

**FINAL
REPORT**

Resale Water Rate Study

City of Billings

April 12, 2011



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Executive Summary

The City of Billings, Montana (City) provides municipal water services to its citizens and other residents and business of the greater Billings area. In addition to providing retail service to its citizens and neighboring commercial and residential customers, the City also provides water for Resale to the County Water District of Billings Heights (Heights).

The City engaged CDM to update the rates for water service to the Heights. This report presents the details of that update. The update was conducted simultaneously with a review of retail rates by City staff.

The update utilized the same rate model used to set the current resale rate for the Heights, which is based on standard principles for equitable cost of service analyses outlined by the American Water Works Association. In addition, the update conforms with the approach and information contained in the Memorandum of Understanding between the City and the Heights relating to water service.

The result of the update is that the resale rate applicable to water sold to the Heights needs to be increased from \$1.24 per Ccf to \$1.72 per Ccf effective July 1, 2011 and \$1.75 per Ccf effective July 1, 2012. No adjustment is required for the fixed meter charge applicable to the Heights.

Two main components of cost drive the need for the rate increase. Each is responsible for about half of the indicated adjustment. First, the City completed and placed into service upgrades to the Walter Pump Station, which serves the Heights. Second, the City also completed and placed into service upgrades to the Water Treatment Plant, which also serves the Heights. Residents of the City have been paying for the costs of these improvements as they were being constructed and have experienced rate adjustments. Now that construction is complete, the Heights needs to also pay for its share of costs for these new facilities.

Section 1

Introduction

The City re-evaluates rates approximately every two years. As part of this round of updates, the City hired CDM to update the Resale water rate in tandem with the City's update to its retail water rates. By performing the analyses in tandem, the City is assured that total revenues will match revenue requirements and all users will be paying their fair share of costs of service. The City operates on a fiscal year (FY) basis, ending June 30. As such, FY 2010 refers to the period July 1, 2009 – June 30, 2010.

CDM used the utility-basis of analysis for determining wholesale-related revenue requirements and cost of service. This approach is recommended by the American Water Works Association (AWWA) when determining rates for wholesale customers, termed "Resale" by the City. The approach is based on the parallel between investor-owned utilities serving their customers, who are not owners, and a government-owned utility providing services to a customer (e.g. Resale) who is not an owner of the system. The government-owned utility is entitled to a reasonable return from non-owner customers based on the plant investment value required to serve those customers. Per the Memorandum of Understanding (MOU) between the City and the Heights, dated February 17, 2009, the rate of return on equity is set at 9.55 percent. Combined with an effective interest rate of 3.68 percent on the City's outstanding debt, the weighted cost of capital is 8.63 percent.

The utility-basis uses depreciation and rate of return to determine the capital portion of revenue requirements. The O&M components of revenue requirements are based on budgeted O&M expense.

Once the revenue requirements are determined, they are then allocated three different ways. First they are allocated based on ownership level (Joint, Owners, Resale). These allocated costs are then further allocated to fixed (customer, meter), variable (base, max day, max hour), and direct fire functional cost components as well as to customer classes.

The following report describes the process by which the proposed rates for FY 2012 and FY 2013 were developed for the City's Resale water customer and includes:

- Description of water system customers
- Summary of the current usage by category
- Revenue requirements
- Cost of service allocations
- Recommendations for rate adjustment

CDM used FY 2011 as the Test Year for Resale rate development so that audited plant investment data could be used for the analysis. This does mean that the proposed rates would be enacted a year late, becoming effective July 1, 2011, if approved.

Section 2

Customers and Usage

The City owns and operates its water treatment and conveyance facilities. In addition to serving over 30,000 customers within its City limits, the City provides services to 315 residential and commercial customers outside of the City limits, as well as one Resale customer, the Heights.

Residential customers include water service accounts with one- and two-family dwellings. Commercial and industrial users are non-residential customers including large multi-family dwellings that purchase water for their own use. The Heights is a water district that purchases water for Resale. The projected water system customers for the test year are shown in Table 2-1 and Table 2-2 for Owners and Non-Owners, respectively. The tables also show the equivalent meters on a ¾" basis. The City has over 30,400 Owner equivalent meters and over 450 Non-Owner equivalent meters.

Table 2-1. Test Year Customer Accounts, Owners

Meter Size	Residential	Commercial	Industrial	Seasonal	Total
3/4"	24,150	1,590	0	54	25,794
1"	344	547	0	54	945
1 1/2"	19	342	0	31	392
2"	1	177	0	12	190
3"	0	116	1	5	122
4"	0	34	0	1	35
6"	1	24	1	0	26
8"	0	4	0	0	4
10"	0	0	0	0	0
12"	0	0	0	0	0
Total	24,515	2,834	2	157	27,508
Equivalent Meters	24,641	5,469	29	269	30,408

Table 2-2. Test Year Customer Accounts, Non-Owners

Meter Size	Residential	Commercial	Resale	Total
3/4"	253	38	0	291
1"	4	9	0	13
1 1/2"	0	3	0	3
2"	0	2	0	2
3"	0	2	0	2
4"	0	0	0	0
6"	0	1	0	1
8"	0	1	0	1
10"	0	1	1	2
12"	0	0	0	0
Total	257	57	1	315
Equivalent Meters	258	166	41	466

Customer usage by customer class and ownership for the Test Year is summarized in Table 2-3. Resale usage is expected to account for 59 percent of Non-Owners' usage and 14 percent of total usage.

Table 2-3. Test Year Customer Usage

Customer Class	Usage, ccf/yr
Owners	
Residential	3,900,000
Commercial	2,440,000
Industrial	28,000
Seasonal	442,000
Sub-Total	6,810,000
Non-Owners	
Residential	45,000
Commercial	788,000
Resale	1,220,000
Sub-Total	2,053,000
Total	8,863,000

Peaking factors for Resale have been updated based on 2009 and 2010 measured data for average day, max day, and max hour. The maximum peaking factors over the two year historical period are shown in Table 2-4. The Resale peaking factors reflect that the Heights have two storage reservoirs.

Table 2-4. Peaking Factors

Customer Class	Max Day / Average Day	Max Hour / Average Hour
Owners		
Residential	2.60	4.00
Commercial	1.75	3.00
Industrial	1.50	2.00
Seasonal	3.50	6.00
Non-Owners		
Residential	2.60	4.00
Commercial	1.75	3.00
Resale	2.36	3.75
System Design Criteria	2.2	3.4

The table also shows the system design criteria, which were used to determine max day and max hour system-wide demands. By using the system criteria, CDM modeled the City's coincident system demands, per AWWA guidelines. Ideally, the actual system peaks would be used but the City calculation of peak hour without reservoir drawdown precludes use of those values. The City's actual peak day values closely match the design criteria.

Section 3

Revenue Requirements

Revenue requirements comprise operating and maintenance expenses as well as capital-related expenses. The following describes the O&M and capital-related expenses used to determine revenue requirements.

3.1 Operating and Maintenance Expenses

Operating and maintenance (O&M) expenses comprise the day-to-day expenses associated with operating and maintaining the water system. Expenses comprise administrative costs such as salary and benefits, billing and collection costs, power and chemical costs, and parts and supplies.

Per the MOU, modeled O&M costs after FY 2011 should be based on the budgeted costs as adjusted for the 3-year historical difference between budgeted and actual O&M expenditures. Even though FY 2011 is used as the Test Year in this analysis, the Resale rates will be enacted for FY 2012 and FY 2013; therefore, the O&M included in the model is based on the FY 2011 budget as adjusted per the MOU. CDM used an adjustment factor of 96.4 percent. Table 3-1 shows the comparison of budgeted to actual O&M for FY 2008 – FY 2010.

Table 3-1. Historical Total Budgeted O&M Versus Actual O&M

O&M	FY 2008	FY 2009	FY 2010	Total
Budgeted	10,340,433	11,176,770	10,901,335	32,418,538
Actual	10,347,193	10,407,011	10,501,368	31,255,572
Ratio	100.07%	93.11%	96.33%	96.4%

O&M costs are offset by O&M related non-rate revenue. Non-Rate revenue comes from fees and permit revenue, interest income, water line repairs on personal property, etc. Table 3-2 shows the O&M related revenue requirements, which total \$9.4 million. Note that the water supply fee expense and revenue are not included in the calculation of O&M and non-rate revenue.

O&M revenue requirements are further allocated based on ownership, functional cost components, and customer classes. These steps are shown in more detail in Section 4, but the ownership allocations are summarized in Table 3-3.

Table 3-2. Total O&M Related Revenue Requirements

Line Item	Total	Joint	Owners	Resale
Water Production				
Chemicals	\$614,132	\$614,132	\$0	\$0
All Other	\$2,141,694	\$2,141,694	\$0	\$0
High Service Pumping				
Utilities	\$925,536	\$925,536	\$0	\$0
All Other	\$231,384	\$231,384	\$0	\$0
System Pumping & Storage				
Utilities	\$327,794	\$125,996	\$87,125	\$114,672
All Other	\$106,051	\$40,764	\$28,188	\$37,100
Distribution System				
Fire Hydrants	\$159,077	\$0	\$159,077	\$0
All Other	\$2,029,244	\$1,018,571	\$1,010,673	\$0
Customer Billing & Meter Admin.	\$2,292,878	\$2,292,878	\$0	\$0
Admin.	\$1,277,084	\$1,277,084	\$0	\$0
O&M - Total	\$10,104,873	\$8,668,038	\$1,285,063	\$151,772
Less: Non-Rate O&M Revenue				
Water Permits	\$21,000	\$0	\$21,000	\$0
Misc. Revenue	\$13,644	\$0	\$13,644	\$0
Collection of Bad Debt	\$9,000	\$0	\$9,000	\$0
Sale of Material/Labor	\$200,000	\$180,000	\$20,000	\$0
Water Service Line Repair	\$400,000	\$0	\$400,000	\$0
Water Service Line Admin.	\$32,000	\$0	\$32,000	\$0
Hydrant Meter Rental Fee	\$10,000	\$0	\$10,000	\$0
Cost of Service	\$60,716	\$0	\$60,716	\$0
Total Non-Rate O&M Revenue	\$746,360	\$180,000	\$566,360	\$0
Total O&M Revenue Requirement	\$9,358,513	\$8,488,038	\$718,703	\$151,772

Table 3-3. Summary of O&M Allocation by Ownership

Ownership	O&M
Joint	
Owners	\$7,306,332
Resale	725,459
Other Non-Owners	456,247
Subtotal - Joint	\$8,488,038
Owners only	\$718,703
Resale only	\$151,772
Total	\$9,358,513
Resale Subtotal	\$877,231

3.2 Utility Basis Capital Costs

Per AWWA Manual 1, Resale rates should be calculated using the utility-basis. The utility-basis uses the depreciated value of system assets and a rate of return to determine the capital component of the revenue requirements. Therefore, Resale customers do not start contributing to the repayment of the capital associated with an asset until the asset is in service. The City recently placed several large improvements into service for which its citizens have been paying the costs as they were being constructed, and those costs will now also be recovered from the Heights.

The first step in determining utility-basis capital costs is calculating the net plant in service. Table 3-4 lists the net fixed assets and depreciation expense based on assets in the ground by the end of FY 2010. Table 3-5 shows similar information for Contributions in Aid of Construction (CIAC). CDM used FY 2010 in the analysis to avoid uncertainty associated with estimating Construction Work in Progress. The FY 2010 net fixed assets totaled \$100,387,486 (\$118,285,063 less CIAC of \$17,897,577).

Table 3-4. Fixed Assets and Depreciation

Fixed Asset	Original Cost	Annual Depreciation	Accumulated Depreciation Through FY 2010	Net Fixed Assets (Book Value FY 2010)	Allocated Depreciation Expense
Source of Supply					
#2 River Intake	\$4,332,094	\$40,214	\$704,980	\$3,627,114	\$40,214
#1 Intake Chnl Hdwrk	1,847,245	58,275	368,812	1,478,433	58,275
#1 Low Duty PS	455,306	2,366	449,982	5,324	2,366
Total Source of Supply	\$6,634,645	\$100,855	\$1,523,774	\$5,110,871	\$100,855
Water Treatment					
Plant Maint. Wrhs	\$17,990	\$0	\$17,990	\$0	\$0
Maint. & Persnl. Bldg.	74,490	0	74,490	0	0
Chem Bldg & Trtmnt Bsn	6,942,874	163,278	2,075,960	4,866,914	163,278
Filter Bldg, Clr Bsn & PS	33,447,118	1,180,283	9,034,029	24,413,089	1,180,283
Clear Well Standpipe	3,401,878	104,608	1,505,213	1,896,666	104,608
Yard Piping & Flumes	3,056,527	95,901	2,736,125	320,403	95,901
Site Work & Landscp	911,903	27,505	841,697	70,205	27,505
Plant Elec. Shop	559,167	18,639	48,150	511,017	18,639
Total Water Treatment	\$48,411,947	\$1,590,214	\$16,333,654	\$32,078,293	\$1,590,214
High Service Pumping Station	\$5,861,976	\$273,953	\$5,533,795	\$328,181	\$273,953
Distribution System PS					
Willett PS	\$1,697,027	\$107,882	\$769,377	\$927,650	107,882
Walter PS	3,700,205	121,688	219,860	3,480,345	121,688
Booster ST-12 Av N & N27	6,230	0	0	6,230	0
Leavens PS	830,446	43,060	815,581	14,865	14,865
Staples PS	2,702,665	81,080	344,590	2,358,075	81,080
Booster ST-17 W & Poly	16,089	0	16,089	0	0
Waldo PS	452,109	7,794	105,944	346,164	7,794
Voelker Pump	1,370,143	66,497	1,097,747	272,395	66,497
Chapple PS	948,342	44,968	805,671	142,670	44,968
Thomas PS	79,522	71	480	79,042	71
Total Distribution System PS	\$11,802,776	\$473,039	\$4,175,340	\$7,627,436	\$444,844
Reservoirs & Tanks					
Leavens #1	80,527	0	80,527	0	0
Leavens #2	11,369	0	11,369	0	0
Staples #1	2,092,023	101,951	907,343	1,184,681	101,951
Staples #2	187,177	0	187,177	0	0
Staples #3	72,559	1,401	60,533	12,026	1,401
Fox	1,000,271	25,929	656,582	343,689	25,929
Waldo	40,509	0	40,509	0	0
Logan	330,763	16,475	246,691	84,072	16,475
Christensen	3,403,350	162,457	2,910,695	492,655	162,457
Zone 4	223,587	8,656	19,477	204,111	8,656
Total Reservoirs & Tanks	\$7,442,134	\$316,870	\$5,120,902	\$2,321,232	\$316,870
T&D System					
Transmission 12" & Up	\$52,095,532	\$1,194,836	\$18,028,714	\$34,066,818	\$1,194,836
Distribution < 12"	51,163,051	1,232,055	17,360,383	33,802,667	1,232,055
Total T&D	\$103,258,583	\$2,426,892	\$35,389,098	\$67,869,485	\$2,426,892
Meters & Hydrants					
Service Connections	\$29,182	\$0	\$29,182	\$0	\$0
Meters	4,175,000	203,027	3,751,955	423,045	203,027
Hydrants	2,463,141	68,751	1,327,028	1,136,113	68,751
Hydrant Mains	1,302,505	30,931	856,360	446,145	30,931
Total Meters & Hydrants	\$7,969,827	\$302,709	\$5,964,526	\$2,005,302	\$302,709

Fixed Asset	Original Cost	Annual Depreciation	Accumulated Depreciation Through FY 2010	Net Fixed Assets (Book Value FY 2010)	Allocated Depreciation Expense
General Plant					
Utilities Service Center	\$590,308	\$23,265	\$482,806	\$107,501	\$23,265
Heater Storage Bldg.	61,036	1,652	60,612	423	423
Cold Storage Bldg.	108,157	533	105,716	2,442	533
Rights & Licenses	68,101	681	64,585	3,516	681
Transportation Equip.	825,770	77,835	520,521	305,249	77,835
Lab & Test Equip.	290,481	24,940	171,856	118,625	24,940
Communication Equip.	1,157,049	110,878	885,160	271,889	110,878
Tools & Working Equip.	323,408	26,137	262,814	60,594	26,137
Office Furniture & Equip.	335,033	50,278	288,761	46,272	46,272
Gas Pumps	46,833	1,610	31,354	15,479	1,610
Heated Stg Bldg & Stg Yd	13,268	663	995	12,273	663
Total General Plant	\$3,819,444	\$318,472	\$2,875,181	\$944,263	\$313,237
Grand Total	\$195,201,332	\$5,803,005	\$76,916,269	\$118,285,063	\$5,769,575

Table 3-5. Fixed Assets and Depreciation – CIAC and Net

Fixed Asset	Original Cost	Annual Depreciation	Accumulated Depreciation Through FY 2010	Net Fixed Assets (Book Value FY 2010)	Allocated Depreciation Expense
Less CIAC					
Voelker Pump	(\$127,678)	(\$3,830)	(\$104,376)	(\$23,302)	(\$3,830)
Fox Reservoir	(154,511)	0	(154,511)	0	0
Transmission 12" & Up	(10,101,560)	(254,172)	(4,361,431)	(5,740,129)	(254,172)
Distribution < 12"	(14,825,736)	(331,206)	(6,598,353)	(8,227,383)	(331,206)
Hydrants	(1,165,561)	(34,091)	(604,554)	(561,007)	(34,091)
Hydrant Mains	(621,567)	(17,225)	(355,211)	(266,356)	(17,225)
#2 River Intake	(25,974)	0	0	(25,974)	0
Chem Bldg & Trtmnt	(3,331,010)	(66,620)	(277,584)	(3,053,426)	(66,620)
Total CIAC	(\$30,353,596)	(\$707,144)	(\$12,456,019)	(\$17,897,577)	(\$707,144)
Net	\$164,847,736	\$5,095,860	\$64,460,250	\$100,387,486	\$5,062,430

The net fixed assets of \$100,387,486 are further reduced by capital-related non-rate revenue of \$182,900 from interest earnings, resulting in a final net fixed asset amount of \$100,204,586. The next steps involve allocating the net plant based on ownership, functional cost components, and customer classes. These steps are shown in more detail in Section 4, but the ownership allocations are summarized in Table 3-6.

Table 3-6. Allocation of Net Plant and Depreciation Expense

Ownership	Net Fixed Asset	Depreciation Expense
Joint		
Owners	\$52,585,838	\$2,782,499
Resale	7,575,882	382,155
Other Non-Owners	4,313,911	216,606
Subtotal - Joint	\$64,475,630	\$3,381,260
Owners only	\$34,336,818	\$1,632,495
Resale only	\$1,392,138	\$48,675
Total	\$100,204,586	\$5,062,430
Owner Subtotal	\$86,922,656	\$4,414,994
Non-Owner Subtotal	\$13,281,930	\$647,436

Table 3-7 shows the utility basis capital costs for Non-Owners and Owners. The rate of return for Non-Owners is based on the weighted average cost of capital. The WACC is based on the rate of return on equity, which is set per the MOU at 9.55 percent, and on the effective interest rate on outstanding debt. This results in a rate of return of 8.63 percent. Owners pay the balance of capital costs based on total revenue requirements.

Table 3-7. Utility Basis Capital Costs

Line Item	Amount
Utility Basis Capital Costs for Non-Owners	
Return on Rate Base	
Rate Base	
Net Plant in Service	\$13,281,930
Allowance for Working Capital	\$166,685
Total Rate Base	\$13,448,615
Rate of Return	8.63%
Total Rate of Return on Rate Base	\$1,160,010
Depreciation Less Amortization Expense	\$647,436
Net Utility Basis Capital Costs	\$1,807,446
Utility Basis Capital Costs for Owners	
Return on Rate Base	
Rate Base	
Net Plant in Service	\$86,922,656
Allowance for Working Capital	\$1,003,129
Total Rate Base	\$87,925,785
Rate of Return	6.12%
Return on Rate Base	\$5,381,777
Depreciation Less Amortization Expense	\$4,414,994
Net Utility Basis Capital Costs	\$9,796,771
Total Utility Basis Capital Revenue Requirement	\$11,604,217

3.3 Revenue Requirement

Combining the O&M (\$9,358,513) and Capital costs (\$11,604,217) results in a total revenue requirement, on a utility-basis, of \$20,962,730.

Section 4 Allocations

4.1 Customer Class Allocations

To determine the cost of service to a particular customer class, costs must be allocated to the various customer classes and functional cost components. Table 4-1 shows the assignment of customer classes to the ownership categories of Joint, Owners, and Resale. All costs that are considered Joint costs (costs borne by both Owners and Non-Owners) are allocated to all customer classes. Costs that are only Owners costs are allocated to all customer classes under Owners, and Resale related costs are only assigned to the Resale customer class.

Table 4-1. Assignment of Customer Classes to Ownership Cost Categories

Customer Class	Joint	Owners	Resale
Owners			
Residential	1	1	0
Commercial	1	1	0
Industrial	1	1	0
Seasonal	1	1	0
Non-Owners			
Residential	1	0	0
Commercial	1	0	0
Resale	1	0	1

Table 4-2 shows the allocation of customer service characteristics to the customer classes. The Base, Max Day and Max Hour percentages are based on the projected customer class water usage compared to total projected water usage. Customer allocation is the ratio of a class's number of accounts divided by the total number of accounts. Meter allocation is the ratio of a class's equivalent meters to total equivalent meters. These percentages are then further allocated based on the assignment of customer classes shown in Table 4-1. These allocations are presented in Appendix A.

Table 4-2. Summary of Customer Service Characteristics

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Owners						
Residential	44.0%	45.4%	20.0%	88.1%	79.8%	0.0%
Commercial	27.5%	13.3%	11.2%	10.2%	17.7%	0.0%
Industrial	0.3%	0.1%	0.1%	0.0%	0.1%	0.0%
Seasonal	5.0%	8.0%	4.0%	0.6%	0.9%	0.0%
Public Fire Protection	0.0%	13.8%	46.5%	0.0%	0.0%	85.0%
Private Fire Protection	0.0%	2.3%	7.6%	0.0%	0.0%	14.0%
Non-Owners						
Residential	0.5%	0.5%	0.2%	0.9%	0.8%	0.0%
Commercial	8.9%	4.3%	3.6%	0.2%	0.5%	0.0%
Resale	13.8%	12.1%	6.2%	0.0%	0.1%	0.0%
Private Fire Protection	0.0%	0.2%	0.6%	0.0%	0.0%	1.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

4.2 O&M Cost Allocations

As with customer classes, O&M costs must also be allocated to ownership cost categories and functional cost components. Table 3-2 in the previous section shows the allocation of O&M revenue requirements to Joint, Owners, and Resale. Those costs can be further allocated to functional cost components as follows:

- Base
- Max Day
- Max Hour
- Customer
- Meter
- Direct Fire

Base, Max Day, and Max Hour related costs contribute to the consumption component of the water charge. Customer and Meter costs contribute to the fixed water charge component. Direct Fire costs are allocated to fire service charges.

Tables 4-3 and 4-4 show the allocation of Joint and Resale O&M costs, respectively, to the functional cost components.

Table 4-3. Joint O&M Costs by Functional Cost Component

Line Item	Total	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Water Production							
Chemicals	\$614,132	\$614,132	\$0	\$0	\$0	\$0	\$0
All Other	2,141,694	973,497	1,168,197	0	0	0	0
High Service Pumping							
Utilities	925,536	740,429	185,107	0	0	0	0
All Other	231,384	105,175	126,209	0	0	0	0
System Pumping & Storage							
Utilities	125,996	100,797	25,199	0	0	0	0
All Other	40,764	18,529	22,235	0	0	0	0
Distribution System							
Fire Hydrants	0	0	0	0	0	0	0
All Other	1,018,571	299,580	359,496	359,496	0	0	0
Customer Billing & Meter Admin.	2,292,878	0	0	0	1,423,877	869,001	0
	1,277,084	316,268	379,521	131,409	261,254	159,445	29,187
O&M - Total	\$8,668,038	\$3,168,406	\$2,265,964	\$490,905	\$1,685,131	\$1,028,445	\$29,187
Less: O&M Non-Rate Rev							
Water Permits	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Misc. Revenue	0	0	0	0	0	0	0
Collection of Bad Debt	0	0	0	0	0	0	0
Sale of Material/Labor	180,000	68,114	47,287	14,604	29,033	17,719	3,244
Water Srvc Line Repair	0	0	0	0	0	0	0
Water Srvc Line Admin.	0	0	0	0	0	0	0
Hydrant Mtr Rental Fee	0	0	0	0	0	0	0
Cost of Service	0	0	0	0	0	0	0
Total O&M Non-Rate Rev	\$180,000	\$68,114	\$47,287	\$14,604	\$29,033	\$17,719	\$3,244
Total Joint O&M Rev Requirement	\$8,488,038	\$3,100,292	\$2,218,677	\$476,302	\$1,656,098	\$1,010,726	\$25,944

Table 4-4. Resale O&M Costs by Functional Cost Component

Line Item	Total	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Water Production							
Chemicals	\$0	\$0	\$0	\$0	\$0	\$0	\$0
All Other	0	0	0	0	0	0	0
High Service Pumping							
Utilities	0	0	0	0	0	0	0
All Other	0	0	0	0	0	0	0
System Pumping & Storage							
Utilities	114,672	91,738	22,934	0	0	0	0
All Other	37,100	16,864	20,236	0	0	0	0
Distribution System							
Fire Hydrants	0	0	0	0	0	0	0
All Other	0	0	0	0	0	0	0
Customer Billing & Meter Admin.	0	0	0	0	0	0	0
Admin.	0	0	0	0	0	0	0
O&M - Total	\$151,772	\$108,601	\$43,171	\$0	\$0	\$0	\$0
Less Non-Rate O&M Revenue	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Resale O&M Rev Requirement	\$151,772	\$108,601	\$43,171	\$0	\$0	\$0	\$0

Tables 4-5 and 4-6 show the allocation of Joint and Resale related O&M costs to the customer classes.

Table 4-5. Allocation of Joint O&M Costs to Customer Class

Customer Class	Total	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Owners							
Residential	\$4,732,156	\$1,364,227	\$1,006,814	\$95,251	\$1,459,179	\$806,685	\$0
Commercial	1,549,715	853,516	295,268	53,208	168,685	179,038	0
Industrial	13,369	9,794	2,259	244	119	952	0
Seasonal	370,353	154,612	178,290	19,277	9,365	8,809	0
Public Fire Protection	550,306	0	306,996	221,270	0	0	22,041
Private Fire Protection	90,433	0	50,449	36,362	0	0	3,622
Non-Owners							
Residential	52,204	\$15,741	\$11,617	\$1,099	\$15,297	\$8,449	\$0
Commercial	397,021	275,644	95,357	17,184	3,393	5,444	0
-Resale	725,459	426,758	267,709	29,584	60	1,349	0
Private Fire Protection	7,023	0	3,918	2,824	0	0	281
Total - Joint	\$8,488,038	\$3,100,292	\$2,218,677	\$476,302	\$1,656,098	\$1,010,726	\$25,944

Table 4-6. Allocation of Resale O&M Costs to Customer Class

Customer Class	Total	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Owners	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-Owners							
Residential	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Commercial	0	0	0	0	0	0	0
Resale	151,772	108,601	43,171	0	0	0	0
Private Fire Protection	0	0	0	0	0	0	0
Total - Resale	\$151,772	\$108,601	\$43,171	\$0	\$0	\$0	\$0

4.3 Fixed Asset Allocations

The fixed assets shown in Section 3 were allocated to ownership, functional cost, and customer class categories similarly to O&M costs. Table 4-7 shows the allocation of fixed assets to the ownership categories.

Table 4-7. Allocation of Net Fixed Assets to Ownership Categories

Fixed Asset	Joint	Owners	Resale	Total
Source of Supply				
#2 River Intake	\$3,627,114	\$0	\$0	\$3,627,114
#1 Intake Chnl Hdwrk	1,478,433	0	0	1,478,433
#1 Low Duty PS	5,324	0	0	5,324
Total Source of Supply	\$5,110,871	\$0	\$0	\$5,110,871
Water Treatment				
Plant Maint. Wrhs	\$0	\$0	\$0	\$0
Maint. & Persnl. Bldg.	0	0	0	0
Chem Bldg & Trtmnt Bsn	4,866,914	0	0	4,866,914
Filter Bldg, Clr Bsn & PS	24,413,089	0	0	24,413,089
Clear Well Standpipe	1,896,666	0	0	1,896,666
Yard Piping & Flumes	320,403	0	0	320,403
Site Work & Landscp	70,205	0	0	70,205
Plant Elec. Shop	511,017	0	0	511,017
Total Water Treatment	\$32,078,293	\$0	\$0	\$32,078,293
High Service Pumping Station	\$328,181	\$0	\$0	\$328,181
Distribution System PS				
Willett PS	\$0	\$927,650	\$0	\$927,650
Walter PS	0	2,088,207	1,392,138	3,480,345
Booster ST-12 Av N & N27	0	6,230	0	6,230
Leavens PS	0	14,865	0	14,865
Staples PS	0	2,358,075	0	2,358,075
Booster ST-17 W & Poly	0	0	0	0
Waldo PS	0	346,164	0	346,164
Voelker Pump	0	272,395	0	272,395
Chapple PS	0	142,670	0	142,670
Thomas PS	0	79,042	0	79,042
Total Distribution System PS	\$0	\$6,235,298	\$1,392,138	\$7,627,436
Reservoirs & Tanks				
Leavens #1	\$0	\$0	\$0	\$0
Leavens #2	0	0	0	0
Staples #1	0	1,184,681	0	1,184,681
Staples #2	0	0	0	0
Staples #3	0	12,026	0	12,026
Fox	343,689	0	0	343,689
Waldo	0	0	0	0
Logan	0	84,072	0	84,072
Christensen	0	492,655	0	492,655
Zone 4	0	204,111	0	204,111
Total Reservoirs & Tanks	\$343,689	\$1,977,544	\$0	\$2,321,232
T&D System				
Transmission 12" & Up	\$34,066,818	\$0	\$0	\$34,066,818
Distribution < 12"	0	33,802,667	0	33,802,667
Total T&D	\$34,066,818	\$33,802,667	\$0	\$67,869,485
Meters & Hydrants				
Service Connections	\$0	\$0	\$0	\$0
Meters	423,045	0	0	423,045
Hydrants	0	1,136,113	0	1,136,113
Hydrant Mains	0	446,145	0	446,145
Total Meters & Hydrants	\$423,045	\$1,582,257	\$0	\$2,005,302
General Plant				
Utilities Service Center	\$107,501	\$0	\$0	\$107,501
Heater Storage Bldg.	423	0	0	423

Fixed Asset	Joint	Owners	Resale	Total
Cold Storage Bldg.	2,442	0	0	2,442
Rights & Licenses	3,516	0	0	3,516
Transportation Equip.	305,249	0	0	305,249
Lab & Test Equip.	118,625	0	0	118,625
Communication Equip.	271,889	0	0	271,889
Tools & Working Equip.	60,594	0	0	60,594
Office Furniture & Equip.	46,272	0	0	46,272
Gas Pumps	15,479	0	0	15,479
Heated Stg Bldg & Stg Yd	12,273	0	0	12,273
Total General Plant	\$944,263	\$0	\$0	\$944,263
Grand Total	\$73,295,159	\$43,597,767	\$1,392,138	\$118,285,063
Less CIAC				
Voelker Pump	\$0	(\$23,302)	\$0	(\$23,302)
Fox Reservoir	0	0	0	0
Transmission 12" & Up	(5,740,129)	0	0	(5,740,129)
Distribution < 12"	0	(8,227,383)	0	(8,227,383)
Hydrants	0	(561,007)	0	(561,007)
Hydrant Mains	0	(266,356)	0	(266,356)
#2 River Intake	(25,974)	0	0	(25,974)
Chem Bldg & Trtmnt	(3,053,426)	0	0	(3,053,426)
Total CIAC	(\$8,819,529)	(\$9,078,048)	\$0	(\$17,897,577)
Less: Capital-Related Non-Rate Rev.				
Late Payment Interest	\$0	(\$42,000)	0	(\$42,000)
Interest Earnings (Op Funds)	0	(140,900)	0	(140,900)
Total Capital-Related NNR	\$0	(\$182,900)	\$0	(\$182,900)
Net Plant	\$64,475,630	\$34,336,818	\$1,392,138	\$100,204,586

Net fixed assets are allocated to functional cost components for Joint and Resale, respectively, in Tables 4-8 and 4-9. Note that capital costs are typically not allocated to the customer functional cost component.

Table 4-8. Allocation of Joint Net Fixed Assets to Functional Cost Component

Fixed Asset	Total	Base	Max Day	Max Hour	Meter	Direct Fire
Source of Supply						
#2 River Intake	\$3,627,114	\$3,627,114	\$0	\$0	\$0	\$0
#1 Intake Chnl Hdwrk	1,478,433	672,015	806,418	0	0	0
#1 Low Duty PS	5,324	2,420	2,904	0	0	0
Total Source of Supply	\$5,110,871	\$4,301,549	\$809,322	\$0	\$0	\$0
Water Treatment						
Plant Maint. Wrhs	\$0	\$0	\$0	\$0	\$0	\$0
Maint. & Persnl. Bldg.	0	0	0	0	0	0
Chem Bldg & Trtmnt Bsn	4,866,914	2,212,233	2,654,680	0	0	0
Filter Bldg, Clr Bsn & PS	24,413,089	11,096,859	13,316,230	0	0	0
Clear Well Standpipe	1,896,666	862,121	1,034,545	0	0	0
Yard Piping & Flumes	320,403	145,638	174,765	0	0	0
Site Work & Landscp	70,205	31,912	38,294	0	0	0
Plant Elec. Shop	511,017	232,280	278,736	0	0	0
Total Water Treatment	\$32,078,293	\$14,581,042	\$17,497,251	\$0	\$0	\$0
High Service PS	\$328,181	\$149,173	\$179,008	\$0	\$0	\$0
Total Distribution System PS	\$0	\$0	\$0	\$0	\$0	\$0
Reservoirs & Tanks						
Leavens #1	0	0	0	0	0	0
Leavens #2	0	0	0	0	0	0
Staples #1	0	0	0	0	0	0
Staples #2	0	0	0	0	0	0
Staples #3	0	0	0	0	0	0
Fox	343,689	101,085	121,302	121,302	0	0
Waldo	0	0	0	0	0	0

Fixed Asset	Total	Base	Max Day	Max Hour	Meter	Direct Fire
Logan	0	0	0	0	0	0
Christensen	0	0	0	0	0	0
Zone 4	0	0	0	0	0	0
Total Reservoirs & Tanks	\$343,689	\$101,085	\$121,302	\$121,302	\$0	\$0
T&D System						
Transmission 12" & Up	\$34,066,818	\$10,019,652	\$12,023,583	\$12,023,583	\$0	\$0
Distribution < 12"	0	0	0	0	0	0
Total T&D	\$34,066,818	\$10,019,652	\$12,023,583	\$12,023,583	\$0	\$0
Meters & Hydrants						
Service Connections	\$0	\$0	\$0	\$0	\$0	\$0
Meters	423,045	0	0	0	423,045	0
Hydrants	0	0	0	0	0	0
Hydrant Mains	0	0	0	0	0	0
Total Meters & Hydrants	\$423,045	\$0	\$0	\$0	\$423,045	\$0
General Plant						
Utilities Service Center	\$107,501	\$40,737	\$44,064	\$21,428	\$457	\$815
Heater Storage Bldg.	423	160	174	84	2	3
Cold Storage Bldg.	2,442	925	1,001	487	10	19
Rights & Licenses	3,516	1,332	1,441	701	15	27
Transportation Equip.	305,249	115,672	125,121	60,845	1,297	2,314
Lab & Test Equip.	118,625	118,625	0	0	0	0
Communication Equip.	271,889	103,030	111,446	54,196	1,155	2,062
Tools & Working Equip.	60,594	22,962	24,837	12,078	257	459
Office Furniture & Equip.	46,272	17,535	18,967	9,223	197	351
Gas Pumps	15,479	5,866	6,345	3,085	66	117
Heated Stg Bldg & Stg Yd	12,273	4,651	5,031	2,446	52	93
Total General Plant	\$944,263	\$431,494	\$338,426	\$164,575	\$3,508	\$6,260
Less CIAC						
Voelker Pump	\$0	\$0	\$0	\$0	\$0	\$0
Fox Reservoir	0	0	0	0	0	0
Transmission 12" & Up	(5,740,129)	(1,688,273)	(2,2025,928)	(2,2025,928)	0	0
Distribution < 12"	0	0	0	0	0	0
Hydrants	0	0	0	0	0	0
Hydrant Mains	0	0	0	0	0	0
#2 River Intake	(25,974)	(25,974)	0	0	0	0
Chem Bldg & Trtmnt	(3,053,426)	(1,387,921)	(1,665,505)	0	0	0
Total CIAC	(\$8,819,529)	(\$3,102,168)	(\$3,691,433)	(\$2,025,928)	0	0
Net Plant - Joint	\$64,475,630	\$26,481,827	\$27,277,459	\$10,283,531	\$426,553	\$6,260

Table 4-9. Allocation of Resale Net Fixed Assets to Functional Cost Categories

Fixed Asset	Total	Base	Max Day	Max Hour	Meter	Direct Fire
Source of Supply	\$0	\$0	\$0	\$0	\$0	\$0
Water Treatment	\$0	\$0	\$0	\$0	\$0	\$0
High Service PS	\$0	\$0	\$0	\$0	\$0	\$0
Distribution System PS						
Willet PS	\$0	\$0	\$0	\$0	\$0	\$0
Walter PS	1,392,138	632,790	759,348	0	0	0
Booster ST-12 Av N & N27	0	0	0	0	0	0
Leavens PS	0	0	0	0	0	0
Staples PS	0	0	0	0	0	0
Booster ST-17 W & Poly	0	0	0	0	0	0
Waldo PS	0	0	0	0	0	0
Voelker Pump	0	0	0	0	0	0
Chapple PS	0	0	0	0	0	0
Thomas PS	0	0	0	0	0	0
Total Distribution System PS	\$1,392,138	\$632,790	\$759,348	\$0	\$0	\$0
Reservoirs & Tanks	\$0	\$0	\$0	\$0	\$0	\$0
Transmission & Distribution	\$0	\$0	\$0	\$0	\$0	\$0
Meters & Hydrants	\$0	\$0	\$0	\$0	\$0	\$0

Fixed Asset	Total	Base	Max Day	Max Hour	Meter	Direct Fire
General Plant	\$0	\$0	\$0	\$0	\$0	\$0
Net Plant- Resale	\$1,392,138	\$632,790	\$759,348	\$0	\$0	\$0

Tables 4-10 and 4-11 show the allocation of Joint and Resale net fixed assets to customer classes.

Table 4-10. Allocation of Joint Related Net Fixed Assets to Customer Class

Customer Class	Total	Base	Max Day	Max Hour	Meter	Direct Fire
Owners						
Residential	\$26,428,032	\$11,652,841	\$12,378,251	\$2,056,498	\$340,442	\$0
Commercial	12,144,990	7,290,495	3,630,160	1,148,777	75,559	0
Industrial	117,108	83,661	27,772	5,273	402	0
Seasonal	3,932,551	1,320,655	2,191,982	416,196	3,717	0
Public FP	8,556,974	0	3,774,347	4,777,309	0	5,318
Private FP	1,406,183	0	620,245	785,064	0	874
Non-Owners						
Residential	304,577	134,456	142,826	23,729	3,566	0
Commercial	3,900,130	2,354,471	1,172,363	370,998	2,297	0
Resale	7,575,882	3,645,248	3,291,345	638,720	569	0
Private FP	109,204	0	48,168	60,968	0	68
Total - Joint	\$64,475,630	\$26,481,827	\$27,277,459	\$10,283,531	\$426,553	\$6,260

Table 4-11. Allocation of Resale Related Net Fixed Assets to Customer Class

Customer Class	Total	Base	Max Day	Max Hour	Meter	Direct Fire
Owners	\$0	\$0	\$0	\$0	\$0	\$0
Non-Owners						
Residential	0	0	0	0	0	0
Commercial	0	0	0	0	0	0
Resale	1,392,138	632,790	759,348	0	0	0
Private FP	0	0	0	0	0	0
Total - Resale	\$1,392,138	\$632,790	\$759,348	\$0	\$0	\$0

4.4 Depreciation Allocations

Tables 4-12 through 4-16 show the allocations of depreciation expenses similar to the allocations for O&M and Fixed Assets.

Table 4-12. Allocation of Depreciation Expense to Ownership Categories

Fixed Asset	Joint	Owners	Resale	Total
Source of Supply				
#2 River Intake	\$40,214	\$0	\$0	\$40,214
#1 Intake Chnl Hdwrk	58,275	0	0	58,275
#1 Low Duty PS	2,366	0	0	2,366
Total Source of Supply	\$100,855	\$0	\$0	\$100,855
Water Treatment				
Plant Maint. Wrhs	\$0	\$0	\$0	\$0
Maint. & Persnl. Bldg.	0	0	0	0
Chem Bldg & Trtmnt Bsn	163,278	0	0	163,278
Filter Bldg, Clr Bsn & PS	1,180,283	0	0	1,180,283
Clear Well Standpipe	104,608	0	0	104,608
Yard Piping & Flumes	95,901	0	0	95,901
Site Work & Landscp	27,505	0	0	27,505
Plant Elec. Shop	18,639	0	0	18,639
Total Water Treatment	\$1,590,214	\$0	\$0	\$1,590,214

Fixed Asset	Joint	Owners	Resale	Total
High Service Pumping Station	\$273,953	\$0	\$0	\$273,953
Distribution System PS				
Willett PS	\$0	\$107,882	\$0	\$107,882
Walter PS	0	73,013	48,675	121,688
Booster ST-12 Av N & N27	0	0	0	0
Leavens PS	0	14,865	0	14,865
Staples PS	0	81,080	0	81,080
Booster ST-17 W & Poly	0	0	0	0
Waldo PS	0	7,794	0	7,794
Voelker Pump	0	66,497	0	66,497
Chapple PS	0	44,968	0	44,968
Thomas PS	0	71	0	71
Total Distribution System PS	\$0	\$396,169	\$48,675	\$444,844
Reservoirs & Tanks				
Leavens #1	\$0	\$0	\$0	\$0
Leavens #2	0	0	0	0
Staples #1	0	101,951	0	101,951
Staples #2	0	0	0	0
Staples #3	0	1,401	0	1,401
Fox	25,929	0	0	25,929
Waldo	0	0	0	0
Logan	0	16,475	0	16,475
Christensen	0	162,457	0	162,457
Zone 4	0	8,656	0	8,656
Total Reservoirs & Tanks	\$25,929	\$290,941	\$0	\$316,870
T&D System				
Transmission 12" & Up	\$1,194,836	\$0	\$0	\$1,194,836
Distribution < 12"	0	1,232,055	0	1,232,055
Total T&D	\$1,194,836	\$1,232,055	\$0	\$2,426,892
Meters & Hydrants				
Service Connections	\$0	\$0	\$0	\$0
Meters	203,027	0	0	203,027
Hydrants	0	68,751	0	68,751
Hydrant Mains	0	30,931	0	30,931
Total Meters & Hydrants	\$203,027	\$99,682	\$0	\$302,709
General Plant				
Utilities Service Center	\$23,265	\$0	\$0	\$23,265
Heater Storage Bldg.	423	0	0	423
Cold Storage Bldg.	533	0	0	533
Rights & Licenses	681	0	0	681
Transportation Equip.	77,835	0	0	77,835
Lab & Test Equip.	24,940	0	0	24,940
Communication Equip.	110,878	0	0	110,878
Tools & Working Equip.	26,137	0	0	26,137
Office Furniture & Equip.	46,272	0	0	46,272
Gas Pumps	1,610	0	0	1,610
Heated Stg Bldg & Stg Yd	663	0	0	663
Total General Plant	\$313,237	\$0	\$0	\$313,237
Grand Total	\$3,702,052	\$2,018,847	\$48,675	\$5,769,575
Less CIAC				
Voelker Pump	\$0	(\$3,830)	\$0	(\$3,830)
Fox Reservoir	0	0	0	0
Transmission 12" & Up	(254,172)	0	0	(254,172)
Distribution < 12"	0	(331,206)	0	(331,206)
Hydrants	0	(34,091)	0	(34,091)
Hydrant Mains	0	(17,225)	0	(17,225)
#2 River Intake	0	0	0	0
Chem Bldg & Trtmnt	(66,620)	0	0	(66,620)
Total CIAC	(\$320,792)	(\$386,353)	\$0	(\$707,144)
Net Plant	\$3,381,260	\$1,632,495	\$48,675	\$5,062,430

Table 4-13. Allocation of Joint Depreciation Expense to Functional Cost Component

Fixed Asset	Total	Base	Max Day	Max Hour	Meter	Direct Fire
Source of Supply						
#2 River Intake	\$40,214	\$40,214	\$0	\$0	\$0	\$0
#1 Intake Chnl Hdwrk	58,275	26,489	31,786	0	0	0
#1 Low Duty PS	2,366	1,076	1,291	0	0	0
Total Source of Supply	\$100,855	\$67,778	\$33,077	\$0	\$0	\$0
Water Treatment						
Plant Maint. Wrhs	\$0	\$0	\$0	\$0	\$0	\$0
Maint. & Persnl. Bldg.	0	0	0	0	0	0
Chem Bldg & Trtmnt Bsn	163,278	74,217	89,061	0	0	0
Filter Bldg, Clr Bsn & PS	1,180,283	536,492	643,790	0	0	0
Clear Well Standpipe	104,608	47,549	57,059	0	0	0
Yard Piping & Flumes	95,901	43,591	52,310	0	0	0
Site Work & Landscp	27,505	12,502	15,003	0	0	0
Plant Elec. Shop	18,639	8,472	10,167	0	0	0
Total Water Treatment	\$1,590,214	\$722,824	\$867,389	\$0	\$0	\$0
High Service PS	\$273,953	\$124,524	\$149,429	\$0	\$0	\$0
Distribution System PS	\$0	\$0	\$0	\$0	\$0	\$0
Reservoirs & Tanks						
Leavens #1	\$0	\$0	\$0	\$0	\$0	\$0
Leavens #2	0	0	0	0	0	0
Staples #1	0	0	0	0	0	0
Staples #2	0	0	0	0	0	0
Staples #3	0	0	0	0	0	0
Fox	25,929	7,626	9,152	9,152	0	0
Waldo	0	0	0	0	0	0
Logan	0	0	0	0	0	0
Christensen	0	0	0	0	0	0
Zone 4	0	0	0	0	0	0
Total Reservoirs & Tanks	\$25,929	\$7,626	\$9,152	\$9,152	\$0	\$0
T&D System						
Transmission 12" & Up	\$1,194,836	\$351,422	\$421,707	\$421,707	\$0	\$0
Distribution < 12"	0	0	0	0	0	0
Total T&D	\$1,194,836	\$351,422	\$421,707	\$421,707	\$0	\$0
Meters & Hydrants						
Service Connections	\$0	\$0	\$0	\$0	\$0	\$0
Meters	203,027	0	0	0	203,027	0
Hydrants	0	0	0	0	0	0
Hydrant Mains	0	0	0	0	0	0
Total Meters & Hydrants	\$203,027	\$0	\$0	\$0	\$203,027	\$0
General Plant						
Utilities Service Center	\$23,265	\$8,816	\$9,536	\$4,637	\$99	\$176
Heater Storage Bldg.	423	160	174	84	2	3
Cold Storage Bldg.	533	202	218	106	2	4
Rights & Licenses	681	258	279	136	3	5
Transportation Equip.	77,835	29,495	31,904	15,515	331	590
Lab & Test Equip.	24,940	24,940	0	0	0	0
Communication Equip.	110,878	42,016	45,448	22,101	471	841
Tools & Working Equip.	26,137	9,904	10,713	5,210	111	198
Office Furniture & Equip.	46,272	17,535	18,967	9,223	197	351
Gas Pumps	1,610	610	660	321	7	12
Heated Stg Bldg & Stg Yd	663	251	272	132	3	5
Total General Plant	\$313,237	\$134,188	\$118,172	\$57,466	\$1,225	\$2,186
Less CIAC						
Voelker Pump	\$0	\$0	\$0	\$0	\$0	\$0
Fox Reservoir	0	0	0	0	0	0
Transmission 12" & Up	(254,172)	(74,756)	(89,708)	(89,708)	0	0
Distribution < 12"	0	0	0	0	0	0
Hydrants	0	0	0	0	0	0
Hydrant Mains	0	0	0	0	0	0
#2 River Intake	0	0	0	0	0	0
Chem Bldg & Trtmnt	(66,620)	(30,282)	(36,338)	0	0	0

Fixed Asset	Total	Base	Max Day	Max Hour	Meter	Direct Fire
Total CIAC	(\$320,792)	(\$105,038)	(\$126,046)	(\$89,708)	0	0
Net Plant - Joint	\$3,381,260	\$1,303,325	\$1,472,880	\$398,617	\$204,252	\$2,186

Table 4-14. Allocation of Resale Depreciation Expense to Functional Cost Component

Fixed Asset	Total	Base	Max Day	Max Hour	Meter	Direct Fire
Source of Supply	\$0	\$0	\$0	\$0	\$0	\$0
Water Treatment	\$0	\$0	\$0	\$0	\$0	\$0
High Service PS	\$0	\$0	\$0	\$0	\$0	\$0
Distribution System PS						
Willett PS	\$0	\$0	\$0	\$0	\$0	\$0
Walter PS	48,675	22,125	26,550	0	0	0
Booster ST-12 Av N & N27	0	0	0	0	0	0
Leavens PS	0	0	0	0	0	0
Staples PS	0	0	0	0	0	0
Booster ST-17 W & Poly	0	0	0	0	0	0
Waldo PS	0	0	0	0	0	0
Voelker Pump	0	0	0	0	0	0
Chapple PS	0	0	0	0	0	0
Thomas PS	0	0	0	0	0	0
Total Distribution System PS	\$48,675	\$22,125	\$26,550	\$0	\$0	\$0
Reservoirs & Tanks	\$0	\$0	\$0	\$0	\$0	\$0
Transmission & Distribution	\$0	\$0	\$0	\$0	\$0	\$0
Meters & Hydrants	\$0	\$0	\$0	\$0	\$0	\$0
General Plant	\$0	\$0	\$0	\$0	\$0	\$0
Net Plant - Resale	\$48,675	\$22,125	\$26,550	\$0	\$0	\$0

Table 4-15. Allocation of Joint Depreciation Expense to Customer Class

Customer Class	Total	Base	Max Day	Max Hour	Meter	Direct Fire
Owners						
Residential	\$1,484,617	\$573,504	\$668,379	\$79,715	\$163,019	\$0
Commercial	635,533	358,808	196,015	44,530	36,181	0
Industrial	6,014	4,117	1,500	204	192	0
Seasonal	201,269	64,997	118,359	16,133	1,780	0
Public FP	390,839	0	203,800	185,181	0	1,857
Private FP	64,227	0	33,491	30,431	0	305
Non-Owners						
Residential	16,957	6,617	7,712	920	1,707	0
Commercial	194,661	115,877	63,303	14,381	1,100	0
Resale	382,155	179,404	177,720	24,758	273	0
Private FP	4,988	0	2,601	2,363	0	24
Total - Joint	\$3,381,260	\$1,303,325	\$1,472,880	\$398,617	\$204,252	\$2,186

Table 4-16. Allocation of Resale Depreciation Expense to Customer Class

Customer Class	Total	Base	Max Day	Max Hour	Meter	Direct Fire
Owners	\$0	\$0	\$0	\$0	\$0	\$0
Non-Owners						
Residential	\$0	\$0	\$0	\$0	\$0	\$0
Commercial	0	0	0	0	0	0
Resale	48,675	22,125	26,550	0	0	0
Private FP	0	0	0	0	0	0
Total - Resale	\$48,675	\$22,125	\$26,550	\$0	\$0	\$0

4.5 Capital Cost Allocations

The utility-basis capital cost developed in Section 3 is also allocated to the functional cost components and customer classes as shown in Table 4-17.

Table 4-17. Allocation of Capital Costs by Ownership and Functional Cost Component

Customer Class	Total	Base	Max Day	Max Hour	Meter	Direct Fire
Owners						
Residential	\$4,727,704	\$2,014,133	\$2,199,068	\$476,203	\$38,299	\$0
Commercial	2,179,555	1,260,124	644,919	266,011	8,500	0
Industrial	20,661	14,460	4,934	1,221	45	0
Seasonal	714,479	228,268	389,418	96,374	418	0
Public FP	1,850,308	0	670,535	1,106,235	0	73,539
Private FP	304,064	0	110,190	181,790	0	12,085
Total Owners	\$9,796,771	\$3,516,987	\$4,019,064	\$2,127,834	\$47,263	\$85,623
Non-Owners						
Residential	\$41,448	\$18,297	\$19,436	\$3,229	\$485	\$0
Commercial	530,742	320,404	159,539	50,487	313	0
Resale	1,220,396	582,169	551,231	86,919	77	0
Private FP	14,861	0	6,555	8,297	0	9
Total Non-Owners	\$1,807,446	\$920,869	\$736,761	\$148,931	\$875	\$9

Section 5

Costs by Class and Proposed Rates

5.1 Costs by Class

The total cost of service by customer class and functional cost component is summarized in Table 5-1. The total cost of service is \$20,962,730, which is to be recovered from retail and Resale customers.

Table 5-1. Total Cost of Service

Customer Class	Total	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Owners							
Residential	\$9,629,285	\$3,473,113	\$3,337,596	\$641,001	\$1,377,769	\$799,806	\$0
Commercial	3,846,590	2,172,922	978,814	358,068	159,274	177,511	0
Industrial	35,124	24,935	7,488	1,644	112	944	0
Seasonal	1,131,954	393,620	591,033	129,726	8,842	8,733	0
Public FP	2,730,195	0	1,017,692	1,489,065	0	0	223,439
Private FP	448,658	0	167,239	244,701	0	0	36,718
Non-Owners							
Residential	93,651	34,038	31,053	4,328	15,297	8,935	0
Commercial	927,762	596,047	254,896	67,670	3,393	5,756	0
Resale	2,097,627	1,117,528	862,111	116,502	60	1,426	0
Private FP	21,884	0	10,473	11,121	0	0	291
Total	\$20,962,730	\$7,812,204	\$7,258,394	\$3,063,826	\$1,564,747	\$1,003,112	\$260,447

These costs of service are presented on a unit basis for the functional cost components for each customer class.

Table 5-2. Summary of Unit Costs

Customer Class	Base (\$/Ccf)	Max Day (\$/Ccf)	Max Hour (\$/Ccf)	Customer (\$/mo)	Meter (\$/mo) (1)	Direct Fire (\$/mo) (2)
Owners						
Residential	\$0.89	\$0.86	\$0.16	\$4.68	\$2.70	\$0.00
Commercial	0.89	0.40	0.15	4.68	2.70	0.00
Industrial	0.89	0.27	0.06	4.68	2.70	0.00
Seasonal	0.88	1.31	0.29	4.68	2.70	0.00
Public FP	NA	NA	NA	0.00	0.00	63.93
Private FP	NA	NA	NA	0.00	0.00	63.93
Non-Owners						
Residential	\$0.76	\$0.69	\$0.10	\$4.96	\$2.88	\$0.00
Commercial	0.76	0.32	0.09	4.96	2.88	0.00
Resale	0.92	0.71	0.10	4.96	2.88	0.00
Private FP	NA	NA	NA	0.00	0.00	40.15
(1) Based on a 3/4" equivalent meter.						
(2) Based on a 6" equivalent meter.						

5.2 Proposed Rates

Based on the analysis, CDM proposes an increase in the Resale water commodity charge from \$1.24/Ccf to \$1.72/Ccf for FY 2012. Commodity charges need to increase approximately 39 percent to pay for the upgrades to the Walter pump station and Water Plant / Filter upgrades. These upgrades each account for approximately 50 percent of the required increase.

The proposed rate for FY 2013 is only a 1 percent increase to \$1.75/Ccf. CDM proposes that monthly service charges remain the same through FY 2013. Table 5-3 presents the current and proposed Resale water rates.

Table 5-3. Current and Proposed Resale Water Rates

	Current	Proposed FY 2012	Proposed FY 2013
Commodity	\$1.24/Ccf	\$1.72/Ccf	\$1.75/Ccf
Monthly Service	\$/mo	\$/mo	\$/mo
3/4"	8.60	8.60	8.60
1"	9.80	9.80	9.80
1 1/2"	11.39	11.39	11.39
2"	15.78	15.78	15.78
3"	48.09	48.09	48.09
4"	60.01	60.01	60.01
6"	88.02	88.02	88.02
8"	119.98	119.98	119.98
10"	185.17	185.17	185.17

Appendix A

Percentages of Water Use

Table A-1. Percentages of Water Use - Joint

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Owners						
Residential	44.0%	45.4%	20.0%	88.1%	79.8%	0.0%
Commercial	27.5%	13.3%	11.2%	10.2%	17.7%	0.0%
Industrial	0.3%	0.1%	0.1%	0.0%	0.1%	0.0%
Seasonal	5.0%	8.0%	4.0%	0.6%	0.9%	0.0%
Public Fire Protection	0.0%	13.8%	46.5%	0.0%	0.0%	85.0%
Private Fire Protection	0.0%	2.3%	7.6%	0.0%	0.0%	14.0%
Non-Owners						
Residential	0.5%	0.5%	0.2%	0.9%	0.8%	0.0%
Commercial	8.9%	4.3%	3.6%	0.2%	0.5%	0.0%
Resale	13.8%	12.1%	6.2%	0.0%	0.1%	0.0%
Private Fire Protection	0.0%	0.2%	0.6%	0.0%	0.0%	1.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A-2. Percentages of Water Use - Owners

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Owners						
Residential	57.3%	54.7%	22.4%	89.1%	81.0%	0.0%
Commercial	35.8%	16.0%	12.5%	10.3%	18.0%	0.0%
Industrial	0.4%	0.1%	0.1%	0.0%	0.1%	0.0%
Seasonal	6.5%	9.7%	4.5%	0.6%	0.9%	0.0%
Public Fire Protection	0.0%	16.7%	52.0%	0.0%	0.0%	85.9%
Private Fire Protection	0.0%	2.7%	8.5%	0.0%	0.0%	14.1%
Non-Owners						
Residential	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Commercial	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Resale	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Private Fire Protection	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A-3. Percentages of Water Use – Resale

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Owners						
Residential	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Commercial	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Industrial	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Seasonal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Public Fire Protection	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Private Fire Protection	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Non-Owners						
Residential	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Commercial	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Resale	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%
Private Fire Protection	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

