

WATER AND WASTEWATER RATE STUDY

B&V PROJECT NO. 176244.0100

PREPARED FOR

Camrosa Water District

MARCH 20, 2013

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1 Introduction

This report was prepared for Camrosa Water District (District) to document the development of a multi-year financial plan, the cost of service analysis and the design of a rate structure for the District's Water and Wastewater Funds. The Water Fund is composed of potable and non-potable operations. The specific goals of the study were to:

- Review and evaluate existing policies and procedures affecting potable, non-potable and wastewater rates;
- Develop a sound financial plan for potable, non-potable, and wastewater covering a five-year study period for ongoing operations, planned capital improvements and capital replacement;
- Allocate the potable, non-potable and wastewater projected Fiscal Year 2013-2014 (FY 13/14) revenue requirements to the various customer class in accordance with the respective service requirements;
- Develop a suitable rate schedule that produces revenues adequate to meet financial needs while recognizing customer costs of service and local and state policy considerations such as Proposition 218 and Senate Bill x7-7 (SBx7-7).

1.1 BACKGROUND

Located in Ventura County, Camrosa Water District provides water and wastewater services to over 8,000 residential, commercial, industrial, municipal, and agricultural connections. The District provides four types of water: groundwater, import water, non-potable water, and recycled water. Groundwater is pumped from three basins through active wells located throughout the District. Import water is purchased from Metropolitan Water District (MWD) via Calleguas Municipal Water District (CMWD). Non-potable water is surface water obtained from the Conejo Creek through an agreement with CMWD and the City of Thousand Oaks. Recycled water is generated via the District's Water Reclamation Facility (WRF). The four sources currently meet the District's annual 14,750 acre-feet (AF) demand. The District treats its wastewater at the 1.5 million gallons per day (MGD) Water Reclamation Facility. Wastewater is collected through the District's 70 miles of mains and pumped through the 5 lift stations to the WRF. Also, the District maintains 0.45 MGD capacity in the CamSan treatment plant up to 2015.

The District operates and maintains the Water and Wastewater Funds as a combined, self-supporting enterprise. As such, the water and wastewater rates are developed to provide sufficient levels of revenue to meet all operation and maintenance expenses, debt service requirements, routine annual replacements of capital improvements to be funded from current revenues, and other revenue requirements.

1.2 PURPOSE

The purpose of this report is to present the findings obtained from Black & Veatch Corporation's (Black & Veatch's) study of the Water and Wastewater Fund's rate structure and alternatives, financing, and capital needs. The study develops a financial plan that projects operating revenue, expenses and capital financing costs for the Water and Wastewater Fund over a five-year planning period ending June 30, 2018. As part of the plan, future revenues under existing rates, operation and maintenance expense, principal and interest expense on bonded debt, and capital improvement requirements are considered. Annual projections of customers, water use,

revenues, and expenditures have been made using historical data and estimates based on SBx7-7 requirements for the next five years.

1.3 SCOPE OF WORK

The results of a study of the projected revenues, revenue requirements, costs of service, and rates for potable, non-potable and wastewater services are presented herein. For this report, the study period (Study Period) is the five fiscal years beginning July 1, 2013 and ending June 30, 2018. Unless otherwise noted, references in this report to a specific year are for the District's year ending June 30. To avoid confusion between calendar and fiscal years (FY), the abbreviation FY refers to the year beginning July 1 and ending June 30. Revenues and revenue requirements for the study period were projected based on a review of historical factors and the Water Fund's operating and capital budgets and financial policies. The study of revenue requirements recognizes projected operation and maintenance (O&M) expense, establishment and/or maintenance of reserve funds, and capital financing requirements. Capital financing requirements include payments on outstanding bond issues as well as capital improvement expenditures met from annual revenues and available reserve funds.

The Water and Wastewater Fund's costs of service were allocated to customer classes utilizing a cost causative approach endorsed by the American Water Works Association (AWWA) M1 manual and Water Environment Federation (WEF) Manual of Practice (MoP) No. 27. These allocation methodologies produce cost of service allocations recognizing the projected customer service requirements for the District. Proposed rates are designed in accordance with allocated cost of service and local policy considerations. The extent to which the existing rate structure recovers revenues from customer classes in accordance with cost of service allocations is also evaluated.

1.4 DISCLAIMER

In conducting our study, we reviewed the books, records, agreements, capital improvement programs, and customer sales and financial projections of the Water and Wastewater Funds as we deemed necessary to express our opinion of the operating results and projections. While we consider such books, records, documents, and projections to be reliable, Black & Veatch has not verified the accuracy of these documents.

The projections set forth in this report below are intended as "forward-looking statements". In formulating these projections, Black & Veatch has made certain assumptions with respect to conditions, events, and circumstances that may occur in the future. The methodology utilized in performing the analyses follows generally accepted practices for such projections. Such assumptions and methodologies are reasonable and appropriate for the purpose for which they are used. While we believe the assumptions are reasonable and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur. Such factors may include the Water and Wastewater Fund's ability to execute the capital improvement program as scheduled and within budget, regional climate and weather conditions affecting the demand for water and production of wastewater and adverse legislative, regulatory or legal decisions (including environmental laws and regulations) affecting the Water and Wastewater Fund's ability to manage the system and meet water quality requirements.

2 Water Rate Study

2.2 REVENUE AND REVENUE REQUIREMENTS

The Water Fund is composed of potable and non-potable operations. Potable serves the primary demands such as household use while non-potable serves secondary uses such as irrigation and landscape. Together, potable and non-potable provide for the need of the District's customers. To meet the costs associated with providing potable and non-potable water services to its customers, the Water Fund derives revenue from a variety of sources including water user charges, special services, property taxes, pumping charges, and interest earned from the investment of available funds. The level of future revenue generated in the study is projected through a combination of an analysis of historical and future system growth in terms of number of accounts and consumption.

With revenue derived from the various sources, the Water Fund meets the cash requirements of operation and maintenance (O&M); water supply costs; debt service and reserve payments on bond indebtedness; and recurring annual capital expenditures for replacements, system betterments, and extensions not debt financed. Operation and maintenance expenses are those expenditures necessary to maintain the system in good working order. Water supply costs are those associated with purchasing import water from CMWD. Routine annual capital expenditures, which include equipment replacements, consist of recurring annual replacements, minor extensions, and betterments which are normally revenue financed. Other capital costs include principal and interest payments, bond covenant-required payments, and the costs of infrequent major capital improvements paid directly from annual operating revenues.

2.3 CUSTOMER AND WATER USAGE PROJECTIONS

The Water Fund provides potable and non-potable water services to the various customer classes within the District boundaries. The following provides a brief description of the major types of customers:

- Potable serves the potable needs of residential, commercial, industrial, municipal, construction, and fire service. These include drinking water, household activities, business activities, etc. Potable water is also used for irrigation where no separate non-potable meter exists.
- Non-potable serves the non-potable needs associated with irrigation, landscape and agriculture. The water meets regulatory standards for its intended use. Within the non-potable resides recycled water. Recycled water is obtained from the District's WRF. Water is treated at the plant to meet Title 22 standards.

Based on a detailed review of historical growth patterns and planning estimates in the District's Draft *2011 Integrated Facilities Master Plan* and *2010 Urban Water Management Plan*, the number of customer accounts is projected to increase by an average of 0.3 percent for the Study Period. In the past couple of years, the District has experienced slowed growth in the area as a result of economic conditions. Projected customer accounts are shown in Table 2-1.

Table 2-1. Number of Customer Accounts

Line No.	Description	FY 13/14 (Accts)	FY 14/15 (Accts)	FY 15/16 (Accts)	FY 16/17 (Accts)	FY 17/18 (Accts)
Potable Customer Classes						
1	C02 District Owned - Municipal Irrigation	4	4	4	4	4
2	C03 District Owned - Temp Construction	1	1	1	1	1
3	C04 District Owned - Comm/Ind Water	2	2	2	2	2
4	PI0 Municipal Irrigation (Class V)	213	213	213	213	213
5	PI1 Agriculture Irrigation	86	86	86	86	86
6	PI2 Residential Irrigation (Class V)	145	145	145	145	145
7	PP0 Temp Construction	7	7	7	7	7
8	PP1 Temp Municipal	0	0	0	0	0
9	PP5 Fire Service (Class VI)	91	91	91	91	91
10	PW0 Residential Water Class (Class I)	7,091	7,108	7,108	7,126	7,144
11	PW2 Residential Water Master Meter	3	3	3	3	3
12	PW1 Residential Water (Out of Bounds)	3	3	3	3	3
13	PW3 Commercial / Industrial Water (Class II)	203	203	203	203	203
14	PW4 Commercial Water (Out of Bounds)	1	1	1	1	1
15	PW5 Public Water	16	16	16	16	16
16	PW6 Domestic Agriculture	129	129	129	129	129
17	Total P Accounts	7,995	8,012	8,012	8,030	8,048
Non-Potable Customer Classes						
18	C01 District Owned - Residential Landscape	1	1	1	1	1
19	NP0 Commercial Agriculture (Class I)	19	19	19	19	19
20	NP1 Commercial Agriculture (Class VI)	22	22	22	22	22
21	NP2 Landscape Irrigation (Class II)	9	9	9	9	9
22	NP4 Temp Construction	1	1	1	1	1
23	NP3 Residential Landscape (Class III)	278	283	283	287	292
24	NP5 Blended Agriculture (Class V)	29	29	29	29	29
25	RC1 Commercial Agriculture (Class IV)	5	5	5	5	5
26	RC2 Landscape Irrigation (Class II)	1	1	1	1	1
27	RC4 Recycled Out of Bounds Surplus (Class V)	2	2	2	2	2
28	Total NP Accounts	367	372	372	376	381
29	Total Water Accounts	8,362	8,384	8,384	8,406	8,429

Projected water sales volumes for the Study Period are shown in Table 2-2. In determining the projected water sales volume, historical patterns of water usage were analyzed. In addition, Black & Veatch incorporated water conservation requirements set forth in SBx7-7, which mandates water utilities to reduce their customer's per day per capita use by 15 percent by 2015 and 20 percent by 2020. Since the Water Fund, specifically potable water, is currently at a level that satisfies the SBx7-7 requirement, it was projected that the water sales volumes would increase in direct relation to the increases in accounts. The water sales volumes increase at an overall average of 0.4 percent for the Study Period.

Table 2-2. Billed Water Usage

Line No.	Description	Fiscal Year Ending June 30,				
		FY 13/14 (HCF)	FY 14/15 (HCF)	FY 15/16 (HCF)	FY 16/17 (HCF)	FY 17/18 (HCF)
Potable Customer Classes						
1	C02 District Owned - Municipal Irrigation	500	500	500	500	500
2	C03 District Owned - Temp Construction	0	0	0	0	0
3	C04 District Owned - Comm/Ind Water	200	200	200	200	200
4	PI0 Municipal Irrigation (Class V)	242,200	242,600	243,100	243,500	243,900
5	PI1 Agriculture Irrigation	256,600	257,900	259,200	260,500	261,800
6	PI2 Residential Irrigation (Class V)	71,900	71,900	71,900	71,900	71,900
7	PP0 Temp Construction	5,700	5,700	5,700	5,700	5,700
8	PP1 Temp Municipal	0	0	0	0	0
9	PW0 Residential Water Class (Class I)	2,073,000	2,076,100	2,079,100	2,082,200	2,085,200
10	PW1 Residential Water (Out of Bounds)	1,300	1,300	1,300	1,300	1,300
11	PW2 Residential Water Master Meter Class II	174,700	175,100	175,500	176,000	176,400
12	PW3 Commercial / Industrial Water (Class II)	261,400	261,800	262,200	262,700	263,100
13	PW4 Commercial Water (Out of Bounds)	0	0	0	0	0
14	PW5 Public Water	174,700	175,100	175,500	176,000	176,400
15	PW6 Domestic Agriculture	304,500	304,500	304,500	304,500	304,500
16	Total NP Water Usage (HCF)	3,566,700	3,572,700	3,578,700	3,585,000	3,590,900
Non-Potable Customer Classes						
16	C01 District Owned - Residential Landscape	0	0	0	0	0
17	NP0 Commercial Agriculture (Class I)	815,400	823,700	832,000	840,300	848,500
18	NP1 Commercial Agriculture (Class VI)	651,700	658,200	664,700	671,300	677,800
19	NP2 Landscape Irrigation (Class II)	10,500	10,500	10,500	10,500	10,500
20	NP3 Residential Landscape (Class III)	287,900	291,000	294,000	297,100	300,100
21	NP5 Blended Agriculture (Class V)	431,200	431,200	431,200	431,200	431,200
22	RC1 Commercial Agriculture (Class IV)	347,200	348,000	348,900	349,800	350,700
23	RC2 Landscape Irrigation (Class II)	87,600	88,000	88,400	88,900	89,300
24	RC4 Recycled Out of Bounds Surplus (Class V)	17,900	17,900	17,900	17,900	17,900
25	Total P Water Usage (HCF)	2,649,400	2,668,500	2,687,600	2,707,000	2,726,000
26	Total Water Usage (HCF)	6,216,100	6,241,200	6,266,300	6,292,000	6,316,900
27	Total Water Usage (AF)	14,270	14,328	14,385	14,444	14,502

2.4 REVENUE UNDER EXISTING RATES

The primary source of revenue for the Water Fund is derived from water user rates. Other revenue sources include; special services, pumping charges, property taxes, interest earned from the investment of available funds and other miscellaneous revenues. The level of future revenue is projected based on an analysis of historical system growth in terms of number of accounts and water consumption.

Projections of future water sales revenue are based on an analysis of historical and forward looking trends for customer growth and average water use per customer. The number of customers and volume of water sold are applied to the applicable rates to determine water sales revenue. Charges are applied monthly and a schedule of the Water Fund's existing rate structure is shown in Table 2-3. The existing rate structure incorporates the anticipated pass-through on March 1, 2013. The District is separated into 6 distinct pressure zones. The zones cover an elevation range of 100 to 1,050 feet above sea level. Due to the increased operational energy and facilities associated with

serving customers above 700 feet, the District imposes a pumping surcharge to these customers. The pressure zone charge was not adjusted as part of this study.

Table 2-3. Existing Water Rates

Description	Existing FY 12/13	Description	Existing FY 12/13
Monthly Meter Service Charge		Commodity Charge - Potable Water Service Classifications	
Potable/Non-Potable Irrigation/Ble	(\$/monthly)		(\$/HCF)
3/4" (MM)	8.43	Residential, Master Meter, Domestic Ag First 12 Units	2.37
3/4"	8.60	Residential, Master Meter, Domestic Ag 13 Units & Higher	2.69
1"	14.33	Commercial/Industrial/Public	2.69
1.5"	28.67	Municipal Irrigation/Residential Irrigation	2.69
2"	45.87	Fire Service/Other	2.69
3"	100.33	Agricultural Irrigation	
4"	172.00	MWD Full Service Rate	2.69
6"	258.00	MWD Tier 2 Rate	3.29
		Temporary Construction and Temporary Agricultural	2.69
		Temporary Municipal	3.28
Domestic Agricultural		Emergency Water Service	4.06
3/4"	17.03	Commercial/Industrial and Public Out of Bounds	2.81
1"	22.76	Residential Out of Bounds First 12 Units	2.81
1.5"	37.10	Residential Out of Bounds 13 Units and Higher	3.32
2"	54.30		
3"	108.76		
4"	180.43		
		Commodity Charge - Non-Potable/Recycled Water Service Classifications	
Blended Agricultural		Non-Potable Commercial Agricultural	0.70
1"	14.33	Non-Potable Landscape Irrigation Water	0.70
1.5"	22.30	Non-Potable Residential Landscape	0.70
2"	29.06	Non-Potable Temporary Construction	0.70
3"	36.63	Non-Potable Commercial Agricultural (contractual)	0.46
4"	62.51	Blended Non-Potable Agricultural	
6"	108.30	MWD Full Service Rate	1.92
		MWD Tier 2 Rate	2.17
		Recycled Commercial Agricultural	0.37
Fire Service (all meter sizes)	40.00	Recycled Landscape Irrigation	0.55
		Recycled Commercial Agricultural (contractual)	0.37
		Recycled Surplus Water (Served Outside District)	0.49

Table 2-4 represents a summary of projected water sales revenue under existing rates and charges. As shown, the revenue generated is anticipated to slowly increase over the Study Period in conjunction with the increase in number of accounts and water usage. The projected water revenue increases from \$12,783,400 in FY 13/14 to \$12,906,900 in FY 17/18. This represents an overall increase of roughly 1.0 percent for the Study Period. Within the revenue projections are two non-potable customer classes that are under contract with the District to provide water under a specified rate. These customers are both commercial and agricultural.

Table 2-4. Revenue under Existing Water Rates

Line No.	Description	Fiscal Year Ending June 30,				
		FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18
		(\$)	(\$)	(\$)	(\$)	(\$)
Potable Customer Classes						
1	C02 District Owned - Municipal Irrigation	3,700	3,700	3,700	3,700	3,700
2	C03 District Owned - Temp Construction	0	0	0	0	0
3	C04 District Owned - Comm/Ind Water	3,900	3,900	3,900	3,900	3,900
4	PI0 Municipal Irrigation (Class V)	718,600	719,600	721,000	722,000	723,100
5	PI1 Agriculture Irrigation	716,800	720,300	723,700	727,200	730,600
6	PI2 Residential Irrigation (Class V)	214,600	214,600	214,600	214,600	214,600
7	PP0 Temp Construction	31,700	31,700	31,700	31,700	31,700
8	PP1 Temp Municipal	0	0	0	0	0
9	PP5 Fire Service (Class VI)	5,300	5,300	5,300	5,300	5,300
10	PW0 Residential Water Class (Class I)	6,156,300	6,166,500	6,176,600	6,186,700	6,196,800
11	PW1 Residential Water (Out of Bounds)	4,900	4,900	4,900	4,900	4,900
12	PW2 Residential Water Master Meter Class II	673,200	674,800	676,500	678,300	679,900
13	PW3 Commercial / Industrial Water (Class II)	758,600	759,700	760,800	762,100	763,200
14	PW4 Commercial Water (Out of Bounds)	0	0	0	0	0
15	PW5 Public Water	478,600	479,600	480,700	482,000	483,100
16	PW6 Domestic Agriculture	866,500	866,500	866,500	866,500	866,500
17	Total P Revenue	\$ 10,632,700	\$ 10,651,100	\$ 10,669,900	\$ 10,688,900	\$ 10,707,300
Non-Potable Customer Classes						
18	C01 District Owned - Residential Landscape	200	200	200	200	200
19	NP0 Commercial Agriculture (Class I)	577,600	583,400	589,200	595,000	600,700
20	NP1 Commercial Agriculture (Class VI)	303,500	306,500	309,500	312,500	315,500
21	NP2 Landscape Irrigation (Class II)	7,600	7,600	7,600	7,600	7,600
22	NP3 Residential Landscape (Class III)	261,900	264,700	267,500	270,500	273,500
23	NP5 Blended Agriculture (Class V)	814,400	814,400	814,400	814,400	814,400
24	RC1 Commercial Agriculture (Class IV)	128,500	128,800	129,100	129,400	129,800
25	RC2 Landscape Irrigation (Class II)	48,200	48,400	48,600	48,900	49,100
26	RC4 Recycled Out of Bounds Surplus (Class V)	8,800	8,800	8,800	8,800	8,800
27	Total NP Revenue	\$ 2,150,700	\$ 2,162,800	\$ 2,174,900	\$ 2,187,300	\$ 2,199,600
28	Total Water Revenue	\$ 12,783,400	\$ 12,813,900	\$ 12,844,800	\$ 12,876,200	\$ 12,906,900

2.5 OTHER REVENUE

In addition to revenue from rates, the Water Fund obtains revenue from other operating sources. These revenues include special services, pumping charges, property taxes, interest earned from the investment of available funds and other miscellaneous revenues. These revenues represent roughly 3.3 percent of the Water Fund's total revenue. It is anticipated that these revenues will remain relatively constant for the duration of the Study Period. Property taxes represent the largest contributor but with depressed property values and uncertainty with the State budget, the forecast keeps the revenue at a constant level for the Study Period.

2.6 OPERATING AND MAINTENANCE EXPENSES

Table 2-5 summarizes the Water Fund's projected operating and maintenance expense (O&M) for the Study Period. These expenses include costs related to production, salaries and benefits, contracts and professional services, and services and supplies. All O&M expenditures are projected to increase between 2 to 3 percent annually from the Water Fund's budget for FY 11/12. The FY 12/13 budget reflects decrease in operating costs as the District sought to minimize expenditures. With Round Mountain Water Treatment Plant and the Salinity Pipeline, the District

anticipates increased costs. These new system additions will begin operation in January of 2014. Therefore, the costs increase to accurately reflect these additional costs. In general, salaries escalate at 2 percent annually, benefits escalate at 3 percent annually, and contract services and supplies escalate at 2 to 3 percent annually.

The largest O&M expenditure that Water Fund incurs is associated with water supply costs. The District imports water from MWD via CMWD. Import water is blended with local groundwater at roughly a 70/30 import to groundwater ratio and is used for potable uses. In addition, import water is blended with surface water for a specific set of non-potable users. Other water supply costs include purchase water from the Conejo Creek for non-potable uses and production costs for local potable and non-potable supplies. Import water represents about 42 percent of the total water supply for the District. Groundwater represents about 17 percent of the total water supply. Surface water and recycled water represent the remaining 41 percent of the total water supply. Included in the water supply costs are fixed fees that are incurred by the Water Fund regardless of the amount of water that is supplied.

Table 2-5. O&M Expenses

Line No.	Description	Fiscal Year Ending June 30,				
		FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18
		(\$)	(\$)	(\$)	(\$)	(\$)
Potable						
1	Production	676,450	1,058,700	1,084,700	1,114,000	1,143,800
2	Water Purchases (CMWD)	7,773,000	8,261,400	8,770,800	9,313,000	9,891,800
3	Salaries & Benefits	1,235,100	1,263,600	1,292,600	1,322,300	1,352,800
4	Contracts & Professional Services	499,900	509,900	520,100	530,500	541,100
5	Services & Supplies	445,200	456,200	469,900	484,100	498,800
6	Total P O&M Expenses	\$ 10,629,650	\$ 11,549,800	\$ 12,138,100	\$ 12,763,900	\$ 13,428,300
Non-Potable						
7	Production	1,376,000	1,426,000	1,477,800	1,534,100	1,587,600
8	Water Purchases (CMWD)	700,000	741,600	785,400	831,800	881,300
9	Salaries & Benefits	665,000	680,200	695,700	711,600	727,900
10	Contracts & Professional Services	336,000	342,700	349,500	356,500	363,600
11	Services & Supplies	254,700	261,000	268,700	276,700	284,900
12	Total NP O&M Expenses	\$ 3,331,700	\$ 3,451,500	\$ 3,577,100	\$ 3,710,700	\$ 3,845,300
13	Total Water O&M Expenses	\$ 13,961,350	\$ 15,001,300	\$ 15,715,200	\$ 16,474,600	\$ 17,273,600

As shown in Table 2-5, the water production expenditures in FY 13/14 are anticipated to increase as water demand returns from historical lows. Thereafter, the costs increase to incorporate additional operational expenses. In addition, water supply costs reflect the anticipated fixed and variable increases from CMWD.

2.7 DEBT SERVICE REQUIREMENTS

Table 2-6 represents the Water Fund's existing debt service obligations. This table shows both principal and interest requirements on the existing debt over the Study Period. It is common practice for utilities to utilize debt to finance large capital improvement projects. By financing the cost of the projects, the Water Fund is able to fund large projects immediately and spread the payment over a specified time frame, thereby helping to offset the impact on rate-payers. Debt service represents about 6.9 percent of total Water Fund's expenditures. Based on the revenue bond requirements, the debt service coverage ratio is set at 1.15x net revenues for the Water Fund.

Table 2-6. Debt Service

Line No.	Description	Fiscal Year Ending June 30,				
		FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18
		(\$)	(\$)	(\$)	(\$)	(\$)
Potable						
1	Revenue Bond, Series 2011A	513,334	510,491	512,136	512,136	510,444
2	Refunding Revenue Bond, Series 2012	0	0	0	0	0
3	Total P Long Term Debt	\$ 513,334	\$ 510,491	\$ 512,136	\$ 512,136	\$ 510,444
Non-Potable						
4	Revenue Bond, Series 2011A	32,766	32,585	32,690	32,690	32,582
5	Refunding Revenue Bond, Series 2012	662,500	671,900	665,500	668,000	669,500
6	Total NP Long Term Debt	\$ 695,266	\$ 704,485	\$ 698,190	\$ 700,690	\$ 702,082
7	Total Water Long-Term Debt	\$ 1,208,600	\$ 1,214,975	\$ 1,210,325	\$ 1,212,825	\$ 1,212,525

2.8 CAPITAL IMPROVEMENT PROGRAM

Traditionally the District develops a multi-year Capital Improvement Program (CIP) covering its capital commitments for a specified time frame of 5 to 10 years. In the process of conducting this study, the District decided to defer major capital projects for the Study Period. Therefore, there is only minor CIP planned between FY 13/14 and FY 17/18.

2.8.1 Capital Financing

Typically expenditures for the CIP are met from a combination of available funds on hand, revenue bonds, SRF loans, grants, revenues derived from user rates, and interest earnings. In FY 11/12, the District issued a Revenue Bond to construct Round Mountain Water Treatment Plant. Part of the plant costs will be offset by grant funding. Shown in Tables 2-7 are the cash fund balance in the capital improvement fund and capital replacement fund that are left in these funds after minor CIP is expensed.

Table 2-7. Capital Fund Balances

Line No.	Description	Fiscal Year Ending June 30,				
		FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18
		(\$)	(\$)	(\$)	(\$)	(\$)
Potable						
1	Capital Improvement	0	0	0	0	0
2	Capital Replacement	1,721,900	1,517,700	1,461,900	1,387,100	1,283,900
3	Total P Cash Balance	\$ 1,721,900	\$ 1,517,700	\$ 1,461,900	\$ 1,387,100	\$ 1,283,900
Non-Potable						
4	Capital Improvement	63,100	129,700	200,100	274,500	353,100
5	Capital Replacement	185,500	244,200	290,600	311,400	309,300
6	Total NP Cash Balance	\$ 248,600	\$ 373,900	\$ 490,700	\$ 585,900	\$ 662,400
7	Total Water Capital Cash Balance	\$ 1,970,500	\$ 1,891,600	\$ 1,952,600	\$ 1,973,000	\$ 1,946,300

2.9 OTHER OPERATING REQUIREMENTS

In addition to O&M and CIP commitments, the Water Fund incurs some additional costs which make up the revenue requirements.

2.9.1 Capital Contributions

In addition to the CIP, the Water Fund recognizes the need to perform recurring/annual maintenance to maintain the functionality and reliability of the potable and non-potable water system. This maintenance, routine capital outlay usually covers the replacement of small portions of mains; additions and replacements of operating equipment, pump station and superstructure maintenance, fire hydrants, meters and meter boxes, and other miscellaneous items. These capital outlays are such that they occur in a system regardless of system growth. As standard practice, the District sets a minimum target of \$700,000 to be contributed to the capital replacement. Of the total, \$600,000 is set for potable and \$100,000 for non-potable. Also, any excess cash in the operating fund is directly contributed to the capital replacement fund.

2.9.2 Transfers

The Water Fund occasionally transfers funds to the rate stabilization fund when excess fund in the operating fund occur. The rate stabilization fund helps stabilize rate increases during economic downturns, unexpected costs, or drought conditions. Since such transfers do not represent direct operating expenses for the Water Fund, they are included herein as below-the-line cash flow items and not included as O&M expenses in the calculation of projected debt service coverage. Table 2-10 (Line 27) represents these transfers on an annual basis throughout the Study Period.

2.9.3 Reserves

Currently, the Water Fund has no stated fiscal policy with respect to operating reserves. The Water Fund transfers excess operating funds to the capital replacement fund. While this allows the District to maintain the water system, it requires that rates on any given year be set to cover the complete O&M, debt service and pay as you go (PAYGO) expenditures. It is a standard industry practice to maintain an operating reserve of 90-days of operating expenses, which would require an average target level of \$935,000 to \$1.12 million during the Study Period.

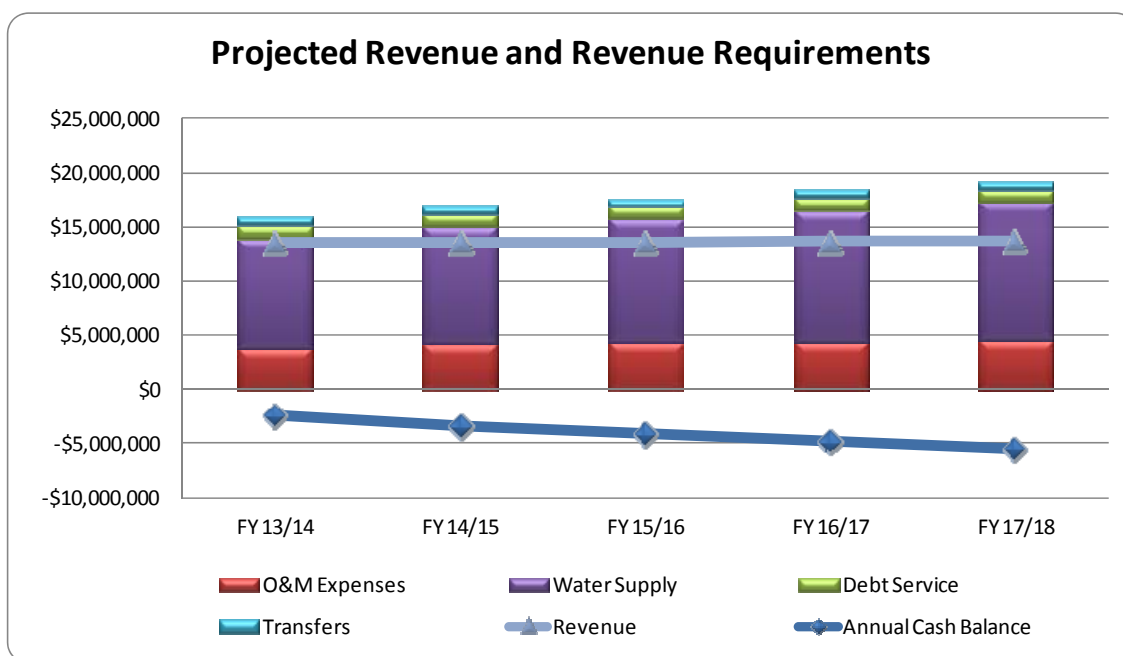
The Water Fund has a stated policy with respect to the capital reserves. The policy states that the Water Fund will strive to maintain a minimum reserve balance of at least next year's CIP costs and a maximum of ½ of total CIP costs for the next 5-years costs. Therefore, the reserve balance varies from year to year.

2.10 PROJECTED OPERATING RESULTS

The revenue requirements of the Water Fund consist of system O&M expense, water supply costs, debt service requirements, transfers, and capital contributions.

In the analysis, it was important to identify the state of the Water Fund if no revenue increases were to occur. Under the status quo scenario, the Water Fund would not impose any revenue increases over the Study Period. As shown in Figure 2-1, the status quo conditions means that the Water Fund will operate at an annual deficit position thus tapping into its rates stabilization reserves. In addition, since the Water Fund has debt service commitments, the District would need to extract from the capital funds or implement some type of rate increase.

Figure 2-1. Status Quo



In order to avoid deficit positions, the Water Fund examined various options for revenue increases that would meet the revenue requirements. Based on the goals and objectives, the District arrived at the revenue increases shown in Table 2-9. The revenue increases represents the total revenue adjustment needed to meet revenue requirements contingent on the incorporation of the pass-through. The revenue adjustment does not represent adjustments to the individual rates.

Table 2-9. Revenue Increases

Fiscal Year	Combined Revenue Adjustment	Potable Revenue Adjustment	Non-Potable Revenue Adjustment	Effective Month
FY 13/14	18.9%	7.5%	71.5%	July
FY 14/15	6.3%	7.5%	3.0%	July
FY 15/16	4.2%	5.0%	2.0%	July
FY 16/17	3.9%	4.5%	2.0%	July
FY 17/18	3.9%	4.5%	2.0%	July

Table 2-10 reflects the combined operating cash flow. The District selected this option as it incorporates the capital contribution and keeps the Water Fund at positive cash flow over the Study Period. Table 2-11 and 2-12 reflect the potable and non-potable operating cash flow, respectively.

The operating fund is subdivided into revenue and revenue requirements. In lines 3 to 7, the required annual revenue increases arrived in Table 2-9 are presented. Line 12 and 15 represents other revenues, which include special services, pumping charges, property taxes and other miscellaneous revenue. In line 18, the total revenues generated from existing rates, revenue from increases and other operating revenue are shown.

In the revenue requirement section of Tables 2-10 to 2-12, O&M, water supply, debt service, and transfers are shown and discussed earlier. Line 28 represents that total revenue requirement that will need to be met through revenue. The net cumulative balance is indicated in line 31. The

District strives to be revenue neutral with respect to the net cumulative balance. Other water utilities desired minimum operating reserve balance. The industry standard is 90 days of O&M expenditures. As shown in line 31, the annual net cumulative balance is slightly positive which allows the Water Fund to supplement the capital replacement and rate stabilization funds. Under this scenario the debt service coverage based on the 1.15x requirement is met in all years as shown on line 32 in Table 2-10. The requirement is set forth by the lending institution and is based on mandatory expenses only. Items such as transfers are excluded. Figure 2-2 presents the major components of the operating fund.

Figure 2-2. Operating Cash Flow

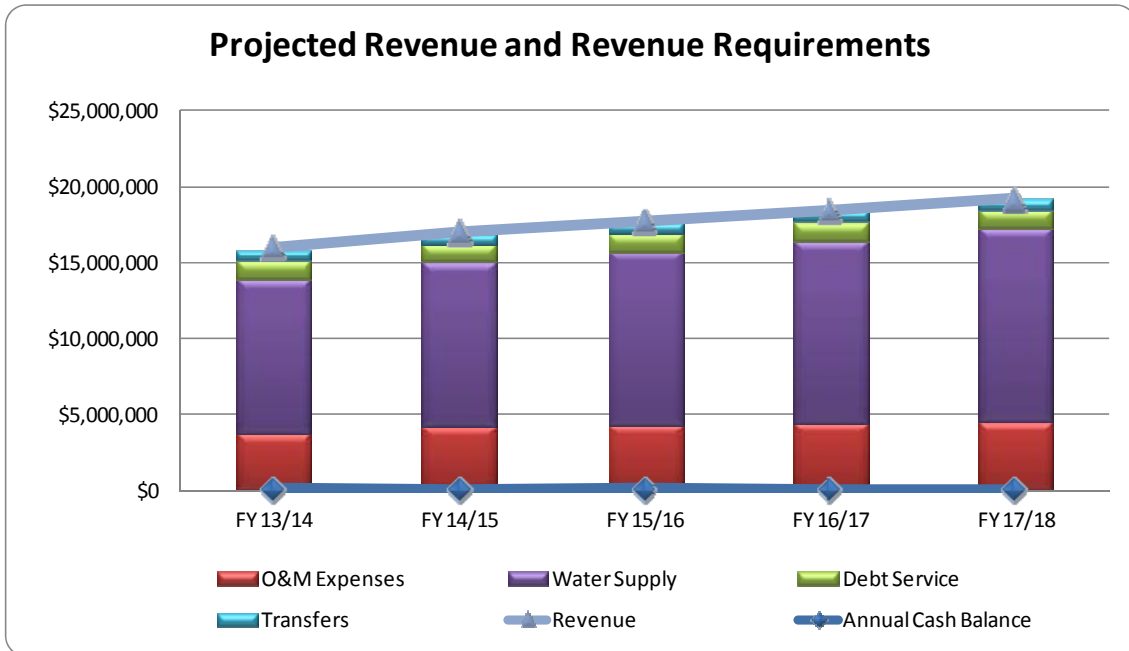


Table 2-10. Combined Operating Cash Flow

Line No.	Description	Fiscal Year Ending June 30,				
		FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18
		(\$)	(\$)	(\$)	(\$)	(\$)
Revenue						
Rate Revenue						
1	Revenue from Existing Rates	12,949,000	12,981,000	13,013,500	13,046,700	13,079,200
2	Year					
3	FY 13/14	18.9%	2,453,700	2,464,700	2,475,900	2,487,500
4	FY 14/15	6.3%		978,600	980,900	983,100
5	FY 15/16	4.2%			699,300	700,900
6	FY 16/17	3.9%				668,700
7	FY 17/18	3.9%				698,200
8	Increased Revenue Due to Adjustments	2,453,700	3,443,300	4,156,100	4,840,200	5,555,100
9	Subtotal Rate Revenue	15,402,700	16,424,300	17,169,600	17,886,900	18,634,300
Other Operating Revenue						
10	Special Services	35,800	35,800	35,800	35,800	35,800
11	Miscellaneous	43,700	43,700	43,700	43,700	43,700
12	Subtotal Other Operating Revenue	79,500	79,500	79,500	79,500	79,500
Non-Operating Revenue						
13	Taxes	463,300	463,300	463,300	463,300	463,300
14	Interest	38,800	38,800	38,800	38,800	38,800
15	Subtotal Non-Operating Revenue	502,100	502,100	502,100	502,100	502,100
Transfers						
16	Transfer from Rate Stabilization	0	0	0	0	0
17	Subtotal Non-Operating Revenue	0	0	0	0	0
18	Total Revenue	\$ 15,984,300	\$ 17,005,900	\$ 17,751,200	\$ 18,468,500	\$ 19,215,900
Revenue Requirements						
Operating & Maintenance						
19	O&M Expenses	3,791,200	4,239,800	4,340,100	4,443,200	4,549,000
20	Water Supply	10,170,200	10,761,500	11,375,100	12,031,400	12,724,600
21	Subtotal O&M	13,961,400	15,001,300	15,715,200	16,474,600	17,273,600
Debt Service						
22	Existing Revenue Bonds	1,208,600	1,215,000	1,210,300	1,212,800	1,212,500
23	Proposed Revenue Bonds	0	0	0	0	0
24	Total Debt Service	1,208,600	1,215,000	1,210,300	1,212,800	1,212,500
Transfers						
25	Transfer to Water Capital Replacement	0	0	0	0	0
26	Transfer to Water Rate Stabilization	700,000	700,000	700,000	700,000	700,000
27	Total Transfers	700,000	700,000	700,000	700,000	700,000
28	Total Revenue Requirements	\$ 15,870,000	\$ 16,916,300	\$ 17,625,500	\$ 18,387,400	\$ 19,186,100
29	Net Annual Cash Balance	114,300	89,600	125,700	81,100	29,800
30	Beginning Fund Balance	0	0	0	0	0
31	Net Cumulative Fund Balance	\$ 114,300	\$ 89,600	\$ 125,700	\$ 81,100	\$ 29,800
32	Debt Service Coverage (1.15x)	1.67	1.65	1.68	1.64	1.60

Table 2-11. Potable Operating Cash Flow

Line No.	Description	Fiscal Year Ending June 30,						
		FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18		
		(\$)	(\$)	(\$)	(\$)	(\$)		
Revenue								
Rate Revenue								
1	Revenue from Existing Rates	10,632,700	10,651,100	10,669,900	10,688,900	10,707,300		
2	Year	Months Effective	Rate Adj					
3	FY 13/14	12	7.5%	797,500	798,800	800,200	801,700	803,000
4	FY 14/15	12	7.5%		858,700	860,300	861,800	863,300
5	FY 15/16	12	5.0%			616,500	617,600	618,700
6	FY 16/17	12	4.5%				583,700	584,700
7	FY 17/18	12	4.5%					611,000
8	Increased Revenue Due to Adjustments	797,500	1,657,500	2,277,000	2,864,800	3,480,700		
9	Subtotal Rate Revenue	11,430,200	12,308,600	12,946,900	13,553,700	14,188,000		
Other Operating Revenue								
10	Special Services	34,700	34,700	34,700	34,700	34,700		
11	Miscellaneous	26,800	26,800	26,800	26,800	26,800		
12	Subtotal Other Operating Revenue	61,500	61,500	61,500	61,500	61,500		
Non-Operating Revenue								
13	Taxes	278,000	278,000	278,000	278,000	278,000		
14	Interest	31,800	31,800	31,800	31,800	31,800		
15	Subtotal Non-Operating Revenue	309,800	309,800	309,800	309,800	309,800		
Transfers								
16	Transfer from Rate Stabilization	0	0	0	0	0		
17	Subtotal Non-Operating Revenue	0	0	0	0	0		
18	Total Revenue	\$ 11,801,500	\$ 12,679,900	\$ 13,318,200	\$ 13,925,000	\$ 14,559,300		
Revenue Requirements								
Operating & Maintenance								
19	O&M Expenses	2,535,500	2,955,900	3,026,200	3,098,400	3,172,600		
20	Water Supply	8,094,200	8,593,900	9,111,900	9,665,500	10,255,700		
21	Subtotal O&M	10,629,700	11,549,800	12,138,100	12,763,900	13,428,300		
Debt Service								
22	Existing Revenue Bonds	513,300	510,500	512,100	512,100	510,400		
23	Proposed Revenue Bonds	0	0	0	0	0		
24	Total Debt Service	513,300	510,500	512,100	512,100	510,400		
Transfers								
25	Transfer to Water Capital Replacement	0	0	0	0	0		
26	Transfer to Water Rate Stabilization	600,000	600,000	600,000	600,000	600,000		
27	Total Transfers	600,000	600,000	600,000	600,000	600,000		
28	Total Revenue Requirements	\$ 11,743,000	\$ 12,660,300	\$ 13,250,200	\$ 13,876,000	\$ 14,538,700		
29	Net Annual Cash Balance	58,500	19,600	68,000	49,000	20,600		
30	Beginning Fund Balance	0	0	0	0	0		
31	Net Cumulative Fund Balance	\$ 58,500	\$ 19,600	\$ 68,000	\$ 49,000	\$ 20,600		
32	Debt Service Coverage (1.15x)	2.28	2.21	2.30	2.27	2.22		

Table 2-12. Non-Potable Operating Cash Flow

Line No.	Description	Fiscal Year Ending June 30,				
		FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18
		(\$)	(\$)	(\$)	(\$)	(\$)
Revenue						
Rate Revenue						
1	Revenue from Existing Rates	2,316,300	2,329,900	2,343,600	2,357,800	2,371,900
2	Year Months Effective Rate Adj					
3	FY 13/14 12 71.5%	1,656,200	1,665,900	1,675,700	1,685,800	1,695,900
4	FY 14/15 12 3.0%		119,900	120,600	121,300	122,000
5	FY 15/16 12 2.0%			82,800	83,300	83,800
6	FY 16/17 12 2.0%				85,000	85,500
7	FY 17/18 12 2.0%					87,200
8	Increased Revenue Due to Adjustments	1,656,200	1,785,800	1,879,100	1,975,400	2,074,400
9	Subtotal Rate Revenue	3,972,500	4,115,700	4,222,700	4,333,200	4,446,300
Other Operating Revenue						
10	Special Services	1,100	1,100	1,100	1,100	1,100
11	Miscellaneous	16,900	16,900	16,900	16,900	16,900
12	Subtotal Other Operating Revenue	18,000	18,000	18,000	18,000	18,000
Non-Operating Revenue						
13	Taxes	185,300	185,300	185,300	185,300	185,300
14	Interest	7,000	7,000	7,000	7,000	7,000
15	Subtotal Non-Operating Revenue	192,300	192,300	192,300	192,300	192,300
Transfers						
16	Transfer from Rate Stabilization	0	0	0	0	0
17	Subtotal Non-Operating Revenue	0	0	0	0	0
18	Total Revenue	\$ 4,182,800	\$ 4,326,000	\$ 4,433,000	\$ 4,543,500	\$ 4,656,600
Revenue Requirements						
Operating & Maintenance						
19	O&M Expenses	1,255,700	1,283,900	1,313,900	1,344,800	1,376,400
20	Water Supply	2,076,000	2,167,600	2,263,200	2,365,900	2,468,900
21	Subtotal O&M	3,331,700	3,451,500	3,577,100	3,710,700	3,845,300
Debt Service						
22	Existing Revenue Bonds	695,300	704,500	698,200	700,700	702,100
23	Proposed Revenue Bonds	0	0	0	0	0
24	Total Debt Service	695,300	704,500	698,200	700,700	702,100
Transfers						
25	Transfer to Water Capital Replacement	0	0	0	0	0
26	Transfer to Water Rate Stabilization	100,000	100,000	100,000	100,000	100,000
27	Total Transfers	100,000	100,000	100,000	100,000	100,000
28	Total Revenue Requirements	\$ 4,127,000	\$ 4,256,000	\$ 4,375,300	\$ 4,511,400	\$ 4,647,400
29	Net Annual Cash Balance	55,800	70,000	57,700	32,100	9,200
30	Beginning Fund Balance	0	0	0	0	0
31	Net Cumulative Fund Balance	\$ 55,800	\$ 70,000	\$ 57,700	\$ 32,100	\$ 9,200
32	Debt Service Coverage (1.15x)	1.22	1.24	1.23	1.19	1.16

2.10.1 Test Year Revenue Requirements

In analyzing the Water Fund's cost of service for allocation to its customer classes, the annual revenue requirements for FY 13/14 is selected as the Test Year requirements to demonstrate the development of cost-of-service water rates. Based on achieving the Water Fund's principal goals within the Study Period, the cash flow in Tables 2-10, 2-11 and 2-12 serves as the basis for the analyses presented herein.

3 Cost of Service Allocation

The revenue requirements to be derived from rates for water service are synonymous with the definition of the Cost of Service (COS). In developing equitable rate structures, revenue requirements are allocable to the various customer classifications according to the service rendered. Allocations of these requirements to customer classes should take into account the quantity of water consumed, peak flows, number of customers, and other relevant factors. Input on cost allocations were obtained from staff and discussed with the Ad Hoc Rate Committee. Additional information regarding cost allocations may be found in the District's *Staff Report* for the Water and Sewer Rate Study dated March 2013. The total costs of service to be recovered from water user rates for the Test Year FY 13/14 are summarized in Tables 3-1, Table 3-2 and 3-3 represent the cost of service to be recovered from potable and non-potable rates for the Test Year.

Table 3-1. Cost of Service

Line No.	Description	Operating Expense (\$)	Capital Cost (\$)	Total Cost (\$)
Revenue Requirements				
1	O&M Expenses	3,791,200	0	3,791,200
2	Water Supply	10,170,200	0	10,170,200
3	Debt Service	0	1,208,600	1,208,600
4	Transfers	700,000	0	700,000
5	Subtotal	14,661,400	1,208,600	15,870,000
Less Revenue Requirements Met from Other Sources				
6	Other Operating Revenue	79,500	0	79,500
7	Other Non-Operating Revenue	502,100	0	502,100
8	Transfers	0	0	0
9	Subtotal	581,600	0	581,600
Adjustments				
10	Adjustment for Annual Cash Balance	(114,300)	0	(114,300)
11	Subtotal	(114,300)	0	(114,300)
12	Cost of Service to be Recovered from Rates	\$ 14,194,100	\$ 1,208,600	\$ 15,402,700

Shown in line 5 is the total revenue requirement that corresponds with the Table 2-10 line 28. In order to derive the revenue requirement that will need to be recovered by the rates, it is necessary to deduct revenues from other sources as shown in lines 9 and 11. Line 10 represents the net annual cash balance for the utility during the Test Year. In this case, the \$114,300 indicates that the Water Fund is projecting a positive cash balance for the year. Line 12 represents the total costs that are to be recovered from rates.

Table 3-2. Potable Cost of Service

Line No.	Description	Operating Expense (\$)	Capital Cost (\$)	Total Cost (\$)
Revenue Requirements				
1	O&M Expenses	2,535,500	0	2,535,500
2	Water Supply	8,094,200	0	8,094,200
3	Debt Service	0	513,300	513,300
4	Transfers	600,000	0	600,000
5	Subtotal	11,229,700	513,300	11,743,000
Less Revenue Requirements Met from Other Sources				
6	Other Operating Revenue	61,500	0	61,500
7	Other Non-Operating Revenue	309,800	0	309,800
8	Transfers	0	0	0
9	Subtotal	371,300	0	371,300
Adjustments				
10	Adjustment for Annual Cash Balance	(58,500)	0	(58,500)
11	Subtotal	(58,500)	0	(58,500)
12	Cost of Service to be Recovered from Rates	\$ 10,916,900	\$ 513,300	\$ 11,430,200

Table 3-3. Non-Potable Cost of Service

Line No.	Description	Operating Expense (\$)	Capital Cost (\$)	Total Cost (\$)
Revenue Requirements				
1	O&M Expenses	1,255,700	0	1,255,700
2	Water Supply	2,076,000	0	2,076,000
3	Debt Service	0	695,300	695,300
4	Transfers	100,000	0	100,000
5	Subtotal	3,431,700	695,300	4,127,000
Less Revenue Requirements Met from Other Sources				
6	Other Operating Revenue	18,000	0	18,000
7	Other Non-Operating Revenue	192,300	0	192,300
8	Transfers	0	0	0
9	Subtotal	210,300	0	210,300
Adjustments				
10	Adjustment for Annual Cash Balance	(55,800)	0	(55,800)
11	Subtotal	(55,800)	0	(55,800)
12	Cost of Service to be Recovered from Rates	\$ 3,277,200	\$ 695,300	\$ 3,972,500

3.1 FUNCTIONAL COST COMPONENTS

The cost of providing water service should be analyzed by system function in order to properly allocate the costs to the various classes of customers and subsequently design rates. As a basis for allocating costs of service among customer classes, costs may be separated into the following four basic functional cost components: (1) "Base"; (2) "Extra Capacity"; (3) "Customer"; and (4) "Direct Assignment".

- Base costs represent operating and capital costs of the system associated with service to customers to the extent required for a constant, or average annual rate of use.
- Extra Capacity costs represent those operating costs incurred in meeting demands in excess of average, and capital related costs for additional plant and system capacity beyond that required for the average rate of use.
- Customer costs are defined as those that tend to vary in proportion to the number of customers connected to the system. These include meter reading, billing, collecting and accounting, and maintenance and capital costs associated with meters and services.
- Directly assigned costs are costs specifically identified as those incurred to serve a specific customer group(s). The separation of costs of service into these principal categories facilitates allocating such costs to the various customer classes on the basis of the respective service requirements of each class.

3.2 ALLOCATION TO COST COMPONENTS

Each element of cost is allocated to functional cost components on the basis of the parameter or parameters having the most significant influence on the magnitude of that element of cost. O&M expense items are allocated directly to appropriate cost components, while the allocation of capital and replacement costs is based upon a detailed allocation of related capital investment. The separation of costs into functional components provides a means for distributing such costs to the various classes of customers on the basis of their respective responsibilities for each particular type of service.

Black & Veatch performed the following steps to derive the allocation percentages for apportioning the District's O&M and capital costs. As noted above, elements that are allocated directly to their cost component include customer costs and direct assigned costs.

For volume-related cost allocations, the first step in determining the allocation percentages is to assign system peaking factors. The base element is equal to the average daily demand (ADD) and assigned a value of 1.0. The District's maximum day (max day) demand is estimated to be 1.70 times the ADD. Thus, the max day is assigned a value of 1.70. The maximum instantaneous usage is approximated by the maximum hourly (max hour) usage and is estimated to be 2.25 times the ADD. Thus, max hour is assigned a value of 2.25. These peaking factors are based on the District's Draft Integrated Facilities Master Plan and discussions with District staff.

Cost components that are solely base-related, are allocated 100 percent to base. Cost components that are designed to meet max day requirements, such as reservoirs, are allocated to base and max day factors as follows:

- Base = $(1.0/1.7) \times 100 = 58.8\%$
- Max Day = $(1.7 - 1.0)/1.7 \times 100 = 41.2\%$

Cost components that are designed to meet max hour design requirements, such as Distribution, are allocated in a similar fashion, as follows:

- Base = $(1.0/2.25) \times 100 = 44.4\%$
- Max Day = $(1.70 - 1.0)/2.25 \times 100 = 31.1\%$
- Max Hour = $(2.25 - 1.70)/2.25 \times 100 = 24.4\%$

3.2.1 Allocation of Operating and Maintenance Expense

In the allocation of O&M expense and investment, costs are allocated directly to cost components to the extent possible. General and administrative cost elements are then allocated on the basis of the allocation of other costs to which they are most nearly related. Table 3-4 and 3-5 represents the allocation of O&M to the functional cost components. Upon allocation to function cost components, revenues from other sources as shown in Table 3-2 and 3-3 lines 9 and 11 are subtracted. The direct assignment represents fire protection.

3.2.2 Allocation of Capital Investments

The estimated investment in water system facilities is allocated to appropriate cost components as a basis for the further distribution of capital related costs to the various customer classes. The allocation of estimated net system investment of \$513,300 serving potable water customers and \$695,300 serving non-potable water for the Test Year is shown in Table 3-6 and 3-7. The annual net system investment is allocated to the functional costs based on the total water system assets.

Table 3-4. Allocation of Potable O&M Expenditures

Line No.	Description	Total Costs	Common to All Customers					Fire Protection
			Base	Extra Capacity		Customer		
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Operating Expenses								
1	Production							
2	Water Purchase	7,773,000	7,773,000	0	0	0	0	0
3	Production Power	321,200	321,200	0	0	0	0	0
4	Salaries and Benefits	1,235,100	432,200	308,800	308,800	123,500	61,800	0
5 Contracts & Professional Services								
6	Outside Contracts	364,800	109,400	91,200	91,200	36,500	36,500	0
7	Professional Services	135,100	40,500	33,800	33,800	13,500	13,500	0
8	Services & Supplies	148,800	41,900	1,800	1,800	47,100	56,200	0
9	Utilities	35,700	16,100	8,900	8,900	0	1,800	0
10	Pipeline Repairs	116,300	46,500	46,500	23,300	0	0	0
11	Materials & Supplies	84,400	42,200	16,900	16,900	4,200	4,200	0
12	Repair Parts & Equipment Maintenance	60,000	30,000	12,000	12,000	3,000	3,000	0
13	Transfers	600,000	600,000	0	0	0	0	0
14	Total O&M Expenses	\$ 10,874,400	\$ 9,453,000	\$ 519,900	\$ 496,700	\$ 227,800	\$ 177,000	\$ 0
Less Other Revenue								
15	Miscellaneous Revenues	371,300	322,700	17,800	17,000	7,800	6,000	0
16	Other Adjustments	(58,500)	(50,800)	(2,800)	(2,700)	(1,200)	(1,000)	0
17	Net Operating Expenses	\$ 10,561,600	\$ 9,181,100	\$ 504,900	\$ 482,400	\$ 221,200	\$ 172,000	\$ 0

Table 3-5. Allocation of Non-Potable O&M Expenditures

Line No.	Description	Total Costs	Common to All Customers					Fire Protection
			Base	Extra Capacity		Customer		
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Operating Expenses								
1	Production							
2	Water Purchase	1,282,600	1,282,600	0	0	0	0	0
3	Production Power	642,700	642,700	0	0	0	0	0
4	Recycled Water	150,700	150,700	0	0	0	0	0
5	Salaries and Benefits	665,000	166,100	299,300	166,300	13,300	20,000	0
6	Contracts & Professional Services							
7	Outside Contracts	211,400	126,900	63,400	21,100	0	0	0
8	Professional Services	124,600	74,700	37,400	12,500	0	0	0
9	Services & Supplies	113,300	55,900	2,300	900	21,700	32,500	0
10	Utilities	8,400	3,700	3,400	1,300	0	0	0
11	Pipeline Repairs	32,600	9,800	16,300	6,500	0	0	0
12	Materials & Supplies	56,500	16,900	28,300	11,300	0	0	0
13	Repair Parts & Equipment Maintenance	43,900	13,100	22,000	8,800	0	0	0
14	Transfers	100,000	100,000	0	0	0	0	0
15	Total O&M Expenses	\$ 3,431,700	\$ 2,643,100	\$ 472,400	\$ 228,700	\$ 35,000	\$ 52,500	\$ 0
Less Other Revenue								
16	Miscellaneous Revenues	210,300	155,700	25,200	21,000	4,200	4,200	0
17	Other Adjustments	(55,800)	(27,700)	(9,900)	(17,600)	(300)	(300)	0
18	Net Operating Expenses	\$ 3,277,200	\$ 2,515,100	\$ 457,100	\$ 225,300	\$ 31,100	\$ 48,600	\$ 0

Table 3-6. Allocation of Potable Capital Costs

Line No.	Description	Total Costs	Common to All Customers					Fire Protection
			Base	Extra Capacity		Customer		
			Base	Max. Day	Max. Hour	Meters	Cust/Bill.	
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Plant Assets								
1	Water Production	47,200	47,200	0	0	0	0	0
2	Pumping	7,700	3,400	2,400	1,900	0	0	0
3	Treatment	19,300	11,400	7,900	0	0	0	0
4	Transmission & Distribution	357,700	78,600	159,000	111,300	0	0	8,900
5	Meters	42,700	0	0	0	42,700	0	0
6	Fire Hydrants	18,400	0	0	0	0	0	18,400
7	Land	11,800	11,800	0	0	0	0	0
8	General Plant	8,500	3,800	2,100	2,100	0	400	0
9	Total Plant Assets	\$ 513,300	\$ 156,200	\$ 171,400	\$ 115,300	\$ 42,700	\$ 400	\$ 27,300
Less Other Revenue								
10	Miscellaneous Revenues	0	0	0	0	0	0	0
11	Other Adjustments	0	0	0	0	0	0	0
12	Net Capital Expenses	\$ 513,300	\$ 156,200	\$ 171,400	\$ 115,300	\$ 42,700	\$ 400	\$ 27,300

Table 3-7. Allocation of Non-Potable Capital Costs

Line No.	Description	Total Costs	Common to All Customers					Fire Protection
			Base	Extra Capacity		Customer		
			Base	Max. Day	Max. Hour	Meters	Cust/Bill.	
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Plant Assets								
1	Water Production	3,300	3,300	0	0	0	0	0
2	Pumping	1,100	700	200	200	0	0	0
3	Treatment	559,600	329,200	230,400	0	0	0	0
4	Transmission & Distribution	73,700	36,300	25,400	12,000	0	0	0
5	Meters	57,600	25,600	17,900	14,100	0	0	0
6	Fire Hydrants	0	0	0	0	0	0	0
7	Land	0	0	0	0	0	0	0
8	General Plant	0	0	0	0	0	0	0
9	Total Plant Assets	\$ 695,300	\$ 395,100	\$ 273,900	\$ 26,300	\$ 0	\$ 0	\$ 0
Less Other Revenue								
10	Miscellaneous Revenues	0	0	0	0	0	0	0
11	Other Adjustments	0	0	0	0	0	0	0
12	Net Capital Expenses	\$ 695,300	\$ 395,100	\$ 273,900	\$ 26,300	\$ 0	\$ 0	\$ 0

3.3 UNITS OF SERVICE

The total cost responsibility for each customer class may be established by developing unit costs of service for each cost function and subsequently assigning those costs to the customer classes based on the respective service requirements of each. To properly recognize the cost of service, each customer class is allocated its share of base, maximum day and maximum hour costs. The number of units of service required by each customer class provides a means for the proportionate distribution of costs previously allocated to respective cost categories.

Base costs vary with the volume of water used and are distributed to customer classes on that basis. Extra Capacity costs are those associated with meeting maximum rates of water use, and is distributed to customer classes on the basis of the respective class capacity requirements in excess of average rates of use. Customer costs, which consist of meter related, billing, collection and accounting costs, are allocated to the various classes on the basis of the number of bills and equivalent meters. Equivalent meter ratios are established by the American Water Works Association annual M6; "Water Meters - Selection, Installation, Testing and Maintenance". The estimated number of equivalent meters for each customer class is based on the total number of various sizes of meters serving respective classes and the ratio of the cost of meters for the various sizes to the cost of 5/8-inch meters. Private fire protection costs are allocated on the basis of equivalent fire hydrants.

The extra capacity units are determined based on a capacity factor between maximum day and maximum hour to average day. Generally, residential customers experience a higher maximum to average demand ratio than the industrial customer class. Maximum hour usage information by individual customer class is not available. As such, assumptions for maximum day and maximum hour ratios for each customer class have been made based on experience with other water utilities with similar characteristics.

3.4 COST OF SERVICE ALLOCATIONS

The costs of service are distributed to the various customer classes by applying the unit costs of service to respective service requirements. The total unit costs of service applied to the respective requirements for each customer class results in the total cost of service for each customer class.

3.4.1 Units Costs of Service

The Test Year unit cost of service for each functional cost component is based on the total cost divided by the applicable units of service as shown in Tables 3-8 and 3-9. In lines 1 and 2, the total costs represent the cost to be recovered from rates shown in Table 3-2 and 3-3 line 13. Line 5 represents the unit costs that are used in allocating the costs to the specific customer classes.

3.4.2 Distribution of Costs of Service to Customer Classes

The customer class responsibility for service is obtained by applying the unit costs of service to the number of units for which the customer class is responsible. This process is illustrated in Tables 3-10 and 3-11, in which the unit costs of service are applied to the customer class units of service.

Table 3-8. Potable Units Costs of Service

Line No.	Description	Total Costs	Common to All Customers				Fire Protection	
			Base	Extra Capacity		Customer		
			Base	Max. Day	Max. Hour	Meters	Cust/Bill.	
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Potable - Unit Cost of Service								
1	Net Operating Expense	10,916,900	9,536,400	504,900	482,400	221,200	172,000	0
2	Capital Costs	513,300	156,100	171,500	115,300	42,700	400	27,300
3	Total Cost of Service	\$ 11,430,200	\$ 9,692,500	\$ 676,400	\$ 597,700	\$ 263,900	\$ 172,400	\$ 27,300
4	Units of Service (Total)		3,566,700	5,148	5,575	12,696	96,948	993
5	Cost per Unit		\$ 2.72	\$ 131.38	\$ 107.20	\$ 20.79	\$ 1.78	\$ 27.48
6	per Unit		HCF	HCF/Day	HCF/Day	Eq. Meter	Bill	Eq. Hydrant

Table 3-9. Non-Potable Units Costs of Service

Line No.	Description	Total Costs	Common to All Customers				
			Base	Extra Capacity		Customer	
			Base	Max. Day	Max. Hour	Meters	Cust/Bill.
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Non-Potable Unit Cost of Service							
1	Net Operating Expense	3,277,200	2,515,100	457,100	225,300	31,100	48,600
2	Capital Costs	695,300	401,500	278,500	15,300	0	0
3	Total Cost of Service	\$ 3,972,500	\$ 2,916,600	\$ 735,600	\$ 240,600	\$ 31,100	\$ 48,600
Cost per Unit							
4	O&M - All less Production		\$ 0.17	\$ 79.91	\$ 42.50	\$ 30.01	\$ 13.87
5	O&M - Production Only		\$ 0.85	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
6	O&M - Production Only (Blended AG)		\$ 1.69	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
7	Capital - All less Production, T&D		\$ 0.17	\$ 44.18	\$ 0.04	\$ 0.00	\$ 0.00
8	Capital - Production and Transmission		\$ 0.01	\$ 2.60	\$ 0.00	\$ 0.00	\$ 0.00
9	Capital - Distribution		\$ 0.01	\$ 3.78	\$ 4.09	\$ 0.00	\$ 0.00
10	Recycled Water		\$ 0.37	\$ 13.83	\$ 32.67	\$ 0.00	\$ 0.00
11	per Unit		HCF	HCF/Day	HCF/Day	Eq. Meter	Bill

Table 3-10. Distribution of Costs to Potable Customer Class

Line No.	Description	Total Costs	Common to All Customers					Fire Protection
			Base	Extra Capacity		Customer		
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Potable Customer Classes								
C02 District Owned - Municipal Irrigation								
1	Units		500	1	1	21	24	0
2	Allocation of costs of service	2,100	1,400	200	100	400	0	0
C03 District Owned - Temp Construction								
3	Units		0	0	0	0	0	0
4	Allocation of costs of service	0	0	0	0	0	0	0
C04 District Owned - Comm/Ind Water								
5	Units		200	1	0	37	24	0
6	Allocation of costs of service	1,400	500	100	0	800	0	0
PI0 Municipal Irrigation (Class V)								
7	Units		242,200	464	829	736	2,484	0
8	Allocation of costs of service	827,800	658,200	61,000	88,900	15,300	4,400	0
PI1 Agriculture Irrigation								
9	Units		256,600	387	176	695	984	0
10	Allocation of costs of service	783,100	697,300	50,800	18,800	14,500	1,700	0
PI2 Residential Irrigation (Class V)								
11	Units		71,900	118	177	234	1,680	0
12	Allocation of costs of service	237,800	195,400	15,500	19,000	4,900	3,000	0
PP0 Temp Construction								
13	Units		5,700	12	3	146	180	0
14	Allocation of costs of service	20,700	15,500	1,600	300	3,000	300	0

Table 3-10. Distribution of Costs to Potable Customer Class (Cont)

Line No.	Description	Total Costs (\$)	Common to All Customers				Fire Protection (\$)	
			Base Base (\$)	Extra Capacity Max. Day Max. Hour (\$)		Customer Meters Cust/Bill. (\$)		
Potable Customer Classes								
PP1 Temp Municipal								
15	Units		0	0	0	0	0	
16	Allocation of costs of service	0	0	0	0	0	0	
PW0 Residential Water Class (Class I)								
17	Units		2,073,000	2,556	2,556	9,314	87,276	0
18	Allocation of costs of service	6,476,500	5,633,400	325,200	179,400	183,400	155,100	0
PW1 Residential Water (Out of Bounds)								
19	Units		1,300	3	0	9	36	0
20	Allocation of costs of service	4,200	3,500	400	0	200	100	0
PW2 Residential Water Master Meter Class II								
21	Units		174,700	215	215	225	204	0
22	Allocation of costs of service	531,200	474,700	28,300	23,100	4,700	400	0
PW3 Commerical / Industrial Water (Class II)								
23	Units		261,400	394	251	627	2,340	0
24	Allocation of costs of service	806,300	710,400	51,800	26,900	13,000	4,200	0
PW4 Commercial Water (Out of Bounds)								
25	Units		0	0	0	0	0	0
26	Allocation of costs of service	0	0	0	0	0	0	0
PW5 Public Water								
27	Units		174,700	287	574	144	180	0
28	Allocation of costs of service	577,300	474,700	37,700	61,600	3,000	300	0

Table 3-10. Distribution of Costs to Potable Customer Class (Cont)

Line No.	Description	Total Costs	Common to All Customers				Fire Protection	
			Base	Extra Capacity		Customer		
		(\$)	Base (\$)	Max. Day (\$)	Max. Hour (\$)	Meters (\$)	Cust/Bill. (\$)	(\$)
Potable Customer Classes								
PW6 Domestic Agriculture								
29	Units		304,500	709	793	509	1,536	0
30	Allocation of costs of service	1,019,000	827,500	93,200	85,000	10,600	2,700	0
Public Fire								
31	Units		0	79	868	0	0	977
32	Allocation of costs of service	130,300	0	10,400	93,000	0	0	26,900
PP5 Fire Service (Class VI)								
33	Units		0	1	14	487	132	16
34	Allocation of costs of service	12,500	0	200	1,600	10,100	200	400
35	TOTAL COSTS OF SERVICE	\$ 11,430,200	\$ 9,692,500	\$ 676,400	\$ 597,700	\$ 263,900	\$ 172,400	\$ 27,300

Table 3-11. Distribution of Costs to Non-Potable Customer Class

Line No.	Description	Total Costs	Common to All Customers				Fire Protection	
			Base	Extra Capacity		Customer		
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	
Non-Potable Customer Classes								
C01 District Owned - Residential Landscape								
1	Units		0	0	0	2	12	0
2	Allocation of costs of service	300	0	0	0	100	200	0
NP0 Commercial Agriculture (Class I)								
3	Units		815,400	1,787	1,005	65	48	0
4	Allocation of costs of service	1,273,100	990,600	233,100	46,900	1,900	600	0
NP1 Commercial Agriculture (Class VI)								
5	Units		651,700	1,428	1,250	39	24	0
6	Allocation of costs of service	472,300	229,700	182,700	58,300	1,200	400	0
NP2 Landscape Irrigation (Class II)								
7	Units		10,500	35	39	2	12	0
8	Allocation of costs of service	19,400	12,800	4,500	1,800	100	200	0
NP3 Residential Landscape (Class III)								
9	Units		287,900	552	986	571	3,060	0
10	Allocation of costs of service	527,300	349,800	72,000	46,000	17,100	42,400	0
NP5 Blended Agriculture (Class V)								
11	Units		431,200	1,300	413	358	336	0
12	Allocation of costs of service	1,087,500	883,200	169,600	19,300	10,700	4,700	0
NP6 LV Landscape Irrigation								
13	Units		236,500	518	1,231	0	12	0
14	Allocation of costs of service	402,600	284,300	65,700	52,400	0	200	0

Table 3-11. Distribution of Costs to Non-Potable Customer Class (Cont)

Line No.	Description	Total Costs	Common to All Customers					Fire Protection
			Base	Extra Capacity		Customer		
			Base	Max. Day	Max. Hour	Meters	Cust/Bill.	
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Non-Potable Customer Classes								
RC1 Commercial Agriculture (Class IV)								
15	Units		347,200	380	0	133	48	0
16	Allocation of costs of service	133,200	127,900	5,300	0	0	0	0
RC2 Landscape Irrigation (Class II)								
17	Units		87,600	144	480	33	12	0
18	Allocation of costs of service	50,000	32,300	2,000	15,700	0	0	0
RC4 Recycled Out of Bounds Surplus (Class V)								
19	Units		17,900	54	10	83	48	0
20	Allocation of costs of service	7,600	6,600	700	300	0	0	0
21	TOTAL COSTS OF SERVICE	\$ 3,972,500	\$ 2,916,600	\$ 735,600	\$ 240,600	\$ 31,100	\$ 48,600	\$ 0

3.5 ADEQUACY OF EXISTING RATES TO MEET COSTS OF SERVICE

Presented in Tables 3-12 and 3-13 is a comparison of the allocated cost of service and revenue under existing rates by major customer class for the potable and non-potable systems in total. The indicated revenue increase required over existing rates for each user class indicates where the emphasis should be directed in the subsequent rate design of water service user rates.

In Table 3-12, a 7.5 percent overall increase and in Table 3-13, a 71.5 percent overall increase are considered necessary to meet the projected revenue requirements for the FY 13/14 Test Year after the incorporation of the pass-through on March 1, 2013. The large increase associated with the non-potable system is mainly due to the shift in debt service costs that were associated with the expansion of non-potable facilities. These overall level of revenue needs to be produced by the proposed rates developed and presented in subsequent sections of this report.

Table 3-12. Potable Comparison of COS to Existing Revenue

Line No.	Description	Allocated COS (\$)	Fire Svc Allocation (\$)	Adjusted COS (\$)	Rev under Exst Rates (\$)	Indicated Rev Increase (%)
Potable Customer Classes						
1	CO, PI, PP, PW - District, Irrig, Temp, CII	3,269,000	19,200	3,288,200	2,931,800	12.2%
2	PP - Temp Municipal	0	0	0	0	0.0%
3	PW - Residential	7,007,700	96,900	7,104,600	6,829,500	4.0%
4	PW - Out of Bounds	4,200	100	4,300	4,900	-12.2%
5	PW - Domestic Agriculture	1,019,000	14,100	1,033,100	866,500	19.2%
6	Total P Water System	11,299,900	130,300	11,430,200	10,632,700	7.5%

Table 3-13. Non-Potable Comparison of COS to Existing Revenue

Line No.	Description	Allocated COS (\$)	Contract Allocation (\$)	Adjusted COS (\$)	Rev under Exst Rates (\$)	Indicated Rev Increase (%)
Non-Potable Customer Classes						
1	CO, NP - District, Ag, Irrig	2,280,300	84,600	2,364,900	1,069,900	121.0%
2	NP - Commercial Agriculture	472,300	(118,600)	353,700	303,500	16.5%
3	NP - Blended Agriculture	1,087,500	39,000	1,126,500	814,400	38.3%
4	RC - Commercial Agriculture	133,200	(5,000)	128,200	128,500	-0.2%
5	Total NP Water System	3,973,300	0	3,973,300	2,316,300	71.5%

Evaluating the large increases required by non-potable, the District decided to use funds from the rate stabilization fund to help transition non-potable rates to cost of service rates. Shown in Tables 3-14, is the adjusted comparison that demonstrates the rate stabilization fund allocation (RSF allocation) to each customer class. The allocation helps lower the costs to be recovered from rates.

Table 3-14. Non-Potable Adjusted Comparison of COS to Existing Revenue

Line No.	Description	Allocated COS (\$)	Contract Allocation (\$)	RSF Allocation (\$)	Adjusted COS (\$)	Rev under Exst Rates (\$)	Indicated Rev Increase (%)
Non-Potable Customer Classes							
1	CO, NP - District, Ag, Irrig	2,279,800	99,800	(996,600)	1,383,000	1,069,900	29.3%
2	NP - Commercial Agriculture	472,100	(141,400)	0	330,700	303,500	9.0%
3	NP - Blended Agriculture	1,087,400	46,500	(204,300)	929,600	814,400	14.1%
4	RC - Commercial Agriculture	133,200	(4,900)	0	128,300	128,500	-0.2%
5	Total NP Water System	3,972,500	0	(1,200,900)	2,771,600	2,316,300	19.7%

4 Proposed Rate Adjustments

The initial consideration in the derivation of rate schedules for water service is the establishment of equitable charges to the customers commensurate with the cost of providing that service. While the cost of service allocations to customer classes should not be construed as literal or exact determinations, they offer a guide to the necessity for, and the extent of, rate adjustments. Practical considerations sometimes modify rate adjustments by taking into account additional factors such as the extent of bill impacts, and historical local policies and practices.

4.1 EXISTING RATES

The Water Fund's existing rates consists of a meter service charge and usage charge which is uniform or tiered commodity rate depending on the customer classes. In addition, there is a meter charge for fire service connections and uniform commodity charge for pressure zone 4 and 5. A summary of existing potable and non-potable water rates was presented earlier in this report in Table 2-3.

4.2 PROPOSED RATES

The costs of service analysis described in preceding sections of this report provide a basis for the design of water rates. As observed in Table 3-13 and 3-14, the cost of providing service compared to the revenues received from different customer classes is not uniform. That is, for some customer classes the cost of providing service is greater than the revenues received. The rate schedules for FY 13/14 shown in Table 4-1, 4-2 and 4-3 take into consideration Water Fund objectives and are designed to slowly address the revenue recovery imbalance in different customer classes.

The water rates for all customer classes will keep the current rate structure which consists of a monthly meter service charge plus a commodity rate. The monthly service charge will be based on meter size. The commodity rates incorporate the amount of water consumed. A unit represents 100 cubic feet of water. Under the inclining tier rate structure, users pay different commodity rates for different block usages.

The inclining tiered rate structure used for residential customers is designed to allow the Water Fund to recuperate the additional costs incurred as the demand increases. For example, the demand during the summer months increases when compared to winter demand. As a result it costs more to operate the water system because more groundwater wells must be operated and more import water must be purchased, thereby requiring more resources.

In addition, the pressure zone surcharge will remain in effect as a surcharge on top of the usage rate for all customers in zones 4 and 5. The associated pumping charge will not change.

Table 4-1. Proposed Water Rates for Test Year

Description	Proposed FY 13/14	Description	Proposed FY 13/14
Monthly Meter Service Charge		Commodity Charge - Potable Water Service Classifications	
Potable/Non-Potable Irrigation/Blended Ag	(\$/monthly)		(\$/HCF)
3/4" (MM)	5.55	Residential, Master Meter, Domestic Ag First 12 Units	2.46
3/4"	11.56	Residential, Master Meter, Domestic Ag 13 Units & Higher	2.69
1"	19.26	Commercial/Industrial/Public	2.69
1.5"	38.54	Municipal Irrigation/Residential Irrigation	2.69
2"	61.66	Fire Service/Other	2.69
3"	134.87	Agricultural Irrigation	
4"	231.21	MWD Full Service Rate	2.69
6"	346.82	MWD Tier 2 Rate	3.28
8"	578.03	Temporary Construction and Temporary Agricultural	2.69
		Temporary Municipal	3.28
Domestic Agricultural		Emergency Water Service	4.06
3/4"	17.11	Commercial/Industrial and Public Out of Bounds	3.32
1"	24.81	Residential Out of Bounds First 12 Units	2.81
1.5"	44.09	Residential Out of Bounds 13 Units and Higher	3.32
2"	67.21		
3"	140.42	Commodity Charge - Non-Potable/Recycled Water Service Classifications	
4"	236.76	Non-Potable Commercial Agricultural	0.89
6"	352.37	Non-Potable Landscape Irrigation Water	0.89
8"	583.58	Non-Potable Residential Landscape	0.89
		Non-Potable Temporary Construction	0.89
Fire Service		Non-Potable Commercial Agricultural (contractual)	0.50
1"	43.61	Blended Non-Potable Agricultural	
1.5"	43.61	MWD Full Service Rate	2.03
2"	43.61	MWD Tier 2 Rate	2.29
3"	43.61	Recycled Commercial Agricultural	0.89
4"	43.61	Recycled Landscape Irrigation	0.89
6"	87.20	Recycled Commercial Agricultural (contractual)	0.37
8"	156.98	Recycled Surplus Water (Served Outside District)	0.89
10"	261.68		

Table 4-2. Proposed 5-Year Meter Service Charge

Customer Class	Proposed				
	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18
	\$/mo	\$/mo	\$/mo	\$/mo	\$/mo
Potable/Non-Potable Irrigation/Blended Agricultural					
3/4" (MM)	5.55	5.90	6.11	6.32	6.55
3/4"	11.56	12.29	12.72	13.17	13.64
1"	19.26	20.48	21.20	21.95	22.72
1.5"	38.54	40.98	42.42	43.91	45.46
2"	61.66	65.57	67.87	70.25	72.73
3"	134.87	143.41	148.44	153.66	159.09
4"	231.21	245.86	254.48	263.43	272.73
6"	346.82	368.79	381.72	395.15	409.10
8"	578.03	614.65	636.19	658.58	681.83
Domestic Agricultural					
3/4"	17.11	18.19	18.83	19.49	20.18
1"	24.81	26.38	27.31	28.27	29.27
1.5"	44.09	46.88	48.53	50.23	52.01
2"	67.21	71.47	73.97	76.58	79.28
3"	140.42	149.31	154.55	159.99	165.63
4"	236.76	251.76	260.58	269.75	279.28
6"	352.37	374.69	387.82	401.47	415.64
8"	583.58	620.55	642.30	664.90	688.37

Table 4-3. Proposed 5-Year Commodity Rates

Customer Class	Proposed				
	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18
	\$/HCF	\$/HCF	\$/HCF	\$/HCF	\$/HCF
Potable Water Service Classification					
Residential, Master Meter, Domestic					
Agricultural First 12 Units	2.46	2.66	2.80	2.94	3.08
Residential, Master Meter, Domestic Agricultural					
13 Units and Higher	2.69	2.90	3.05	3.19	3.34
Commercial/Industrial/Public	2.69	2.90	3.05	3.19	3.34
Municipal Irrigation/Residential Irrigation	2.69	2.90	3.05	3.19	3.34
Fire Service/Other	2.69	2.90	3.05	3.19	3.34
Agricultural Irrigation					
MWD Full Service Rate	2.69	2.90	3.05	3.19	3.34
MWD Tier 2 Rate	3.28	3.54	3.72	3.89	4.07
Temporary Construction and Temporary					
Agricultural	2.69	2.90	3.05	3.19	3.34
Temporary Municipal	3.28	3.54	3.72	3.90	4.08
Emergency Water Service	4.06	4.37	4.60	4.82	5.05
Commercial/Industrial and Public Out of Bounds	3.32	3.58	3.76	3.94	4.13
Residential Out of Bounds First 12 Units	2.81	3.03	3.19	3.34	3.50
Residential Out of Bounds 13 Units and Higher	3.32	3.58	3.76	3.94	4.13

Table 4-3. Proposed 5-Year Commodity Rates (Cont)

Customer Class	Proposed				
	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18
	\$/HCF	\$/HCF	\$/HCF	\$/HCF	\$/HCF
Non-Potable / Recycled Water Service Classification					
Non-Potable Commercial Agricultural	0.89	1.08	1.26	1.45	1.64
Non-Potable Landscape Irrigation Water	0.89	1.08	1.26	1.45	1.64
Non-Potable Residential Landscape	0.89	1.08	1.26	1.45	1.64
Non-Potable Temporary Construction	0.89	1.08	1.26	1.45	1.64
Non-Potable Commercial Agricultural (contractual)	0.50	0.54	0.59	0.60	0.61
Blended Non-Potable Agricultural					
MWD Full Service Rate	2.03	2.24	2.46	2.67	2.88
MWD Tier 2 Rate	2.29	2.53	2.78	3.02	3.25
Recycled Commercial Agricultural	0.89	1.08	1.26	1.45	1.64
Recycled Landscape Irrigation	0.89	1.08	1.26	1.45	1.64
Recycled Commercial Agricultural (contractual)	0.37	0.38	0.38	0.39	0.40
Recycled Surplus Water (Served Outside District)	0.89	1.08	1.26	1.45	1.64

4.2.1 Meter Service Charge

The meter service charge includes a portion of the cost of meter maintenance, reading customer meters, issuing bills, general fire protection costs, and accounting/financial administrative costs associated with customer account. As noted previously, the meter service charge increases with increasing meter size. The meter ratio used follows those recommended by AWWA and recognizes that as meter size increases, so does the capacity. For example, customers with a 4" meter have an expectation of being able to use more water (at a higher flow capacity) than customers are with a 5/8" meter. Consequently, the District's water system must be prepared to provide each customer the level of service expected from his or her meter connection when the tap is turned on.

4.2.2 Fire Service

As part of the services provided by the Water Fund, eleven accounts that have a private water line connection as well as 977 fire hydrants that are tied to the water system for fire protection. To meet fire protection demands, the District must design, operate and maintain a water system that can meet peak fire demand requirements. Public hydrants are of beneficial use for all customers therefore costs are allocated to each customer class. Private fire services are charged based on the diameter of the line that connects to the water system. The results of the cost-of-service analysis conducted herein indicate that an increase from current fire service charges is necessary in order to achieve full cost recovery as shown in Table 4-4.

Table 4-4. Proposed Fire Water Rates

Customer Class	Proposed				
	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18
	\$/mo	\$/mo	\$/mo	\$/mo	\$/mo
Fire Service					
1"	43.61	46.38	48.00	49.69	51.45
1.5"	43.61	46.38	48.00	49.69	51.45
2"	43.61	46.38	48.00	49.69	51.45
3"	43.61	46.38	48.00	49.69	51.45
4"	43.61	46.38	48.00	49.69	51.45
6"	87.20	92.73	95.98	99.35	102.86
8"	156.98	166.92	172.77	178.85	185.17
10"	261.68	278.26	288.01	298.15	308.67

4.2.3 Water Pass-Through Charge

As part of the design of the rate structure, the District examined the existing pass-through calculation. A pass-through charge is designed to provide the Water Fund the ability to automatically adjust the user rate charges whenever the cost per acre-foot (AF) of water supplied increased due to changes in the CMWD's acre-foot charge for treated water, and fixed charges such as a readiness charge, a connection charge, or a demand charge.

Assembly Bill 3030 (AB 3030), signed into law in 2008 by the Governor of California, amended Government Code 53756 stating that any agency providing water, sewer, or refuse collection service may adopt a schedule of fees or charges authorizing automatic adjustments that pass through increases in wholesale charges for water or adjustments for inflation. Based on AB 3030, certain requirements passing through the increased cost of purchased wholesale water must be met. These requirements include (based on Government Code 53756):

- The schedule of fees or charges for a property-related service for a period not to exceed five years.
- The schedule of fees or charges may include a schedule of adjustments, including a clearly defined formula for adjusting for inflation. Any inflation adjustment to a fee or charge for a property-related service shall not exceed the cost of providing that service.
- The schedule of fees or charges for an agency that purchases wholesale water from a public agency may provide for automatic adjustments that pass through the adopted increases or decreases in the wholesale charges for water established by the other agency.
- Notice of any adjustment pursuant to the schedule shall be given not less than 30 days before the effective date of the adjustment.

Based on AB 3030, the noticing requirement does not need to follow California Constitution article XIII D set forth by Proposition 218.

Based on a review of AB 3030 and California Constitution articles XIII D, the District has decided to use the following formula to pass through increases in wholesale water charges. The formula is as follows:

Pass Through Charge =

$$\frac{(Revised\ Supply\ Cost) * (Revised\ Water\ Supplied) - (Planned\ Supply\ Costs) * (Planned\ Water\ Supplied)}{Revised\ Water\ Supplied}$$

- *Revised Supply Cost* = cost of water based on provided water purveyor rates, basin pumping percentage for the current year, and electricity costs
- *Revise Water Supplied* = water consumption for current year
- *Planned Supply Cost* = estimated cost of water based on provided water purveyor rates, basin pumping percentage at the time of the rate study, and electricity costs
- *Planned Water Supplied* = estimated water demand at the time of the rate study

4.3 REVENUE RECOVERY UNDER PROPOSED RATES

As previously discussed, the proposed rate schedule shown in Table 2-9 would increase rate revenues by the average system-wide cumulative increase of 32.5 percent for potable and 87.5 for non-potable over the Study Period and maintain current cost recovery by customer class, as indicated in Tables 4-5 and 4-6. It should be noted that the cumulative percentages assumes the adoption of the pass-through mechanism.

Table 4-5. Potable Comparison of COS to Projected Revenue

Line No.	Description	Adjusted COS (\$)	Rev under Proposed Rates (\$)	Percent Recovery (%)
Potable Customer Classes				
1	CO, PI, PP, PW - District, Irrig, Temp, CII	3,288,200	3,119,800	94.9%
2	PP - Temp Municipal	0	0	0.0%
3	PW - Residential	7,104,600	7,282,600	102.5%
4	PW - Out of Bounds	4,300	5,200	120.9%
5	PW - Domestic Agriculture	1,033,100	1,023,500	99.1%
6	Total P Water System	11,430,200	11,431,100	100.0%

Table 4-6. Non-Potable Comparison of COS to Projected Revenue

Line No.	Description	Adjusted COS (\$)	Rev under Proposed Rates (\$)	Percent Recovery (%)
Non-Potable Customer Classes				
1	CO, NP - District, Ag, Irrig	1,625,200	1,625,300	100.0%
2	NP - Commercial Agriculture	353,700	353,700	100.0%
3	NP - Blended Agriculture	979,000	979,000	100.0%
4	RC - Commercial Agriculture	128,200	128,200	100.0%
5	Total NP Water System	3,086,100	3,086,200	100.0%

4.4 TYPICAL BILLS AND BILL IMPACTS UNDER PROPOSED CHARGES

A comparison of typical bills under the proposed schedule of water user rates with those under existing rates is shown in Tables 4-7. The typical bill represents the average monthly usage for a single family residential at different water usage levels.

Table 4-7. Typical Bill

Line No.	Description	Usage (HCF)	Existing Rates (\$)	Proposed Rates (\$)	Percent Adjustment (%)
1		0	8.60	11.56	34.4%
2		5	20.45	23.86	16.7%
3		10	32.30	36.16	12.0%
4	Single Family Residential, 3/4" Meter	18	53.18	57.22	7.6%
5		20	58.56	62.60	6.9%
6		30	85.46	89.50	4.7%
7		40	112.36	116.40	3.6%
8		50	139.26	143.30	2.9%

4.5 NEIGHBORING WATER UTILITIES

Presented in Table 4-8 are the proposed rates compared to rates of neighboring cities/agencies, for a single family residential customer with a ¾" meter consuming 18 units monthly. Based on the comparison, the District is currently one of the lowest water providers in the area. With the proposed rate increases, the District continues to be one of the lowest water providers of the surveyed communities. All surveyed community rates are current as of January 2013. The District existing bill for 18 units is \$53.18 and is anticipated to increase to \$57.22 which remains below the respective average of the other water utilities, \$69.20.

Table 4-8. Comparison to Neighboring Utilities

Water Provider	Existing Rate (\$/mo)
Camrosa Water District (Existing)	53.18
Camarillo	55.71
Camrosa Water District (Proposed)	57.22
Thousand Oaks	57.86
Oxnard	73.58
Cal American	77.25
Simi Valley	57.86
Moorpark	56.14
Port Hueneme	106.02

5 Wastewater Rate Study

5.1 REVENUE AND REVENUE REQUIREMENTS

The Wastewater Fund provides wastewater collection and treatment services to the District's customers. To meet the costs associated with providing wastewater services to its customers, the Wastewater Fund derives revenue from a variety of sources including wastewater user charges, special services, and interest earned from the investment of available funds. The level of future revenue generated in the study is projected through a combination of an analysis of historical and future system growth in terms of number of equivalent dwelling units (EDU).

With revenue derived from the various sources, the Wastewater Fund meets the cash requirements of operation and maintenance (O&M); debt service and reserve payments on bond indebtedness; and recurring annual capital expenditures for replacements, system betterments, and extensions not debt financed. O&M expenses are those expenditures necessary to maintain the system in good working order. Routine annual capital expenditures, which include equipment replacements, consist of recurring annual replacements, minor extensions, and betterments which are normally revenue financed. Other capital costs include principal and interest payments, bond covenant-required payments, and the costs of infrequent major capital improvements paid directly from annual operating revenues.

5.2 CUSTOMER EDU PROJECTIONS

The Wastewater Fund provides wastewater services to the various customer classes inside and outside District boundaries. The following provides a brief description of the major types of customers:

- District customers are residential, commercial, industrial, and municipal which reside within the boundaries and benefit directly from the collection and treatment wastewater system.
- District customers through Thousand Oaks are residential and agricultural which reside outside the boundaries and therefore receive treatment services from the City of Thousand Oaks.

Based on a detailed review of historical growth patterns and planning estimates in the District's Draft *2011 Integrated Facilities Master Plan*, the number of customer EDUs is projected to increase by average of 0.2 percent for the Study Period. Over the past few years, the District has experienced slowed growth in the area as a result of economic conditions. Projected customer EDUs are shown in Table 5-1.

Table 5-1. Number of Customer EDUs

Line No.	Description	Fiscal Year Ending June 30,				
		FY 13/14 (EDUs)	FY 14/15 (EDUs)	FY 15/16 (EDUs)	FY 16/17 (EDUs)	FY 17/18 (EDUs)
CWD Customers						
1	PW0 Residential Water Class (Class I)	5,191	5,204	5,217	5,230	5,243
2	PW1 Residential Water (Out of Bounds)	0	0	0	0	0
3	PW2 Residential Water Master Meter Class II	2,416	2,422	2,428	2,434	2,440
4	PW3 Commercial / Industrial Water (Class II)	349	350	351	352	353
5	PW4 Commercial Water (Out of Bounds)	0	0	0	0	0
6	PW5 Public Water	40	40	40	40	40
7	PW6 Domestic Agriculture	6	6	6	6	6
8	PWX CSUCI	740	740	740	740	740
9	Total EDUs	8,742	8,762	8,782	8,802	8,822
CWD Customers through Thousand Oaks						
10	PW0 Residential Water Class (Class I)	16	16	16	16	16
11	PW6 Domestic Agriculture	2	2	2	2	2
12	Total EDUs	18	18	18	18	18
13	Total Wastewater EDUs	8,760	8,780	8,800	8,820	8,840

5.3 REVENUE UNDER EXISTING RATES

The primary source of revenue for the Wastewater Fund is derived from wastewater user rates. Other revenue sources include special services, interest earned from the investment of available funds and other miscellaneous revenues. The level of future revenue is projected based on an analysis of historical system growth in terms of number of EDUs.

Projections of future wastewater revenue are based on an analysis of historical and forward looking trends for customer EDU growth. The number of customer EDUs is applied to the applicable rates to determine wastewater sales revenue. Charges are applied monthly and a schedule of the Wastewater Fund's existing rate structure is shown in Table 5-2.

Table 5-2. Existing Wastewater Rates

Description	Existing FY 11/12
Service Charge	(\$/monthly)
CWD Customers	27.35
CWD Customers through Thousand Oaks	39.40

Table 5-3 represents a summary of projected wastewater revenue under existing rates and charges. As shown, the revenue generated is anticipated to slowly increase over the Study Period in conjunction with the increase in number of EDUs. The projected wastewater revenue increases from \$2,874,600 in FY 13/14 to \$2,900,900 in FY 17/18. This represents an overall increase of roughly 0.9 percent for the Study Period.

Table 5-3. Revenue under Existing Water Rates

Line No.	Description	Fiscal Year Ending June 30,				
		FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18
		(\$)	(\$)	(\$)	(\$)	(\$)
CWD Customers						
1	PW0 Residential Water Class (Class I)	1,701,900	1,706,200	1,710,400	1,714,700	1,719,000
2	PW1 Residential Water (Out of Bounds)	0	0	0	0	0
3	PW2 Residential Water Master Meter Class II	792,100	794,100	796,000	798,000	800,000
4	PW3 Commercial / Industrial Water (Class II)	114,400	114,800	115,100	115,400	115,700
5	PW4 Commercial Water (Out of Bounds)	0	0	0	0	0
6	PW5 Public Water	13,100	13,100	13,100	13,100	13,100
7	PW6 Domestic Agriculture	2,000	2,000	2,000	2,000	2,000
8	PWX CSUCI	242,600	242,600	242,600	242,600	242,600
9	Total Revenue	\$ 2,866,100	\$ 2,872,800	\$ 2,879,200	\$ 2,885,800	\$ 2,892,400
CWD Customers through Thousand Oaks						
10	PW0 Residential Water Class (Class I)	7,600	7,600	7,600	7,600	7,600
11	PW6 Domestic Agriculture	900	900	900	900	900
12	Total Revenue	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500
13	Total Wastewater Revenue	\$ 2,874,600	\$ 2,881,300	\$ 2,887,700	\$ 2,894,300	\$ 2,900,900

5.4 OTHER REVENUE

In addition to revenue from rates, the Wastewater Fund obtains revenue from other sources. These revenues include special services, interest earned from the investment of available funds and other miscellaneous revenues. In total these sources represent roughly 1.4 percent of the Wastewater Fund's total revenue. It is anticipated that these revenues will remain relatively constant for the duration of the Study Period.

5.5 OPERATING AND MAINTENANCE EXPENSES

Table 5-4 summarizes the Wastewater Fund's projected operating and maintenance expense (O&M) for the Study Period. These expenses include costs related to production, salaries and benefits, contracts and professional services, and services and supplies. All O&M expenditures are projected to increase between 2 to 3 percent annually from the Wastewater Fund's budget for FY 11/12, a range that is consistent with historical inflationary rates. The FY 12/13 budget reflects decrease in operating costs as the District sought to minimize expenditures. Operation of the Salinity Pipeline is an exception to this philosophy: the District anticipates increased costs due to new system additions, which will be operational January 2014. In general, salaries escalate at 2 percent annually, benefits escalate at 3 percent annually, and contract services and supplies escalate at 2 to 3 percent annually.

Table 5-4. O&M Expenses

Line No.	Description	Fiscal Year Ending June 30,				
		FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18
		(\$)	(\$)	(\$)	(\$)	(\$)
1	Production	0	0	0	0	0
2	Salaries & Benefits	1,023,100	1,046,600	1,070,500	1,095,100	1,120,300
3	Contracts & Professional Services	663,800	677,100	690,600	704,400	718,500
4	Services & Supplies	368,300	377,500	388,800	400,600	412,600
5	Utilities	172,700	177,000	182,300	187,800	193,400
6	Salinity Management Pipeline	8,500	17,300	17,600	17,900	18,200
7	Total O&M Expenses	\$ 2,236,400	\$ 2,295,500	\$ 2,349,800	\$ 2,405,800	\$ 2,463,000

5.6 DEBT SERVICE REQUIREMENTS

Table 5-5 represents the Wastewater Fund's existing debt service obligations. This table shows both principal and interest requirements on the existing debt over the Study Period. It is common practice for utilities to utilize debt to finance large capital improvement projects. By financing the cost of the projects, the Wastewater Fund is able to fund large projects immediately and spread the payment over a specified time frame, thereby helping to offset the impact on rate-payers. Debt service represents about 19.7 percent of total Wastewater Fund's expenditures. Based on the revenue bond requirements, the debt service coverage ratio is set at 1.15x net revenues for the Wastewater Fund.

Table 5-5. Debt Service

Line No.	Description	Fiscal Year Ending June 30,				
		FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18
		(\$)	(\$)	(\$)	(\$)	(\$)
1	Revenue Bond, Series 2011A	203,900	205,825	202,675	203,900	204,400
2	Refunding Revenue Bond, Series 2012	432,000	435,100	429,500	430,000	429,900
3	Total Long Term Debt	\$ 635,900	\$ 640,925	\$ 632,175	\$ 633,900	\$ 634,300

5.7 CAPITAL IMPROVEMENT PROGRAM

Traditionally the District develops a multi-year Capital Improvement Program (CIP) covering its capital commitments for a specified time frame of 5 to 10 years. In the process of conducting this study, the District decided to defer major capital projects for the Study Period. Therefore, there is only minor CIP planned between FY 13/14 and FY 17/18.

5.7.1 Capital Financing

Typically expenditures for the CIP are met from a combination of available funds on hand, revenue bonds, SRF loans, grants, revenues derived from user rates, and interest earnings. In FY 11/12, the District used long-term debt financing (revenue bond) to expand the chlorination facility. Shown in Tables 5-6 are the fund balance in the capital improvement fund and capital replacement fund. Note that the balance for the capital improvement fund doesn't fluctuate as a result of no planned CIP. The capital replacement fund fluctuates slightly as result of excess funds in the operating fund that are transferred into the capital replacement fund.

Table 5-6. Capital Fund Balances

Line No.	Description	Fiscal Year Ending June 30,				
		FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18
		(\$)	(\$)	(\$)	(\$)	(\$)
1	Capital Improvement	2,270,200	2,270,200	2,270,200	2,270,200	2,270,200
2	Capital Replacement	1,288,200	1,513,100	1,763,100	2,027,800	2,242,600
3	Total Cash Balance	\$ 3,558,400	\$ 3,783,300	\$ 4,033,300	\$ 4,298,000	\$ 4,512,800

5.8 OTHER OPERATING REQUIREMENTS

In addition to O&M and CIP commitments, the Wastewater Fund incurs some additional costs which make up the revenue requirements.

5.8.1 Capital Contributions

In addition to the CIP, the Wastewater Fund recognizes the need to perform recurring/annual maintenance to maintain the functionality and reliability of the wastewater system. This maintenance, routine capital outlay usually covers the replacement of small portions of collection mains; additions and replacements of operating equipment, lift station and superstructure maintenance, and other miscellaneous items. These capital outlays are such that they occur in a system regardless of system growth. As standard practice, the District sets a minimum target of \$250,000 to be contributed to the capital replacement. Also, any excess cash in the operating fund is directly contributed to the capital replacement fund.

5.8.2 Transfers

The Wastewater Fund occasionally transfers funds to the rate stabilization fund when excess fund in the operating fund occur. The rate stabilization fund helps stabilize rate increases during economic downturns and unexpected costs. Since such transfers do not represent direct operating expenses for the Wastewater Fund, they are included herein as below-the-line cash flow items and not included as O&M expenses in the calculation of projected debt service coverage. Table 5-8 (Line 26) represents these transfers on an annual basis throughout the Study Period.

5.8.3 Reserves

Currently, the Wastewater Fund has no stated fiscal policy with respect to operating reserves. The Wastewater Fund transfers excess operating funds to the capital replacement fund. While this allows the District to maintain the wastewater system, it requires that rates on any given year be set to cover the complete O&M, debt service and pay as you go (PAYGO) expenditures. It is a standard industry practice to maintain an operating reserve of 90-days of operating expenses, which would require an average target level of \$275,000 to \$300,000 during the Study Period.

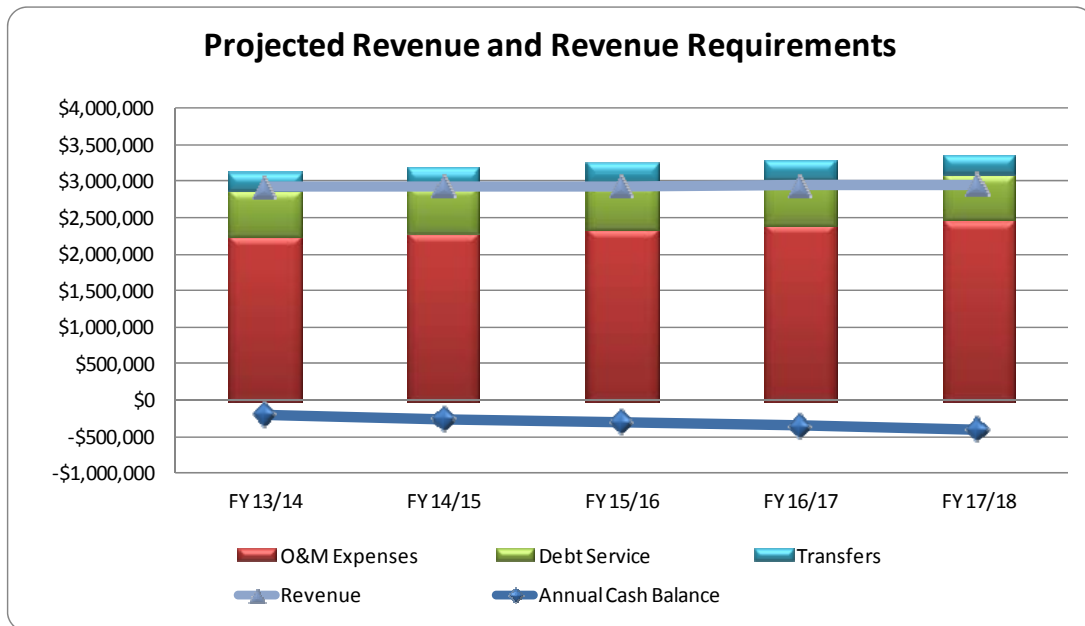
The Wastewater Fund has a stated policy with respect to the capital reserves. The policy states that the Wastewater Fund will strive to maintain a minimum reserve balance of at least next year's CIP costs and a maximum of ½ of total CIP costs for the next 5-years costs. Therefore, the reserve balance varies from year to year.

5.9 PROJECTED OPERATING RESULTS

The revenue requirements of the Wastewater Fund consist of system O&M expense, debt service requirements on existing debt, transfers, and capital contributions.

In the analysis, it was important to identify the state of the Wastewater Fund if no revenue increases were to occur. Under the status quo scenario, the Wastewater Fund would not impose any revenue increases over the Study Period. As shown in Figure 5-1, the status quo conditions means that the Wastewater Fund will operate at an annual deficit position thus tapping into its rates stabilization reserves. In addition, since the Wastewater Fund has debt service commitments, the District would need to extract from the capital funds or implement some type of revenue increase.

Figure 5-1. Status Quo



In order to avoid deficit positions, the Wastewater Fund examined various options for revenue increases that would meet revenue requirements. Based on the goals and objectives outlined earlier in this report, the District arrived at the revenue increases shown in Table 5-7. The revenue increases represents the total revenue adjustment needed to meet revenue requirements. The revenue adjustment does not represent adjustments to the individual rates.

Table 5-7. Revenue Increases

Fiscal Year	Revenue Adjustment	Effective Month
FY 13/14	8.0%	July
FY 14/15	2.0%	July
FY 15/16	2.0%	July
FY 16/17	2.0%	July
FY 17/18	0.0%	July

Table 5-8 reflects the selected option into the operating cash flow. The District selected this option as it incorporates the capital contribution and keeps the Wastewater Fund at positive cash flow over the Study Period.

The operating fund is divided into revenue and revenue requirements. In lines 3 to 7, the required annual revenue increases arrived in Table 5-7 are presented. Lines 12 and 15 represent other revenues, which include special services, and other miscellaneous revenue. In line 18, the

total revenues generated from existing rates, revenue from increases and other operating revenue are shown.

In the revenue requirement section, O&M, debt service, and transfers are shown and discussed earlier. Line 27 represents that total revenue requirement that will need to be met through revenue. The net cumulative balance is indicated in line 30. The District strives to be revenue neutral with respect to the net cumulative balance. Other wastewater utilities desired minimum operating reserve balance. The industry standard is 90 days of O&M expenditures. As shown in line 30, the annual net cumulative balance is slightly positive which allows the Wastewater Fund to supplement the capital replacement and rate stabilization funds. Under this scenario the debt service coverage based on the 1.15x requirement is met in all years as shown on line 31 in Table 5-8. The requirement is set forth by the lending institution and is based on mandatory expenses only. Items such as transfers are excluded. Figure 5-2 presents the major components of the operating fund.

Figure 5-2. Operating Cash Flow

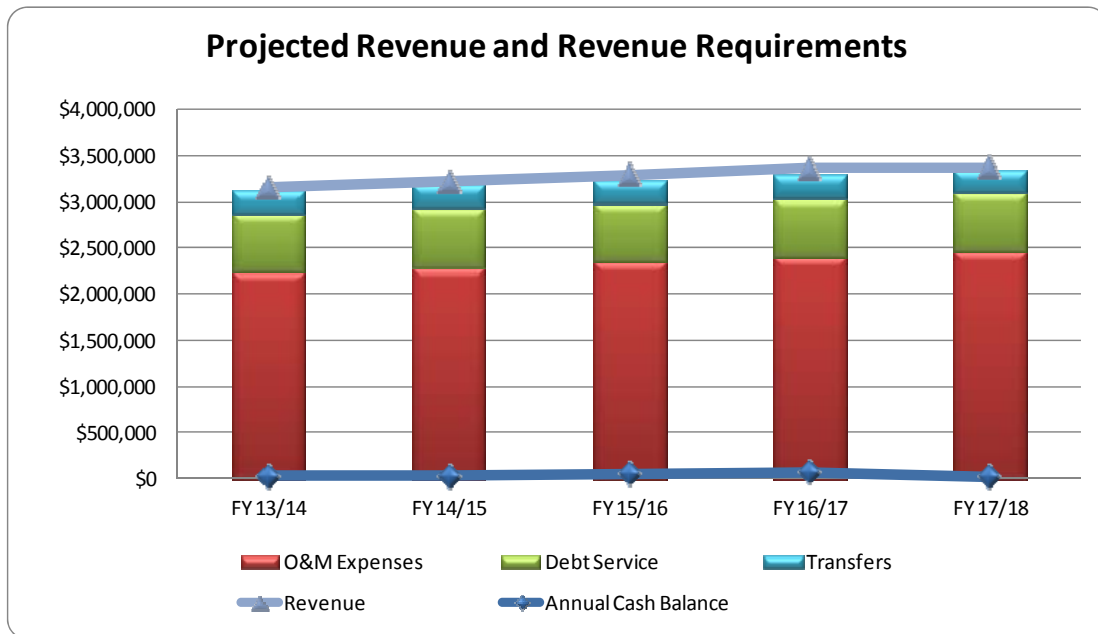


Table 5-8. Operating Cash Flow

Line No.	Description	Fiscal Year Ending June 30,						
		FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18		
Revenue								
Rate Revenue								
1	Revenue from Existing Rates	2,874,600	2,881,300	2,887,700	2,894,300	2,900,900		
2	Year	Months Effective	Rate Adj					
3	FY 13/14	12	8.0%	230,000	230,500	231,000	231,500	232,100
4	FY 14/15	12	2.0%		62,200	62,400	62,500	62,700
5	FY 15/16	12	2.0%			63,600	63,800	63,900
6	FY 16/17	12	2.0%				65,000	65,200
7	FY 17/18	12	0.0%					0
8	Increased Revenue Due to Adjustments			230,000	292,700	357,000	422,800	423,900
9	Subtotal Rate Revenue			3,104,600	3,174,000	3,244,700	3,317,100	3,324,800
Other Operating Revenue								
10	Special Services			19,300	19,300	19,300	19,300	19,300
11	Miscellaneous			7,100	7,100	7,100	7,100	7,100
12	Subtotal Other Operating Revenue			26,400	26,400	26,400	26,400	26,400
Non-Operating Revenue								
13	Taxes			0	0	0	0	0
14	Interest			20,900	20,900	20,900	20,900	20,900
15	Subtotal Non-Operating Revenue			20,900	20,900	20,900	20,900	20,900
Transfers								
16	Transfer from Rate Stabilization			0	0	0	0	0
17	Subtotal Non-Operating Revenue			0	0	0	0	0
18	Total Revenue			\$ 3,151,900	\$ 3,221,300	\$ 3,292,000	\$ 3,364,400	\$ 3,372,100
Revenue Requirements								
Operating & Maintenance								
19	O&M Expenses			2,236,400	2,295,500	2,349,800	2,405,800	2,463,000
20	Subtotal O&M			2,236,400	2,295,500	2,349,800	2,405,800	2,463,000
Debt Service								
21	Existing Revenue Bonds			635,900	640,900	632,200	633,900	634,300
22	Proposed Revenue Bonds			0	0	0	0	0
23	Total Debt Service			635,900	640,900	632,200	633,900	634,300
Transfers								
24	Transfer to Water Capital Replacement			250,000	250,000	250,000	250,000	250,000
25	Transfer to Rate Stabilization			0	0	0	0	0
26	Total Transfers			250,000	250,000	250,000	250,000	250,000
27	Total Revenue Requirements			\$ 3,122,300	\$ 3,186,400	\$ 3,232,000	\$ 3,289,700	\$ 3,347,300
28	Net Annual Cash Balance			29,600	34,900	60,000	74,700	24,800
29	Beginning Fund Balance			0	0	0	0	0
30	Net Cumulative Fund Balance			\$ 29,600	\$ 34,900	\$ 60,000	\$ 74,700	\$ 24,800
31	Debt Service Coverage (1.15x)			1.44	1.44	1.49	1.51	1.43

5.9.1 Test Year Revenue Requirements

In analyzing the Wastewater Fund's cost of service for allocation to its customer classes, the annual revenue requirements for FY 13/14 is selected as the Test Year requirements to demonstrate the development of cost-of-service wastewater rates. Based on achieving the Wastewater Fund's principal goals within the Study Period, the cash flow in Tables 5-8 serves as the basis for the analyses presented herein.

6 Cost of Service Allocation

The revenue requirements to be derived from rates for wastewater service are synonymous with the definition of the Cost of Service (COS). In developing equitable rate structures, revenue requirements are allocable to the various customer classifications according to the service rendered. Allocations of these requirements to customer classes should take into account the quantity of sewage produced, wastewater flow strengths, number of customer EDUs, and other relevant factors. Additional information regarding cost allocations may be found in the District's *Staff Report* for the Water and Sewer Rate Study dated March 2013. The total costs of service recovered from wastewater user rates for the Test Year FY 13/14 are summarized in Tables 6-1.

Table 6-1. Cost of Service

Line No.	Description	Operating Expense (\$)	Capital Cost (\$)	Total Cost (\$)
Revenue Requirements				
1	O&M Expense	2,236,400	0	2,236,400
2	Debt Service Requirements	0	635,900	635,900
3	Transfers	0	250,000	250,000
4	Subtotal	2,236,400	885,900	3,122,300
Less Revenue Requirements Met from Other Sources				
5	Other Operating Revenue	26,400	0	26,400
6	Interest from Operations	20,900	0	20,900
7	Subtotal	47,300	0	47,300
Adjustments				
8	Adjustment for Annual Cash Balance	(29,600)	0	(29,600)
9	Subtotal	(29,600)	0	(29,600)
10	Cost of Service to be Recovered from Rates	\$ 2,218,700	\$ 885,900	\$ 3,104,600

Shown in line 4 is the total revenue requirement that corresponds with the Table 5-8 line 27. In order to derive the revenue requirement that will need to be recovered by the rates, it is necessary to deduct revenues from other sources as shown in lines 7 and 10. Line 8 represents the net annual cash balance for the utility during the Test Year. In this case, the \$29,600 indicates that the Wastewater Fund is projecting a positive cash balance for the year. Line 10 represents the total costs that are to be recovered from rates.

6.1 FUNCTIONAL COST COMPONENTS

The cost of providing wastewater service should be analyzed by system function in order to properly allocate the costs to the various classes of customers and subsequently design rates. As a basis for allocating costs of service among customer classes, costs may be separated into the following four basic functional cost components: (1) "Base"; (2) "Strength"; (3) "Customer"; and (4) "Direct Assignment".

- Base costs represent operating and capital costs primarily associated with collection. The collection costs vary directly with the quantity of sewage produced.

- Strength costs represent those operating costs primarily associated with treatment. The treatment costs are specifically related to treatment of Biochemical Oxygen Demand (BOD) and Total Suspended Solid (TSS).
- Customer costs are defined as those that tend to vary in proportion to the number of customers connected to the system. These include billing, collecting and accounting.
- Directly assigned costs are costs specifically identified as those incurred to serve a specific customer group(s). The separation of costs of service into these principal categories facilitates allocating such costs to the various customer classes on the basis of the respective service requirements of each class.

6.2 ALLOCATION TO COST COMPONENTS

Each element of cost is allocated to functional cost components on the basis of the parameter or parameters having the most significant influence on the magnitude of that element of cost. O&M expense items are allocated directly to appropriate cost components, while the allocation of capital and replacement costs is based upon a detailed allocation of related capital investment. The separation of costs into functional components provides a means for distributing such costs to the various classes of customers on the basis of their respective responsibilities for each particular type of service.

6.2.1 Allocation of Operating and Maintenance Expense

In the allocation of O&M expense and investment, costs are allocated directly to cost components to the extent possible. Administrative cost elements are then allocated on the basis of the allocation of other costs to which they are most nearly related. Table 6-2 represents the allocation of O&M to the functional cost components. Upon allocation to function cost components, revenues from other sources as shown in Table 6-1 lines 7 and 9 are subtracted. The direct assignment represents District customers served through the City of Thousand Oaks (T.O.).

6.2.2 Allocation of Capital Investments

The estimated investment in wastewater system facilities is allocated to appropriate cost components as a basis for the further distribution of capital related costs to the various customer classes. The allocation of estimated net system investment of \$885,900 serving wastewater customers for the Test Year is shown in Table 6-3. The annual net system investment is allocated to the functional costs based on the total wastewater system assets. Line 9 includes capital expenditures that are funded through user rates such as debt service, and transfers to capital fund. Since there are no planned CIP, the capital costs are mainly debt service and transfers.

Table 6-2. Allocation of O&M Expenditures

Line No.	Description	Total Cost	Common to All Customers				
			Volume	BOD	TSS	Customer	T.O.
1	Salaries and Benefits	1,023,100	352,900	255,800	255,800	153,500	5,100
2	Contracts & Professional Services						
3	Outside Contracts	486,100	265,400	109,400	109,400	0	1,900
4	Professional Services	177,700	97,000	40,000	40,000	0	700
5	Services & Supplies	154,700	57,000	48,800	2,500	46,400	0
6	Utilities	172,700	42,500	69,100	60,400	0	700
7	Materials & Supplies	157,000	141,200	7,900	7,900	0	0
8	Repair Parts & Equipment Maintenance	56,600	28,200	14,200	14,200	0	0
9	Total O&M Expenses	\$ 2,227,900	\$ 984,200	\$ 545,200	\$ 490,200	\$ 199,900	\$ 8,400
Less Other Revenue							
10	Miscellaneous Revenues	47,300	20,900	11,600	10,400	4,200	200
11	Other Adjustments	(29,600)	(13,100)	(7,200)	(6,500)	(2,700)	(100)
12	Net Operating Expenses	\$ 2,210,200	\$ 976,400	\$ 540,800	\$ 486,300	\$ 198,400	\$ 8,300

Table 6-3. Allocation of Capital Costs

Line No.	Description	Total Cost	Common to All Customers				
			Volume	BOD	TSS	Customer	T.O.
Plant Assets							
1	Collection	320,900	320,900	0	0	0	0
2	Lift Station	10,600	8,000	1,100	1,100	0	500
3	Treatment	523,800	104,800	209,500	209,500	0	0
4	Land	15,100	12,100	1,500	1,500	0	0
5	General Plant	15,500	12,400	1,500	1,500	0	0
6	Total Plant Assets	\$ 885,900	\$ 458,200	\$ 213,600	\$ 213,600	\$ 0	\$ 500
Less Other Revenue							
7	Miscellaneous Revenues	0	0	0	0	0	0
8	Other Adjustments	0	0	0	0	0	0
9	Net Operating Expenses	\$ 885,900	\$ 458,200	\$ 213,600	\$ 213,600	\$ 0	\$ 500

6.3 UNITS OF SERVICE

The total cost responsibility for each customer class may be established by developing unit costs of service for each cost function and subsequently assigning those costs to the customer classes based on the respective service requirements of each. To properly recognize the cost of service, each customer class is allocated its share of base, strength, and customer costs. The number of units of service required by each customer class provides a means for the proportionate distribution of costs previously allocated to respective cost categories. Table 6-4 is a summary of the estimated units of service for the various customer classes.

Base costs vary with the volume of sewage produced and are distributed to customer classes on that basis. Strength costs are those associated with pollutant characteristics and is distributed to customer classes on the basis of loadings. Customer costs, which consist of billing, collection and accounting costs, are allocated to the various classes on the basis of the number of bills. The sewage produced is estimated based water consumption. The pollutant loadings are derived from monitored data and recommendations of the State Water Resources Control Board.

6.4 COST OF SERVICE ALLOCATIONS

The costs of service are distributed to the various customer classes by applying the unit costs of service to respective service requirements. The total unit costs of service applied to the respective requirements for each customer class results in the total cost of service for each customer class.

6.4.1 Units Costs of Service

The Test Year unit cost of service for each functional cost component is based on the total cost divided by the applicable units of service as shown in Tables 6-5. In lines 1 and 2, the total costs represent the cost to be recovered from rates shown in Table 6-1 line 10. Line 5 represents the unit costs that are used in allocating the costs to the specific customer classes.

6.4.2 Distribution of Costs of Service to Customer Classes

The customer class responsibility for service is obtained by applying the unit costs of service to the number of units for which the customer class is responsible. This process is illustrated in Tables 6-6 in which the unit costs of service are applied to the customer class units of service.

Table 6-4. Units of Service

Line No.	Description	Contributed	Contributed	Treated	BOD Loadings		TSS Loadings		Bills
		Units (EDUs)	Volume (HCF)	Volume (HCF)	Factor (mg/L)	Loading (lbs)	Factor (mg/L)	Loading (lbs)	
CWD Customers									
1	PW0 Residential Water Class (Class I)	5,191	1,059,958	423,983	170	449,700	155	410,000	62,292
2	PW1 Residential Water (Out of Bounds)	0	0	0	170	0	155	0	0
3	PW2 Residential Water Master Meter Class II	2,416	144,846	115,877	170	122,900	155	112,100	28,992
4	PW3 Commercial / Industrial Water (Class II)	349	78,288	70,459	180	79,100	225	98,900	4,188
5	PW4 Commercial Water (Out of Bounds)	0	0	0	180	0	225	0	0
6	PW5 Public Water	40	79,306	27,757	130	22,500	100	17,300	480
7	PW6 Domestic Agriculture	6	4,986	1,994	170	2,100	155	1,900	72
8	PWX CSUCI	740	58,409	20,443	130	16,600	100	12,800	8,880
9	Total	8,742	1,425,793	660,514		692,900		653,000	104,904
CWD Customers through Thousand Oaks									
10	PW0 Residential Water Class (Class I)	16	20,444	8,178	170	8,700	155	7,900	192
11	PW6 Domestic Agriculture	2	3,021	1,208	170	1,300	155	1,200	24
12	Total	18	23,465	9,386		10,000		9,100	216
13	Total Wastewater System		1,449,258	669,900		702,900		662,100	105,120

Table 6-5. Units Costs of Service

Line No.	Description	Total Cost	Common to All Customers				
			Volume	BOD	TSS	Customer	T.O.
1	Net Operating Expense	2,218,700	984,900	540,800	486,300	198,400	8,300
2	Capital Costs	885,900	458,200	213,600	213,600	0	500
3	Total Cost of Service	\$ 3,104,600	\$ 1,443,100	\$ 754,400	\$ 699,900	\$ 198,400	\$ 8,800
4	Units of Service		660,514	692,900	653,000	104,904	9,386
5	Cost per Unit		\$ 2.18 per HCF	\$ 1.09 per lbs	\$ 1.07 per lbs	\$ 1.89 per bill	\$ 0.94 per HCF

Table 6-6. Distribution of Costs to Customer Class

Line No.	Description	Total Cost	Common to All Customers				
			Volume	BOD	TSS	Customer	T.O.
CWD Customers							
PW0 Residential Water Class (Class I)							
1	Units		423,983	449,700	410,000	62,292	0
2	Allocation of costs of service	1,973,300	926,300	489,600	439,500	117,900	0
PW1 Residential Water (Out of Bounds)							
3	Units		0	0	0	0	0
4	Allocation of costs of service	0	0	0	0	0	0
PW2 Residential Water Master Meter Class II							
5	Units		115,877	122,900	112,100	28,992	0
6	Allocation of costs of service	562,000	253,200	133,800	120,200	54,800	0
PW3 Commercial / Industrial Water (Class II)							
7	Units		70,459	79,100	98,900	4,188	0
8	Allocation of costs of service	353,900	153,900	86,100	106,000	7,900	0
PW4 Commercial Water (Out of Bounds)							
9	Units		0	0	0	0	0
10	Allocation of costs of service	0	0	0	0	0	0
PW5 Public Water							
11	Units		27,757	22,500	17,300	480	0
12	Allocation of costs of service	104,500	60,600	24,500	18,500	900	0

Table 6-6. Distribution of Costs to Customer Class (Cont)

Line No.	Description	Total Cost	Common to All Customers				
			Volume	BOD	TSS	Customer	T.O.
PW6 Domestic Agriculture							
13	Units		1,994	2,100	1,900	72	0
14	Allocation of costs of service	8,800	4,400	2,300	2,000	100	0
PWX CSUCI							
15	Units		20,443	16,600	12,800	8,880	0
16	Allocation of costs of service	93,300	44,700	18,100	13,700	16,800	0
CWD Customers through Thousand Oaks							
PW0 Residential Water Class (Class I)							
17	Units		0	0	0	0	8,178
18	Allocation of costs of service	7,700	0	0	0	0	7,700
PW6 Domestic Agriculture							
19	Units		0	0	0	0	1,208
20	Allocation of costs of service	1,100	0	0	0	0	1,100
21	TOTAL COSTS OF SERVICE	\$ 3,104,600	\$ 1,443,100	\$ 754,400	\$ 699,900	\$ 198,400	\$ 8,800

6.5 ADEQUACY OF EXISTING RATES TO MEET COSTS OF SERVICE

Presented in Tables 6-7 is a comparison of the allocated cost of service and revenue under existing rates by major customer class and for the system in total. The indicated revenue increase required over existing rates for each major user class indicates where the emphasis should be directed. The 8.0 percent, overall increase is considered necessary to meet the projected revenue requirements for the FY 13/14 Test Year. This overall level of revenue needs to be produced by the proposed rates developed and presented in subsequent sections of this report.

Table 6-7. Comparison of Cost of Service to Existing Revenue

Line No.	Description	Allocated COS	Rev under Exst Rates	Indicated Rev Increase
CWD Customers				
1	PW - Res, CII, Public, Ag, CSUCI	3,095,800	2,866,100	8.0%
CWD Customers through Thousand Oaks				
2	PW - Res, Ag	8,800	8,500	3.5%
3	Total Wastewater System	3,104,600	2,874,600	8.0%

7 Proposed Rate Adjustments

The initial consideration in the derivation of rate schedules for wastewater service is the establishment of equitable charges to the customers commensurate with the cost of providing that service. While the cost of service allocations to customer classes should not be construed as literal or exact determinations, they offer a guide to the necessity for, and the extent of, rate adjustments. Practical considerations sometimes modify rate adjustments by taking into account additional factors such as the extent of bill impacts, and historical local policies and practices.

7.1 EXISTING RATES

The Wastewater Fund's existing rates consists of a flat rate per EDU which vary by either being inside the District boundaries or not. The main difference was associated with treatment. A summary of existing water rates was presented earlier in this report in Table 5-2.

7.2 PROPOSED RATES

The costs of service analysis described in preceding sections of this report provide a basis for the design of wastewater rates. As observed in Table 6-7, the cost of providing service compared to the revenues received from different customer classes is not uniform. That is, for some customer classes the cost of providing service is greater than the revenues received. The rate schedules for FY 13/14 shown in Table 7-1 take into consideration District objectives and are designed to address the revenue recovery imbalance in different customer classes.

Table 7-1. Proposed Wastewater Rates

Customer Class	Proposed FY 13/14
	\$/mo
CWD Customer	29.51
CWD Customers through Thousand Oaks	40.74

Shown in Table 7-2 are the proposed 5-year wastewater rates.

Table 7-2. Proposed 5-Year Wastewater Rates

Customer Class	Proposed				
	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18
	\$/mo	\$/mo	\$/mo	\$/mo	\$/mo
CWD Customer	29.51	30.10	30.70	31.32	31.32
CWD Customers through Thousand Oaks	40.74	41.67	42.50	43.35	43.35

7.3 REVENUE RECOVERY UNDER PROPOSED RATES

As previously discussed, the proposed rate schedule shown in Table 7-2 would increase rate revenues by the average system-wide cumulative increase of 14.6 percent over the study period and maintain current cost recovery by customer class, as indicated in Tables 7-3.

Table 7-3. Comparison of Cost of Service to Projected Revenue

Line No.	Description	Adjusted COS	Rev under Proposed Rates	Percent Recovery
CWD Customers				
1	PW - Res, CII, Public, Ag, CSUCI	3,095,800	3,095,900	100.0%
CWD Customers through Thousand Oaks				
2	PW - Res, Ag	8,800	8,800	100.0%
3	Total Wastewater System	8,800	8,800	100.0%

7.4 NEIGHBORING UTILITIES

Presented in Table 7-4 are the proposed rates compared to rates of neighboring cities and agencies, for a single family residential customer. With the proposed rate increases, the District continues to be one of the lowest providers of the surveyed communities. All surveyed community rates are current as of January 2013. The District proposed single family residential bill is anticipated to be \$29.51, which remains below the respective average of the other wastewater utilities of \$51.98.

Table 7-4. Comparison to Neighboring Utilities

Wastewater Provider	Existing Rate (\$/mo/EDU)
Camrosa Water District	29.51
Camarillo Sanitary District	38.68
Santa Paula	77.21
Oxnard	45.62
Moorpark	24.00
Fillmore	90.38
Port Hueneme	36.00