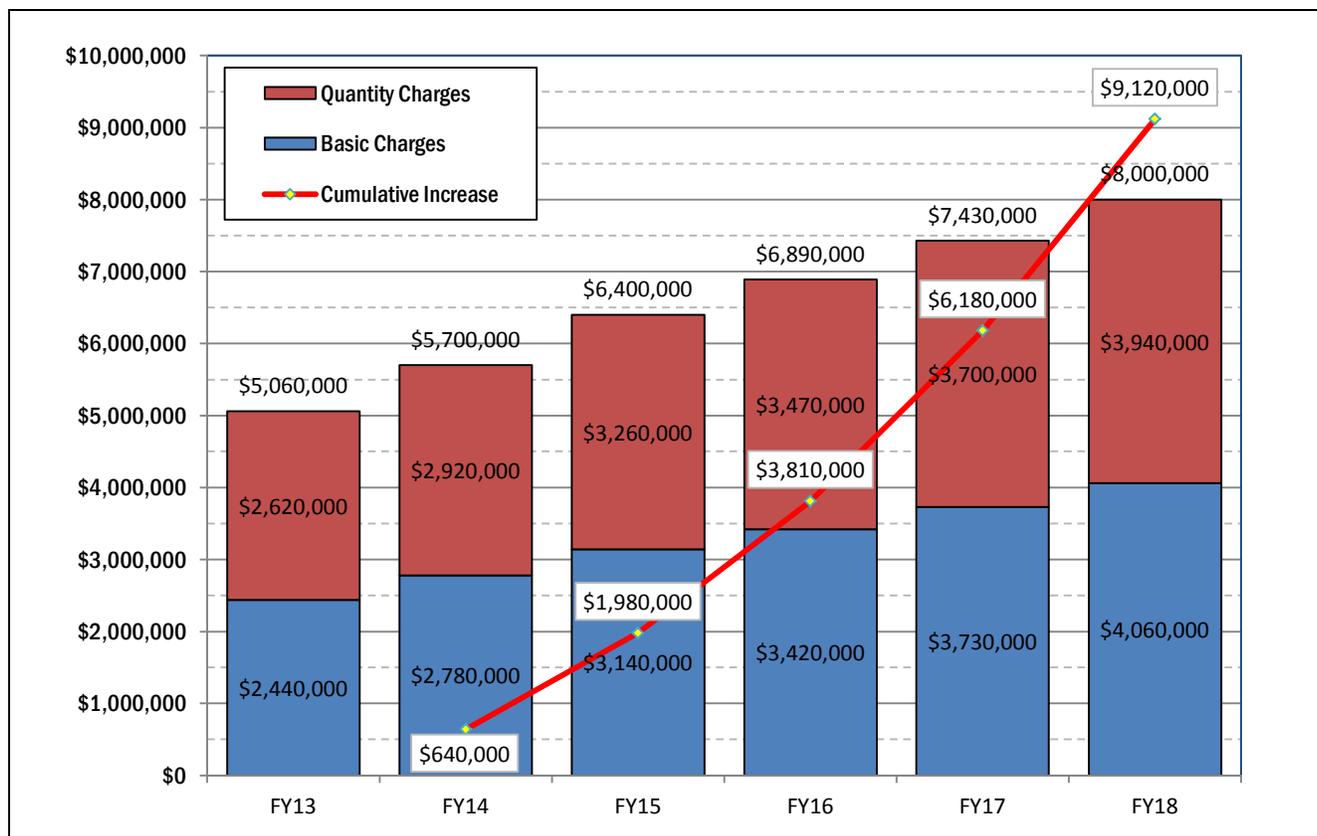


Figure ES-1. Annual Projected Revenues from Basic and Quantity Charges

Recommended Wastewater Charges

The District’s current and recommended wastewater charges are shown in the table below.

Table ES-3. Current and Recommended Wastewater Charges						
Wastewater Charges	Current	Recommended				
		FY14	FY15	FY16	FY17	FY18
Annual Increase, %		15%	15%	15%	15%	3%
Service Charge, \$/2 months	\$298	\$343	\$394	\$453	\$521	\$537

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Section 1

Introduction

The District's meter and quantity rates (for the water utility) and sewer rates (for the wastewater utility) are intended to recover revenues sufficient to adequately fund utility operations, maintenance, and capital replacement expenditures, and meet debt service obligations, while keeping rates as competitive as possible and maintaining a prudent level of reserves.

1.1 Overview of Utility Rate Setting Process

Rate studies classically have three categories of technical analysis – the development of revenue required 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.

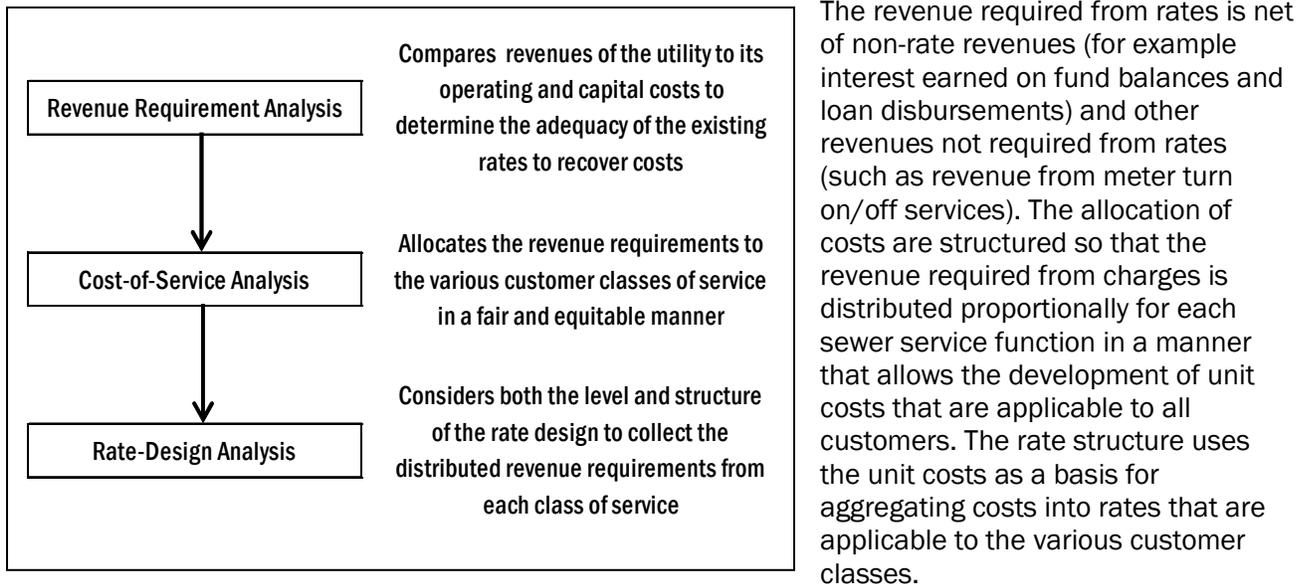


Figure 1-1. Overview of Rate Setting Analytical Steps

This rate study includes only the revenue requirement analysis and rate design analysis steps. The cost-of-service analysis step was not conducted. The cost-of-service design incorporated in the current rates is retained.

1.2 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 costs, capital costs and bonded debt, and maintain adequate reserves.

Revenue stability. Recover revenue from fixed and variable charges that will cover fixed and variable costs (barring water shortages when rationing may be required).

Conservation signal. Reward customer for efficient water use and discourage its waste.

Administrative ease. Enable easy implementation and ongoing administration, including monitoring and updating.

Affordability. Be as affordable as possible while maintaining the utilities sound financial position and credit rating.

Customer acceptance. 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.

Economic development. Rates must be competitive with local jurisdictions to retain and attract economic development.

Consideration of water intensive industries and users. Recognize that certain industries and users comprise a critical component of the local and regional community and their constant water demand patterns should be accommodated in the rate structure, not penalized.



1.3 Rates and User Accounts

The District has separate rates and rate structures for its water utility and sewer utility. The District’s current water and wastewater rates are shown below in the sidebar.

BI-MONTHLY BASIC		RATES	
Meter Size	Basic Charge	1 unit of water = 100 Cubic Feet 100 Cubic Feet = 748 Gallons	
5/8	49.73	First 10 units = 2.71 a unit	
5/8A	82.90	11 - 40 units = 3.54	
5/8B	166.92	41 - 100 units = 4.24	
5/8C	265.68	101 - 200 units = 4.59	
3/4	49.73	Over 200 units = 5.00	
3/4A	82.90		
1	82.90		
1A	166.92		
1B	265.68		
1F	49.73		
1K	49.73		
1.5	166.92		
1.5A	265.68		
1.5C	829.76		
1.5F	82.90		
1.5G	49.73		
1.5S	531.36		
2	265.68		
2A	498.62		
2G	82.90		
2H	49.73		
2L	82.90		
3	498.62		
4	829.76		
Surplus Water	49.73		
Sewer	298.00		
The above charges do not include any water usage.			
		METER CONNECTION FEES	
		Meter Size	Charge
		5/8	4966.00
		3/4	4966.00
		1	9932.00
		1.5	19,864.00
		2	39,728.00
		INSTALLATION DEPOSIT	
		5/8 or 3/4	2500.00
		1	2500.00
		Meter Drop In Charges	
		5/8	90.00
		3/4	110.00
		1	155.00
		Backflows	500.00
		Deposit	75.00
		Establishment Charge	20.00
		Copies	.15
		Special Bill (in advance)	20.00
		Meter Test (in advance)	15.00
		1"	17.50

Each water account has one or more meters and each meter is billed for metered water use at the rates shown (except fire service accounts which are not billed for water use).

The District has 11 categories of user accounts.

- Single Family
- Multiple Family
- Commercial
- Institutional
- Landscape
- Other
- Vacant
- Fire Service
- Holding Accounts
- Private Mutuals (Redwood Christian Park, Wildwood Mutual, Wildwood Woodlands, and Forrest Springs)
- Surplus

The meter size assigned to an account is based on the maximum number of dwelling units served. The table below lists the maximum number of Residential Dwelling Units served for each meter size.

Meter Size	Maximum Number of Residential Dwelling Units Served
5/8-inch or 3/4-inch	1
1-inch	2 to 6
1½-inch	7 to 21
2-inch	22 to 38
3-inch	39 to 80
4-inch	81 to 200

1.4 Basis for Current Rates

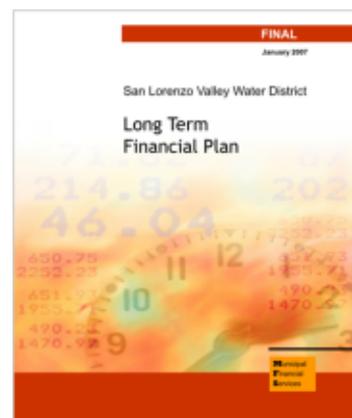
The current rates are based on escalation of previous rates. The escalation method for setting rates has been in use for over 10 years.

1.5 Recent Evaluations of Rates

The District conducted two formal evaluations of water and wastewater rates during the past eight years. Those studies and the rates during 2005 – 2013 are summarized in this section.

1.5.1 2007 Long Term Financial Plan

In January 2007 the District completed a Long Term Financial Plan for its water and wastewater utilities. The District had not yet incorporated the Felton community into its service area. The Plan evaluated growth in customer accounts, water sales, and operating and capital expenditures over a 50 year period (2005 – 2055) and the impact on reserves. The long term financial plan unified the many separate planning efforts typically conducted by a water enterprise or sewer enterprise. On July 2, 2007, the District increased its water rates 11 percent. On June 1, 2008 wastewater rates were increased to \$240 per year.



1.5.2 2008 Water Rates Update

On September 5th 2008, the District assumed ownership and operation of the Felton water system. The District was also exploring the issuance of additional debt. Water rates were updated to evaluate the impact of the addition of the Felton community and the impact of the issuance of additional debt. As a result, the District raised the water quantity charges in 2009, 2010 and 2011 by 15%, 10% and 5%, respectively. The water meter charges were increased by 12%, 8% and 10%, respectively, over the same three years. Wastewater rates were increased to \$270 per year in 2010 and to \$298 per year in 2011.

1.5.3 Water Rates 2005 - 2013

Water rates implemented by the District from 2005 – 2013 are listed in the table below. Only the meter charge for a 5/8-inch meter is shown; charges for other meter sizes are omitted for clarity.

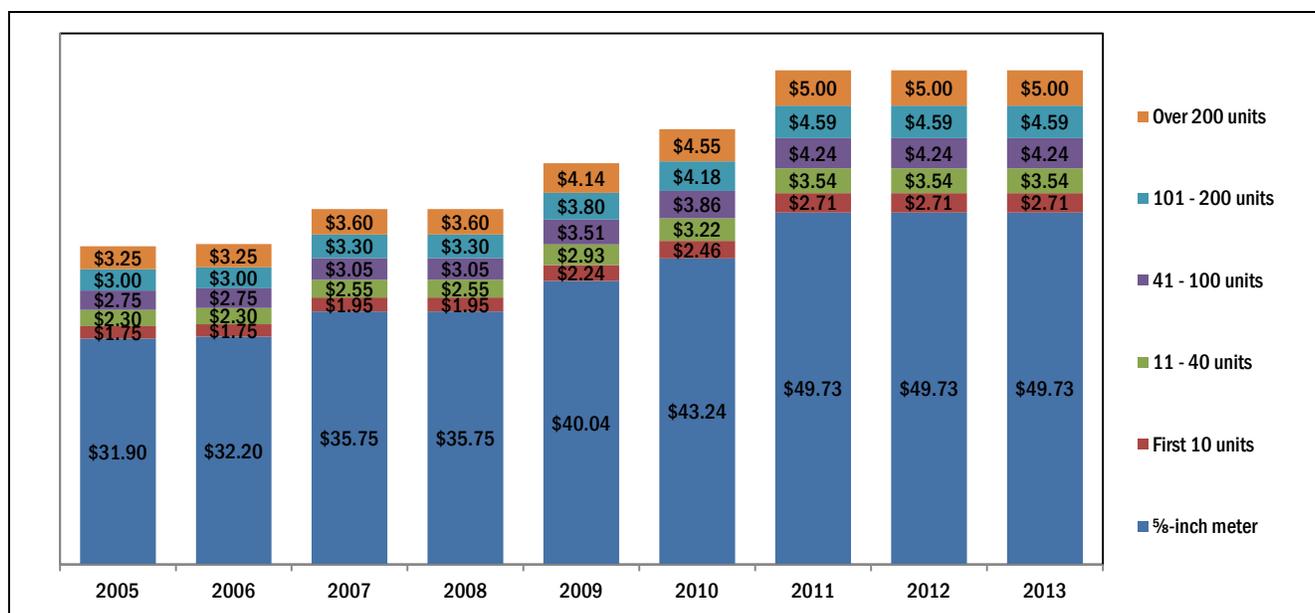


Figure 1-1. Water Rates, 2005 - 2013

Section 2

User Characteristics

The purpose of this section is to summarize the identification of residential and nonresidential users and their corresponding water use characteristics.

2.1 Historic and Projected Water Use

Water use by tier and customer class for calendar years 2010, 2011 and 2012 are shown in Figure 2-1 in units of 100 cubic feet (cf). Figure 2-2 shows projected usage (in 100 cf). For the purpose of projecting water use for FY13 onward, the average of calendar years 2010 and 2011 is used as a starting point for FY13 water use. Water use for FY14 onward includes approximately 4,500 100 cf per year for accounts annexed from the Olympia Mutual Water Company. Monthly water use data for 2010-2012 by customer class and tier is included in Appendix A. Projected water use calculations are included in Appendix B.

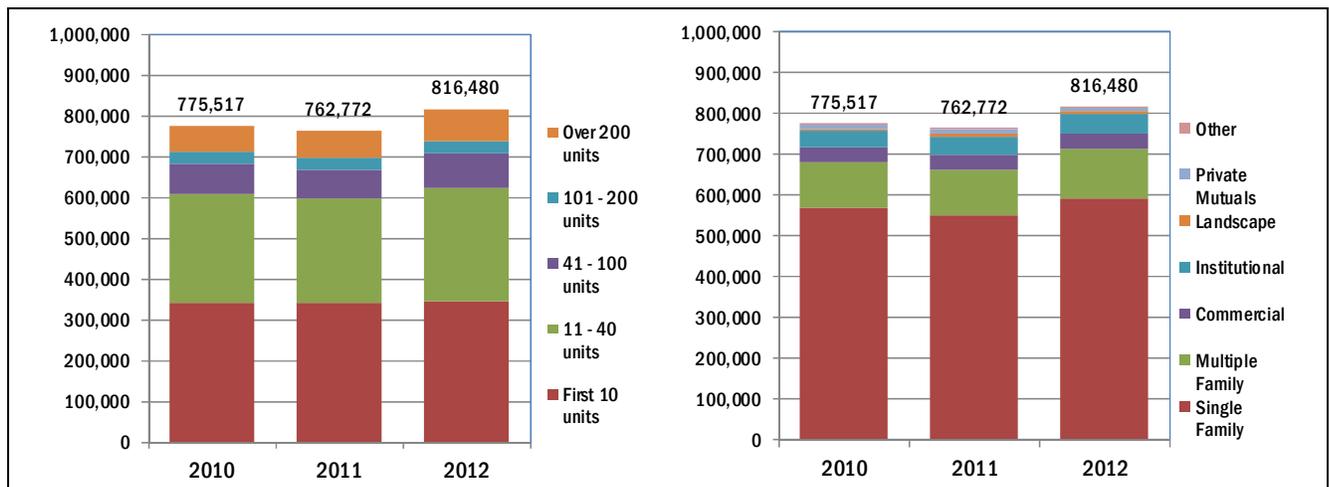


Figure 2-1. Water Use by Tier and Customer Class, 100 cubic feet

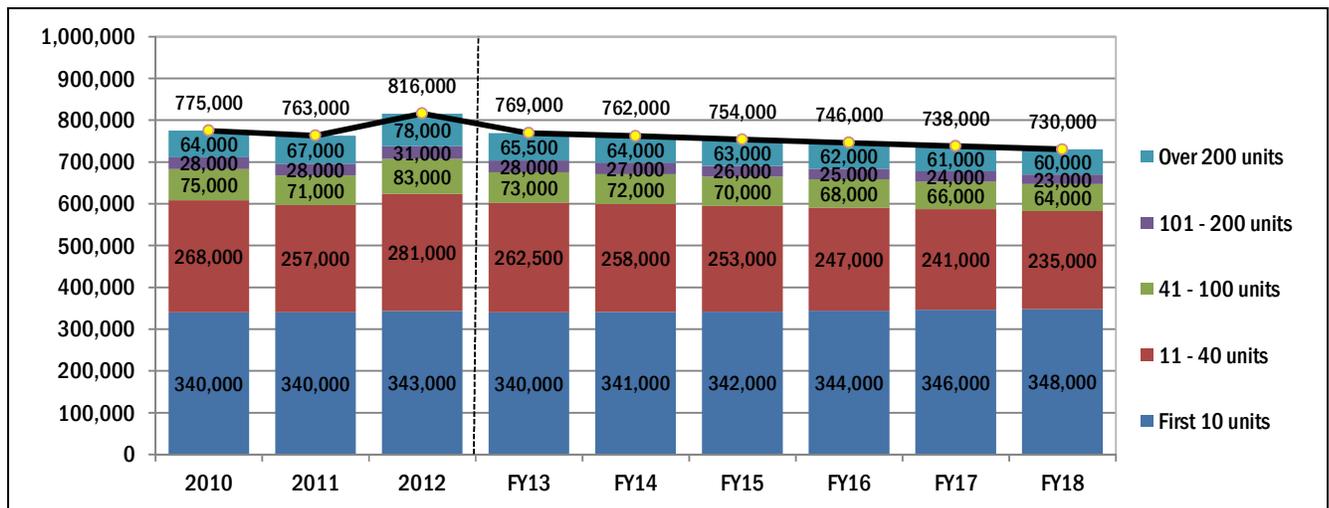


Figure 2-2. Projected Water Use by Tier, 100 cubic feet

2.2 Historic and Projected Number and Type of Meters

The number of water meters by customer class as of February 2013 is shown below in Figure 2-3. Table 2-1 shows projected number of meters by size and type. The number of meters by type and size as of February 2013 is used as the basis for FY13 estimates. Annexation of the Olympia Mutual Water Company is expected to add 51 accounts in FY14 (another 2 accounts incidental to the annexation are included, for a total of 53 accounts). All accounts are assumed to be 5/8-inch meter connections. Fire service meters are excluded from the totals as they do not pay the bimonthly meter charge. Detailed February 2013 meter data showing meters by size, type and customer class is included in Appendix A. calculations of the projected number of meters are included in Appendix B.

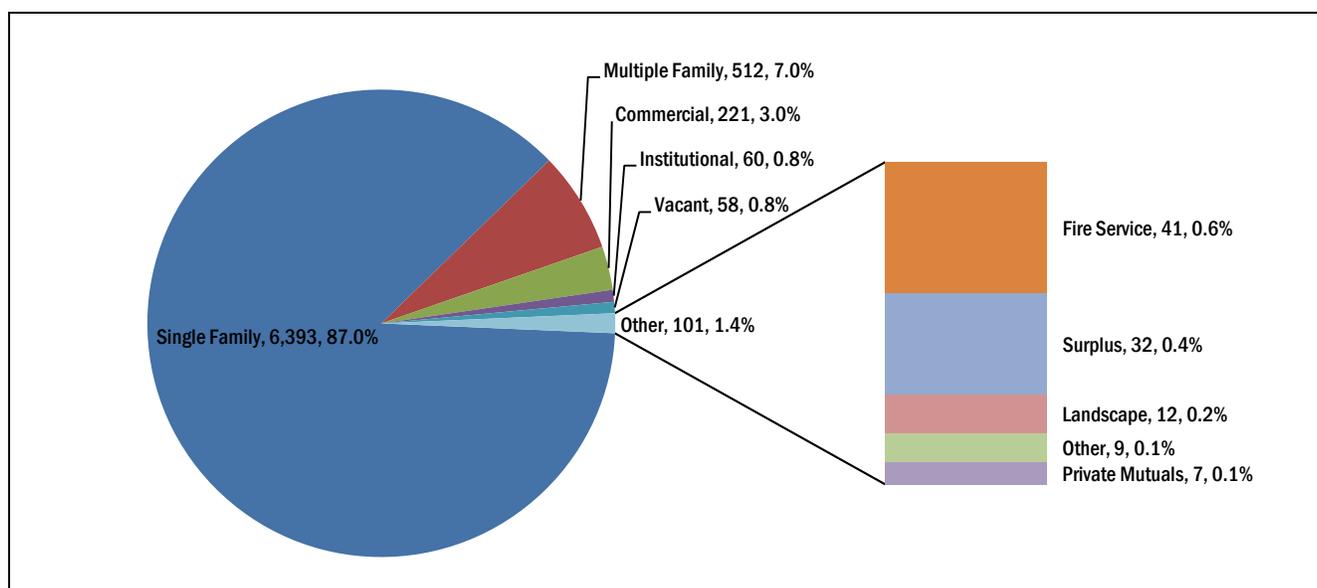


Figure 2-3. Meters by Customer Class, February 2013

Table 2-1. Projected Number of Water Meters by Type

Meter Size	FY13	FY14	FY15	FY16	FY17	FY18
5/8 *	6,095	6,148	6,148	6,148	6,148	6,148
5/8A	417	417	417	417	417	417
5/8B	10	10	10	10	10	10
5/8C	1	1	1	1	1	1
3/4	405	405	405	405	405	405
3/4A	4	4	4	4	4	4
1	84	84	84	84	84	84
1A	87	87	87	87	87	87
1B	1	1	1	1	1	1
1F/K	115	115	115	115	115	115
1-1/2	23	23	23	23	23	23
1-1/2A	2	2	2	2	2	2
1-1/2C	0	0	0	0	0	0
1-1/2F	2	2	2	2	2	2
1-1/2G	1	1	1	1	1	1
1-1/2S	1	1	1	1	1	1
2	32	32	32	32	32	32
2A	1	1	1	1	1	1
2G/L	2	2	2	2	2	2
3	3	3	3	3	3	3
4	1	1	1	1	1	1
Total	7,287	7,340	7,340	7,340	7,340	7,340

2.3 Evaluation of Use by Tier and Customer Class

Water use by tier and customer class for calendar years 2010, 2011 and 2012 are shown below in Figure 2-4 as a percent of the total for each year.

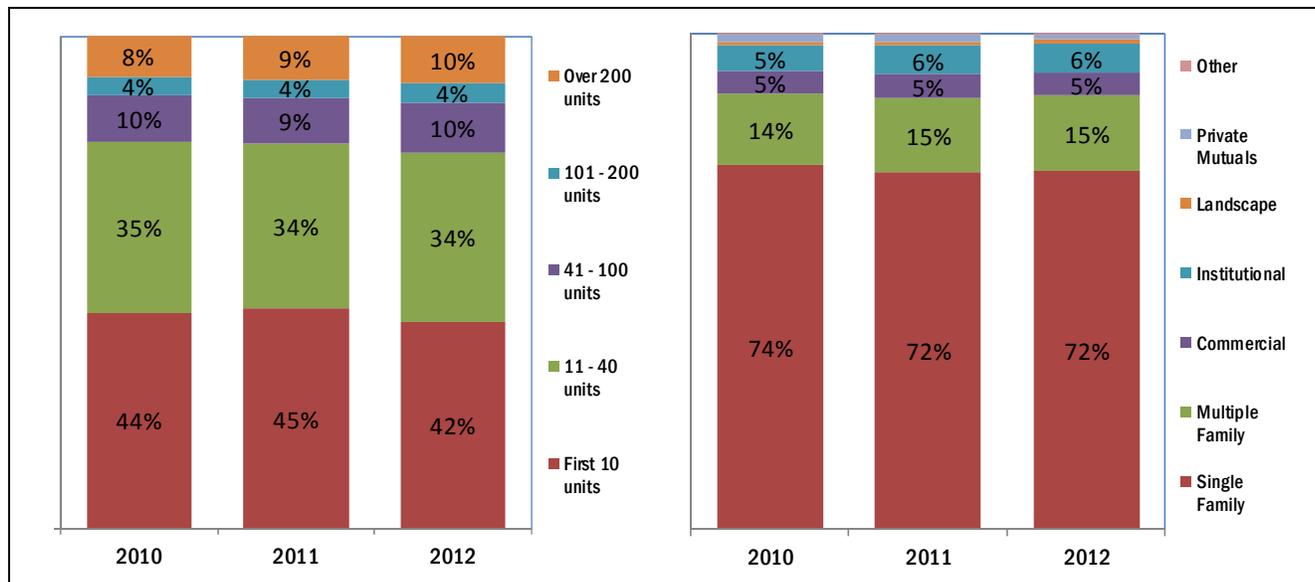


Figure 2-4. Water Use by Tier and Customer Class as a Percent of Total Use

2.3.1 Four-Tier Rate Structure

As shown in the left hand figure in Figure 2-4, the percent of total water use in Tiers 3, 4 and 5 varied between 22 and 24 percent during the three years. The percent of total water use in Tier 4 was constant at 4 percent during the three years.

The small amount of water use in the top three tiers and the minimal amount of water use in Tier 4 provides the basis for our recommendation of combining Tier 4 and Tier 5 into a single tier and charging the weighted average water rate for the two tiers. The new top tier would be for water use “Over 100 units.” The change would be revenue neutral with the current tier structure. As a result of the change, some customer bills would decrease and some would increase depending on the weighting of their water use in each tier.

2.3.2 Decline in Average Water Use and Distribution of Water Use Among Tiers

Water use has declined significantly since the prior rate evaluation in 2008. Based on data available during the time of the 2008 evaluation (FY8), average bimonthly water use per account was 21 100 cf. Average bimonthly water use for single family accounts was 17.9 100 cf. Based on projected FY13 water use (which is the average of 2010 and 2011 use), the decline in water use among all customers since FY8 is approximately 17 percent. The calculation of average bimonthly water use is shown below in Table 2-2.

The same rate structure for water use applies to all customer class. As shown below in Table 2-2, within the single family customer class, 53 percent of water use is in Tier 1 and 90 percent of all water use is in the first two tiers. No other customer class has a similar pattern of water use distribution among the tiers (except the combined classes of Surplus, Other and Vacant which have very few accounts).

As a result of the radically different water use patterns among customer classes combined with a rate structure that promotes water conservation for the single family customer class, the revenues from quantity charges for each customer class are distributed in radically different patterns.

Table 2-2. Water Use Per Tier for FY13 and Comparison of FY8 and FY13 Average Water Use

	Single Family	Multiple Family	Commercial	Institutional	Landscape	Private Mutuals	Surplus, Other, Vacant	FY13 Projected Total
Water Sales, 100 cf								
First 10 units	299,414	27,676	9,537	2,492	416	350	395	340,280
11 - 40 units	208,265	34,617	12,777	4,836	754	1,023	310	262,581
41 - 100 units	42,168	12,810	8,705	6,643	805	1,767	79	72,976
101 - 200 units	7,384	5,823	4,117	7,941	578	2,421	4	28,267
Over 200 units	2,919	31,204	1,426	19,889	3,400	6,206	0	65,042
Total	560,150	112,129	36,561	41,800	5,952	11,766	788	769,145
Percent of Total	73%	15%	5%	5%	1%	2%	0.1%	100%
Water Sales, %								
First 10 units	53%	25%	26%	6%	7%	3%	50%	44%
11 - 40 units	37%	31%	35%	12%	13%	9%	39%	34%
41 - 100 units	8%	11%	24%	16%	14%	15%	10%	9%
101 - 200 units	1%	5%	11%	19%	10%	21%	1%	4%
Over 200 units	1%	28%	4%	48%	57%	53%	0%	8%
Total	100%	100%	100%	100%	100%	100%	100%	100%
Average Bimonthly Use, 100 cf								
Meters	6,393	512	221	60	12	7	99	7,304
Bimonthly Use, 100 cf								
FY13 Projected	14.6	37	28	116	83	280	1.3	18
FY8 (Prior Study)	17.9	46	39	163	134	341	1.4	21
% change from FY8	-18%	-20%	-29%	-29%	-38%	-18%	-6%	-17%

2.3.3 Average Quantity Charge for Each Customer Class

Because the revenues from quantity charges for each customer class are distributed in radically different patterns, the average quantity charge for each customer class varies significantly. The average quantity charge for each customer class varies from a low of \$3.17 per 100 cf for the Single Family customer class to highs of \$4.51 per 100 cf for the Landscape customer class and \$4.61 per 100 cf for the Private Mutual customer class. Calculations of the average quantity charge for each customer class are shown below in Table 2-3. Revenues by customer class and tier for 2010, 2011 and 2012 used in the calculation of the FY13 projected total are shown in Appendix C.

Table 2-3. Water Use Revenues by Tier and Average Quantity Charge per Customer Class

	Single Family	Multiple Family	Commercial	Institutional	Landscape	Private Mutuals	Surplus, Other, Vacant	FY13 Projected Total
Water Sales Revenue								
First 10 units	\$811,412	\$75,002	\$25,845	\$6,753	\$1,126	\$949	\$1,070	\$922,157
11 - 40 units	\$737,258	\$122,544	\$45,229	\$17,119	\$2,669	\$3,620	\$1,097	\$929,537
41 - 100 units	\$178,792	\$54,312	\$36,909	\$28,164	\$3,413	\$7,492	\$333	\$309,416
101 - 200 units	\$33,893	\$26,728	\$18,895	\$36,447	\$2,653	\$11,110	\$18	\$129,743
Over 200 units	\$14,593	\$156,018	\$7,130	\$99,445	\$16,998	\$31,028	\$0	\$325,210
Total	\$1,775,947	\$434,603	\$134,008	\$187,929	\$26,859	\$54,198	\$2,519	\$2,616,064
Percent of Total	68%	17%	5%	7%	1%	2%	0.1%	100%
Water Sales Revenue, %								
First 10 units	46%	17%	19%	4%	4%	2%	42%	35%
11 - 40 units	42%	28%	34%	9%	10%	7%	44%	36%
41 - 100 units	10%	12%	28%	15%	13%	14%	13%	12%
101 - 200 units	2%	6%	14%	19%	10%	20%	1%	5%
Over 200 units	1%	36%	5%	53%	63%	57%	0%	12%
Total	100%	100%	100%	100%	100%	100%	100%	100%
Average Quantity Charge, \$/100 cf								
Customer Classes								
Total Quantity Charge Revenue	\$1,775,947	\$434,603	\$134,008	\$187,929	\$26,859	\$54,198	\$2,519	\$2,616,064
Average Water Use, FY13 Projected	560,150	112,129	36,561	41,800	5,952	11,766	788	769,145
Average Quantity Charge	\$3.17	\$3.88	\$3.67	\$4.50	\$4.51	\$4.61	\$3.20	\$3.40

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Section 3

Water Rates

Revenue, expenditures, reserve levels, water rates, and debt coverage for the water utility are summarized in this section.

3.1 Water Operating Revenues and Expenditures

Budgeted and projected operating revenues and expenditures are shown in the table below. Revenues (except revenues from water fees) and expenditures for FY13 are from the District's budget. Projected revenues and expenditures are based on annual escalation rates provided by the District.

Table 3-1. Budgeted and Projected Operating Expenditures

Item	FY13	FY14	FY15	FY16	FY17	FY18
Non-restricted Revenues [1]						
4101 Water Charges for Service	\$5,058,467	\$5,699,884	\$6,399,558	\$6,897,271	\$7,432,051	\$8,007,812
4209 Property Taxes	\$470,000	\$470,000	\$470,000	\$470,000	\$470,000	\$470,000
4308 Charges and Penalties	\$58,000	\$58,000	\$58,000	\$58,000	\$58,000	\$58,000
4314 Meter Sales	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
4319 Lease Fees	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
4320 Miscellaneous	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
4446 Johnson Property Rentals	\$9,600	\$9,600	\$9,600	\$9,600	\$9,600	\$9,600
Total Non-restricted Revenues	\$5,641,067	\$6,282,484	\$6,982,158	\$7,479,871	\$8,014,651	\$8,590,412
Restricted Revenues [2]						
4429 Sale of Surplus Property	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
4449 Reimbursement for Manana Woods O&M	\$50,000	\$0	\$0	\$0	\$0	\$0
4454 Transfer in From Capital Reserve Fund	\$535,000	\$0	\$0	\$0	\$0	\$0
Total Restricted Revenues	\$588,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Operating Expenses [3]						
Personnel	\$2,827,035	\$2,911,846	\$2,999,201	\$3,089,177	\$3,181,853	\$3,277,308
Materials & Services	\$1,337,000	\$1,377,110	\$1,418,423	\$1,460,976	\$1,504,805	\$1,549,949
Capital R&R	\$1,290,200	\$1,290,200	\$1,290,200	\$1,290,200	\$1,290,200	\$1,290,200
Total Operating Expenditures	\$5,454,235	\$5,579,156	\$5,707,825	\$5,840,353	\$5,976,858	\$6,117,458
Summary						
Non-restricted Revenues	\$5,641,067	\$6,282,484	\$6,982,158	\$7,479,871	\$8,014,651	\$8,590,412
Restricted Revenues	\$588,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Total Revenues	\$6,229,067	\$6,285,484	\$6,985,158	\$7,482,871	\$8,017,651	\$8,593,412
Operating Expenditures	\$5,454,235	\$5,579,156	\$5,707,825	\$5,840,353	\$5,976,858	\$6,117,458
Net Income / (Shortfall)	\$774,832	\$706,328	\$1,277,334	\$1,642,518	\$2,040,793	\$2,475,955
Notes:						
1	Water Charges for Service are summarized in Table 3-6. Revenues for other Non-restricted items were provided by the District.					
2	Revenues from the Restricted revenue categories were provided by the District.					
3	Personnel and Materials & Services expenditures for FY13 are from the District's budget. Values for FY14 onward are escalated as shown below:					
		<u>FY14</u>	<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>
	Personnel	3%	3%	3%	3%	3%
	Materials & Services	3%	3%	3%	3%	3%
Debt Service and Capital Repair and Refurbishment (R&R) expenditures were provided by the District.						

3.2 Water System Capital Project Expenditures and Source of Funds

The District's projected Capital Project expenditures are shown in the table below. The source of funds for each Project is also shown. The Capital Project expenditures shown in the table exclude capital expenditures for renewal and replacement which are part of Operating expenditures.

The District's Capital Project expenditures are for three projects:

Capital Improvement Program Projects. The District's CIP identifies fifty-five proposed projects with an aggregate value of \$27,500,000.¹

Campus Development Project. Consolidates the operations of three existing SLVWD facilities on one site. This includes combining five contiguous parcels, remodeling an existing commercial building for a new administration building and adding a new annex, constructing a new operations building, and developing associated parking and storage areas.²

Olympia Annexation and Distribution System Project. Expands SLVWD's service boundary to absorb the existing Olympia Mutual Water Company service area and associated water distribution system improvements. SLVWD proposes to expand and annex its current service boundary by approximately 35.3 acres, which includes the service area of OMWC and four additional parcels. The proposed annexation area is located within SLVWD's Sphere of Influence. The proposed annexation will allow SLVWD to move forward with the OMWC consolidation project and associated water system improvements. The consolidation of the OMWC and SLVWD eliminates OMWC as a separate water system. SLVWD proposes to provide new and replacement water distribution main lines and required appurtenances such as isolation valves and fire hydrants in order to connect the OMWC service area to the existing SLVWD water distribution system in the nearby area.³

Table 3-2. Capital Project Expenditures and Source of Funds

Item	FY13	FY14	FY15	FY16	FY17	FY18
Capital Project Expenditures						
Prop 50 Grant Projects	\$400,000	\$1,000,000	\$3,000,000	\$1,000,000	\$0	\$0
Campus Development Project	\$350,000	\$0	\$4,000,000	\$2,000,000	\$0	\$0
Olympia Mutual Annexation	\$10,000	\$0	\$0	\$0	\$0	\$0
Total Capital Project Expenditures	\$760,000	\$1,000,000	\$7,000,000	\$3,000,000	\$0	\$0
Debt Service [1]						
Current	\$1,004,353	\$1,009,483	\$1,004,308	\$999,108	\$896,508	\$896,508
Campus Development			\$464,989	\$464,989	\$464,989	\$464,989
Olympia Mutual Annexation		\$67,356	\$67,356	\$67,356	\$67,356	\$67,356
Total Debt Service	\$1,004,353	\$1,076,839	\$1,536,653	\$1,531,453	\$1,428,853	\$1,428,853
Loan Disbursement						
Debt Service, Campus Development			\$6,000,000			
Olympia Mutual Annexation						
Total Loan Disbursement	\$0	\$0	\$6,000,000	\$0	\$0	\$0
Notes:						
1 Debt service payments are calculated as shown:	Biannual Rate	Number of Payments	Capital Expenditure	Issuance Cost & Reserve	Principal Amount	Biannual Payment
Campus Development Project	2.000%	40	\$6,000,000	\$360,000	\$6,360,000	\$232,495
Olympia Mutual Annexation	1.125%	40			\$1,080,000	\$33,678

¹ 2010 Capital Improvement Program.

² Initial Study/Mitigated Negative Declaration for the San Lorenzo Valley Water District's Campus Development Project dated November 2010.

³ Initial Study/Mitigated Negative Declaration for the San Lorenzo Valley Water District's Olympia Annexation and Distribution System Project dated February 2012.

3.3 Water Enterprise Cash Flow

Cash flow is shown in the table and figure below. The development of revenues from water charges is described in a subsequent Section 3.6 of the report.

Table 3-3. Water Enterprise Cash Flow							
Item	FY13	FY14	FY15	FY16	FY17	FY18	Five Years FY14 - FY18
Beginning Balance, July 1 [1]	\$8,598,514	\$7,808,993	\$6,555,617	\$5,361,854	\$2,526,537	\$3,163,742	
Revenues							
Non-restricted Revenues							
Water Charges for Service	\$5,058,467	\$5,699,884	\$6,399,558	\$6,897,271	\$7,432,051	\$8,007,812	\$34,436,577
All Other	\$582,600	\$582,600	\$582,600	\$582,600	\$582,600	\$582,600	\$2,913,000
Restricted Revenues	\$588,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$15,000
Total Revenues	\$6,229,067	\$6,285,484	\$6,985,158	\$7,482,871	\$8,017,651	\$8,593,412	\$37,364,577
Operating Expenditures	\$5,454,235	\$5,579,156	\$5,707,825	\$5,840,353	\$5,976,858	\$6,117,458	\$29,221,650
Debt Service	\$1,004,353	\$1,076,839	\$1,536,653	\$1,531,453	\$1,428,853	\$1,428,853	\$7,002,651
Capital Project Expenditures							
Capital Project Expenditures	\$760,000	\$1,000,000	\$7,000,000	\$3,000,000	\$0	\$0	\$11,000,000
Loan Disbursements	\$0	\$0	(\$6,000,000)	\$0	\$0	\$0	(\$6,000,000)
Total Debt Service and Capital Projects	\$760,000	\$1,000,000	\$1,000,000	\$3,000,000	\$0	\$0	\$5,000,000
Interest Earnings [2]	\$200,000	\$117,135	\$65,556	\$53,619	\$25,265	\$31,637	\$293,212
Ending Balance	\$7,808,993	\$6,555,617	\$5,361,854	\$2,526,537	\$3,163,742	\$4,242,481	

Notes:

- The Beginning Balance for FY13 is based on Unrestricted Net Assets from page 33 of the Financial Statements and Supplementary Information June 30, 2012 and 2011.
- Interest Earnings for FY13 are updated from the District's budget amount to reflect a steady decrease in yield in rates on investment.

Values for FY14 onward are the previous years' ending balance times the interest rates shown below provided by the District.

	<u>FY14</u>	<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>
	1.5%	1.0%	1.0%	1.0%	1.0%

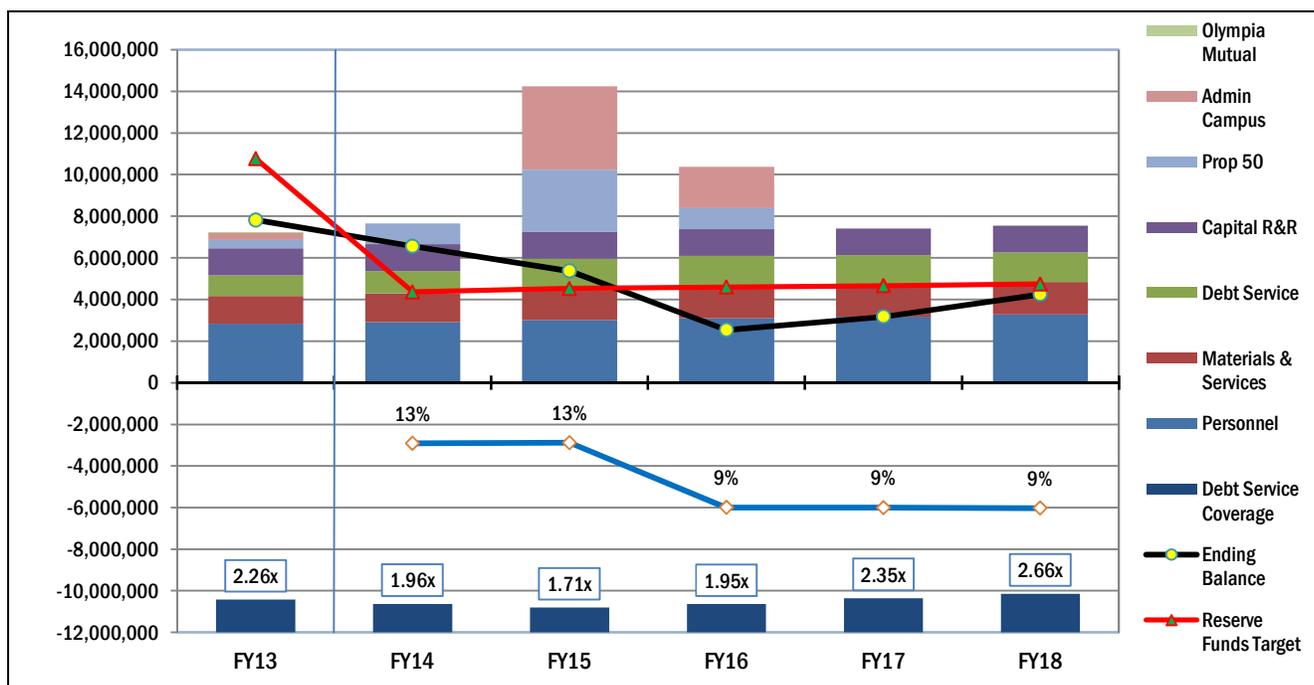


Figure 3-1. Water Fund Cash Flow, Debt Service Coverage and % Increase in Single Family Bills

3.4 Debt Service Coverage

Issuers of public enterprise revenue bonds generally covenant in the bond resolution or indenture to establish rates and charges for the products or services provided by the enterprise in a manner sufficient to provide revenues to pay such amounts and to provide coverage.

Projected coverage ratios and the dollar amount over or under the coverage requirement for a coverage test with Net Revenues equal to 125 percent of the estimated debt service is shown below in Table 3-4.

Table 3-4. Debt Service Coverage Evaluation

	FY13	FY14	FY15	FY16	FY17	FY18
Debt Service						
Current	\$1,004,353	\$1,009,483	\$1,004,308	\$999,108	\$896,508	\$896,508
Campus Development	\$0	\$0	\$464,989	\$464,989	\$464,989	\$464,989
Olympia Mutual Annexation	\$0	\$67,356	\$67,356	\$67,356	\$67,356	\$67,356
Total Debt Service	\$1,004,353	\$1,076,839	\$1,536,653	\$1,531,453	\$1,428,853	\$1,428,853
Coverage Ratio Required	1.25 x					
Net Revenue Required *	\$1,255,441	\$1,346,049	\$1,920,816	\$1,914,316	\$1,786,066	\$1,786,066
<i>* Net revenue required equals 1.25x times the principal and interest due in the next fiscal year.</i>						
Gross Revenue **						
Non-restricted Revenues	\$5,641,067	\$6,282,484	\$6,982,158	\$7,479,871	\$8,014,651	\$8,590,412
Restricted Revenues	\$588,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Interest on Fund Balance	\$200,000	\$117,135	\$65,556	\$53,619	\$25,265	\$31,637
Total Gross Revenue	\$6,429,067	\$6,402,619	\$7,050,715	\$7,536,490	\$8,042,916	\$8,625,050
<i>** Gross revenue equals revenue from charges for services of the Enterprise which include rates, capacity charges, interest on the fund balance and other operating revenue.</i>						
Net Revenue from Rates ***						
Gross Revenue	\$6,429,067	\$6,402,619	\$7,050,715	\$7,536,490	\$8,042,916	\$8,625,050
Less Operating Expenses						
Personnel	\$2,827,035	\$2,911,846	\$2,999,201	\$3,089,177	\$3,181,853	\$3,277,308
Materials & Services	\$1,337,000	\$1,377,110	\$1,418,423	\$1,460,976	\$1,504,805	\$1,549,949
Net Revenue from Rates	\$2,265,032	\$2,113,663	\$2,633,090	\$2,986,336	\$3,356,258	\$3,797,792
<i>*** Net revenue equals gross revenue less O&M expenditures.</i>						
Evaluation of Covenant Performance						
Net Revenue from Rates	\$2,265,032	\$2,113,663	\$2,633,090	\$2,986,336	\$3,356,258	\$3,797,792
Net Revenue Required	\$1,255,441	\$1,346,049	\$1,920,816	\$1,914,316	\$1,786,066	\$1,786,066
Amount Over/(Under) Requirement	\$1,009,591	\$767,615	\$712,273	\$1,072,020	\$1,570,192	\$2,011,726
Calculated Coverage Ratio	2.26 x	1.96 x	1.71 x	1.95 x	2.35 x	2.66 x

3.5 Reserve Fund Policy

The District adopted a *San Lorenzo Valley Water District Reserve Fund Policy* on January 15, 2009 in Resolution No. 17 (08-09). The Introduction in the *Reserve Fund Policy* reads as follows:

“San Lorenzo Valley Water District recognizes the importance of adopted policies relative to reserves and reserve funds. Written adopted financial policies relative to designated reserves

<u>RESERVE FUND</u>	<u>TARGET LEVEL</u>
Working Capital Reserve Fund.	\$ 750,000
Emergency Reserve Fund.	\$1,000,000
Watershed Property Asset Reserve Fund.	\$6,500,000
Capital Replacement/System Improvement Reserve Fund	\$1,250,000
Equipment Replacement Reserve Fund.	\$ 350,000
Rate Stabilization Reserve Fund	\$ 350,000
Sick/Annual Leave Liability Reserve Fund.	\$ 300,000

and reserve funds have many benefits, and represents a critical element of sound fiscal management. Reserves and reserve funds are prudent fiscal management tools, which are a cornerstone of long-term financial planning. A written and adopted Reserve Fund Policy provides for and facilitates attainment of program and financial goals relative to the prudent accumulation and management of designated reserves and reserve funds. This Reserve Fund Policy was developed to clearly identify specific designated reserves and

reserve funds. It is the intent of this Reserve Fund Policy to clearly identify both reserve fund categories and purposes, and set target levels for reserves that are consistent with the District’s mission statement, the uniqueness of the District, and the philosophy of the District’s Board of Directors. This policy shall be known and may be cited as the San Lorenzo Valley Water District Reserve Fund Policy.”

Projected reserve fund levels based on the *Reserve Fund Policy* are shown in the table below.

Table 3-5. Reserve Fund Target Levels

Reserve Component	Type	Minimum or	Calculated	FY13	FY14	FY15	FY16	FY17	FY18
Working Capital Reserve Fund	non-restricted	\$750,000	2 months of O&M expenditures	\$861,000	\$883,000	\$981,000	\$1,002,000	\$1,008,000	\$1,031,000
Emergency Reserve Fund	restricted	\$1,000,000	board directive	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
Watershed Property Asset Reserve Fund	restricted	\$6,500,000	board directive	\$6,500,000	\$0	\$0	\$0	\$0	\$0
Capital Replacement/System Improvement	restricted	\$1,250,000	board directive	\$1,250,000	\$1,250,000	\$1,250,000	\$1,250,000	\$1,250,000	\$1,250,000
Equipment Replacement Reserve Fund	restricted	\$350,000	board directive	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000
Rate Stabilization Reserve Fund	restricted	\$350,000	10% of water fee revenues	\$506,000	\$570,000	\$640,000	\$690,000	\$743,000	\$801,000
Sick/Annual Leave Liability Reserve Fund	restricted	\$300,000	board directive	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000
Total Reserve Fund Target		\$10,500,000		\$10,767,000	\$4,353,000	\$4,521,000	\$4,592,000	\$4,651,000	\$4,732,000

3.6 Revenue from Water Charges

In order to generate revenues that adequately provide for utility operations, capital renewal and replacement costs, capital project costs, reserves, and bonded debt, rates need to be raised to generate approximately \$3 million per year in additional revenue by FY18. The recommended water charges are projected to increase revenues by approximately \$9.2 million over the next five fiscal years, FY14 – FY18. Concurrent with generating additional revenue from rates, the District will reduce its cash reserves from approximately \$8.5 million (as of July 1, 2012) to \$4 million at the end of FY18. The amount of revenue projected from water rates is summarized below in Table 3-6. Detailed calculations of revenue from charges are shown in Appendix D.

Table 3-6. Summary of Revenue from Water Rates

Item	FY13	FY14	FY15	FY16	FY17	FY18	Five Years FY14 - FY18
Annual Fee Increases							
Basic Charges	0%	13%	13%	9%	9%	9%	
Quantity Charges	0%	13%	13%	8%	8%	8%	
Revenue from Fees							
Basic Charges	\$2,442,467	\$2,777,884	\$3,139,558	\$3,423,271	\$3,730,051	\$4,064,812	\$17,135,577
Quantity Charges	\$2,616,000	\$2,922,000	\$3,260,000	\$3,474,000	\$3,702,000	\$3,943,000	\$17,301,000
Total	\$5,058,467	\$5,699,884	\$6,399,558	\$6,897,271	\$7,432,051	\$8,007,812	\$34,436,577
Percent of Total							
Basic Charges	48%	49%	49%	50%	50%	51%	50%
Quantity Charges	52%	51%	51%	50%	50%	49%	50%
Revenue Increases							
Annual	<i>FY13 base</i>						
Basic Charges	\$2,442,467	\$335,418	\$697,092	\$980,805	\$1,287,584	\$1,622,346	
Quantity Charges	\$2,616,000	\$306,000	\$644,000	\$858,000	\$1,086,000	\$1,327,000	
Total	\$5,058,467	\$641,418	\$1,341,092	\$1,838,805	\$2,373,584	\$2,949,346	
Cumulative							
Basic Charges		\$335,418	\$1,032,510	\$2,013,314	\$3,300,899	\$4,923,244	
Quantity Charges		\$306,000	\$950,000	\$1,808,000	\$2,894,000	\$4,221,000	
Total		\$641,418	\$1,982,510	\$3,821,314	\$6,194,899	\$9,144,244	

The annual amount of revenues from basic and quantity charges, and the cumulative revenues from increases in the water charges, are shown in the figure below.

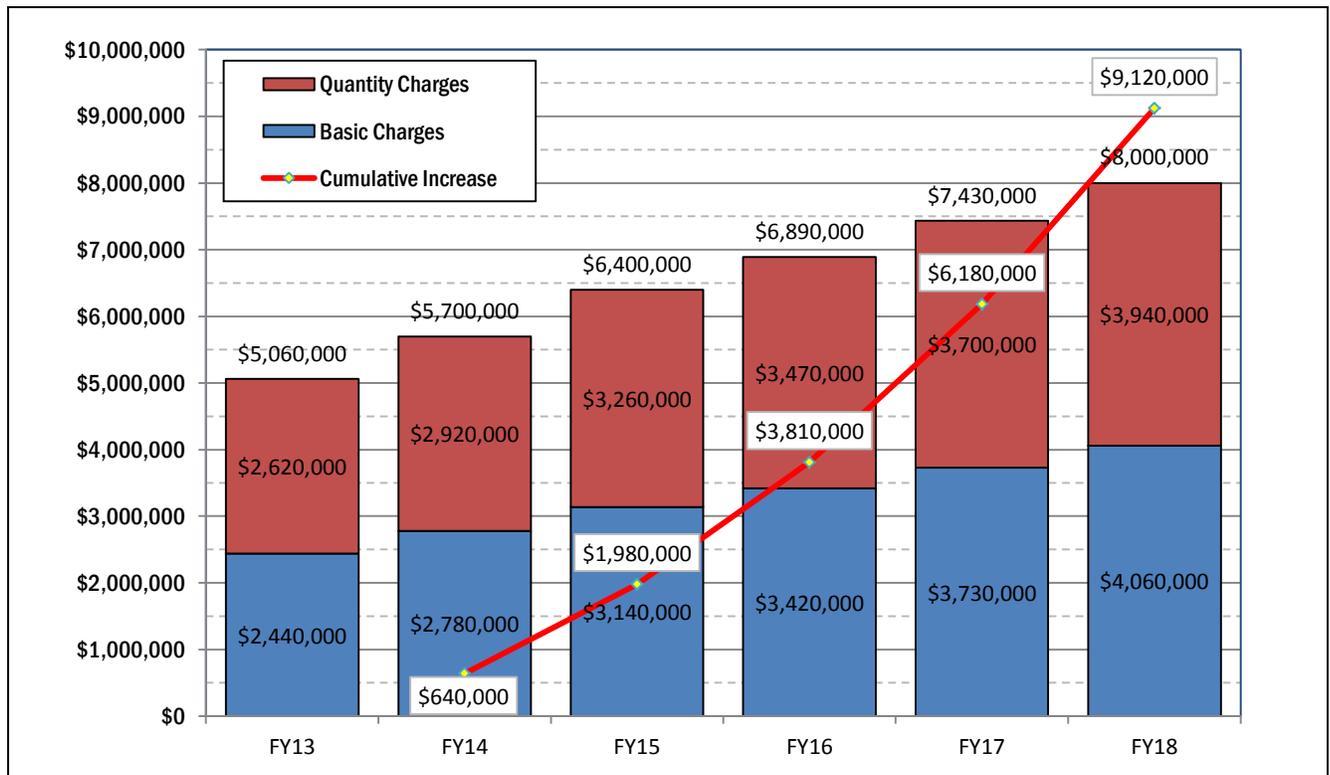


Figure 3-2. Annual Projected Revenues from Basic and Quantity Charges

3.7 Evaluation of Optional Tier Structure Changes

Five optional changes to the tiered rate structure are presented in this section. The changes are first evaluated individually. Then, the cumulative impact of the changes on the rate structure is evaluated. Finally, rates based on the current rate structure and the revised rate structure are compared after applying the recommended percent increase in rates.

3.7.1 Option 1—Flat Water Rate for Six Customer Classes

Many water purveyors charge nonresidential customer classes a flat rate for all water use while using a tiered water rate structure for residential customer classes. The current water rate structure was updated to evaluate the impact of using a flat rate for all water use for six, nonresidential customer classes – Commercial, Institutional, Landscape, Surplus, Other and Vacant. These six customer classes comprise approximately 11 percent of all water use. The update calculation, using projected FY13 water use, is shown in the table below. The updated rate structure with the flat rate is designed to be revenue neutral with the current rate structure. The difference in revenue from rates for the updated and current rate structure is \$175 which is 0.01% of the total revenue.

Table 3-7. Flat Water Rate for Six Customer Classes

	Single Family	Multiple Family	Commercial	Institutional	Landscape	Private Mutuals	Surplus, Other, Vacant	Projected FY13 Total
Water Sales Revenue								
First 10 units	\$832,371	\$76,939	\$32,426	\$8,473	\$1,413	\$973	\$1,343	\$953,938
11 - 40 units	\$758,085	\$126,006	\$43,440	\$16,442	\$2,564	\$3,722	\$1,054	\$951,312
41 - 100 units	\$183,852	\$55,849	\$29,597	\$22,585	\$2,737	\$7,704	\$267	\$302,591
101 - 200 units	\$34,852	\$27,485	\$13,996	\$26,998	\$1,965	\$11,425	\$14	\$116,734
Over 200 units	\$15,001	\$160,386	\$4,848	\$67,623	\$11,558	\$31,896	\$0	\$291,313
Total	\$1,824,162	\$446,665	\$124,307	\$142,120	\$20,237	\$55,720	\$2,678	\$2,615,888
Percent of Total	70%	17%	5%	5%	1%	2%	0.1%	100%
Water Rates, \$/100 cf								
<i>current</i>	Current Tiered Rates Increased by 2.75% to remain revenue neutral Using Flat Rate equal to Average Rate.							
First 10 units	\$2.71	\$2.78	\$2.78	\$3.40	\$3.40	\$3.40	\$2.78	\$3.40
11 - 40 units	\$3.54	\$3.64	\$3.64	\$3.40	\$3.40	\$3.40	\$3.64	\$3.40
41 - 100 units	\$4.24	\$4.36	\$4.36	\$3.40	\$3.40	\$3.40	\$4.36	\$3.40
101 - 200 units	\$4.59	\$4.72	\$4.72	\$3.40	\$3.40	\$3.40	\$4.72	\$3.40
Over 200 units	\$5.00	\$5.14	\$5.14	\$3.40	\$3.40	\$3.40	\$5.14	\$3.40
Revenues Using Average Quantity Charge								
	Single Family	Multiple Family	Commercial	Institutional	Landscape	Private Mutuals	Surplus, Other, Vacant	Projected FY13 Total
Before Assignment of Flat Rates								
Total Quantity Charge Revenue	\$1,775,947	\$434,603	\$134,008	\$187,929	\$26,859	\$54,198	\$2,519	\$2,616,064
Average Water Use, 100 cf	560,150	112,129	36,561	41,800	5,952	11,766	788	769,145
Average Quantity Charge, \$/100 cf	\$3.17	\$3.88	\$3.67	\$4.50	\$4.51	\$4.61	\$3.20	\$3.40
After Assignment of Flat Rates								
Total Quantity Charge Revenue	\$1,824,162	\$446,665	\$124,307	\$142,120	\$20,237	\$55,720	\$2,678	\$2,615,888
Average Water Use, 100 cf	560,150	112,129	36,561	41,800	5,952	11,766	788	769,145
Average Quantity Charge, \$/100 cf	\$3.26	\$3.98	\$3.40	\$3.40	\$3.40	\$4.74	\$3.40	\$3.40
Difference	\$48,214	\$12,062	(\$9,701)	(\$45,809)	(\$6,622)	\$1,522	\$158	(\$175)

Note that the average price of water for all use is \$3.40 per 100 cf. The average price is used as a flat rate for the six, nonresidential customer classes. Because the average rate for all water use is less than the current average rate for the Commercial (\$3.67 per 100 cf), Institutional (\$4.50 per 100 cf), and Landscape (\$4.51 per 100 cf) customer classes, the tiered rates for Residential, Multiple Family and Private Mutual are increased in order to maintain total revenues from water rates of approximately \$2,616,000. The percent increase in tiered rates is 2.75 percent. The result is a rate structure that is

revenue neutral with the current rate structure (within \$175) and more equitable for nonresidential customers.

3.7.2 Option 2—Lower Residential Tiers

The tiers for Residential customer classes were evaluated. Actual water use data for 2010 and 2011 and projected water use data for FY13 were used in the evaluation. The evaluation suggests the current lowest tier may be decreased to include the first 8 units instead of the first 10 units. The second tier would be adjusted to 9-30 units (the next 22 units) instead of 11-40 units (the next 30 units) and the third tier would be adjusted from 41-100 units (the next 60 units) to 31-100 units (the next 70 units). Tier 4 and Tier 5 remain the same. The amounts of water in each tier for the current water rate structure and revised water rate structure for the Residential customer class are shown in the figures below (the Tier 5 water use labels and % water use labels are not shown for clarity).

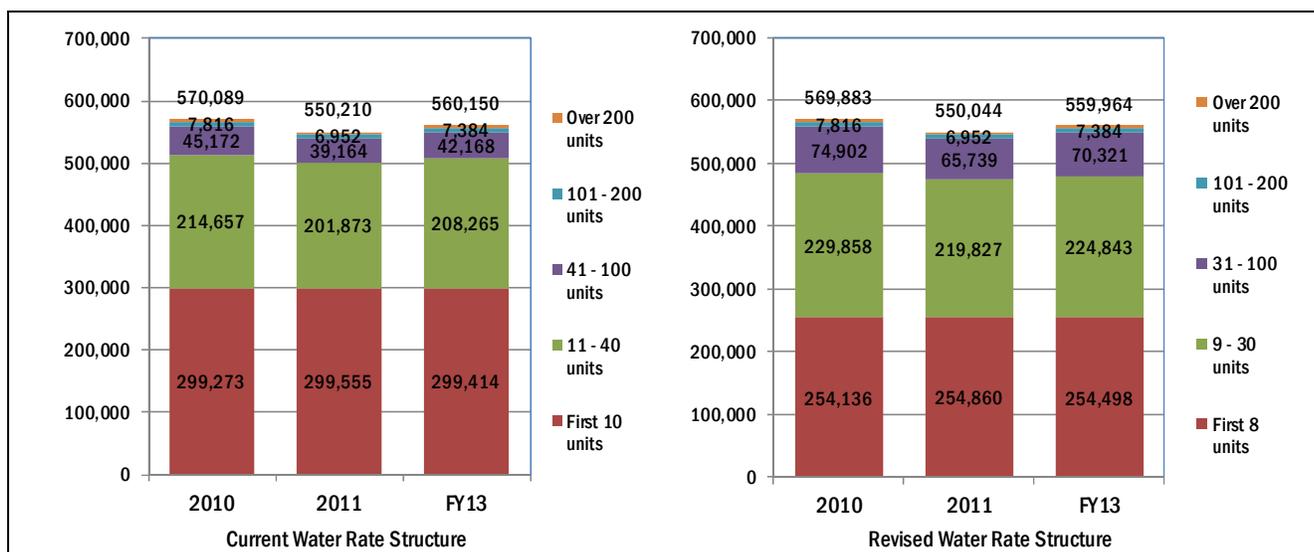


Figure 3-3. Lower Residential Tiers, 100 cf in Each Tier

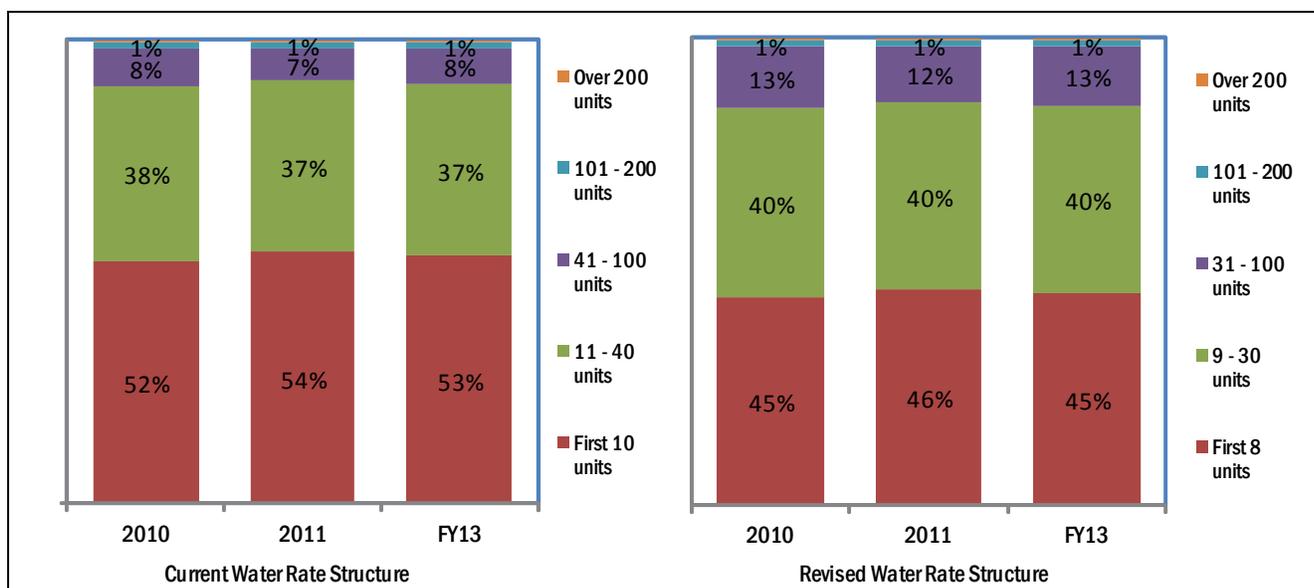


Figure 3-4. Lower Residential Tiers, % Use in Each Tier

The impact on revenues from quantity charges using the revised water rate structure for the Residential customer class is summarized in the table below. As a result of lowering the number of units in Tier 1 (from 10 to 8) and Tier 2 (from 30 to 22) more water is priced at higher tier prices and more revenue is generated from the same amount of water sales (note that the difference in water use of 186 units is due to slight changes in the source data used to evaluate the water use in each tier).

Table 3-8. Impact of Lower Residential Tiers on Residential Water Use and Revenues

Current Rate Structure			Updated Rate Structure			Difference	
Tier	Units in Tier	Sales 100 cf	Tier	Units in Tier	Sales 100 cf	100 cf	Percent
First 10 units	10	299,414	First 8 units	8	254,498	(44,916)	-15%
11 - 40 units	30	208,265	9 - 30 units	22	224,843	16,578	8%
41 - 100 units	60	42,168	31 - 100 units	70	70,321	28,153	67%
101 - 200 units	100	7,384	101 - 200 units	100	7,384	0	0%
Over 200 units	no limit	2,919	Over 200 units	no limit	2,919	0	0%
Total		560,150	Total		559,964	(186)	0%

Current Rate Structure			Updated Rate Structure			Difference	
Tier	Units in Tier	Revenue Dollars	Tier	Units in Tier	Revenue Dollars	Dollars	Percent
First 10 units	10	\$811,412	First 8 units	8	\$689,690	(\$121,722)	-15%
11 - 40 units	30	\$737,258	9 - 30 units	22	\$795,942	\$58,684	8%
41 - 100 units	60	\$178,792	31 - 100 units	70	\$298,159	\$119,367	67%
101 - 200 units	100	\$33,893	101 - 200 units	100	\$33,893	\$0	0%
Over 200 units	no limit	\$14,593	Over 200 units	no limit	\$14,593	\$0	0%
Total		\$1,775,947	Total		\$1,832,276	\$56,329	3%

The impact of the revised water rate structure on the Residential customer class is an increase in revenues of approximately 3 percent.

3.7.3 Option 3–Adjust Tiers for Dwelling Units for Multiple Family and Private Mutuals

This section evaluates two separate adjustments for the Multiple Family and Private Mutual customer classes – 1) adjustment of tiers based on the number of dwelling units served by a meter; and 2) lowering of tiers as was illustrated in the previous section for the Residential customer class. The first adjustment will lower revenues from water rates; the second adjustment will slightly increase revenue from water rates (as was the case for the Residential customer class). The table below shows the current rate structure for Multiple Family and Private Mutuals customer classes on the left hand side, with and without adjustment of tiers based on the number of dwelling units. The same amount of water use (within a fraction of a percent) is used on the right hand side of the table with a rate structure with lower Residential tiers.

Table 3-9. Impact of Tier Adjustment for Dwelling Units and Lower Residential Tiers on Multiple Family and Private Mutuals Water Use and Revenues									
	Current Tiers				Lower Residential Tiers				
	Multiple Family		Private Mutuals		Multiple Family		Private Mutuals		
	No Adjustment	Adjust Tiers for Units	No Adjustment	Adjust Tiers for Units	No Adjustment	Adjust Tiers for Units	No Adjustment	Adjust Tiers for Units	Adjust Tiers for Units
Water Sales, 100 cf					Water Sales, 100 cf				
First 10 units	27,676	59,936	350	6,289	First 8 units	22,737	50,962	280	5,472
11 - 40 units	34,617	41,690	1,023	4,374	9 - 30 units	33,332	45,023	757	4,834
41 - 100 units	12,810	8,441	1,767	886	31 - 100 units	19,034	14,081	2,103	1,512
101 - 200 units	5,823	1,478	2,421	155	101 - 200 units	5,823	1,479	2,421	159
Over 200 units	31,204	584	6,206	61	Over 200 units	31,204	584	6,479	63
Total	112,129	112,129	11,766	11,766	Total	112,129	112,129	12,039	12,039
Water Sales, %					Water Sales, %				
First 10 units	25%	53%	3%	53%	First 8 units	20%	45%	2%	45%
11 - 40 units	31%	37%	9%	37%	9 - 30 units	30%	40%	6%	40%
41 - 100 units	11%	8%	15%	8%	31 - 100 units	17%	13%	17%	13%
101 - 200 units	5%	1%	21%	1%	101 - 200 units	5%	1%	20%	1%
Over 200 units	28%	1%	53%	1%	Over 200 units	28%	1%	54%	1%
Total	100%	100%	100%	100%	Total	100%	100%	100%	100%
Water Rates, \$/100 cf					Water Rates, \$/100 cf				
First 10 units	\$2.71	\$2.71	\$2.71	\$2.71	First 8 units	\$2.71	\$2.71	\$2.71	\$2.71
11 - 40 units	\$3.54	\$3.54	\$3.54	\$3.54	9 - 30 units	\$3.54	\$3.54	\$3.54	\$3.54
41 - 100 units	\$4.24	\$4.24	\$4.24	\$4.24	31 - 100 units	\$4.24	\$4.24	\$4.24	\$4.24
101 - 200 units	\$4.59	\$4.59	\$4.59	\$4.59	101 - 200 units	\$4.59	\$4.59	\$4.59	\$4.59
Over 200 units	\$5.00	\$5.00	\$5.00	\$5.00	Over 200 units	\$5.00	\$5.00	\$5.00	\$5.00
Revenue					Revenue				
First 10 units	\$75,002	\$162,426	\$949	\$17,043	First 8 units	\$61,616	\$138,106	\$759	\$14,828
11 - 40 units	\$122,544	\$147,582	\$3,620	\$15,486	9 - 30 units	\$117,995	\$159,382	\$2,680	\$17,112
41 - 100 units	\$54,312	\$35,790	\$7,492	\$3,755	31 - 100 units	\$80,704	\$59,704	\$8,915	\$6,410
101 - 200 units	\$26,728	\$6,785	\$11,110	\$712	101 - 200 units	\$26,728	\$6,787	\$11,110	\$729
Over 200 units	\$156,018	\$2,921	\$31,028	\$307	Over 200 units	\$156,018	\$2,922	\$32,395	\$314
Total	\$434,603	\$355,504	\$54,198	\$37,302	Total	\$443,060	\$366,901	\$55,858	\$39,393
<i>reduction in revenue ></i>		(\$79,100)		(\$16,895)	<i>reduction in revenue ></i>		(\$76,159)		(\$16,465)
					<i>difference in revenue due to changes in tiers ></i>		\$2,941		\$430

With both the current rate structure and the updated rate structure, the adjustment of tiers based on the number of dwelling units results in less revenue from the Multiple Family customer class for both the current rate structure (a decrease of \$79,100) and updated rate structure (a decrease of \$76,200). A similar loss of revenues is evident for the Private Mutuals customer class for the current rate structure (a decrease of \$16,900) and updated rate structure (a decrease of \$16,500).

3.7.4 Option 4–Lower Residential Tiers for Multiple Family and Private Mutuals

Isolation of the impact of the updated rate structure (lower Residential tiers) separate from the impact of adjustment of tiers based on the number of dwelling units is done by subtracting the revenue value for the updated rate structure from the revenue value for the current rate structure. For example, the Multiple Family customer class has a decrease in revenue of \$76,200 for the updated rate structure and a decrease in revenue of \$79,100 for the current rate structure. The difference, a positive \$2,900, is the slight increase in revenue from using lower Residential tiers. The difference for the Private Mutuals customer class is approximately \$400.

3.7.5 Option 5–Four-Tier Rate Structure

The small amount of water use in the top three tiers and the minimal amount of water use in Tier 4 provides the basis for our recommendation of combining Tier 4 and Tier 5 into a single tier and charging the weighted average water rate for the two tiers. The new top tier would be for water use “Over 100 units.” The change would be revenue neutral with the current tier structure. As a result of the change, some customer bills would decrease and some would increase depending on the weighting of their water use in each tier.

Calculation of a Tier 4 rate for a four-tier rate structure is shown in the table below for both the current rates and rates based on all other optional updates. Note that only three customer classes would have tiered water rates (Residential, Multiple Family and Private Mutuals) and the amount of water priced in Tiers 3 and 4 for the updated rate structure is approximately 12 percent of water sales. In the current water rate structure approximately 22 percent of the water is priced in Tiers 3, 4 and 5.

Table 3-10. Calculation of a Tier 4 Rate for a Four-Tier Rate Structure

Water Fees	Projected				
	FY14	FY15	FY16	FY17	FY18
Current Rate Structure					
Water Use, 100 cf					
101 - 200 units	28,000	27,000	26,000	25,000	24,000
Over 200 units	65,500	64,000	63,000	62,000	61,000
Total	93,500	91,000	89,000	87,000	85,000
Water Rate, \$/100 cf					
101 - 200 units	\$5.19	\$5.86	\$6.33	\$6.84	\$7.39
Over 200 units	\$5.65	\$6.38	\$6.89	\$7.44	\$8.04
Revenue					
101 - 200 units	\$145,320	\$158,220	\$164,580	\$171,000	\$177,360
Over 200 units	\$370,075	\$408,320	\$434,070	\$461,280	\$490,440
Total	\$515,395	\$566,540	\$598,650	\$632,280	\$667,800
Combined Tier 4 and Tier 5					
Revenue	\$515,395	\$566,540	\$598,650	\$632,280	\$667,800
Water Use, 100 cf	93,500	91,000	89,000	87,000	85,000
Tier 4 Over 100 Units	\$5.51	\$6.23	\$6.73	\$7.27	\$7.86
Updated Rate Structure					
Water Use, 100 cf					
101 - 200 units	9,000	9,000	9,000	9,000	9,000
Over 200 units	3,000	3,000	3,000	3,000	3,000
Total	12,000	12,000	12,000	12,000	12,000
Water Rate, \$/100 cf					
101 - 200 units	\$5.33	\$6.02	\$6.50	\$7.02	\$7.58
Over 200 units	\$5.81	\$6.57	\$7.10	\$7.67	\$8.28
Revenue					
101 - 200 units	\$47,970	\$54,180	\$58,500	\$63,180	\$68,220
Over 200 units	\$17,430	\$19,710	\$21,300	\$23,010	\$24,840
Total	\$65,400	\$73,890	\$79,800	\$86,190	\$93,060
Combined Tier 4 and Tier 5					
Revenue	\$65,400	\$73,890	\$79,800	\$86,190	\$93,060
Water Use, 100 cf	12,000	12,000	12,000	12,000	12,000
Tier 4 Over 100 Units	\$5.45	\$6.16	\$6.65	\$7.18	\$7.76
Summary for Combined Tier 4 and Tier 5 (Over 100 Units)					
Current Rate Structure	\$5.51	\$6.23	\$6.73	\$7.27	\$7.86
Updated Rate Structure	\$5.45	\$6.16	\$6.65	\$7.18	\$7.76

3.8 Fiscal Impact of Optional Tier Structure Changes

The fiscal impact for each of the five optional tier structure changes is presented in three different ways – 1) changes in revenues from quantity charges recovered from each customer class; 2) changes in the average price of water for each customer class; and 3) changes in sample bimonthly bills using the current rate structure and an FY14 rate structure that includes rate increases and adjusted quantity charges using the five optional tier structure changes.

3.8.1 Changes in Revenues from Quantity Charges

The fiscal impact for each of the five optional tier structure changes is itemized in the table below using projected revenue from quantity charges for FY13 of approximately \$2,616,000. The summary shows the projected total revenues in each tier for each customer class using the current rate structure and the revenue impact for each of the optional tier structure changes. Note that the change to flat rates for six customer classes and the combination of Tier 4 and Tier 5 rates are both revenue neutral on a system wide basis but shift revenues between customer classes (flat rates) and between customers within a customer class (combination of Tier 4 and Tier 5). Options 2, 3 and 4 are not revenue neutral and, taken together, result in a net loss in revenue of approximately \$36,000. It is recommended that Option 2, Option 3 and Option 4 be implemented jointly or not at all to minimize the fiscal impact on a system wide basis.

Table 3-11. Revenue Impact of Optional Tier Structure Changes on Each Customer Class

Revenues from Current Tier Rate Structure	Single Family	Multiple Family	Commercial	Institutional	Landscape	Private Mutuals	Surplus, Other, Vacant	FY13 Projected Total
Water Sales Revenue								
First 10 units	\$811,412	\$75,002	\$25,845	\$6,753	\$1,126	\$949	\$1,070	\$922,157
11 - 40 units	\$737,258	\$122,544	\$45,229	\$17,119	\$2,669	\$3,620	\$1,097	\$929,537
41 - 100 units	\$178,792	\$54,312	\$36,909	\$28,164	\$3,413	\$7,492	\$333	\$309,416
101 - 200 units	\$33,893	\$26,728	\$18,895	\$36,447	\$2,653	\$11,110	\$18	\$129,743
Over 200 units	\$14,593	\$156,018	\$7,130	\$99,445	\$16,998	\$31,028	\$0	\$325,210
Total	\$1,775,947	\$434,603	\$134,008	\$187,929	\$26,859	\$54,198	\$2,519	\$2,616,064
		\$443,060	-\$434,603					
Summary of Rate Structure Options								
1 Flat Rate for C, I, L, S, O and V	\$48,214	\$12,062	(\$9,701)	(\$45,809)	(\$6,622)	\$1,522	\$158	(\$175)
2 Tiers Adjusted for Units for MF and PM								
Multiple Family		(\$79,100)						(\$79,100)
Private Mutuals						(\$16,895)		(\$16,895)
Total								(\$95,995)
3 Change Tiers 1, 2 and 3 for Residential	\$56,329							\$56,329
4 Option 2 with Option 3 Tiers for MF and PM								
Multiple Family		\$2,941						\$2,941
Private Mutuals						\$430		\$430
Total								\$3,371
5 Combine Tiers 4 and 5	\$0	\$0				\$0		\$0
Total All Options	\$104,543	(\$64,098)	(\$9,701)	(\$45,809)	(\$6,622)	(\$14,943)	\$158	(\$36,471)
% Change from Current	6%	-15%	-7%	-24%	-25%	-28%	6%	-1%

The net impact of the five optional tier structure changes will result in percent increases in water bills for users in the Residential customer class that are greater than average as approximately \$105,000 is shifted from the nonresidential customer classes (except the Surplus, Other and Vacant customer classes) to the Residential customer class. The same shift of revenues to the Residential customer class is, of course, a shift in revenues from the nonresidential customer classes. Nonresidential customers with water use greater than the typical Residential customer should experience percent increases in water bills that are less than average for the system.

3.8.2 Average Quantity Charges Using Updated Rate Structure

The evaluation of the average quantity charge for each customer class using the current rate structure was presented in Section 2.3.3. The average quantity charge for each customer class using the updated rate structure is shown in the table below. For comparison, the table includes a summary of the average quantity charges using the current rate structure.

The FY13 projected average quantity charge for all customer classes combined decreases from \$3.40 per unit using the current rate structure to \$3.35 per unit using the updated rate structure because the updated rate structure is projected to bring in less revenue (approximately \$36,000 less).

The variation from the average quantity charge among all customer classes is lower for the updated rate structure and varies from +\$0.05 to -\$0.08. The variation from the average quantity charge among all customer classes for the current rate structure varies from +\$1.21 to -\$0.23.

Table 3-12. Water Use Revenues by Tier and Average Quantity Charge per Customer Class

	Single Family	Multiple Family	Commercial	Institutional	Landscape	Private Mutuals	Surplus, Other, Vacant	FY13 Projected Total
Water Sales Revenue								
First 8 units	\$707,504	\$138,106				\$14,828		\$860,438
9 - 30 units	\$818,427	\$159,382				\$17,112		\$994,921
31 - 100 units	\$306,597	\$59,704				\$6,410		\$372,712
Over 100 units	\$49,854	\$9,985				\$1,072		\$60,911
Flat Rate			\$124,307	\$142,120	\$20,237		\$2,678	\$289,342
Total	\$1,882,382	\$367,177	\$124,307	\$142,120	\$20,237	\$39,423	\$2,678	\$2,578,324
Percent of Total	73%	14%	5%	6%	1%	2%	0.1%	100%
Water Sales Revenue, %								
First 8 units	38%	38%	0%	0%	0%	38%	0%	33%
9 - 30 units	43%	43%	0%	0%	0%	43%	0%	39%
31 - 100 units	16%	16%	0%	0%	0%	16%	0%	14%
Over 100 units	3%	3%	0%	0%	0%	3%	0%	2%
Flat Rate	0%	0%	100%	100%	100%	0%	100%	11%
Total	100%	100%	100%	100%	100%	100%	100%	100%
Average Quantity Charge, \$/100 cf								
Customer Classes								
Total Quantity Charge Revenue	\$1,882,382	\$367,177	\$124,307	\$142,120	\$20,237	\$39,423	\$2,678	\$2,578,324
Average Water Use, FY13 Projected	560,150	112,129	36,561	41,800	5,952	11,766	788	769,145
Average Quantity Charge	\$3.36	\$3.27	\$3.40	\$3.40	\$3.40	\$3.35	\$3.40	\$3.35
Current Rate Structure, FY 13 Projected								
Total Quantity Charge Revenue	\$1,775,947	\$434,603	\$134,008	\$187,929	\$26,859	\$54,198	\$2,519	\$2,616,064
Average Water Use, FY13 Projected	560,150	112,129	36,561	41,800	5,952	11,766	788	769,145
Average Quantity Charge	\$3.17	\$3.88	\$3.67	\$4.50	\$4.51	\$4.61	\$3.20	\$3.40

3.8.3 Bimonthly Bills Using Updated Rate Structure

A summary of the impact of the optional tier structure changes on water bills for six customer classes is shown in the table below. The impact is assessed by comparing bimonthly bills based on the current rates and rate structure versus rates for FY14 using the updated rate structure.

Table 3-13. Impact of Optional Tier Structure Changes on Bimonthly Water Bills															
	Residential		Multiple Family		Commercial			Institutional			Landscape			Private Mutuals	
	Avg Use	High Use	Avg Use	High Use	Low Use	Avg Use	High Use	Low Use	Avg Use	High Use	Low Use	Avg Use	High Use	Small	Large
Current Rates															
Dwelling Units	1	1	2	6	1	1	1	1	1	1	1	1	1	4	12
Meter Size	%	%	%A	2	¾	¾	¾	1	2	3	%	1	2	%A	1-½S
Meter Charge	\$49.73	\$49.73	\$82.90	\$265.68	\$82.90	\$82.90	\$82.90	\$82.90	\$265.68	\$498.62	\$49.73	\$82.90	\$265.68	\$82.90	\$531.36
Quantity Charge															
Water Use, 100 cf	14	28	28	84	28	150	250	100	150	300	50	150	250	56	168
First 10 units	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
11 - 40 units	4	18	18	30	18	30	30	30	30	30	40	30	30	30	30
41 - 100 units				44		60	60	60	60	60	60	60	60	16	60
101 - 200 units						50	100		50	100		50	100		68
Over 200 units							50			100			50		
Rate, \$/100 cf															
First 10 units	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71
11 - 40 units	\$3.54	\$3.54	\$3.54	\$3.54	\$3.54	\$3.54	\$3.54	\$3.54	\$3.54	\$3.54	\$3.54	\$3.54	\$3.54	\$3.54	\$3.54
41 - 100 units	\$4.24	\$4.24	\$4.24	\$4.24	\$4.24	\$4.24	\$4.24	\$4.24	\$4.24	\$4.24	\$4.24	\$4.24	\$4.24	\$4.24	\$4.24
101 - 200 units	\$4.59	\$4.59	\$4.59	\$4.59	\$4.59	\$4.59	\$4.59	\$4.59	\$4.59	\$4.59	\$4.59	\$4.59	\$4.59	\$4.59	\$4.59
Over 200 units	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00
Charge	\$41.26	\$90.82	\$90.82	\$319.86	\$90.82	\$617.20	\$1,097	\$387.70	\$617.20	\$1,347	\$168.70	\$617.20	\$1,097	\$201.14	\$699.82
Bimonthly Bill	\$90.99	\$140.55	\$173.72	\$585.54	\$173.72	\$700.10	\$1,180	\$470.60	\$882.88	\$1,845	\$218.43	\$700.10	\$1,362	\$284.04	\$1,231.18
FY14 Rates, All Options															
Dwelling Units	1	1	2	2	1	1	1	1	1	1	1	1	1	2	2
Meter Charge	\$56.19	\$56.19	\$93.68	\$300.00	\$93.68	\$93.68	\$93.68	\$93.68	\$300.00	\$563.00	\$56.19	\$93.68	\$300.00	\$93.68	\$600.00
Quantity Charge															
Water Use, 100 cf	14	28	28	84	28	150	250	100	150	300	50	150	250	56	168
First 8 units	8	8	16	84										32	96
9 - 30 units	6	20	12											24	72
31 - 100 units															
Over 100 units															
Flat Charge															
					28	150	250	100	150	300	50	150	250		
Rate, \$/100 cf															
First 8 units	\$3.14	\$3.14	\$3.14	\$3.14										\$3.14	\$3.14
9 - 30 units	\$4.11	\$4.11	\$4.11	\$4.11										\$4.11	\$4.11
31 - 100 units	\$4.93	\$4.93	\$4.93	\$4.93										\$4.93	\$4.93
Over 100 units	\$5.45	\$5.45	\$5.45	\$5.45										\$5.45	\$5.45
Flat Charge					\$3.84	\$3.84	\$3.84	\$3.84	\$3.84	\$3.84	\$3.84	\$3.84	\$3.84		
Charge	\$49.78	\$107.32	\$99.56	\$263.76	\$107.52	\$576.00	\$960	\$384.00	\$576.00	\$1,152	\$192.00	\$576.00	\$960	\$199.12	\$597.36
Bimonthly Bill	\$105.97	\$163.51	\$193.24	\$563.76	\$201.20	\$669.68	\$1,054	\$477.68	\$876.00	\$1,715	\$248.19	\$669.68	\$1,260	\$292.80	\$1,197.36
Increase in Bills															
Dollars	\$14.98	\$22.96	\$19.52	-\$21.78	\$27.48	-\$30.42	-\$126	\$7.08	-\$6.88	-\$130	\$29.76	-\$30.42	-\$102	\$8.76	-\$33.82
Percent	16%	16%	11%	-4%	16%	-4%	-11%	2%	-1%	-7%	14%	-4%	-8%	3%	-3%
Percent Increase in Rates															
Basic Charges	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Quantity Charges	varies	varies	varies	varies	varies	varies	varies	varies	varies	varies	varies	varies	varies	varies	varies

3.9 Current and Recommended Water Rates

Current and FY14 – FY18 recommended quantity charges and basic charges are listed in the tables below. The recommended quantity charges for each rate structure (the current structure and an updated structure using all five options) are shown in a table separate from the basic charges.

Table 3-14. Current and Recommended Basic Charges

	Current	Recommended				
		FY14	FY15	FY16	FY17	FY18
Basic Charges, \$/2 months						
Annual Increase, %		13%	13%	9%	9%	9%
5/8-inch	\$49.73	\$56.19	\$63.49	\$69.20	\$75.43	\$82.22
5/8A-inch	\$82.90	\$93.68	\$106.00	\$116.00	\$126.00	\$137.00
5/8B-inch	\$166.92	\$189.00	\$214.00	\$233.00	\$254.00	\$277.00
5/8C-inch	\$265.68	\$300.00	\$339.00	\$370.00	\$403.00	\$439.00
3/4-inch	\$49.73	\$56.19	\$63.49	\$69.20	\$75.43	\$82.22
3/4A-inch	\$82.90	\$93.68	\$106.00	\$116.00	\$126.00	\$137.00
1-inch	\$82.90	\$93.68	\$106.00	\$116.00	\$126.00	\$137.00
1A-inch	\$166.92	\$189.00	\$214.00	\$233.00	\$254.00	\$277.00
1B-inch	\$265.68	\$300.00	\$339.00	\$370.00	\$403.00	\$439.00
1F-inch	\$49.73	\$56.19	\$63.49	\$69.20	\$75.43	\$82.22
1-1/2-inch	\$166.92	\$189.00	\$214.00	\$233.00	\$254.00	\$277.00
1-1/2A-inch	\$265.68	\$300.00	\$339.00	\$370.00	\$403.00	\$439.00
1-1/2C-inch	\$829.76	\$938.00	\$1,060.00	\$1,155.00	\$1,259.00	\$1,372.00
1-1/2F-inch	\$82.90	\$93.68	\$106.00	\$116.00	\$126.00	\$137.00
1-1/2G-inch	\$49.73	\$56.19	\$63.49	\$69.20	\$75.43	\$82.22
1-1/2S-inch	\$531.36	\$600.00	\$678.00	\$739.00	\$806.00	\$879.00
2-inch	\$265.68	\$300.00	\$339.00	\$370.00	\$403.00	\$439.00
2A-inch	\$498.62	\$563.00	\$636.00	\$693.00	\$755.00	\$823.00
2G/L-inch	\$82.90	\$93.68	\$106.00	\$116.00	\$126.00	\$137.00
3-inch	\$498.62	\$563.00	\$636.00	\$693.00	\$755.00	\$823.00
4-inch	\$829.76	\$938.00	\$1,060.00	\$1,155.00	\$1,259.00	\$1,372.00

Table 3-15. Current and Recommended Quantity Charges

	Current	Recommended				
		FY14	FY15	FY16	FY17	FY18
Current Rate Structure						
Annual Increase, %		13%	13%	8%	8%	8%
First 10 units	\$2.71	\$3.06	\$3.46	\$3.74	\$4.04	\$4.36
11 - 40 units	\$3.54	\$4.00	\$4.52	\$4.88	\$5.27	\$5.69
41 - 100 units	\$4.24	\$4.79	\$5.41	\$5.84	\$6.31	\$6.81
101 - 200 units	\$4.59	\$5.19	\$5.86	\$6.33	\$6.84	\$7.39
Over 200 units	\$5.00	\$5.65	\$6.38	\$6.89	\$7.44	\$8.04
Updated Rate Structure, All Options						
Annual Increase, %		16%	13%	8%	8%	8%
First 8 units	\$2.71	\$3.14	\$3.55	\$3.83	\$4.14	\$4.47
9 - 30 units	\$3.54	\$4.11	\$4.64	\$5.01	\$5.41	\$5.84
31 - 100 units	\$4.24	\$4.93	\$5.57	\$6.02	\$6.50	\$7.02
Over 100 units	na	\$5.45	\$6.16	\$6.65	\$7.18	\$7.76
Flat Rate	na	\$3.84	\$4.34	\$4.69	\$5.07	\$5.48

3.10 Single Family Bills and Survey

Calculation of the average Single Family bimonthly water bill is shown in the tables below. The top table shows the bills using the current rate structure. The lower table shows bills using the updated rate structure for all options.

Table 3-16. Single Family Average Water Use and Bimonthly Bills Using Current Rate Structure

	Current	FY14	FY15	FY16	FY17	FY18
Average Bimonthly Use						
Water Use, 100 cf	560,150	554,548	549,003	543,512	538,077	532,697
Accounts	6,393	6,446	6,446	6,446	6,446	6,446
Average Use						
100 cf/month	14.6	14.3	14.2	14.1	13.9	13.8
gallons per day	180	176	175	173	171	169
Bimonthly Bill						
Meter Charge	\$49.73	\$56.19	\$63.49	\$69.20	\$75.43	\$82.22
Quantity Charge						
Water Use, 100 cf	14	14	14	14	14	14
First 10 units	10	10	10	10	10	10
11 - 40 units	4	4	4	4	4	4
Rate, \$/100 cf						
First 10 units	\$2.71	\$3.06	\$3.46	\$3.74	\$4.04	\$4.36
11 - 40 units	\$3.54	\$4.00	\$4.52	\$4.88	\$5.27	\$5.69
Charge	\$41.26	\$46.60	\$52.68	\$56.92	\$61.48	\$66.36
Bimonthly Bill	\$90.99	\$102.79	\$116.17	\$126.12	\$136.91	\$148.58
Increase						
Dollars		\$11.80	\$13.38	\$9.95	\$10.79	\$11.67
Percent		13%	13%	9%	9%	9%

Table 3-17. Single Family Average Water Use and Bimonthly Bills Using All Updated Rate Structure Options

	Current	FY14	FY15	FY16	FY17	FY18
Average Bimonthly Use						
Water Use, 100 cf	560,150	554,548	549,003	543,512	538,077	532,697
Accounts	6,393	6,446	6,446	6,446	6,446	6,446
Average Use						
100 cf/month	14.6	14.3	14.2	14.1	13.9	13.8
gallons per day	180	176	175	173	171	169
Bimonthly Bill						
Meter Charge	\$49.73	\$56.19	\$63.49	\$69.20	\$75.43	\$82.22
Quantity Charge						
Water Use, 100 cf	14	14	14	14	14	14
First 8 units	10	8	8	8	8	8
9 - 30 units	4	6	6	6	6	6
Rate, \$/100 cf						
First 8 units	\$2.71	\$3.14	\$3.55	\$3.83	\$4.14	\$4.47
9 - 30 units	\$3.54	\$4.11	\$4.64	\$5.01	\$5.41	\$5.84
Charge	\$41.26	\$49.78	\$56.24	\$60.70	\$65.58	\$70.80
Bimonthly Bill	\$90.99	\$105.97	\$119.73	\$129.90	\$141.01	\$153.02
Increase						
Dollars		\$14.98	\$13.76	\$10.17	\$11.11	\$12.01
Percent		16%	13%	8%	9%	9%

Comparison of current water bills and water bills based on the two sets of FY14 recommended rates with those of other municipalities is shown in Figure 3-5.

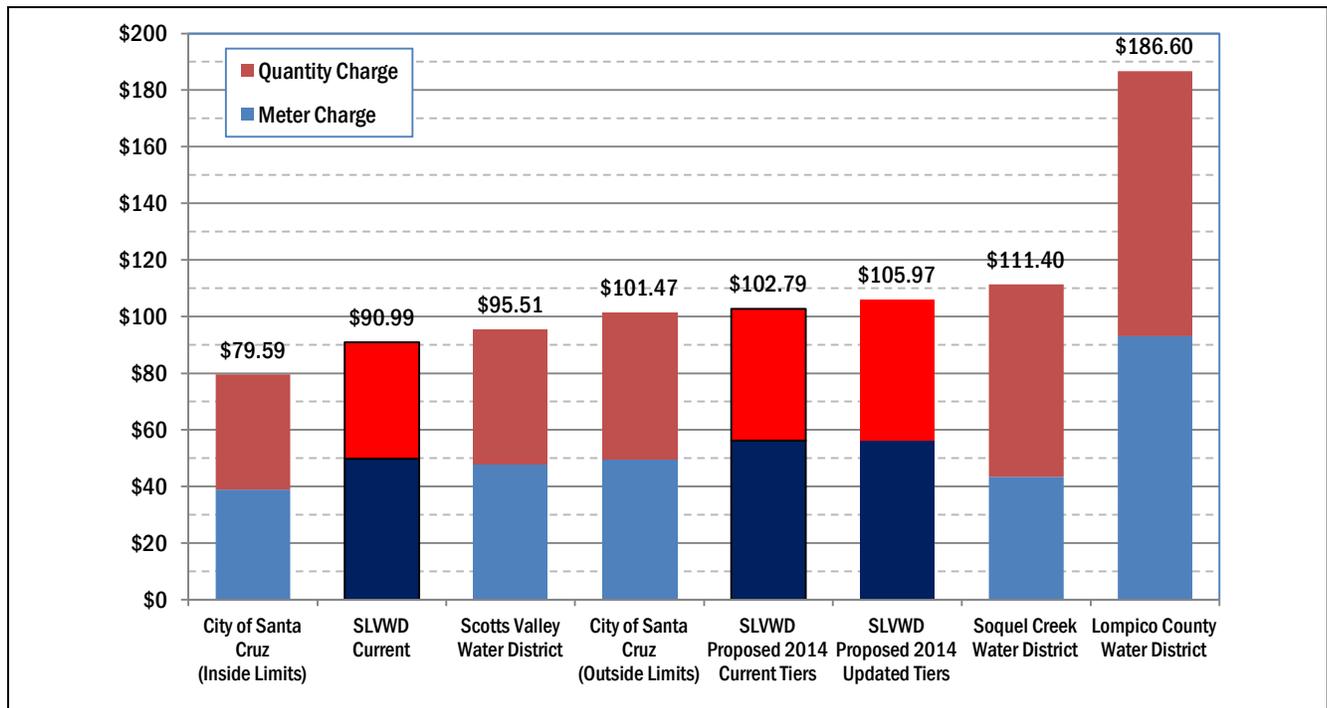


Figure 3-5. Single Family Bimonthly Water Bills Survey

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Section 4

Wastewater Rates

Revenue, expenditures, reserve levels, water rates, and debt coverage for the wastewater utility are summarized in this section.

4.1 Wastewater Operating Revenues and Expenditures

Budgeted and projected operating revenues and expenditures are shown in the table below. Revenues (except revenues from wastewater charges) and expenditures for FY13 are from the District's budget. Projected revenues and expenditures are based on annual escalation rates provided by the District.

Table 4-1. Budgeted and Projected Operating Expenditures						
Item	FY13	FY14	FY15	FY16	FY17	FY18
Non-restricted Revenues [1]						
4102 Sewer Charges for Service	\$100,000	\$113,190	\$130,020	\$149,490	\$171,930	\$177,210
Total Non-restricted Revenues	\$100,000	\$113,190	\$130,020	\$149,490	\$171,930	\$177,210
Operating Expenses [2]						
Personnel	\$15,860	\$16,336	\$16,826	\$17,331	\$17,851	\$18,386
Materials & Services	\$54,950	\$56,599	\$58,296	\$60,045	\$61,847	\$63,702
Capital R&R	\$0	\$0	\$0	\$0	\$50,000	\$50,000
Total Operating Expenditures	\$70,810	\$72,934	\$75,122	\$77,376	\$129,697	\$132,088
Summary						
Non-restricted Revenues	\$100,000	\$113,190	\$130,020	\$149,490	\$171,930	\$177,210
Operating Expenditures	\$70,810	\$72,934	\$75,122	\$77,376	\$129,697	\$132,088
Net Income / (Shortfall)	\$29,190	\$40,256	\$54,898	\$72,114	\$42,233	\$45,122
Notes:						
1	Sewer Charges for Service are summarized in Table 4-2. Revenues for other Non-restricted items were provided by the District.					
2	Personnel and Materials & Services expenditures for FY13 are from the District's budget. Values for FY14 onward are escalated as shown below:					
		<u>FY14</u>	<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>
	Personnel	3%	3%	3%	3%	3%
	Materials & Services	3%	3%	3%	3%	3%
	Capital Repair and Refurbishment (R&R) expenditures were provided by the District.					

4.2 Wastewater Enterprise Cash Flow

Cash flow for the wastewater enterprise is shown in the table and figure below.

Table 4-2. Wastewater Enterprise Cash Flow							
Item	FY13	FY14	FY15	FY16	FY17	FY18	Five Years FY14 - FY18
Beginning Balance, July 1 [1]	-\$214,603	-\$185,413	-\$145,157	-\$90,260	-\$18,146	\$24,087	
Revenues							
Non-restricted Revenues							
Wastewater Charges [2]	\$100,000	\$113,190	\$130,020	\$149,490	\$171,930	\$177,210	\$741,840
Total Revenues	\$100,000	\$113,190	\$130,020	\$149,490	\$171,930	\$177,210	\$741,840
Operating Expenditures	\$70,810	\$72,934	\$75,122	\$77,376	\$129,697	\$132,088	\$487,218
Debt Service	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital Project Expenditures	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Interest Earnings [3]	\$0	\$0	\$0	\$0	\$0	\$241	\$241
Ending Balance	-\$185,413	-\$145,157	-\$90,260	-\$18,146	\$24,087	\$69,450	

Notes:

- The Beginning Balance for FY13 based on Unrestricted Net Assets from page 33 of the Financial Statements and Supplementary Information June 30, 2012 and 2011.
- Revenues from Wastewater Charges are calculated based on the number of users and rates shown below:

	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>
number of users >		55	55	55	55	55
wastewater rate, \$/2 months >	\$298	\$343	\$394	\$453	\$521	\$537
		15%	15%	15%	15%	3%
revenue >		\$113,190	\$130,020	\$149,490	\$171,930	\$177,210
- Interest Earnings for FY13 are updated from the District's budget amount to reflect a steady decrease in yield in rates on investment. Values for FY14 onward are the previous years' ending balance times the interest rates shown below provided by the District.

	<u>FY14</u>	<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>
	1.5%	1.0%	1.0%	1.0%	1.0%

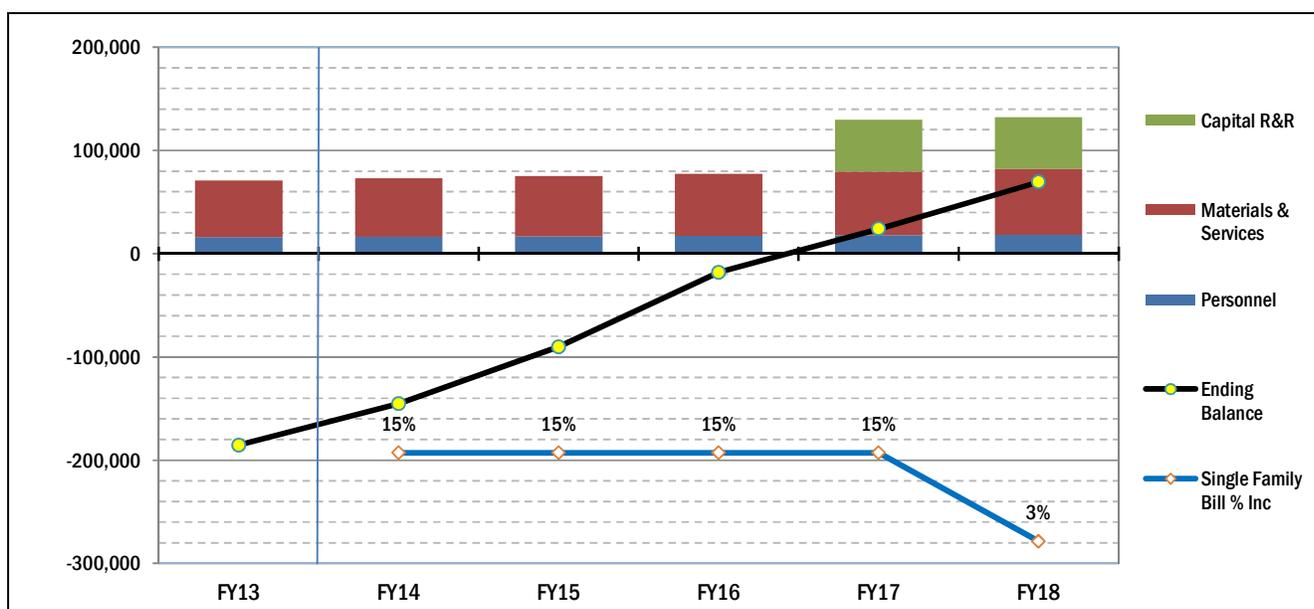


Figure 4-1. Wastewater Enterprise Cash Flow and % Increase in Single Family Bills

4.3 Wastewater Charges

Current and recommended wastewater charges are listed in the table below.

Table 4-3. Current and Recommended Wastewater Charges						
Wastewater Charges	Current	Recommended				
		FY14	FY15	FY16	FY17	FY18
Annual Increase, %		15%	15%	15%	15%	3%
Service Charge, \$/2 months	\$298	\$343	\$394	\$453	\$521	\$537

Past and current wastewater bimonthly charges from 1995 - 2013 and recommended for 2014 - 2018 are shown in the table below. The compound annual increase in charges for the 19 years, 1995 - 2013, is 8.4 percent. The compound annual increase in charges for the 24 years, 1995 - 2018 increases to 9.3 percent when the five years of recommended rate increases are included.

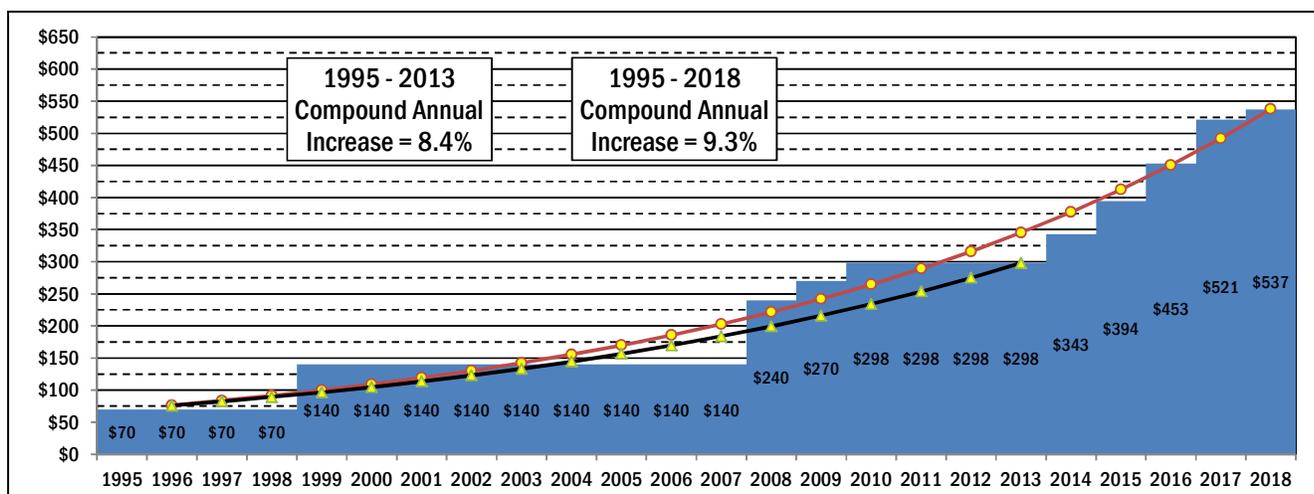


Figure 4-2. Wastewater Single Family Bills 1995 - 2018

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Section 5

Findings and Recommendations

5.1 Findings

Based on our evaluation of the District's finances, charges and customer water use data we have developed the following findings:

- Projected FY14 – FY18 operating expenditures are approximately \$29.2 million.
- Projected FY14 – FY18 capital expenditures are approximately \$11.0 million.
- Projected FY14 – FY18 debt service expenditures are approximately \$7.0 million.
- Projected FY14 – FY18 loan disbursements are approximately \$6.0 million.
- Projected FY14 – FY 18 revenue required from water charges is \$34.4 million.
- Projected FY14 – FY 18 revenue from water charges with no increase in charges is \$24.9 million.
- Annual increases in charges of 13 percent for FY14 and FY15, and approximately 9 percent in FY16, FY17 and FY18 should generate an additional \$9.1 million in revenue.
- The current tier rate structure may be made more equitable, acceptable and fair, without compromising revenue sufficiency or revenue stability, by adjusting tier unit amounts, tier prices and incorporating adjustment of tier unit amounts for multiple family residential and private mutual customer classes.

5.2 Recommendations

The following recommendations are offered regarding the District's water and wastewater service charges:

Recommendation 1. Adopt the projected water charges for the updated tier rate structure for FY14 – FY18, effective July 1 of each Fiscal Year.

Recommendation 2. Amend the water tiers structure to replace the “200 Units and Over” tier with a “100 Units and Over” tier and eliminate the “101 – 200 Units” tier.

Recommendation 3. Amend the water tiers structure as follows: a) replace the “First 10 units” tier with a “First 8 units” tier; b) replace the “11 - 40 units” tier with a “9 - 30 units” tier; and c) replace the “41 - 100 units” tier with a “31 - 100 units” tier.

Recommendation 4. Apply a flat rate (which represents the average price of water) for all water use to customers in the Commercial, Institutional and Landscape customer classes.

Recommendation 5. Adjust the tier unit amounts for multiple family residential and private mutual customer classes for the number of dwelling units served by the meter.

Recommendation 6. Adopt the projected wastewater rates for FY14 – FY18, effective July 1 of each Fiscal Year.

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Section 6

Public Review and Board Action

A summary of the public review process and actions taken by the Board of Directors and the Board's Finance Committee during the course of the studies is included in this section.

Finance Committee. District staff evaluated water and wastewater rates with its Board's Finance Committee on March 1 and March 15, 2013.

Board of Directors. District staff plan presented findings and recommendations from the draft report of the water and wastewater charge study to the Board of Directors at the March 21, 2013 meeting. The Board of Directors approved the start of the notification procedure required by Proposition 218 for the adoption of rate increases.

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Section 7

Limitations

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

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Appendix A: Monthly Water Use - 2010, 2011 and 2012 and Meters as of October 2012

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Table A-1
Water Use by Tiers and
Customer Class, 2010-2012

USE CODE	TIER	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
R	First 10 units	25,410	21,373	24,105	22,656	25,905	23,786	28,259	25,607	28,013	25,183	26,648	22,328
R	11 - 40 units	13,544	6,312	8,765	8,087	15,615	13,118	36,654	22,478	36,936	19,443	25,383	8,322
R	41 - 100 units	1,574	654	690	689	1,660	1,642	11,437	5,271	12,012	3,933	4,623	987
R	101 - 200 units	336	287	36	187	252	215	1,925	958	1,788	1,189	388	255
R	Over 200 units	81	136	19	62	108	83	663	500	495	368	518	138
MR	First 10 units	1,967	2,538	1,941	2,615	1,940	2,644	2,039	2,703	2,078	2,681	2,025	2,591
MR	11 - 40 units	2,090	2,339	1,796	2,859	2,184	3,285	3,358	4,122	3,465	3,746	2,713	2,578
MR	41 - 100 units	880	646	681	810	744	1,264	1,296	1,960	1,374	1,388	922	659
MR	101 - 200 units	469	183	472	246	479	465	570	756	602	520	678	229
MR	Over 200 units	3,946	11	3,186	16	4,614	76	6,502	229	6,515	35	5,129	166
C	First 10 units	911	586	934	578	955	614	1,029	663	971	650	946	609
C	11 - 40 units	1,124	657	1,033	780	1,116	902	1,498	1,021	1,400	958	1,201	765
C	41 - 100 units	618	372	656	425	837	714	1,012	910	983	599	847	422
C	101 - 200 units	305	127	283	216	345	237	885	477	491	334	211	207
C	Over 200 units	105		63	4	107	23	260	378	94	400	48	91
I	First 10 units	257	122	261	124	291	132	300	136	291	136	294	141
I	11 - 40 units	491	166	401	173	517	252	654	280	660	300	601	282
I	41 - 100 units	558	282	443	272	607	347	903	447	918	480	764	401
I	101 - 200 units	474	292	422	263	539	425	1,231	700	1,300	725	876	290
I	Over 200 units	439	102	400	33	543	606	5,057	1,769	5,723	1,386	2,430	267
L	First 10 units	35	26	27	30	38	30	44	30	40	40	38	40
L	11 - 40 units	45	7	37	37	50	48	109	60	94	89	84	52
L	41 - 100 units	44		55	32		60	71	99	84	87	74	60
L	101 - 200 units						100	72	100	25	100	4	100
L	Over 200 units						698		1,963		986		16
PM	First 10 units	30	30	30	30	30	30	30	30	30	30	30	10
PM	11 - 40 units	90	90	71	90	63	90	90	90	90	90	90	30
PM	41 - 100 units	126	180	120	180	120	180	180	180	155	180	123	36
PM	101 - 200 units	200	206	200	239	200	283	272	233	200	293	200	-2
PM	Over 200 units	73	536	292	535	196	544	474	1,529	716	1,291	358	-585
S	First 10 units	22		1		5		19		27		44	
S	11 - 40 units	6						5				27	
S	41 - 100 units												
S	101 - 200 units												
S	Over 200 units												
O	First 10 units	35		32		29		34		40		38	
O	11 - 40 units	56		51		23		57		68		55	
O	41 - 100 units	31		60				25		33		2	
O	101 - 200 units			8									
O	Over 200 units												
V	First 10 units		1			8	6	11	13	10	30	5	5
V	11 - 40 units								4		7		
V	41 - 100 units												
V	101 - 200 units												
V	Over 200 units												
TOTAL		56,372	38,261	47,571	42,268	60,120	52,899	107,025	75,696	107,721	67,677	78,417	41,490
SUMMARY BY CLASS													
R		40,945	28,762	33,615	31,681	43,540	38,844	78,938	54,814	79,244	50,116	57,560	32,030
MR		9,352	5,717	8,076	6,546	9,961	7,734	13,765	9,770	14,034	8,370	11,467	6,223
C		3,063	1,742	2,969	2,003	3,360	2,490	4,684	3,449	3,939	2,941	3,253	2,094
I		2,219	964	1,927	865	2,497	1,762	8,145	3,332	8,892	3,027	4,965	1,381
L		124	33	119	99	88	936	296	2,252	243	1,302	200	268
PM		519	1,042	713	1,074	609	1,127	1,046	2,062	1,191	1,884	801	-511
S		28	0	1	0	5	0	24	0	27	0	71	0
O		122	0	151	0	52	0	116	0	141	0	95	0
V		0	1	0	0	8	6	11	17	10	37	5	5
TOTAL		56,372	38,261	47,571	42,268	60,120	52,899	107,025	75,696	107,721	67,677	78,417	41,490
SUMMARY BY TIER													
First 10 units		28,667	24,676	27,331	26,033	29,201	27,242	31,765	29,182	31,500	28,750	30,068	25,724
11 - 40 units		17,446	9,571	12,154	12,026	19,568	17,695	42,425	28,055	42,713	24,633	30,154	12,029
41 - 100 units		3,831	2,134	2,705	2,408	3,968	4,207	14,924	8,867	15,559	6,667	7,355	2,565
101 - 200 units		1,784	1,095	1,421	1,151	1,815	1,725	4,955	3,224	4,406	3,161	2,357	1,079
Over 200 units		4,644	785	3,960	650	5,568	2,030	12,956	6,368	13,543	4,466	8,483	93
TOTAL		56,372	38,261	47,571	42,268	60,120	52,899	107,025	75,696	107,721	67,677	78,417	41,490

Table A-1
Water Use by Tiers and
Customer Class, 2010-2012

USE CODE	TIER	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11
R	First 10 units	25,422	22,157	24,598	22,253	26,308	23,715	27,939	25,371	28,164	24,893	26,313	22,422
R	11 - 40 units	12,151	7,492	10,020	7,623	17,007	12,574	32,188	20,736	36,101	17,189	20,630	8,162
R	41 - 100 units	1,126	988	1,031	632	2,025	1,538	8,406	4,368	11,403	3,490	3,176	981
R	101 - 200 units	118	353	225	358	541	339	1,470	561	1,564	779	488	156
R	Over 200 units	98	54	38	229	414	65	554	137	828	98	151	
MR	First 10 units	1,963	2,564	1,935	2,581	1,947	2,638	2,021	2,715	2,011	2,668	1,976	2,571
MR	11 - 40 units	2,225	2,771	1,868	2,849	2,243	3,346	3,188	4,154	3,373	3,603	2,375	2,704
MR	41 - 100 units	758	832	664	959	734	1,354	1,269	1,928	1,371	1,410	772	944
MR	101 - 200 units	516	277	458	248	456	462	524	775	601	673	445	542
MR	Over 200 units	4,529	703	3,494	65	4,670	41	6,512	403	6,918	99	4,512	36
C	First 10 units	920	600	926	622	956	643	1,007	703	1,020	639	984	608
C	11 - 40 units	1,122	790	1,098	864	1,167	957	1,395	1,161	1,477	1,015	1,190	862
C	41 - 100 units	734	427	667	573	837	711	1,022	966	1,037	688	898	455
C	101 - 200 units	190	204	144	193	297	290	673	519	668	336	469	132
C	Over 200 units	53		21		40	35	246	415	257	185	27	
I	First 10 units	265	137	261	144	279	138	288	145	289	135	280	138
I	11 - 40 units	427	247	425	248	547	280	639	327	620	313	541	281
I	41 - 100 units	510	325	471	385	699	431	925	543	873	550	680	471
I	101 - 200 units	613	277	519	215	923	603	1,184	804	1,300	732	813	361
I	Over 200 units	992	431	605	174	1,582	594	5,366	1,648	5,973	1,584	2,023	51
L	First 10 units	21	39	30	40	40	40	40	40	32	30	30	31
L	11 - 40 units	44	62	44	50	59	97	97	95	90	60	55	43
L	41 - 100 units	5	120	46	60	60	168	67	143	95	120	60	60
L	101 - 200 units		38		100	29	110		146	94	116	22	22
L	Over 200 units				36		809		1,650		641		
PM	First 10 units	30	30	30	30	30	30	30	30	30	30	30	30
PM	11 - 40 units	90	90	85	90	86	90	90	90	90	90	90	90
PM	41 - 100 units	124	155	120	147	120	160	142	180	169	180	120	157
PM	101 - 200 units	200	165	200	125	200	200	200	245	200	221	200	161
PM	Over 200 units	263	379	126		190	777	531	2,066	530	1,085	180	325
S	First 10 units	8		5		17		27		35		30	
S	11 - 40 units							9		8		7	
S	41 - 100 units												
S	101 - 200 units												
S	Over 200 units												
O	First 10 units	30		29		29		36		40		40	
O	11 - 40 units	26		16		24		56		60		55	
O	41 - 100 units							6					
O	101 - 200 units												
O	Over 200 units												
V	First 10 units	1	2		2	2	2	6	12	7	9	3	3
V	11 - 40 units												
V	41 - 100 units												
V	101 - 200 units												
V	Over 200 units												
TOTAL		55,574	42,709	50,199	41,895	64,558	53,237	98,153	73,076	107,328	63,661	69,583	42,799
SUMMARY BY CLASS													
R		38,915	31,044	35,912	31,095	46,295	38,231	70,557	51,173	78,060	46,449	50,758	31,721
MR		9,991	7,147	8,419	6,702	10,050	7,841	13,514	9,975	14,274	8,453	10,080	6,797
C		3,019	2,021	2,856	2,252	3,297	2,636	4,343	3,764	4,459	2,863	3,568	2,057
I		2,807	1,417	2,281	1,166	4,030	2,046	8,402	3,467	9,055	3,314	4,337	1,302
L		70	259	120	286	188	1,224	204	2,074	311	967	85	156
PM		707	819	561	392	626	1,257	993	2,611	1,019	1,606	620	763
S		8	0	5	0	17	0	36	0	43	0	37	0
O		56	0	45	0	53	0	98	0	100	0	95	0
V		1	2	0	2	2	2	6	12	7	9	3	3
TOTAL		55,574	42,709	50,199	41,895	64,558	53,237	98,153	73,076	107,328	63,661	69,583	42,799
SUMMARY BY TIER													
First 10 units		28,660	25,529	27,814	25,672	29,608	27,206	31,394	29,016	31,628	28,404	29,686	25,803
11 - 40 units		16,085	11,452	13,556	11,724	21,133	17,344	37,662	26,563	41,819	22,270	24,943	12,142
41 - 100 units		3,257	2,847	2,999	2,756	4,475	4,362	11,837	8,128	14,948	6,438	5,646	3,068
101 - 200 units		1,637	1,314	1,546	1,239	2,446	2,004	4,051	3,050	4,427	2,857	2,415	1,374
Over 200 units		5,935	1,567	4,284	504	6,896	2,321	13,209	6,319	14,506	3,692	6,893	412
TOTAL		55,574	42,709	50,199	41,895	64,558	53,237	98,153	73,076	107,328	63,661	69,583	42,799

Table A-1
 Water Use by Tiers and
 Customer Class, 2010-2012

USE CODE	TIER	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12
R	First 10 units	26,131	22,686	25,187	21,602	26,169	24,539	28,452	25,239	28,211	24,754	27,225	22,066
R	11 - 40 units	15,314	8,587	12,425	6,334	15,860	16,277	38,911	21,747	37,048	18,362	25,909	7,715
R	41 - 100 units	1,987	898	1,075	575	1,401	2,600	12,985	6,100	11,950	4,005	5,505	852
R	101 - 200 units	646	355	375	263	296	110	2,300	1,112	1,652	514	817	241
R	Over 200 units	732	45	57	73	368	142	1,217	412	1,367	92	644	
MR	First 10 units	1,955	2,604	1,923	2,558	1,931	2,683	2,012	2,726	1,987	2,668	1,983	2,574
MR	11 - 40 units	2,301	2,977	1,979	2,675	2,109	3,805	3,544	4,214	3,283	3,812	2,705	2,629
MR	41 - 100 units	837	1,176	749	865	707	1,834	1,484	2,110	1,416	1,594	953	903
MR	101 - 200 units	495	427	444	260	458	822	665	862	862	565	459	239
MR	Over 200 units	5,200	160	3,900	127	4,766	437	8,726	345	8,226	125	7,128	
C	First 10 units	924	613	927	587	949	654	1,001	687	987	675	999	611
C	11 - 40 units	1,070	884	982	735	1,103	964	1,470	1,110	1,371	1,117	1,321	734
C	41 - 100 units	727	590	736	466	875	704	1,116	789	964	799	917	395
C	101 - 200 units	281	170	236	109	427	401	734	538	670	445	477	230
C	Over 200 units	40		16		35	7	281	75	78	203	28	311
I	First 10 units	266	135	269	131	275	123	293	127	294	127	294	135
I	11 - 40 units	465	276	477	232	516	296	615	302	640	306	582	313
I	41 - 100 units	547	370	541	360	561	461	898	489	900	489	792	437
I	101 - 200 units	712	253	659	293	651	700	1,274	712	1,279	716	910	406
I	Over 200 units	1,444	76	942	14	1,597	1,098	7,801	2,682	6,014	1,397	2,242	375
L	First 10 units	30	30	30	40	30	40	30	37	30	30	30	21
L	11 - 40 units	45	67	49	84	71	94	90	70	90	61	86	8
L	41 - 100 units	2	31	51	120	20	180	112	120	91	120	76	
L	101 - 200 units				92		230	17	179		124		
L	Over 200 units						1,471		1,648		743		
PM	First 10 units	30	30	30	30	30	30	30	30	30	20	30	30
PM	11 - 40 units	90	90	85	90	90	90	90	90	90	60	90	90
PM	41 - 100 units	121	158	120	142	130	178	180	180	162	120	134	86
PM	101 - 200 units	200	151	197	143	200	200	205	201	200	108	200	83
PM	Over 200 units	61	302	76	273	184	850	531	243	391	104	206	
S	First 10 units	26		12		14		25		39		51	
S	11 - 40 units	15						20		69		62	
S	41 - 100 units									69		10	
S	101 - 200 units									22			
S	Over 200 units												
O	First 10 units	36		34		39		40		37		36	
O	11 - 40 units	20		23		27		81		80		52	
O	41 - 100 units							5		6		8	
O	101 - 200 units												
O	Over 200 units												
V	First 10 units	1	3		2	2	9	4	28	8	17	2	5
V	11 - 40 units								4				
V	41 - 100 units												
V	101 - 200 units												
V	Over 200 units												
TOTAL		62,751	44,144	54,606	39,275	61,891	62,029	117,239	75,208	110,613	64,272	82,963	41,489
SUMMARY BY CLASS													
R		44,810	32,571	39,119	28,847	44,094	43,668	83,865	54,610	80,228	47,727	60,100	30,874
MR		10,788	7,344	8,995	6,485	9,971	9,581	16,431	10,257	15,774	8,764	13,228	6,345
C		3,042	2,257	2,897	1,897	3,389	2,730	4,602	3,199	4,070	3,239	3,742	2,281
I		3,434	1,110	2,888	1,030	3,600	2,678	10,881	4,312	9,127	3,035	4,820	1,666
L		77	128	130	336	121	2,015	249	2,054	211	1,078	192	29
PM		502	731	508	678	634	1,348	1,036	744	873	412	660	289
S		41	0	12	0	14	0	45	0	199	0	123	0
O		56	0	57	0	66	0	126	0	123	0	96	0
V		1	3	0	2	2	9	4	32	8	17	2	5
TOTAL		62,751	44,144	54,606	39,275	61,891	62,029	117,239	75,208	110,613	64,272	82,963	41,489
SUMMARY BY TIER													
First 10 units		29,399	26,101	28,412	24,950	29,439	28,078	31,887	28,874	31,623	28,291	30,650	25,442
11 - 40 units		19,320	12,881	16,020	10,150	19,776	21,526	44,821	27,537	42,671	23,718	30,807	11,489
41 - 100 units		4,221	3,223	3,272	2,528	3,694	5,957	16,780	9,788	15,558	7,127	8,395	2,673
101 - 200 units		2,334	1,356	1,911	1,160	2,032	2,463	5,195	3,604	4,685	2,472	2,863	1,199
Over 200 units		7,477	583	4,991	487	6,950	4,005	18,556	5,405	16,076	2,664	10,248	686
TOTAL		62,751	44,144	54,606	39,275	61,891	62,029	117,239	75,208	110,613	64,272	82,963	41,489

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Table A-2
 Water Use by Tiers and
 Customer Class, 2010-2012

USE CODE	TIER	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
R	First 8 units	21,590	18,881	20,872	19,701	21,923	20,379	23,247	21,472	23,051	21,260	22,276	19,484
R	9 - 30 units	16,197	8,378	11,419	10,521	18,159	15,204	34,830	23,233	34,780	20,696	26,016	10,425
R	31 - 100 units	2,695	1,064	1,239	1,200	3,086	2,963	18,265	8,639	19,096	6,603	8,344	1,708
R	101 - 200 units	336	287	36	187	252	215	1,925	958	1,788	1,189	388	255
R	Over 200 units	81	136	19	62	108	83	663	500	495	368	518	138
MR	First 8 units	1,619	2,119	1,611	2,163	1,589	2,179	1,650	2,211	1,678	2,201	1,650	2,149
MR	9 - 30 units	2,058	2,420	1,866	2,834	2,210	3,163	3,087	3,785	3,144	3,507	2,630	2,627
MR	31 - 100 units	1,260	984	941	1,287	1,069	1,851	1,956	2,789	2,095	2,107	1,380	1,052
MR	101 - 200 units	469	183	472	246	479	465	570	756	602	520	678	229
MR	Over 200 units	3,946	11	3,186	16	4,614	76	6,502	229	6,515	35	5,129	166
C	First 8 units	771	500	789	489	807	518	852	550	797	542	791	518
C	9 - 30 units	995	621	973	691	1,026	787	1,332	887	1,253	841	1,099	687
C	31 - 100 units	887	494	861	603	1,075	925	1,351	1,157	1,296	824	1,104	591
C	101 - 200 units	305	127	283	216	345	237	885	477	491	334	211	207
C	Over 200 units	105		63	4	107	23	260	378	94	400	48	91
I	First 8 units	257	122	261	124	291	132	300	136	291	136	294	141
I	9 - 30 units	491	166	401	173	517	252	654	280	660	300	601	282
I	31 - 100 units	558	282	443	272	607	347	903	447	918	480	764	401
I	101 - 200 units	474	292	422	263	539	425	1,231	700	1,300	725	876	290
I	Over 200 units	439	102	400	33	543	606	5,057	1,769	5,723	1,386	2,430	267
L	First 8 units	29	23	23	25	32	24	36	24	32	32	32	32
L	9 - 30 units	41	10	31	32	48	44	87	46	74	68	66	50
L	31 - 100 units	54		65	42	8	70	101	119	112	116	98	70
L	101 - 200 units						100	72	100	25	100	4	100
L	Over 200 units						698		1,963		986		16
PM	First 8 units	24	24	24	24	24	24	24	24	24	24	24	8
PM	9 - 30 units	66	66	57	66	49	66	66	66	66	66	66	22
PM	31 - 100 units	156	210	140	210	140	210	210	210	185	210	153	46
PM	101 - 200 units	200	206	200	239	200	283	272	233	200	293	200	-2
PM	Over 200 units	73	536	292	535	196	544	474	1,529	716	1,291	358	-585
S	First 8 units	18		1		5		17		25		38	
S	9 - 30 units	10						7		2		33	
S	31 - 100 units												
S	101 - 200 units												
S	Over 200 units												
O	First 8 units	29		26		25		28		32		32	
O	9 - 30 units	52		47		27		53		66		51	
O	31 - 100 units	41		70				35		43		12	
O	101 - 200 units			8									
O	Over 200 units												
V	First 8 units		1			8	6	11	11	10	25	5	5
V	9 - 30 units								6		12		
V	31 - 100 units												
V	101 - 200 units												
V	Over 200 units												
TOTAL		56,326	38,245	47,541	42,258	60,108	52,899	107,013	75,684	107,679	67,677	78,399	41,470
SUMMARY BY CLASS													
R		40,899	28,746	33,585	31,671	43,528	38,844	78,930	54,802	79,210	50,116	57,542	32,010
MR		9,352	5,717	8,076	6,546	9,961	7,734	13,765	9,770	14,034	8,370	11,467	6,223
C		3,063	1,742	2,969	2,003	3,360	2,490	4,680	3,449	3,931	2,941	3,253	2,094
I		2,219	964	1,927	865	2,497	1,762	8,145	3,332	8,892	3,027	4,965	1,381
L		124	33	119	99	88	936	296	2,252	243	1,302	200	268
PM		519	1,042	713	1,074	609	1,127	1,046	2,062	1,191	1,884	801	-511
S		28	0	1	0	5	0	24	0	27	0	71	0
O		122	0	151	0	52	0	116	0	141	0	95	0
V		0	1	0	0	8	6	11	17	10	37	5	5
TOTAL		56,326	38,245	47,541	42,258	60,108	52,899	107,013	75,684	107,679	67,677	78,399	41,470
SUMMARY BY TIER													
First 8 units		24,337	21,670	23,607	22,526	24,704	23,262	26,165	24,428	25,940	24,220	25,142	22,337
9 - 30 units		19,910	11,661	14,794	14,317	22,036	19,516	40,116	28,303	40,045	25,490	30,562	14,093
31 - 100 units		5,651	3,034	3,759	3,614	5,985	6,366	22,821	13,361	23,745	10,340	11,855	3,868
101 - 200 units		1,784	1,095	1,421	1,151	1,815	1,725	4,955	3,224	4,406	3,161	2,357	1,079
Over 200 units		4,644	785	3,960	650	5,568	2,030	12,956	6,368	13,543	4,466	8,483	93
TOTAL		56,326	38,245	47,541	42,258	60,108	52,899	107,013	75,684	107,679	67,677	78,399	41,470

Table A-2
Water Use by Tiers and
Customer Class, 2010-2012

USE CODE	TIER	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11
R	First 8 units	21,674	19,372	21,183	19,436	22,184	20,370	23,111	21,398	23,199	21,107	22,204	19,622
R	9 - 30 units	14,866	9,785	12,691	9,889	19,487	14,585	31,476	21,712	34,331	18,668	22,082	10,255
R	31 - 100 units	2,107	1,480	1,739	1,163	3,649	2,866	13,946	7,359	18,132	5,777	5,833	1,688
R	101 - 200 units	118	353	225	358	541	339	1,470	561	1,564	779	488	156
R	Over 200 units	98	54	38	229	414	65	554	137	828	98	151	
MR	First 8 units	1,606	2,115	1,602	2,127	1,603	2,175	1,636	2,218	1,635	2,181	1,620	2,136
MR	9 - 30 units	2,210	2,738	1,923	2,811	2,270	3,172	2,970	3,779	3,099	3,381	2,311	2,669
MR	31 - 100 units	1,130	1,314	942	1,451	1,051	1,991	1,872	2,800	2,021	2,119	1,192	1,414
MR	101 - 200 units	516	277	458	248	456	462	524	775	601	673	445	542
MR	Over 200 units	4,529	703	3,494	65	4,670	41	6,512	403	6,918	99	4,512	36
C	First 8 units	782	510	782	529	804	539	835	584	848	536	820	519
C	9 - 30 units	1,006	709	996	761	1,040	828	1,237	982	1,294	867	1,081	744
C	31 - 100 units	988	598	913	769	1,116	944	1,352	1,262	1,392	939	1,171	662
C	101 - 200 units	190	204	144	193	297	290	673	519	668	336	469	132
C	Over 200 units	53		21		40	35	246	415	257	185	27	
I	First 8 units	265	137	261	144	279	138	288	145	289	135	280	138
I	9 - 30 units	427	247	425	248	547	280	639	327	620	313	541	281
I	31 - 100 units	510	325	471	385	699	431	925	543	873	550	680	471
I	101 - 200 units	613	277	519	215	923	603	1,184	804	1,300	732	813	361
I	Over 200 units	992	431	605	174	1,582	594	5,366	1,648	5,973	1,584	2,023	51
L	First 8 units	17	32	24	32	32	32	32	32	26	24	24	25
L	9 - 30 units	38	49	40	48	57	75	75	73	66	46	56	39
L	31 - 100 units	15	140	56	70	70	198	97	173	125	140	5	70
L	101 - 200 units		38		100	29	110		146	94	116		22
L	Over 200 units				36		809		1,650		641		
PM	First 8 units	24	24	24	24	24	24	24	24	24	24	24	24
PM	9 - 30 units	66	66	66	66	66	66	66	66	66	66	66	66
PM	31 - 100 units	154	185	145	177	146	190	172	210	199	210	150	187
PM	101 - 200 units	200	165	200	125	200	200	200	245	200	221	200	161
PM	Over 200 units	263	379	126	547	190	777	531	2,066	530	1,085	180	325
S	First 8 units	8		5		17		25		31		28	
S	9 - 30 units							11		12		9	
S	31 - 100 units												
S	101 - 200 units												
S	Over 200 units												
O	First 8 units	26		25		25		30		32		32	
O	9 - 30 units	29		20		28		52		59		63	
O	31 - 100 units	1						16		9			
O	101 - 200 units												
O	Over 200 units												
V	First 8 units	1	2		2	2	2	6	11	7	9	3	3
V	9 - 30 units												
V	31 - 100 units												
V	101 - 200 units												
V	Over 200 units												
TOTAL		55,522	42,709	50,163	42,422	64,538	53,231	98,153	73,067	107,322	63,641	69,583	42,799
SUMMARY BY CLASS													
R		38,863	31,044	35,876	31,075	46,275	38,225	70,557	51,167	78,054	46,429	50,758	31,721
MR		9,991	7,147	8,419	6,702	10,050	7,841	13,514	9,975	14,274	8,453	10,080	6,797
C		3,019	2,021	2,856	2,252	3,297	2,636	4,343	3,762	4,459	2,863	3,568	2,057
I		2,807	1,417	2,281	1,166	4,030	2,046	8,402	3,467	9,055	3,314	4,337	1,302
L		70	259	120	286	188	1,224	204	2,074	311	967	85	156
PM		707	819	561	939	626	1,257	993	2,611	1,019	1,606	620	763
S		8	0	5	0	17	0	36	0	43	0	37	0
O		56	0	45	0	53	0	98	0	100	0	95	0
V		1	2	0	2	2	2	6	11	7	9	3	3
TOTAL		55,522	42,709	50,163	42,422	64,538	53,231	98,153	73,067	107,322	63,641	69,583	42,799
SUMMARY BY TIER													
First 8 units		24,403	22,192	23,906	22,294	24,970	23,280	25,987	24,412	26,091	24,016	25,035	22,467
9 - 30 units		18,642	13,594	16,161	13,823	23,495	19,006	36,526	26,939	39,547	23,341	26,209	14,054
31 - 100 units		4,905	4,042	4,266	4,015	6,731	6,620	18,380	12,347	22,751	9,735	9,031	4,492
101 - 200 units		1,637	1,314	1,546	1,239	2,446	2,004	4,051	3,050	4,427	2,857	2,415	1,374
Over 200 units		5,935	1,567	4,284	1,051	6,896	2,321	13,209	6,319	14,506	3,692	6,893	412
TOTAL		55,522	42,709	50,163	42,422	64,538	53,231	98,153	73,067	107,322	63,641	69,583	42,799

Table A-2
 Water Use by Tiers and
 Customer Class, 2010-2012

USE CODE	TIER	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12
R	First 8 units	22,168	19,750	21,553	19,052	22,116	20,889	23,391	21,303	23,273	20,984	22,750	19,325
R	9 - 30 units	17,792	10,858	14,933	8,532	18,530	17,875	36,403	22,195	34,845	19,590	26,521	9,793
R	31 - 100 units	3,472	1,563	2,179	927	2,784	4,652	20,554	9,588	19,091	6,547	9,467	1,515
R	101 - 200 units	646	355	375	263	296	110	2,300	1,112	1,652	514	864	241
R	Over 200 units	732	45	57	73	368	142	1,217	412	1,367	92	644	
MR	First 8 units	1,606	2,149	1,587	2,118	1,586	2,198	1,628	2,225	1,616	2,185	1,617	2,137
MR	9 - 30 units	2,242	2,894	1,986	2,667	2,136	3,502	3,184	3,790	2,995	3,533	2,630	2,636
MR	31 - 100 units	1,245	1,714	1,078	1,313	1,025	2,622	2,228	3,035	2,073	2,356	1,394	1,333
MR	101 - 200 units	495	427	444	260	458	822	665	862	862	565	459	239
MR	Over 200 units	5,200	160	3,900	127	4,766	437	8,726	345	8,226	125	7,128	
C	First 8 units	777	519	789	499	798	551	829	572	825	563	830	515
C	9 - 30 units	949	767	866	664	980	847	1,300	948	1,227	959	1,192	683
C	31 - 100 units	991	801	990	625	1,149	924	1,458	1,066	1,270	1,069	1,215	536
C	101 - 200 units	281	170	236	109	427	401	734	538	670	445	477	230
C	Over 200 units	40		16		35	7	281	75	78	203	28	311
I	First 8 units	266	135	269	131	275	123	293	127	294	127	294	135
I	9 - 30 units	465	276	477	232	516	296	615	302	640	306	582	313
I	31 - 100 units	547	370	541	360	561	461	898	489	900	489	792	437
I	101 - 200 units	712	253	659	293	651	700	1,274	712	1,279	716	910	406
I	Over 200 units	1,444	76	942	14	1,597	1,098	7,801	2,682	6,014	1,397	2,242	375
L	First 8 units	24	24	24	32	24	32	24	31	24	24	24	17
L	9 - 30 units	41	54	45	70	60	72	66	56	66	47	66	12
L	31 - 100 units	12	50	61	142	37	210	142	140	121	140	102	
L	101 - 200 units				92		230	17	179		124		
L	Over 200 units						1,471		1,648		743		
PM	First 8 units	24	24	24	24	24	24	24	24	24	16	24	24
PM	9 - 30 units	66	66	66	66	66	66	66	66	66	44	66	66
PM	31 - 100 units	151	188	145	172	160	208	210	210	192	140	164	116
PM	101 - 200 units	200	151	197	143	200	200	205	201	200	108	200	83
PM	Over 200 units	61	302	76	273	184	850	531	243	391	104	206	
S	First 8 units	24		12		14		21		33		45	
S	9 - 30 units	17						24		55		48	
S	31 - 100 units									89		30	
S	101 - 200 units									22			
S	Over 200 units												
O	First 8 units	30		28		32		32		31		30	
O	9 - 30 units	26		29		34		71		66		48	
O	31 - 100 units							23		26		18	
O	101 - 200 units												
O	Over 200 units												
V	First 8 units	1	3		2	2	9	4	26	8	17	2	5
V	9 - 30 units								6				
V	31 - 100 units												
V	101 - 200 units												
V	Over 200 units												
TOTAL		62,747	44,144	54,584	39,275	61,891	62,029	117,239	75,208	110,611	64,272	83,109	41,483
SUMMARY BY CLASS													
R		44,810	32,571	39,097	28,847	44,094	43,668	83,865	54,610	80,228	47,727	60,246	30,874
MR		10,788	7,344	8,995	6,485	9,971	9,581	16,431	10,257	15,772	8,764	13,228	6,345
C		3,038	2,257	2,897	1,897	3,389	2,730	4,602	3,199	4,070	3,239	3,742	2,275
I		3,434	1,110	2,888	1,030	3,600	2,678	10,881	4,312	9,127	3,035	4,820	1,666
L		77	128	130	336	121	2,015	249	2,054	211	1,078	192	29
PM		502	731	508	678	634	1,348	1,036	744	873	412	660	289
S		41	0	12	0	14	0	45	0	199	0	123	0
O		56	0	57	0	66	0	126	0	123	0	96	0
V		1	3	0	2	2	9	4	32	8	17	2	5
TOTAL		62,747	44,144	54,584	39,275	61,891	62,029	117,239	75,208	110,611	64,272	83,109	41,483
SUMMARY BY TIER													
First 8 units		24,920	22,604	24,286	21,858	24,871	23,826	26,246	24,308	26,128	23,916	25,616	22,158
9 - 30 units		21,598	14,915	18,402	12,231	22,322	22,658	41,729	27,363	39,960	24,479	31,153	13,503
31 - 100 units		6,418	4,686	4,994	3,539	5,716	9,077	25,513	14,528	23,762	10,741	13,182	3,937
101 - 200 units		2,334	1,356	1,911	1,160	2,032	2,463	5,195	3,604	4,685	2,472	2,910	1,199
Over 200 units		7,477	583	4,991	487	6,950	4,005	18,556	5,405	16,076	2,664	10,248	686
TOTAL		62,747	44,144	54,584	39,275	61,891	62,029	117,239	75,208	110,611	64,272	83,109	41,483

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Table A-3

Water Meters by Customer Class and Size, 2013

Meter Size	Customer Class										Total	Total Less "FS"
	Single	Multi	Comm	Inst/ Govt	Ldscp	Private	Surplus	Fire	Other	Vacant		
	Res R	Res MR	C	I	L	Mutuals PM	S	Service FS	O	V		
5/8	5,978	35	2	30	7			39	4	54	6,149	6,095
5/8A	2	400	12	1		2					417	417
5/8B		8	1			1					10	10
5/8C		1									1	1
3/4	209		163				32		1	2	407	405
3/4A		4									4	4
1		46	26	8	3				1	1	85	84
1A	86					1					87	87
1B		1									1	1
1F/K	113	2								1	116	115
1-1/2	1	5	8	8	1						23	23
1-1/2A		2									2	2
1-1/2C											0	0
1-1/2F	1			1							2	2
1-1/2G	1										1	1
1-1/2S						1					1	1
2	1	6	9	8	1	2		2	3		32	32
2A		1									1	1
2G/L	1			1							2	2
3		1		2							3	3
4				1							1	1
Total	6,393	512	221	60	12	7	32	41	9	58	7,345	7,287
% of Total	87%	7%	3%	0.8%	0.2%	0.1%	0.4%	0.6%	0.1%	0.8%	100%	

Source: "Meters in Ground by User/Size" report dated February 6, 2013.

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Appendix B: Projected Water Use and Meters

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Table B-1
 Projected Water Use by Tier, FY13 - FY18

Customer Class	2010	2011	2012	FY13	FY14	FY15	FY16	FY17	FY18
First 10 units	340,000	340,000	343,000	340,000	341,000	342,000	344,000	346,000	348,000
11 - 40 units	268,000	257,000	281,000	262,500	258,000	253,000	247,000	241,000	235,000
41 - 100 units	75,000	71,000	83,000	73,000	72,000	70,000	68,000	66,000	64,000
101 - 200 units	28,000	28,000	31,000	28,000	27,000	26,000	25,000	24,000	23,000
Over 200 units	64,000	67,000	78,000	65,500	64,000	63,000	62,000	61,000	60,000
Flat Rate									
Total	775,000	763,000	816,000	769,000	762,000	754,000	746,000	738,000	730,000
	<i>target from projected use by class ></i>			769,145	761,453	753,839	746,300	738,837	731,449

one-time increase from Olympia MWC in FY14 > 14 100 cf/2mo 53 accts 4,452 100 cf/yr

Annual % Reduction	FY14	FY15	FY16	FY17	FY18
First 10 units	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%
11 - 40 units	1.9%	2.1%	2.2%	2.3%	2.3%
41 - 100 units	1.9%	2.1%	2.2%	2.3%	2.3%
101 - 200 units	1.9%	2.1%	2.2%	2.3%	2.3%
Over 200 units	1.9%	2.1%	2.2%	2.3%	2.3%
Total	0.9%	1.1%	1.1%	1.1%	1.1%

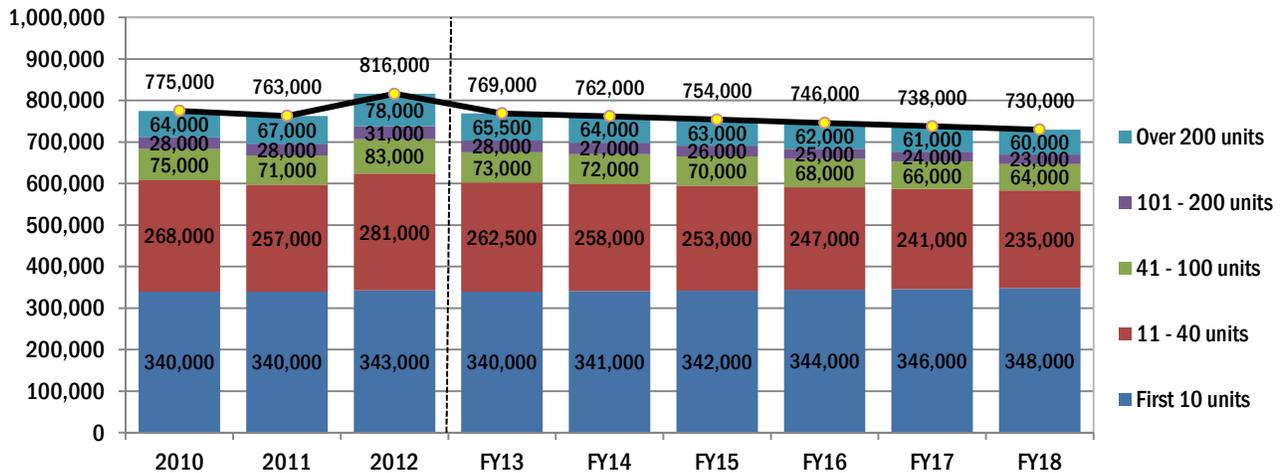


Table B-2
 Projected Water Use by Tier, FY13 - FY18

Customer Class	FY13	FY14	FY15	FY16	FY17	FY18
First 8 units	310,931	314,000	315,000	316,000	317,000	318,000
9 - 30 units	274,700	269,000	264,000	259,000	254,000	249,000
31 - 100 units	85,914	84,000	82,000	80,000	78,000	76,000
101 - 200 units	9,021	9,000	9,000	9,000	9,000	9,000
Over 200 units	3,566	3,000	3,000	3,000	3,000	3,000
Flat Rate	85,101	83,000	81,000	79,000	77,000	75,000
Total	769,000	762,000	754,000	746,000	738,000	730,000
<i>target from projected use by class ></i>	769,145	761,453	753,839	746,300	738,837	731,449
<i>one-time increase from Olympia MWC in FY14 ></i>	14	100 cf/2mo	53	accts	4,452	100 cf/yr

Annual % Reduction	FY14	FY15	FY16	FY17	FY18
First 8 units	-0.9%	-0.4%	-0.4%	-0.4%	-0.4%
9 - 30 units	1.9%	1.9%	1.9%	1.9%	2.0%
31 - 100 units	1.9%	1.9%	1.9%	1.9%	2.0%
101 - 200 units	1.9%	1.9%	1.9%	1.9%	2.0%
Over 200 units	1.9%	1.9%	1.9%	1.9%	2.0%
Flat Rate	1.9%	1.9%	1.9%	1.9%	2.0%
Total	0.9%	1.1%	1.1%	1.1%	1.1%

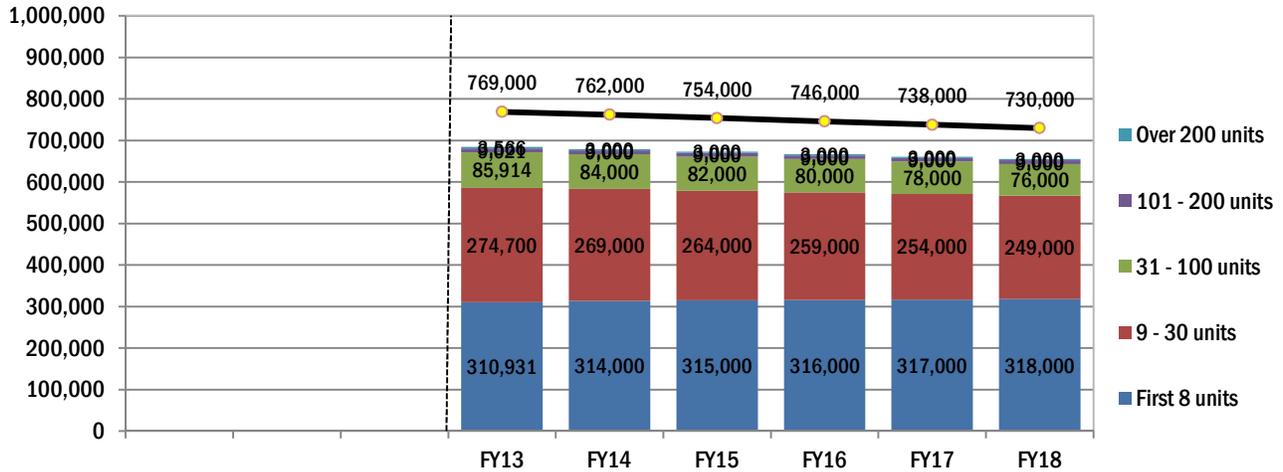


Table B-3
 Projected Number of Meters by Size and Type

Meter Size	FY13	FY14	FY15	FY16	FY17	FY18
5/8 *	6,095	6,148	6,148	6,148	6,148	6,148
5/8A	417	417	417	417	417	417
5/8B	10	10	10	10	10	10
5/8C	1	1	1	1	1	1
3/4	405	405	405	405	405	405
3/4A	4	4	4	4	4	4
1	84	84	84	84	84	84
1A	87	87	87	87	87	87
1B	1	1	1	1	1	1
1F/K	115	115	115	115	115	115
1-1/2	23	23	23	23	23	23
1-1/2A	2	2	2	2	2	2
1-1/2C	0	0	0	0	0	0
1-1/2F	2	2	2	2	2	2
1-1/2G	1	1	1	1	1	1
1-1/2S	1	1	1	1	1	1
2	32	32	32	32	32	32
2A	1	1	1	1	1	1
2G/L	2	2	2	2	2	2
3	3	3	3	3	3	3
4	1	1	1	1	1	1
Total	7,287	7,340	7,340	7,340	7,340	7,340

*Annexation of the Olympia Mutual Water Company is expected to add 51 accounts in FY14 (another 2 accounts incidental to the annexation are included, for a total of 53 accounts). All accounts are assumed to be 5/8-inch meter connections.

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Appendix C: Revenues by Customer Class and Tier for 2010, 2011 and 2012

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Appendix D: Revenue from Water Rates, FY13 – FY18

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Table D-1
Revenues from Quantity Charges
Current Rate Structure

Water Use, 100 cu ft	2010	2011	2012	FY13	FY14	FY15	FY16	FY17	FY18
First 10 units	340,139	340,420	343,146	340,000	341,000	342,000	344,000	346,000	348,000
11 - 40 units	268,469	256,693	280,716	262,500	258,000	253,000	247,000	241,000	235,000
41 - 100 units	75,190	70,761	83,216	73,000	72,000	70,000	68,000	66,000	64,000
101 - 200 units	28,173	28,360	31,274	28,000	27,000	26,000	25,000	24,000	23,000
Over 200 units	63,546	66,538	78,128	65,500	64,000	63,000	62,000	61,000	60,000
Flat Rate				0	0	0	0	0	0
Total	775,517	762,772	816,480	769,000	762,000	754,000	746,000	738,000	730,000

Water Use, % of Total	2010	2011	2012	FY13	FY14	FY15	FY16	FY17	FY18
First 10 units	44%	45%	42%	44%	45%	45%	46%	47%	48%
11 - 40 units	35%	34%	34%	34%	34%	34%	33%	33%	32%
41 - 100 units	10%	9%	10%	9%	9%	9%	9%	9%	9%
101 - 200 units	4%	4%	4%	4%	4%	3%	3%	3%	3%
Over 200 units	8%	9%	10%	9%	8%	8%	8%	8%	8%
Flat Rate	0%	0%	0%	0%	0%	0%	0%	0%	0%

Rate, \$/100 cu ft	2010	2011	2012	FY13	FY14	FY15	FY16	FY17	FY18
First 10 units	\$2.71	\$2.71	\$2.71	\$2.71	\$3.06	\$3.46	\$3.74	\$4.04	\$4.36
11 - 40 units	\$3.54	\$3.54	\$3.54	\$3.54	\$4.00	\$4.52	\$4.88	\$5.27	\$5.69
41 - 100 units	\$4.24	\$4.24	\$4.24	\$4.24	\$4.79	\$5.41	\$5.84	\$6.31	\$6.81
101 - 200 units	\$4.59	\$4.59	\$4.59	\$4.59	\$5.19	\$5.86	\$6.33	\$6.84	\$7.39
Over 200 units	\$5.00	\$5.00	\$5.00	\$5.00	\$5.65	\$6.38	\$6.89	\$7.44	\$8.04

Revenue, \$	2010	2011	2012	FY13	FY14	FY15	FY16	FY17	FY18
First 10 units	921,777	922,538	929,926	\$921,400	\$1,043,460	\$1,183,320	\$1,286,560	\$1,397,840	\$1,517,280
11 - 40 units	950,380	908,693	993,735	\$929,250	\$1,032,000	\$1,143,560	\$1,205,360	\$1,270,070	\$1,337,150
41 - 100 units	318,806	300,027	352,836	\$309,520	\$344,880	\$378,700	\$397,120	\$416,460	\$435,840
101 - 200 units	129,314	130,172	143,548	\$128,520	\$140,130	\$152,360	\$158,250	\$164,160	\$169,970
Over 200 units	317,730	332,690	390,640	\$327,500	\$361,600	\$401,940	\$427,180	\$453,840	\$482,400
Flat Rate				\$0	\$0	\$0	\$0	\$0	\$0
Total	\$2,638,000	\$2,594,000	\$2,811,000	\$2,616,000	\$2,922,000	\$3,260,000	\$3,474,000	\$3,702,000	\$3,943,000
Average Rate	\$3.40	\$3.40	\$3.44	\$3.40	\$3.83	\$4.32	\$4.66	\$5.02	\$5.40
Revenue w/No Rate Inc					\$2,616,000	\$2,616,000	\$2,616,000	\$2,616,000	\$2,616,000
Revenue from Rate Inc									
Annual					\$306,000	\$644,000	\$858,000	\$1,086,000	\$1,327,000
Cumulative					\$306,000	\$950,000	\$1,808,000	\$2,894,000	\$4,221,000

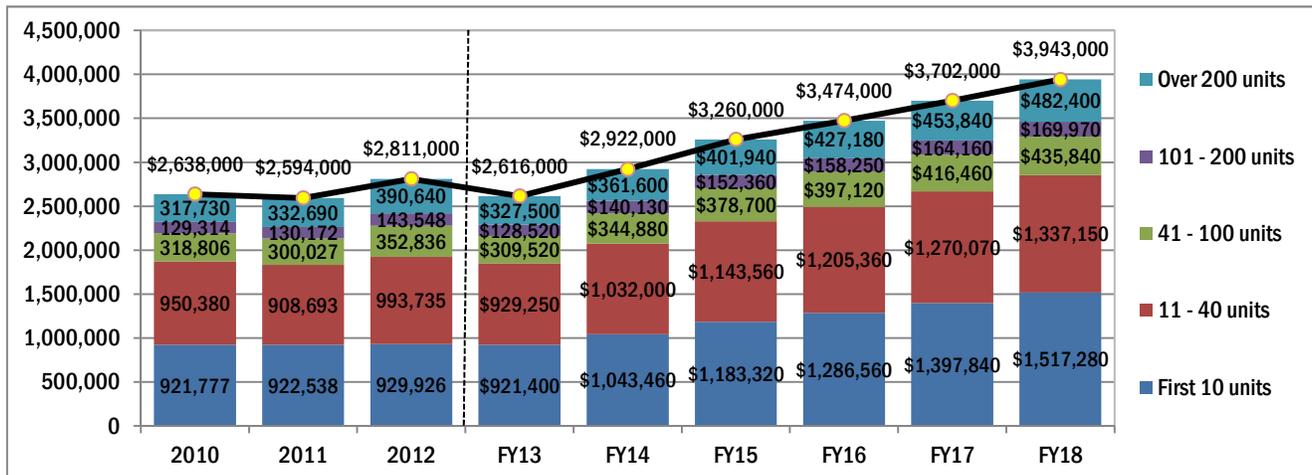


Table D-2
 Revenues from Quantity Charges
 Updated Rate Structure

Water Use, 100 cu ft	FY13	FY14	FY15	FY16	FY17	FY18
First 8 units	310,931	314,000	315,000	316,000	317,000	318,000
9 - 30 units	274,700	269,000	264,000	259,000	254,000	249,000
31 - 100 units	85,914	84,000	82,000	80,000	78,000	76,000
101 - 200 units	9,021	9,000	9,000	9,000	9,000	9,000
Over 200 units	3,566	3,000	3,000	3,000	3,000	3,000
Flat Rate	85,101	83,000	81,000	79,000	77,000	75,000
Total	769,232	762,000	754,000	746,000	738,000	730,000

Water Use, % of Total	FY13	FY14	FY15	FY16	FY17	FY18
First 8 units	40%	41%	42%	42%	43%	44%
9 - 30 units	36%	35%	35%	35%	34%	34%
31 - 100 units	11%	11%	11%	11%	11%	10%
101 - 200 units	1%	1%	1%	1%	1%	1%
Over 200 units	0%	0%	0%	0%	0%	0%
Flat Rate	11%	11%	11%	11%	10%	10%

Rate, \$/100 cu ft	FY13	FY14	FY15	FY16	FY17	FY18
First 8 units	\$2.78	\$3.14	\$3.55	\$3.83	\$4.14	\$4.47
9 - 30 units	\$3.64	\$4.11	\$4.64	\$5.01	\$5.41	\$5.84
31 - 100 units	\$4.36	\$4.93	\$5.57	\$6.02	\$6.50	\$7.02
101 - 200 units	\$4.72	\$5.33	\$6.02	\$6.50	\$7.02	\$7.58
Over 200 units	\$5.14	\$5.81	\$6.57	\$7.10	\$7.67	\$8.28
Flat Rate	\$3.40	\$3.84	\$4.34	\$4.69	\$5.07	\$5.48

Revenue, \$	FY13	FY14	FY15	FY16	FY17	FY18
First 8 units	\$864,389	\$985,960	\$1,118,250	\$1,210,280	\$1,312,380	\$1,421,460
9 - 30 units	\$999,907	\$1,105,590	\$1,224,960	\$1,297,590	\$1,374,140	\$1,454,160
31 - 100 units	\$374,583	\$414,120	\$456,740	\$481,600	\$507,000	\$533,520
101 - 200 units	\$42,581	\$47,970	\$54,180	\$58,500	\$63,180	\$68,220
Over 200 units	\$18,327	\$17,430	\$19,710	\$21,300	\$23,010	\$24,840
Flat Rate	\$289,342	\$318,720	\$351,540	\$370,510	\$390,390	\$411,000
Total	\$2,589,000	\$2,890,000	\$3,225,000	\$3,440,000	\$3,670,000	\$3,913,000
Average Rate	\$3.37	\$3.79	\$4.28	\$4.61	\$4.97	\$5.36
Over 100 Units	\$60,908	\$65,400	\$73,890	\$79,800	\$86,190	\$93,060
Revenue w/No Rate Inc		\$2,616,000	\$2,616,000	\$2,616,000	\$2,616,000	\$2,616,000
Revenue from Rate Inc						
Annual		\$274,000	\$609,000	\$824,000	\$1,054,000	\$1,297,000
Cumulative		\$274,000	\$883,000	\$1,707,000	\$2,761,000	\$4,058,000

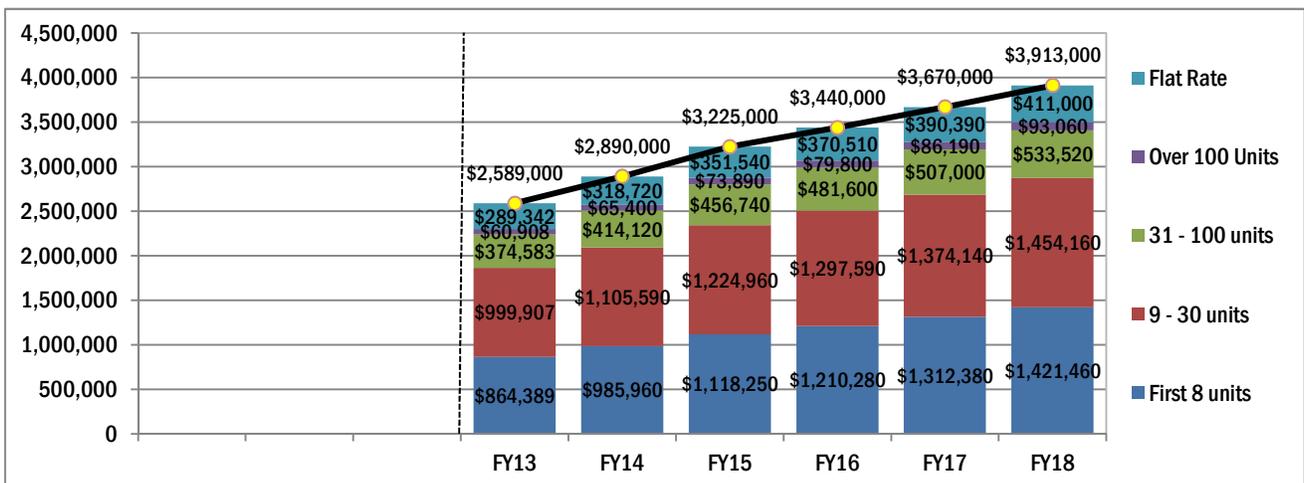


Table D-3
Revenues from Meter Charges

Meter Size	FY13	FY14	FY15	FY16	FY17	FY17
5/8	6,149	6,202	6,202	6,202	6,202	6,202
5/8A	417	417	417	417	417	417
5/8B	10	10	10	10	10	10
5/8C	1	1	1	1	1	1
3/4	407	407	407	407	407	407
3/4A	4	4	4	4	4	4
1	85	85	85	85	85	85
1A	87	87	87	87	87	87
1B	1	1	1	1	1	1
1F/K	116	116	116	116	116	116
1-1/2	23	23	23	23	23	23
1-1/2A	2	2	2	2	2	2
1-1/2C	0	0	0	0	0	0
1-1/2F	2	2	2	2	2	2
1-1/2G	1	1	1	1	1	1
1-1/2S	1	1	1	1	1	1
2	32	32	32	32	32	32
2A	1	1	1	1	1	1
2G/L	2	2	2	2	2	2
3	3	3	3	3	3	3
4	1	1	1	1	1	1
Total	7,345	7,398	7,398	7,398	7,398	7,398

*Annexation of the Olympia Mutual Water Company is expected to add 51 accounts in FY14 (another 2 accounts incidental to the annexation)

Meter Size	FY13	FY14	FY15	FY16	FY17	FY18
5/8	\$49.73	\$56.19	\$63.49	\$69.20	\$75.43	\$82.22
5/8A	\$82.90	\$93.68	\$106.00	\$116.00	\$126.00	\$137.00
5/8B	\$166.92	\$189.00	\$214.00	\$233.00	\$254.00	\$277.00
5/8C	\$265.68	\$300.00	\$339.00	\$370.00	\$403.00	\$439.00
3/4	\$49.73	\$56.19	\$63.49	\$69.20	\$75.43	\$82.22
3/4A	\$82.90	\$93.68	\$106.00	\$116.00	\$126.00	\$137.00
1	\$82.90	\$93.68	\$106.00	\$116.00	\$126.00	\$137.00
1A	\$166.92	\$189.00	\$214.00	\$233.00	\$254.00	\$277.00
1B	\$265.68	\$300.00	\$339.00	\$370.00	\$403.00	\$439.00
1F/K	\$49.73	\$56.19	\$63.49	\$69.20	\$75.43	\$82.22
1-1/2	\$166.92	\$189.00	\$214.00	\$233.00	\$254.00	\$277.00
1-1/2A	\$265.68	\$300.00	\$339.00	\$370.00	\$403.00	\$439.00
1-1/2C	\$829.76	\$938.00	\$1,060.00	\$1,155.00	\$1,259.00	\$1,372.00
1-1/2F	\$82.90	\$93.68	\$106.00	\$116.00	\$126.00	\$137.00
1-1/2G	\$49.73	\$56.19	\$63.49	\$69.20	\$75.43	\$82.22
1-1/2S	\$531.36	\$600.00	\$678.00	\$739.00	\$806.00	\$879.00
2	\$265.68	\$300.00	\$339.00	\$370.00	\$403.00	\$439.00
2A	\$498.62	\$563.00	\$636.00	\$693.00	\$755.00	\$823.00
2G/L	\$82.90	\$93.68	\$106.00	\$116.00	\$126.00	\$137.00
3	\$498.62	\$563.00	\$636.00	\$693.00	\$755.00	\$823.00
4	\$829.76	\$938.00	\$1,060.00	\$1,155.00	\$1,259.00	\$1,372.00

Meter Size	FY13	FY14	FY15	FY16	FY17	FY18
5/8	\$1,834,739	\$2,090,942	\$2,362,590	\$2,575,070	\$2,806,901	\$3,059,571
5/8A	\$207,416	\$234,387	\$265,212	\$290,232	\$315,252	\$342,774
5/8B	\$10,015	\$11,340	\$12,840	\$13,980	\$15,240	\$16,620
5/8C	\$1,594	\$1,800	\$2,034	\$2,220	\$2,418	\$2,634
3/4	\$121,441	\$137,216	\$155,043	\$168,986	\$184,200	\$200,781
3/4A	\$1,990	\$2,248	\$2,544	\$2,784	\$3,024	\$3,288
1	\$42,279	\$47,777	\$54,060	\$59,160	\$64,260	\$69,870
1A	\$87,132	\$98,658	\$111,708	\$121,626	\$132,588	\$144,594
1B	\$1,594	\$1,800	\$2,034	\$2,220	\$2,418	\$2,634
1F/K	\$34,612	\$39,108	\$44,189	\$48,163	\$52,499	\$57,225
1-1/2	\$23,035	\$26,082	\$29,532	\$32,154	\$35,052	\$38,226
1-1/2A	\$3,188	\$3,600	\$4,068	\$4,440	\$4,836	\$5,268
1-1/2C	\$0	\$0	\$0	\$0	\$0	\$0
1-1/2F	\$995	\$1,124	\$1,272	\$1,392	\$1,512	\$1,644
1-1/2G	\$298	\$337	\$381	\$415	\$453	\$493
1-1/2S	\$3,188	\$3,600	\$4,068	\$4,434	\$4,836	\$5,274
2	\$51,011	\$57,600	\$65,088	\$71,040	\$77,376	\$84,288
2A	\$2,992	\$3,378	\$3,816	\$4,158	\$4,530	\$4,938
2G/L	\$995	\$1,124	\$1,272	\$1,392	\$1,512	\$1,644
3	\$8,975	\$10,134	\$11,448	\$12,474	\$13,590	\$14,814
4	\$4,979	\$5,628	\$6,360	\$6,930	\$7,554	\$8,232
Total	\$2,442,467	\$2,777,884	\$3,139,558	\$3,423,271	\$3,730,051	\$4,064,812

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