Section 1
Executive Summary

Coastside County Water District (District) requested CDM to conduct a comprehensive study of cost of service and rates for its water utility. The study is to evaluate the existing water rates, review and evaluate revenues and revenue requirements, and perform cost of service and rate analyses to ensure equity among customer classes. This report documents the results of the study and recommends water rates that the District should charge its customers in the study period. The report also provides the District with recommendations of changes to consider in the future for water services.

Throughout this study, references to a particular fiscal year always use the end date. Thus, Fiscal Year 2005-2006 is termed FY 2006 or just 2006 herein.

The objective of this report is to document the development of fair and equitable rates that can be easily implemented and updated for the District's water systems for the study period of FY 2006 through 2012 and a six-year financial plan that will secure financial stability of the water enterprise.

1.1 Summary of Findings and Recommendations

1. The District is currently serving approximately 6,000 individual water customer accounts. The study anticipates that there will be no additional growth in the number of water customers during the study period.

2. Water utility revenues are principally derived from water user charges. Other revenue sources include hydrant sales, late penalties, service connections, interest earnings and other miscellaneous income. The most significant miscellaneous revenue item is property tax revenue that the District estimates to be equal to $450,000 annually beginning in FY2007.

3. The Water Utility Capital Improvement Program (CIP) is projected to total $9,100,000 in FY2006 dollars with for FY 2006 through 2012. This includes an estimated $2.5 million for treatment plant improvements over the next six years. The capital improvement projects will be funded by cash generated through rates. The District does not anticipate issuing any bonds during the study period.

4. The water utility's annual revenue requirements consist of operation and maintenance (O&M), debt service, rate financed capital expenditures net of the miscellaneous income in each fiscal year. O&M expenses are

projected to increase from $4.2 million in 2006 to $5.6 million in 2012 for the water utility.

5. Required revenue increases throughout the study period are based on an analysis of the water utility's revenues and revenue requirements. CDM has projected two alternatives that would provide sufficient revenues to the District to fund water operations self sufficiently. The difference in the alternatives is in the recommended rate paths as shown below. It is estimated that the following revenue increases would be required during the study period. It is recommended that as a minimum the District adopt the first three years of adjustments under either program.

Alternative I:

Effective Date	Increases
September 13, 2006	19.0 percent
July 1, 2006	10.0 percent
July 1, 2007	8.0 percent
July 1, 2008	3.0 percent
July 1, 2009	3.0 percent
July 1, 2010	3.0 percent
July 1, 2011	3.0 percent

Alternative II:

Effective Date	Increases
September 13, 2006	12.0 percent
July 1, 2006	12.0 percent
July 1, 2007	12.0 percent
July 1, 2008	12.0 percent
July 1, 2009	No increase
July 1, 2010	No increase
July 1, 2011	No increase

While the current analyses indicate that the above identified alternative rate paths are needed for water revenue adjustment in FY 2006 through FY 2012, future reviews may find otherwise. Changes in the level of inflation, regulatory requirements or operations could lead to the need for additional future revenues.

6. By definition, cost of service is the annualized revenue requirement net of revenue credits from other miscellaneous sources that needs to be met through water rates. The District's estimated 2006 test year cost of service to be met from water rates totals $4,424,200 and consists of the following

elements:

Water Operation & Maintenance Expense	$4,204,400
Capital Costs	$425,600
Use of Reserves	$225,000
Non-rate revenues	($430,800)
Cost of Service to be recovered from Rates	$4,424,200

7. A cost of service analysis was performed consistent with the procedures outlined in the American Water Works Association (AWWA) Manual M1. That means costs were assigned to user classes based on their proportionate use of facilities as measured by average and peak demands. The result of the analysis indicates that in FY2006, all customer classes are projected to collect insufficient revenues prior to the rate increases outlined above. Across the board, the cost of service study estimated that revenues were below allocated costs in 2006 and required average revenue increases of approximately 16 percent in that fiscal year. However, considering that this percentage was approximately uniform across the two customer classes, it is reasonable to conclude that the current water rate structure allocates costs on a fair and equitable basis once revenue sufficiency is achieved.

8. We recommend that the District implement one of the alternative rate scenarios as shown above. At this point, no changes to the rate structure itself, i.e. changes to the tier segments, is recommended based on the cost of service analysis.

Section 2
Background

2.1 Introduction

The District is the water service provider to the residences and commercial enterprises in the City of Half Moon Bay and a part of the unincorporated area of San Mateo County including Miramar, Princeton by the Sea and El Granada. The District's service territory encompasses approximately 14 square miles and serves nearly 18,000 people. Predominant land use is residential surrounded by agricultural or light ranching activities.

In providing water services, the District incurs considerable expense related to the ongoing operating and capital needs of the utilities. Operating and capital expenditures change annually because of the need for repairs and replacements to existing facilities, the need to improve service, to meet more stringent state and federal environmental compliance requirements, and to stay abreast of inflationary trends. The District, in recognition of the importance of financially planning for the costs to replace, expand, improve, and operate the water utility, has engaged CDM to perform a comprehensive water cost of service and rate study.

The District's priorities in the coming years include construction and upgrade of facilities to deliver water to customers, for example the upgrades to the water treatment plant, pipeline projects or construction and improvements to pump stations and tanks. All these projects are included in the District's five-year capital improvement program. A major challenge will be to balance the requirements of expanded infrastructure with available District revenues. All planned expenditures will need prioritization to assure that financial resources are used in the most effective way.

2.2 Purpose

The purpose of this water and sewer rate study is to:

- analyze and project the District's future revenues and requirements;
- plan for financing of the capital improvement program proposed by the District;
- meet the financial requirements of system improvements;
- analyze the cost of providing service by customer class;
- recommend water rates based on cost of service which will generate adequate revenues to support revenue requirements.

2.3 Scope of the Study

The comprehensive rate study includes three phases: Financial Planning, Cost of Service Analysis, and Rate Design.

- Financial Planning: Revenue requirements are projected for a six-year period from FY 2006 through FY 2012. Financial planning involves estimation of annual O&M and capital expenditures, annual debt service and reserve requirements, operating and capital revenues, and the determination of required annual user revenues from rates and charges.

- Cost of Service: Cost of service involves the apportioning of annual revenues required from rates to the different user classes in proportion to their demands on the water system.

- Rate Design: Rate design involves the development of a fixed and variable schedule of water rates for each of the different user classes to reflect the required revenue adjustments made during the financial planning phase.

This report includes two sections besides the Executive Summary and the Introduction. Section 3 presents study results for the water utility and Section 4 the overall recommendations. These sections discuss in detail the financial planning phase, cost of service analysis, and rate design phase.

During the course of the study District staff worked closely with CDM staff to coordinate study results. A long term financial plan was presented to the Board as part of the rate study.

Section 3
Water Utility

3.1 Water Users & Consumption

In FY 2005, total water consumption for all District customers was 1.06 million hcf. Of this total, residential water consumption, or consumption by accounts with a 5/8 inch meter size, accounted for 52 percent.

3.1.1 User Classification

Twelve classes of customer are recognized. They include residential, commercial, restaurants, hotels/motels, schools, multiple dwellings, beaches and parks, floricultural, recreation, marine related, irrigation, and detector checks. Table 3-1 presents the District's existing water customer classes and the respective water consumption for each customer class in FY2005.

Table 3-1
Water Consumption

	Water Consumption (hcf)
Residential	550,876
Commercial	67,869
Restaurant	17,713
Hotels/Motels	35,315
Schools	21,771
Multiple Dwelling	96,056
Beaches and Parks	5,712
Floricultural	157,538
Recreation	2,537
Marine Related	11,997
Irrigation	85,733
Detector check	251
Total	1,053,368

In total, the District's service area included in 6,026 metered accounts of which residential 5/8 inch water meters made up 88 percent. The composition of the District's accounts is shown in Table 3-2.

Table 3-2
Accounts by Meter Size

Meter Sizes	TOTAL
5/8 RES	5294
5/8 2 Units	15
5/8 OTHER	371
3/4 RES	101
3/4 2 Units	1
3/4 OTHER	17
1" RES	67
1" OTHER	102
1.5" OTHER	19
2" OTHER	34
3" OTHER	2
3" Interruptible	1
4" OTHER	2
TOTAL	**6026**

Over the study period, it is assumed that the number of accounts and the corresponding billable consumption will remain constant.

3.1.1 Customer Water Usage Pattern

An analysis of the District's customer water usage pattern was also conducted to allow us to analyze the usage patterns and change the rate structure, if necessary, to encourage water conservation. Figure 3-1 shows the water use characteristics for residential customers in the District. The figure shows the percentage of total usage at various levels drawn on a semi-log scale for the customer class. Water usage, representing the usage per bi-monthly bill, is shown on the X-axis while the percentage of total usage in the class is shown on the Y-axis. This allows us to analyze the variation in water usage within the customer class.

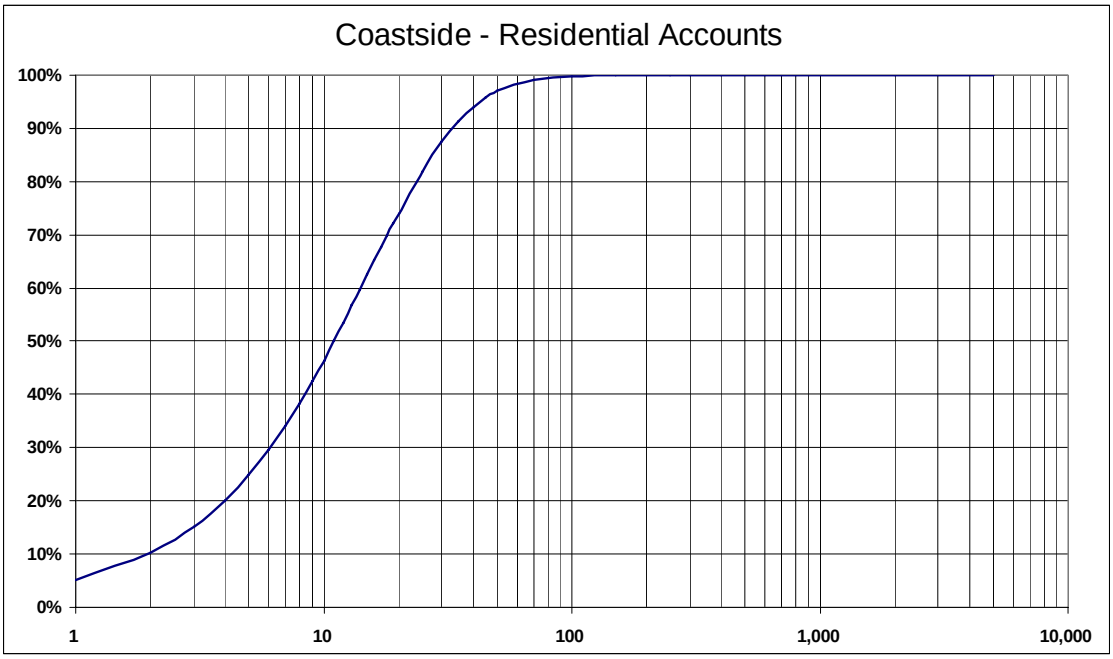
In general, usage curves which are closer to the Y-axis represent a utility where the customer class as a whole is using less water while usage curves further away from the Y-axis suggest that the customer class is using larger quantities. The steepness of a curve suggests the degree to which customers in the class use the same amount of water (uniformity) whereas a more sloping or drawn out curve suggests that some customers use small amounts of water and other customers use large amount of water.

Figure 3-1 shows that at a usage level of 8 hundred cubic feet (hcf), currently the first tier in the District's rate structure, 38 percent of the total water used occurs in this

level for residential accounts. At 25 hcf, the current second tier, 80 percent of the water is used. That leaves 20 percent of the water in the upper tiers.

Attempting to achieve water conservation through rate structure changes alone is typically targeted just at residential customers and not non-residential users. It is difficult to determine whether non-residential users are using water wisely by simply reviewing their water use pattern.

Figure 3-1



3.2 Existing Rates & Revenues

Revenue for the water utility is derived from user charges, meter fees, tax revenue, and other non-rate revenues. The level of future revenue the District can expect to receive is a function of the number of customers served, the quantity of water usage, and the level of current rates. Development of projected revenues under existing rates provides the benchmark upon which to evaluate the need for revenue adjustments throughout the six-year study period.

3.1.1 Non-Rate Revenues: Meter Fees

Meter fees are charges collected from each water customer regardless of the quantity of water used. The represents the cost to provide the capacity to the customer and is therefore a function of the meter size of the account. In other words, larger meters are

assessed a greater bi-monthly meter charge. The fees increase not on a linear but exponential scale as a function of the surface area of the water connection. Fees vary depending on the meter size and type of service. It is estimated that approximately $622,000 is collected in FY 2005 from meter-based charges. Table 3-3 illustrates this estimation. Annual Revenues are calculated by multiplying the current meter based charges by the number of bills issued for each account.

Table 3-3
Meter Fee Income

Meter Sizes	Meter Charge	Meter Charge Revenue
5/8 RES	$15.30	$485,989
5/8 2 Units	$15.30	$1,377
5/8 OTHER	$15.30	$34,058
3/4 RES	$23.02	$13,950
3/4 2 Units	$23.02	$138
3/4 OTHER	$23.02	$2,348
1" RES	$38.36	$15,421
1" OTHER	$38.36	$23,476
1.5" OTHER	$38.36	$4,373
2" OTHER	$122.77	$25,045
3" OTHER	$268.57	$3,223
3" Interruptable	$268.57	$1,611
4" OTHER	$920.92	$11,051
TOTAL		**$622,061**

3.1.2 Other Non-Rate Revenues

Other revenue sources include property tax revenues, hydrant sales, late penalties, service connections, interest earned and other miscellaneous items. Total revenue from these sources is estimated to be approximately $430,000 in FY2006. Of this amount, $225,000 is attributable to new service connections. Starting on FY2007, the District estimates that property tax revenues of $450,000 annually will again be received. That increases non-rate revenues to nearly $700,000 starting in FY2007.

3.1.3 Existing Volumetric Water Rates

The current water rate structure is comprised of varying monthly service charge based on meter size for all water customers. These fees are described in Section 3.1.1. Residential customers have a four-tiered volume charge for all water consumption, while all other non-residential customers have a uniform rate for all water used. The existing rate schedule is presented in Table 3-4.

Table 3-4
Water Rate Schedule

Quantity Delivered (bi-monthly billing)

Residential Customers

	Existing Charge per hcf
1-8 Units	$2.50
9-25 Units	$2.76
26-40 Units	$3.58
41 or more Units	$4.43
All Other Customers	$ 3.41

Table 3-5 shows the revenue from each billing category based on volumetric water rates alone. In total, revenues from the consumption based charges amount to approximately $3.2 million.

Table 3-5
Water Revenues [Volumetric Rate]

Residential	$1,845,956
Non-Residential	$1,352,472
Total	**$3,198,428**

Revenues do not include revenues from meter charges.

Revenue under existing rates is obtained by applying the current rate schedule, shown in Table 3-4, to the projected number of customers served by the District and projected water sales.

3.3 Capital Improvement Program (CIP)

The Water Utility Capital Improvement Program (CIP) is projected to total $9,150,000 in FY2006 dollars with for FY 2006 through 2012. This includes an estimated $2.5 million for treatment plant improvements over the next six years. The capital improvement projects will be funded by cash generated through rates. The District does not anticipate issuing any bonds during the study period. The CIP is shown in Table 3-6.

Table 3-6
Capital Improvement Program FY2006-FY2012

	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	TOTAL
Pipeline Projects								
Avenue Cabrillo Phase I	$52,500	$528,900						$581,400
Avenue Cabrillo Phase II			$445,000					$445,000
Highway #1 South Phase I				$195,000				$195,000
Highway #1 South Phase II				$240,000				$240,000
Highway 92 - SMCTA Highway				$300,000	$300,000			$600,000
Carter Hill East	$100,000	$700,000						$800,000
Main Street Widening	$400,000							$400,000
Contingency	$50,000							$50,000
Water Treatment Plants								
Seismic Retrofit Nunes		$40,000	$160,000					$200,000
Seismic Retrofit Denniston				$40,000	$160,000			$200,000
Denniston Storage Tank								$0
Conversion from Gaseous Chlorine	$225,000							$225,000
Treatment Plant Improvements		$700,000	$600,000	$500,000	$250,000	$250,000	$250,000	$2,550,000
Facilities & Maintenance								
Denniston Dredging	$50,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$200,000
Meter Change Program	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$105,000
Equip. Purchase/Replacement								
Vehicle Replacement	$50,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$200,000
Computer Hardwire Up-grades	$25,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$85,000
Office Equipment		$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$30,000
Office Generator	$45,000	$25,000						$70,000
Office Remodal	$70,000							$70,000
System Security Upgrades	$20,000							$20,000
City & County Projects	$30,000							$30,000
Pilarcitos Creek (Alternate Source)	$80,000							$80,000
Water Rate Study	$52,000							$52,000
CS Pump Station Crane	$27,000							$27,000
Pumpstations and Tanks								
Pump Station/Pump Replacement	$60,000							$60,000
Inflow Control Valve	$40,000							$40,000
Paint Sand Blast Alves Tank	$125,000							$125,000
Telemetry Study	$75,000							$75,000
Granada I Seismic Up-grade				$45,000	$155,000			$200,000
Granada II Seismic Up-grade					$45,000	$155,000		$200,000
Recoat Mirarmar Tank		$150,000						$150,000
Replacement of Hazen's Tank			$45,000	$235,000				$280,000
Carryover	$565,000							$565,000
TOTAL	$2,156,500	$2,223,900	$1,330,000	$1,635,000	$990,000	$485,000	$330,000	$9,150,400

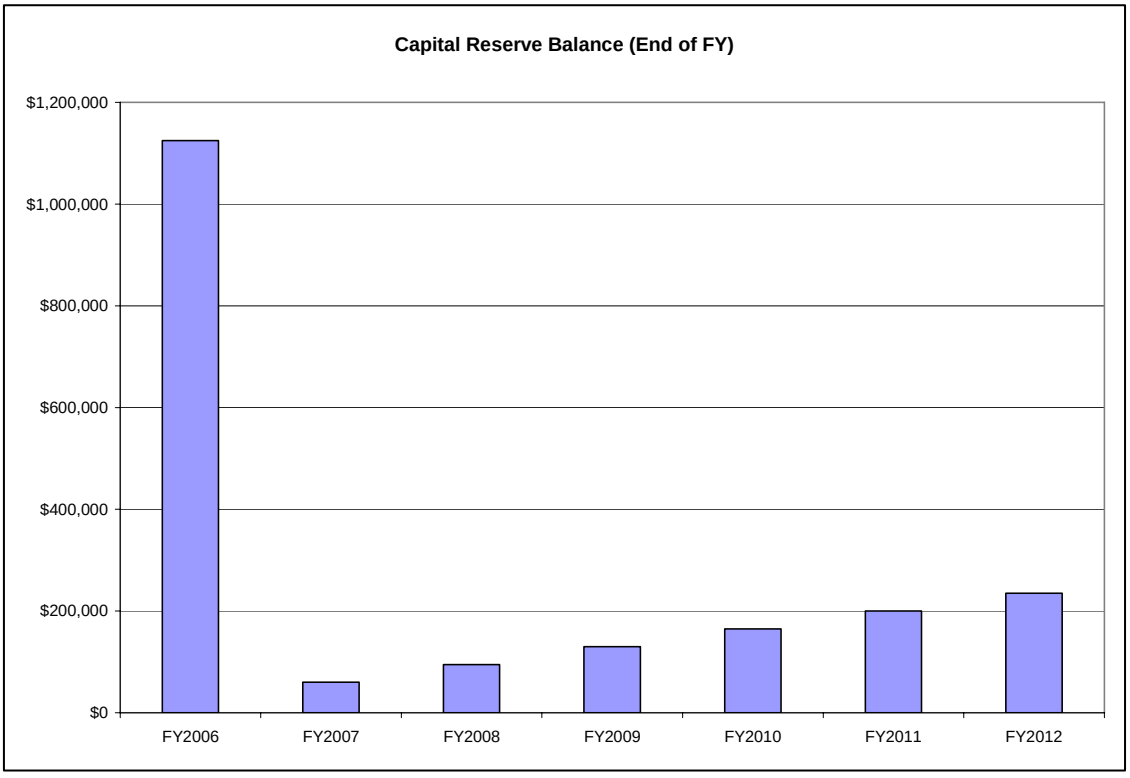
The Water Fund consists of several funds, including the Capital Reserve Fund, Emergency and Contingency Fund, and Accumulated Surplus Fund in addition to the actual operating fund of the utility. The starting balance in FY2006 in the capital reserve fund was equal to $2.9 million. In addition, $225,000 is projected to be added to the capital reserve fund in FY2006. The addition represents revenues from new connections. In order to finance the CIP, it is assumed that $3.1 million of the funds in the capital reserve fund are used to pay for capital expenditures in FY2006 and FY2007. Table 3-7 shows the capital reserve fund.

Table 3-7
Capital Reserve

Capital Reserve Balance	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012
Starting Balance	$2,900,000	$1,125,000	$60,000	$95,000	$130,000	$165,000	$200,000
Withdrawals	$2,000,000	$1,100,000	$0	$0	$0	$0	$0
Additions	$225,000	$35,000	$35,000	$35,000	$35,000	$35,000	$35,000
Ending Balance	$1,125,000	$60,000	$95,000	$130,000	$165,000	$200,000	$235,000

Figure 3-2 shows the capital reserve balance graphically.

Figure 3-2



3.4 Revenue Requirements

The total annual revenue requirements consists of the operations and maintenance expenses, capital costs including debt service, and net of the miscellaneous revenues and reserve account transactions. O&M expenditures are equal to $4.2 million in FY2006 and are projected to increase to FY5.6 million over the study period. Total debt service consists of interest and principal payments for the previously issued water bonds. Debt service is shown in Table 3-8.

Table 3-8
Debt Service Schedule

	Interest		Principal	TOTAL
FY2005	$52,615.15	$48,960.00	$170,000.00	$271,575.15
FY2006	$48,960.00	$45,110.00	$175,000.00	$269,070.00
FY2007	$45,110.00	$40,485.00	$185,000.00	$270,595.00
FY2008	$40,485.00	$35,610.00	$195,000.00	$271,095.00
FY2009	$35,610.00	$30,610.00	$200,000.00	$266,220.00
FY2010	$30,610.00	$25,235.00	$215,000.00	$270,845.00
FY2011	$25,235.00	$19,610.00	$225,000.00	$269,845.00
FY2012	$19,610.00	$13,382.50	$235,000.00	$267,992.50
FY2013	$13,382.50	$6,890.00	$245,000.00	$265,272.50
FY2014	$6,890.00		$260,000.00	$266,890.00

3.1.3 Revenue Requirement Alternative I

For the purposes of the financial projections contained in the rate study, two possible revenue requirement alternatives, i.e. water rate paths, have been developed. The first alternative assumes an across the board increase in the water rates effective September __ 2005 of 19 percent. As of July 1st of each subsequent fiscal year, water rates are required to increase across the board by the percentages as shown below.

Alternative I:

Effective Date	Increases
January 1, 2006	19.0 percent
July 1, 2006	10.0 percent
July 1, 2007	8.0 percent
July 1, 2008	3.0 percent
July 1, 2009	3.0 percent
July 1, 2010	3.0 percent
July 1, 2011	3.0 percent

The annual revenue requirements for this alternative are shown in Table 3-9. Revenue requirements are projected to increase from $4.4 to $5.9 million over the study period.

Table 3-9
Revenue Requirements: Alternative I

	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012
O&M	$4,204,400	$4,404,700	$4,615,700	$4,838,000	$5,072,400	$5,319,500	$5,580,100
Capital Costs							
Existing Debt Service	$269,100	$270,600	$271,100	$266,200	$270,800	$269,800	$268,000
New Debt Service		$0	$0	$0	$0	$0	$0
Rate Financed Capital	$156,500	$1,179,500	$1,397,300	$1,760,700	$1,092,800	$548,700	$382,700
Total Capital Costs	$425,600	$1,450,100	$1,668,400	$2,026,900	$1,363,600	$818,500	$650,700
Non-rate Revenues							
4170 Hydrant Sales	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
4180 Late Penalty	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
4230 Service Connections	$225,000	$35,000	$35,000	$35,000	$35,000	$35,000	$35,000
4920 Interest Earned	$73,800	$73,800	$73,800	$73,800	$73,800	$73,800	$73,800
4950 Miscellaneous	$72,000	$522,000	$522,000	$522,000	$522,000	$522,000	$522,000
Total Non-rate Revenues	$430,800	$690,800	$690,800	$690,800	$690,800	$690,800	$690,800
Use of Reserve							
Capital Reserve Additions	$225,000	$35,000	$35,000	$35,000	$35,000	$35,000	$35,000
Emergency & Contingency	$0	$0	$0	$0	$0	$0	$0
Unallocated	$0	$0	$0	$0	$0	$0	$0
Total	$225,000	$35,000	$35,000	$35,000	$35,000	$35,000	$35,000
Revenue Requirement	$4,424,200	$5,199,000	$5,628,300	$6,209,100	$5,780,200	$5,482,200	$5,575,000
Annual Change	12.2%	17.5%	8.3%	10.3%	-6.9%	-5.2%	1.7%
Water Sales	$4,606,700	$5,252,800	$5,673,000	$5,843,200	$6,018,500	$6,199,100	$6,385,100
Rate Increase	19%	10%	8%	3%	3%	3%	3%
Annual Balance	$182,500	$53,800	$44,700	-$365,900	$238,300	$716,900	$810,100

In order to accommodate the annual rate increases within the revenue requirement projections, no additional reserve fund transactions are required. The Emergency and Contingency Fund is shown remaining at $700,000 as shown in Table 3-10.

Table 3-10
Emergency & Contingency Reserve

Emergency & Contingency Reserve	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012
Starting Balance	$700,000	$700,000	$700,000	$700,000	$700,000	$700,000	$700,000
Change	$0	$0	$0	$0	$0	$0	$0
Ending Balance	$700,000	$700,000	$700,000	$700,000	$700,000	$700,000	$700,000

Over the study period, any annual surplus or deficit will be accounted for within the unallocated fund balance. The unallocated fund balance is shown in Table 3-11.

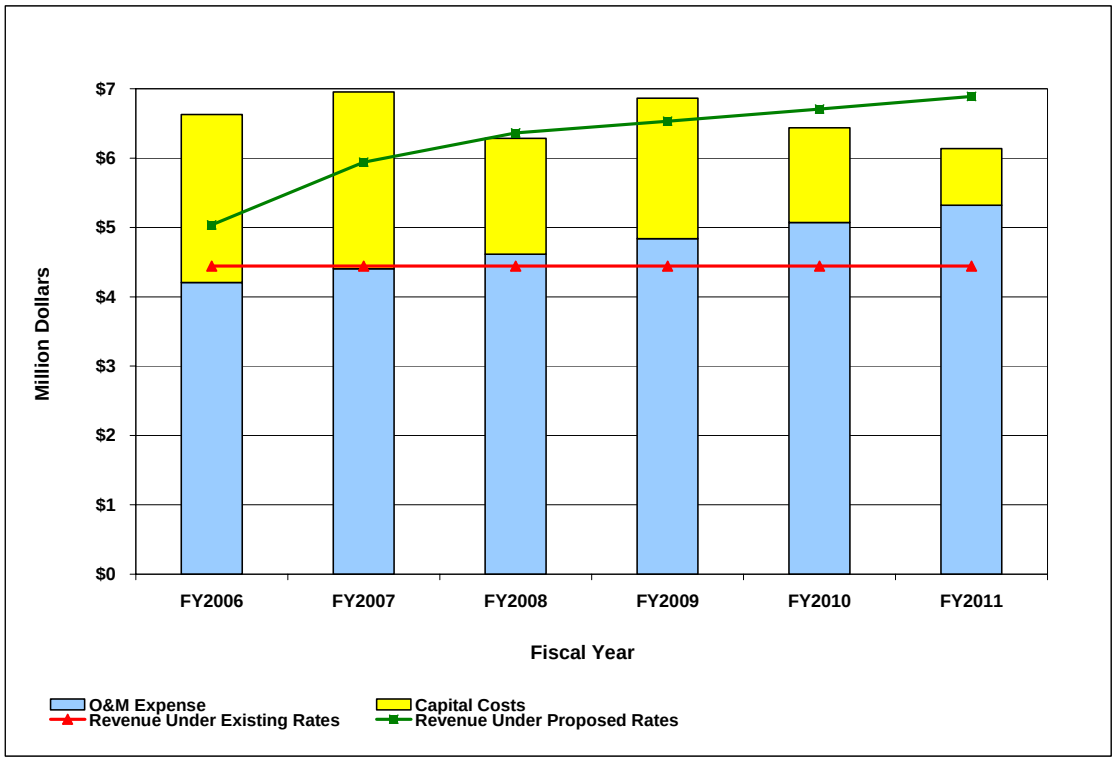
Table 3-11
Unallocated Fund Balance

	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012
Starting Balance	$300,000	$482,500	$536,300	$581,000	$215,100	$453,400	$1,170,300
Additions [Annual Surplus]	$182,500	$53,800	$44,700	-$365,900	$238,300	$716,900	$810,100
Change	$0	$0	$0	$0	$0	$0	$0
Ending Balance	$482,500	$536,300	$581,000	$215,100	$453,400	$1,170,300	$1,980,400

Revenues under existing rates and projected rates as well as the annual revenue requirements are illustrated in Figure 3-3.

Figure 3-3

Revenue Projections [Alternative I]



3.1.4 Revenue Requirement Alternative II

The second alternative assumes an across the board increase in the water rates effective September 13 2005 of 12 percent. As of July 1st, water rates are required to increase by 12 for the next three fiscal years and no increases in the following fiscal years.

Alternative II:

Effective Date	Increases
September 13, 2005	12.0 percent
July 1, 2006	12.0 percent
July 1, 2007	12.0 percent
July 1, 2008	12.0 percent
July 1, 2009	No increase
July 1, 2010	No increase
July 1, 2011	No increase

This revenue requirements for this alternative are shown in Table 3-12.

Table 3-12
Revenue Requirements: Alternative II

	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012
O&M	$4,204,400	$4,404,700	$4,615,700	$4,838,000	$5,072,400	$5,319,500	$5,580,100
Capital Costs							
Existing Debt Service	$269,100	$270,600	$271,100	$266,200	$270,800	$269,800	$268,000
New Debt Service		$0	$0	$0	$0	$0	$0
Rate Financed Capital	$156,500	$1,179,500	$1,397,300	$1,760,700	$1,092,800	$548,700	$382,700
Total Capital Costs	$425,600	$1,450,100	$1,668,400	$2,026,900	$1,363,600	$818,500	$650,700
Non-rate Revenues							
4170 Hydrant Sales	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
4180 Late Penalty	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
4230 Service Connections	$225,000	$35,000	$35,000	$35,000	$35,000	$35,000	$35,000
4920 Interest Earned	$73,800	$73,800	$73,800	$73,800	$73,800	$73,800	$73,800
4950 Miscellaneous	$72,000	$522,000	$522,000	$522,000	$522,000	$522,000	$522,000
Total Non-rate Revenues	$430,800	$690,800	$690,800	$690,800	$690,800	$690,800	$690,800
Use of Reserve							
Capital Reserve Additions	$225,000	$35,000	$35,000	$35,000	$35,000	$35,000	$35,000
Emergency & Contingency	$0	$0	$0	$0	$0	$0	$0
Unallocated	$0	$0	$0	$0	$0	$0	$0
Total	$225,000	$35,000	$35,000	$35,000	$35,000	$35,000	$35,000
Revenue Requirement	$4,424,200	$5,199,000	$5,628,300	$6,209,100	$5,780,200	$5,482,200	$5,575,000
	12.2%	17.5%	8.3%	10.3%	-6.9%	-5.2%	1.7%
Water Sales	$4,388,400	$5,033,700	$5,637,700	$6,314,200	$6,314,200	$6,314,200	$6,314,200
Rate Increase	12%	12%	12%	12%	0%	0%	0%
Annual Balance	-$35,800	-$165,300	$9,400	$105,100	$534,000	$832,000	$739,200

The Emergency and Contingency Fund also remains constant in this alternative. The Fund is shown in Table 3-13.

Table 3-13
Emergency & Contingency Reserve

Emergency & Contingency Reserve	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012
Starting Balance	$700,000	$700,000	$700,000	$700,000	$700,000	$700,000	$700,000
Change	$0	$0	$0	$0	$0	$0	$0
Ending Balance	$700,000	$700,000	$700,000	$700,000	$700,000	$700,000	$700,000

Over the study period, any annual surplus or deficit will be accounted for within the unallocated fund balance. The unallocated fund balance is shown in Table 3-14.

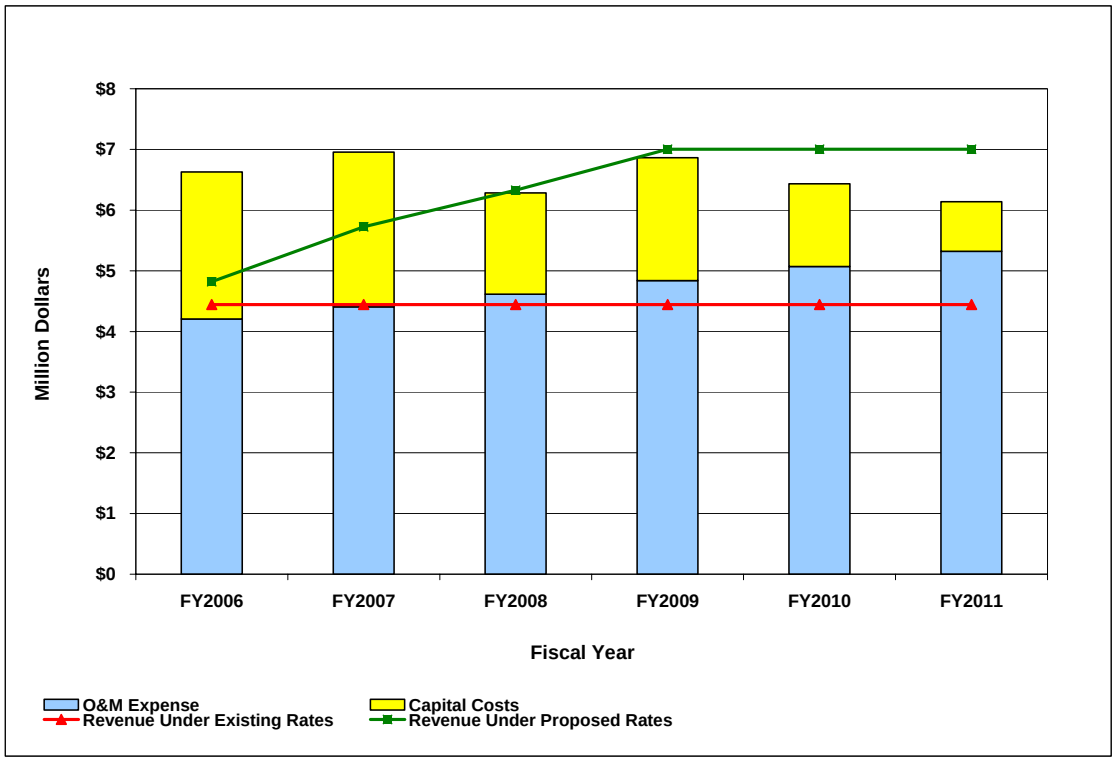
Table 3-14
Unallocated Fund Balance

	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012
Starting Balance	$300,000	$264,200	$98,900	$108,300	$213,400	$747,400	$1,579,400
Additions [Annual Surplus]	($35,800)	($165,300)	$9,400	$105,100	$534,000	$832,000	$739,200
Change	$0	$0	$0	$0	$0	$0	$0
Ending Balance	$264,200	$98,900	$108,300	$213,400	$747,400	$1,579,400	$2,318,600

This second alternative is shown graphically in Figure 3-4.

Figure 3-4

Revenue Projections [Alternative II]



3.4 Proposed Water Rates and Charges FY2006

The magnitude of the increase shown above has been selected in order for total water revenue to meet revenue requirements. While the current analyses indicate that these two rate paths are needed for water revenue adjustment in FY 2006 through FY 2012, future reviews may find otherwise. Changes in the level of inflation, regulatory requirements or operations could lead to the need for additional future revenues.

The cash flow analysis indicates that the projected revenue increase will be sufficient to meet all the needs of the utility and maintain adequate fund balances throughout the study period if either one of the alternative is chosen. The recommended rate change for FY2006based on the first alternative is shown in Table 3-15.

Table 3-15
Recommended Rate Change [Alternative I]

Meter Charge	Existing Charge	Proposed Charge
5/8 inch	15.30	18.21
3/4 inch	23.02	27.39
1 inch	38.36	45.65
1 1⁄2 inch	74.08	88.16
2 inch	122.77	146.10
3 inch	268.57	319.60
4 inch	920.92	1,095.89
Volume Charge [Residential]		
1-8 Units	2.50	2.98
9-25 Units	2.76	3.28
26-40 Units	3.58	4.26
41 or more Units	4.43	5.27
Volume Charge [Non-Residential]		
All units	3.41	4.06

The second alternative, and recommended rate changes for FY2006, is shown in Table 3-16

Table 3-16
Recommended Rate Change [Alternative II]

Meter Charge	Existing Charge	Proposed Charge
5/8 inch	15.30	17.14
3/4 inch	23.02	25.78
1 inch	38.36	42.96
1 1⁄2 inch	74.08	82.97
2 inch	122.77	137.50
3 inch	268.57	300.80
4 inch	920.92	1,031.43
Volume Charge [Residential]		
1-8 Units	2.50	2.80
9-25 Units	2.76	3.09
26-40 Units	3.58	4.01
41 or more Units	4.43	4.96
Volume Charge [Non-Residential]		
All units	3.41	3.82

Section 4
Cost of Service

The cost of service analysis is a critical element in a rate study. The total revenue requirements net of revenue credits from miscellaneous sources, is by definition, the net cost of providing service. This cost of service is then allocated to the various customer classes in proportion to each class demand on the water system. Allocation of the cost of service takes into account the volume of water used, peak rates of demand, number of customers, meters, and other relevant factors.

In this study, FY 2006 is referred to as the "test year", therefore, FY 2006 revenue requirements are used in the cost allocation process.

Table 4-1
ALLOCATION OF OPERATION AND MAINTENANCE EXPENSE
TO FUNCTIONAL COST COMPONENTS
Test Year 2006

		(1)	(2)	(3)	(4)	(5)	(6)
				Extra Capacity		Customer	
Line No.	Description	Total	Base	Max Day	Max Hour	Meters & Services	Billing & Collection
1	Operating Costs	1,237,300	370,800	309,500	309,500	61,900	185,600
2	Office/Operating Supplies	1,136,900	890,300	226,300	8,100	6,100	6,100
3	Purchased Water	896,400	597,600	298,800	0	0	0
4	Bldg Repairs/Maintenance	98,600	98,600	0	0	0	0
5	Maintenance of Equipment	125,000	51,900	26,100	7,700	39,300	0
6	Professional Services/Contracts	63,800	63,800	0	0	0	0
7	Utilities Expense	366,500	5,200	2,600	5,200	0	0
8	Other Expenses	279,900	78,700	116,300	44,600	14,500	25,800
9	Allocations	0	0	0	0	0	0
10	Total	4,204,400	2,156,900	979,600	375,100	121,800	217,500

The annual revenue requirements or costs of service to be recovered from charges for water service include O&M costs, capital related costs, and other items. O&M expense includes cost of operating and maintaining water supply sources, treatment, transmission, and distribution facilities. Capital related costs represent projected debt service payments on existing and bonds and cash funding of the CIP. The test year cost of service to be recovered from water service charges is estimated at $4,204,400.

Base cost are those costs which vary directly with the quantity of water used plus a portion of other costs associated with serving customers under average day load conditions. Extra capacity costs represent those operating costs incurred due to meeting customer peak demands for water in excess of average day usage, plus those capital costs for extra plant and system capacity beyond that required to supply water at the average rate of use. Total extra capacity costs are subdivided into costs associated with maximum day and maximum hour demands.

Customer costs are defined as costs which tend to vary in proportion to the number of customers or meters served by the system. Such costs included meter reading, billing, collecting and accounting, plus maintenance and capital costs associated with meters and services. These costs are assigned directly to the meter cost components.

The water utility is comprised of various facilities, each designed and operated to fulfill a given function. In order to provide adequate service to its customers at all times, the utility must be capable of not only providing the total amount of water used, but also supplying water at maximum rates of demand.

Since all customers do not exert their maximum demand for water at the same time, capacities of water facilities are designed to meet the coincidental demands of all classes of customers that have been experience by the system. For every facility on the system, there is an underlying average demand, or uniform rate of usage exerted coincidentally by the customers for which the base cost component applies. For those facilities designed solely to meet average day demand, costs are allocated 100 percent to base cost component. Extra capacity requirements pertain to coincidental maximum daily and hourly demands in excess of average usage.

A maximum day to average day ratio of 1.50 is used based on our knowledge of the District's system. This ratio indicates that approximately 66.67 percent (1.00/1.50 x 100) of the capacity of facilities designed and operated for maximum day demand is needed for average or base use. Accordingly, the remaining 33.33 percent (0.50/1.50 x 100) is for maximum day extra capacity requirements.

Since maximum hour water usage also utilizes facilities designed and operated for average day and maximum day demands, the costs associated with meeting maximum hour demand are allocated to base, maximum day extra capacity, and maximum hour extra capacity. A ratio of maximum hour to annual average day water use of 3.0 would be expected also recognizing reservoir draw down. This maximum hour ratio indicates that 33.33 percent (1.00/3.0 x 100) of the capacity of facilities designed and operated for maximum hour demand is needed for average or base use, 16.67 (0.50/3.0 x 100) percent is required to meet maximum day extra capacity demand, and the remaining 50.00 percent (1.5/3.0 x 100) is for maximum hour extra capacity demand.

The various cost elements of water service are assigned to functional cost components as the first step in the subsequent distribution of the cost of service to customer

classes. The principal water parameters consist of base costs, extra capacity costs, and customer costs.

Table 4-2
SUMMARY OF ALLOCATION OF COSTS TO FUNCTIONAL COST COMPONENTS AND DEVELOPMENT OF UNIT COSTS
Test Year 2006

Line No.	Description	(1) Total	(2) Base	(3) Extra Capacity Max Day	(4) Extra Capacity Max Hour	(5) Customer Meters & Services	(6) Customer Billing & Collecting
		$	$	$	$	$	$
1	Net Operating Expense (a)	3,998,600	1,126,400	1,661,000	635,900	206,500	368,800
2	Capital Costs (b)	425,600	119,800	176,800	67,700	22,000	39,300
3	Total Cost of Service - $	4,424,200	1,246,200	1,837,800	703,600	228,500	408,100
4	Total Units of Service		1,053,368	3,402	5,688	6,026	35,922
	Units of Measure		HCF	HCF/day	HCF/day	Equiv Mtrs	Equiv Bills
5	Total Unit Cost of Service - $		1.1831	540.2116	123.6990	37.9190	11.3607

The total cost responsibility of each class of customer is determined by the distribution of the cost of service for each cost component among the classes based on the respective service requirements of each class.

The District's water customers have been separated into customer classes such as the ones shown in Table 3-2. These classes group together customers with similar service requirement characteristics and provide a means for allocating costs to customers. Each class will have similar service requirements and will have costs allocated associated with the appropriate service provided.

Service requirements for each class are based on average daily water use projections and estimates of each class' maximum day and maximum hour demands and metering and billing requirements. The base cost responsibility of each customer class is related to the quantity of water used by each class under average day load conditions. Estimated average day quantities are based on actual billing records of the water utility.

The responsibility for extra capacity costs varies with the extra capacity requirements for maximum day and maximum hour demands for each class. Average day usage and capacity factors, representing the relationship between individual class peak demand and average day usage, are used to develop extra capacity requirements for maximum day and maximum hour demands. The estimated capacity factors are based on experience and judgment, taking into consideration conditions prevailing in the study area. From fiscal year projections of customers by class or by meter size within a class, estimates are made of the average number of equivalent meters and bills. Equivalent meter ratios show the relationship of the costs to install and maintain various sized meters to the cost of a 3/4-inch meter and provide a reasonable means of estimating the variation in meters and services operation and maintenance costs.

Table 4-2 shows the development of the test year unit costs for each of the water parameters. The test year net O&M and capital expenses are allocated to base, extra capacity, customer, and fire protection based on the underlying allocation percentages. The unit costs of service shown in Table 4-2 are developed by dividing the annual costs of each category by the total annual units of service.

Table 4-3
ALLOCATION OF COSTS TO CUSTOMER CLASSES
Test Year 2006

Item	(1) Total	(2) Base	(3) Extra Capacity Max Day	(4) Extra Capacity Max Hour	(5) Customer Meters & Services	(6) Customer Billing & Collecting
	$	$	$	$	$	$
Number of Units						
Unit Cost of Service		1.1831	540.2116	123.6990	37.9190	11.3607
Units of Measure		HCF	HCF/day	HCF/day	Equiv Mtrs	Equiv Bills
Residential						
Units		550,876	1,509	1,132	5,680	28,602
Costs - $	2,149,100	651,900	815,700	140,200	215,400	325,900
Commercial						
Units		67,869	93	186	346	1,596
Costs - $	184,700	80,300	50,200	23,000	13,100	18,100
Restaurant						
Units		17,713	25	49	0	186
Costs - $	42,700	21,000	13,500	6,100	0	2,100
Hotels/Motels						
Units		35,315	49	97	0	174
Costs - $	82,300	41,800	26,500	12,000	0	2,000
Schools						
Units		21,771	30	60	0	114
Costs - $	50,700	25,800	16,200	7,400	0	1,300
Multiple Dwelling						
Units		96,056	132	328	0	4,398
Costs - $	275,500	113,600	71,300	40,600	0	50,000
Beaches and Parks						
Units		5,712	8	20	0	108
Costs - $	14,800	6,800	4,300	2,500	0	1,200
Floricultural						
Units		157,538	216	864	0	216
Costs - $	412,500	186,400	116,700	106,900	0	2,500

Table 4-3 (Continued)
ALLOCATION OF COSTS TO CUSTOMER CLASSES
Test Year 2006

Item	Total	Base	Extra Capacity Max Day	Extra Capacity Max Hour	Customer Meters & Services	Customer Billing & Collecting
	$	$	$	$	$	$
Recreation						
Units		2,537	4	14	0	48
Costs - $	7,400	3,000	2,200	1,700	0	500
Recreation						
Units		11,997	17	66	0	138
Costs - $	33,200	14,200	9,200	8,200	0	1,600
Irrigation						
Units		85,733	118	470	0	258
Costs - $	226,100	101,400	63,700	58,100	0	2,900
Detector check						
Units		251	1	2	0	84
Costs - $	2,000	300	500	200	0	1,000
Private Fire Protection						
Public						
Units		0	1,200	2,400	0	0
Costs - $	945,200	0	648,300	296,900	0	0
Private						
Units		0	0	0	0	0
Costs - $	0	0	0	0	0	0
Total Cost of Service - $	4,424,200	4,424,200	1,246,200	1,837,800	703,600	408,100

The cost responsibility of each customer class is determined by applying the unit cost of service shown in Table 4-2 to the units of service estimated for a class. The cost of service allocated to each customer class is summarized in Table 4-3.

The water utility does not presently charge to recover public fire protection costs. Therefore, these costs must be recovered from all other water utility customers through rates for service. Public fire protection costs are reallocated to customers that will benefit from fire protection service. The adjusted cost of service for the water utility for FY 2006 reflecting reallocation of $945,200 of public fire protection is shown in Table 4-4.

Table 4-4
COMPARISON OF ALLOCATED COST OF SERVICE
WITH REVENUE UNDER EXISTING RATES
Test Year 2006

Line No.	Customer Classification	(1) Allocated Cost of Service $	(2) Allocation of Public Fire Protection $	(3) Adjusted Cost of Service $	(4) Revenue Under Existing Rates $	(5) Indicated Revenue Increase %
1	Residential	2,149,100	583,500	2,732,600	2,367,380	15.43
2	Non-Residential	1,331,900	361,600	1,693,500	1,457,181	16.22
	Fireline					
3	Public	945,200	(945,200)	0	0	0.00
4	Private	0		0	0	0.00
5	Total System	4,426,200	(100)	4,426,100	3,824,561	15.73

Table 4-4 also shows a comparison of the cost of service for the two customer classes for billing purposes with revenue under existing rates, indicating the impact of cost of service allocation on each class. Table 4-4 indicates that in FY2006, all customer classes are projected to collect insufficient revenues prior to the rate increases outlined in Section 3. Across the board, the cost of service study estimated that revenues were below allocated costs in 2006 and required average revenue increases of approximately 16 percent in that fiscal year. However, considering that this percentage was approximately uniform across the two customer classes, it is reasonable to conclude that the water rate schedule allocates costs on a fair and equitable basis once revenue sufficiency is achieved.

Section 5
Recommendations

We recommend that the District should continue with its intent to adjust the water rates in September of the current fiscal year. Based on the consumption and billing analysis presented in the rate study, we do not recommend any changes to the existing tier structure or an introduction of a similar structure for non-residential customers. The tier structure appears to meet the District's objective of encouraging water conservation while providing smaller water users moderately priced water in the lowest tier. Rate tiers are typically designed to have 40 percent of water in the first tier, 40 percent in the second and 20 percent in the upper tier or tiers. The District's usage pattern almost matches that exactly.

In addition to the adjustment of the tier rates, we recommend a similar adjustment of the meter based charges. The cost of service study has shown that costs are fairly and equitably recovered from residential and non-residential customers.

The rate study has also presented a financial plan for the two financial alternatives to be chosen by the District. Both alternatives provide a way to manage the finances of the District over the study period by providing sufficient funding for the CIP and all operating and debt service costs. Both should be adopted for at least a three year period. However, the District has budgeted the receipt of $450,000 of property tax revenues and the financial projections are clearly sensitive to the receipt of these funds.

In addition to the implementation of any change to the existing water rate structure, the District should monitor its fund balances, revenues and expenses on an annual basis in order to monitor the funding levels for the water utility.