

2014 Cost-of-Service Rate Report



DENVER WATER

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1.1 Introduction

Denver Water conducts an annual cost-of-service water rate study to equitably determine the costs to provide service to customers. The study includes:

- Development of the financial plan
- A cost-of-service analysis to determine the cost to provide service to customer classes
- Design of water rates

1.2 Public process

The adoption of rates is part of a multi-step public process. The public process includes at least three presentations to the Board along with presentations to various stakeholder groups. All of these meetings are open to the public¹. The 2014 water rates public process included the following meetings with the Board of Water Commissioners (Board) and other stakeholders.

- **July 24, 2013.** Presentation of 10-capital and financial plan to the Board.
- **August 20, 2013.** Distributor Forum 10-year capital and financial plan
- **August 22, 2013.** Meeting with Technical Advisory Committee for 2014 cost-of-service
- **August 28, 2013.** 10-year financial plan, cost-of-service, and rates presentation to the Board
- **September 11, 2013.** Public comments on 2014 rates proposal.
- **September 17, 2013.** Distributor's Forum 2014 water rate proposal.
- **September 25, 2013.** Final reading of the 2014 rates proposal and vote for adoption by the Board. This Board action item is included in Appendix A at the end of this report.

1.3 Cost-of-service rate model methodology change

In May 2012, the Board adopted a new cost-of-service methodology for determining water rates. The previous methodology incorporated an investor-owned utility approach to determine outside-city revenue requirements and a cash basis approach to determine inside-city revenue requirements. The new methodology uses a cash based approach for both inside and outside-city customers. The new methodology was designed to achieve the following objectives:

- Compliance with the City Charter, Distributor contracts, and case law
- Transparency
- Predictability
- Equitable distribution of costs

The new methodology follows the industry-accepted principles of cost-of-service rate making endorsed by the American Water Works Association (AWWA). Appendix A contains the adopted resolution with a discussion of the new methodology.

¹ The public may provide comments through written communication or by attending any Board meeting.

1. Executive summary

1.4 Study findings

1.4.1 Revenue adjustment for 2014

Rate revenue should be sufficient to meet annual revenue requirements, cover debt service, and maintain adequate reserves. Revenue requirements include operation and maintenance expense, payments on existing and proposed debt service, and rate-funded capital projects. To meet these requirements, a rate revenue adjustment of 3.5% was adopted for 2014. This adjustment becomes effective January 1, 2014 and will produce approximately \$8.5 million in additional revenues to meet annual revenue requirements.

1.4.2 Adopted 2014 rates

The adopted rates are designed to recover the rate revenue needed to meet 2014's revenue requirements. 2014 rates retain the existing two-part structure, a monthly service charge regardless of meter size or customer class, and a volume charge that varies by customer class. Table 1-1 summarizes adopted rates for the residential and nonresidential water customer classes. The full adopted schedules are in Appendix A.

Table 1-1 2014 Adopted Rates					
Customer Class	Inside City	Outside City Read & Bill	Outside City Total Service	OCSA¹	Master Meter²
Service Charge, \$ per bill	\$6.58	\$6.58	\$6.58	\$6.58	\$6.58
Volume Charge, \$ per 1,000 gallons					
Single Family Residential					
Block 1 (0 to 11,000 gallons)	\$2.68	\$2.73	\$3.02		
Block 2 (12 to 30,000 gallons)	5.36	5.46	6.04		
Block 3 (30 to 40,000 gallons)	8.04	8.19	9.06		
Block 4 (over 40,000 gallons)	10.72	10.92	12.08		
Small Multifamily					
Block 1 (0 to 15,000 gallons) ³	\$2.93	\$3.39	\$4.21		
Block 2 (over 15,000 gallons)	3.52	4.07	5.05		
All Other (Nonresidential)					
Winter	\$1.84	\$2.35	\$2.70		
Summer	3.68	4.70	5.40		
Irrigation Only					
Winter	\$1.20	\$1.31	\$1.56		
Summer	4.81	5.24	6.24		
Raw	0.52	0.91	0.91	1.04	
Recycled	0.99			1.11	
Master Meter				3.95	4.44
<ol style="list-style-type: none"> 1. Outside the combined service area 2. Master Meter customers are outside-city 3. Applies to two dwelling units. Threshold increases by 6,000 for each additional unit up to 5 units. 					

2. Denver Water Statistics

2.1 Introduction

Denver Water provides service to approximately 1.3 million people in the Denver-metro area and is governed by a five-member Board appointed by the mayor of Denver. The utility's mission is as follows:

“Denver Water will be a responsible steward of the resources, assets and natural environments entrusted to us in order to provide a high quality water supply, a resilient and reliable system, and excellent customer service.”

Denver Water's service history predates Colorado statehood. The Denver City Water Company, a privately-held organization, was formed in 1870. A series of other water companies formed, merged and sometimes failed until 1894 when the Denver Union Water Company was formed to purchase the two surviving companies. In November 1918, Denver's citizens approved the establishment of the Denver Board of Water Commissioners and purchase of the Denver Union Water Company to create Denver Water.

Denver Water is a public agency funded by water rates, system development charges, hydropower sales, and other miscellaneous revenues. Denver Water receives no tax revenue from city, state, or federal entities. The city government has no access to the water works fund and Denver Water has no access to the city's general fund. This ensures the separation between the city and Denver Water. Both funds are accounted for by the city auditor.

2.2 Governance

Article X of the Denver City Charter defines the creation, governance, and operation of Denver Water. Section 10.1.7 of Article X establishes a water works fund separate from the City and County of Denver's general fund. This provision allows the city and Denver Water to operate independently of each other. The following charter excerpts details the rate-setting authority of Denver Water.

2.2.1 Section 10.1.9 – water rates

This section outlines the rate-setting authority for all retail customers within the City and County of Denver.

“The Board shall fix rates for which water shall be furnished for all purposes within the City and County of Denver, and rates shall be as low as good service will permit. Rates may be sufficient to pay for operation, maintenance, reserves, debt service, additions, extensions, betterments, including those reasonably required for the anticipated growth of the Denver Metropolitan area . . .”

2. Denver Water Statistics

2.2.2 Section 10.1.12 – city government rates

This section defines cost recovered through rates charged to the City and County of Denver municipal customers. City and County of Denver accounts include city parks, zoo, museum, and municipal buildings, such as the courthouse and City Hall. This provision explicitly requires City and County municipal rates exclude capital-related charges.

“... the Board shall furnish water to the municipal government of the City and County of Denver at rates which shall approximately equal but not exceed the cost of the water furnished, not including items in such rate for debt service, additions, extensions or betterments. Such rate shall not be applicable to agencies or authorities sponsored by or supported by the City and County . . . The Board shall furnish water out of the City Ditch or some equivalent source for the use of Denver in City Park and Washington Park, without any charge whatsoever.”

In addition to the reduced cost basis from which the rate is established, City and County of Denver is not assessed system development charges (SDC) for new development.

2.2.3 Section 10.1.13 – water leases (outside-city rates)

This section outlines costs to be recovered from customers outside the City and County of Denver. This section requires that inside-city customers be fully reimbursed for the cost to provide service plus an additional amount as determined by the Board. The additional amount above the full cost serves as an offset to inside-city costs.

“The Board shall have power to lease water and water rights for use outside the territorial limits of the City and County of Denver . . . Every such lease shall contain terms to secure payment of sufficient money to fully reimburse the people of Denver for the cost of furnishing the water together with an additional amount to be determined by the Board . . .

2.3 Water system

Denver Water’s service area encompasses approximately 343 square miles and serves about 1.3 million people. This service area includes the City and County of Denver and a number of municipalities and special water districts immediately outside the city’s boundaries.

Denver Water owns and operates the entire utility system’s infrastructure, from mountain reservoirs to the treated water distribution system to serve customers within the combined service area with exception of distribution facilities within the Read & Bill districts and Master Meter districts. This infrastructure is valued at more than \$1.3 billion. The list below provides statistical information on major infrastructure facilities for the utility²:

² Taken from the Denver Water 2011 Comprehensive Annual Financial Report, Statistical Section and www.denverwater.org

2. Denver Water Statistics

- 15 storage reservoirs with a total capacity of 691,966 acre-feet
- 77.5 miles of mountain collection system conduits and 47.7 miles of raw water supply mains
- 18 pump stations with a pumping capacity of 1,003.3 million gallons per day
- Three treatment plants (Foothills, Marston and Moffat) with a total capacity of 715 million gallons per day. One recycled water treatment plant with a total capacity of 30 million gallons per day
- 3,050 miles of treated water distribution system mains

2.3.1 Source of supply

Denver Water's primary source of supply is surface water from the central Rocky Mountains. The watersheds cover more than 3,100 square miles on the state's East and West Slope of the Rocky Mountains as illustrated in Figure 2-1 on the following page. Source of supply water is provided through three collection systems in the Rocky Mountains. These are:

- South Platte
- Robert's Tunnel
- Northern

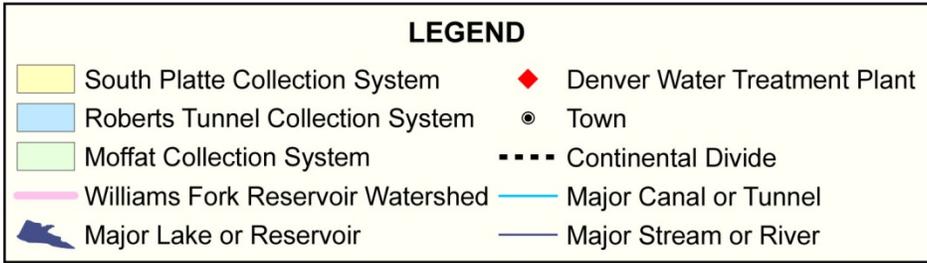
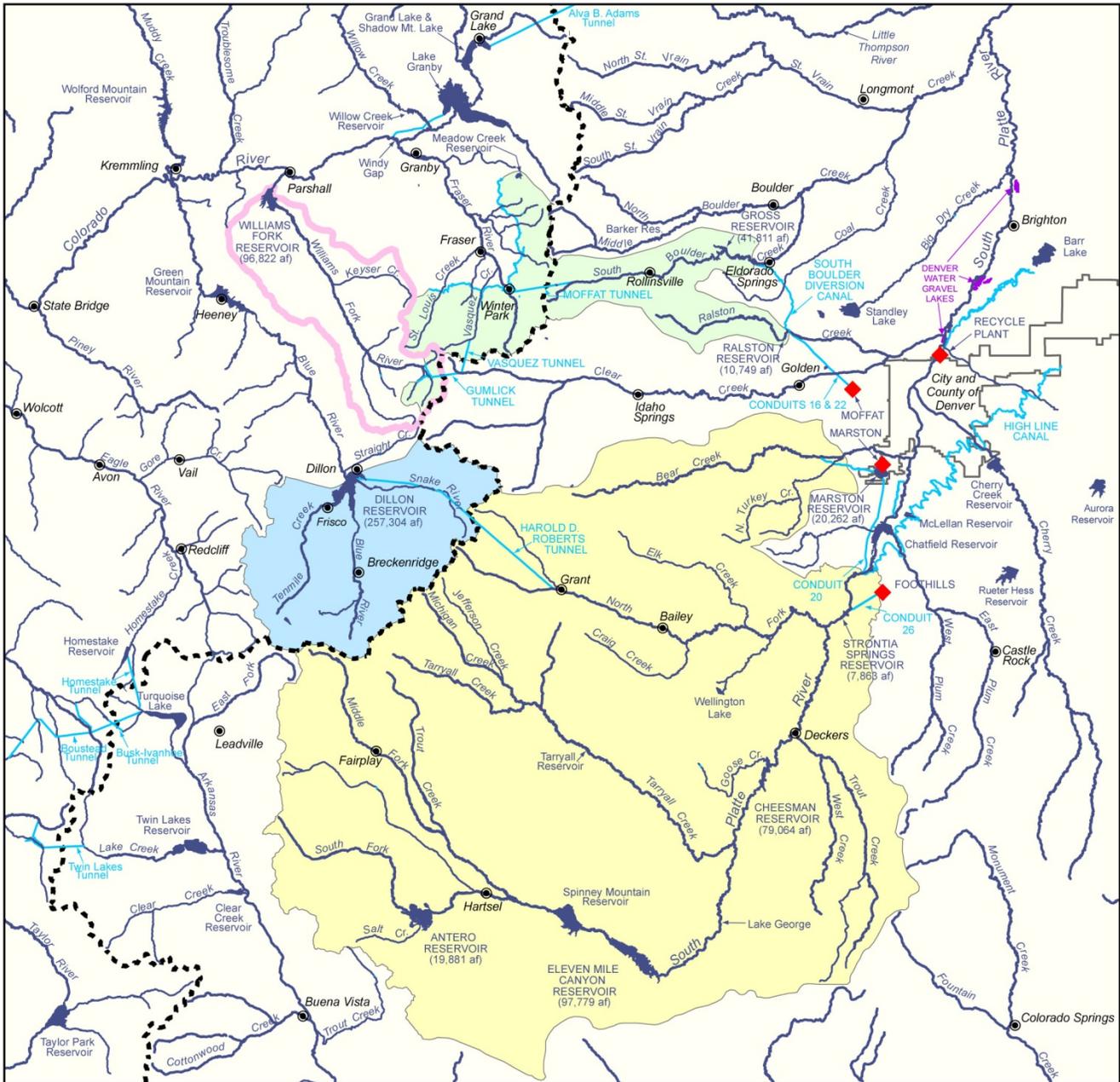
The South Platte Collection System includes Antero, Eleven Mile, Cheesman, and Strontia Springs reservoirs. The South Platte Collection System provides approximately 42% of Denver Water's supply. The Robert's Tunnel Collection System transports water from Dillon Reservoir through the Continental Divide and drains into the North Fork of the South Platte River. The Robert's Tunnel collection system supplies approximately 27% of Denver Water's supply. The Northern Collection System delivers water from the Williams Fork and Fraser rivers and provides approximately 31% of Denver Water's supply. The Northern Collection System relies on an integrated system of tunnels to transport the water to the Gross and Ralston reservoirs.

2.3.2 Treatment and distribution

The Foothills and Marston treatment plants treat water from the South Platte Collection System. The Moffat Treatment Plant treats water from the Northern Collection System, which includes Ralston Reservoir.

2. Denver Water Statistics

Figure 2-1
Denver Water Collection System



2. Denver Water Statistics

2.4 Service area

Denver Water provides water service to customers inside the City and County of Denver as well as several water districts and municipalities located outside the City (referred to as “Distributors”).

Denver Water’s combined service area (CSA) consists of the City and County of Denver and the geographic areas of its suburban water distributors. Figure 2-2 on the following page illustrates the service area boundaries.

Denver Water provides service to 68 treated water distributors in the CSA and other individual contract customers outside the combined service area (OSCA). Distributors are classified as Read and Bill, Total Service, and Master Meter. The cost to provide service to these distributors varies based on their level of service requirement. Each distributor type is described below.

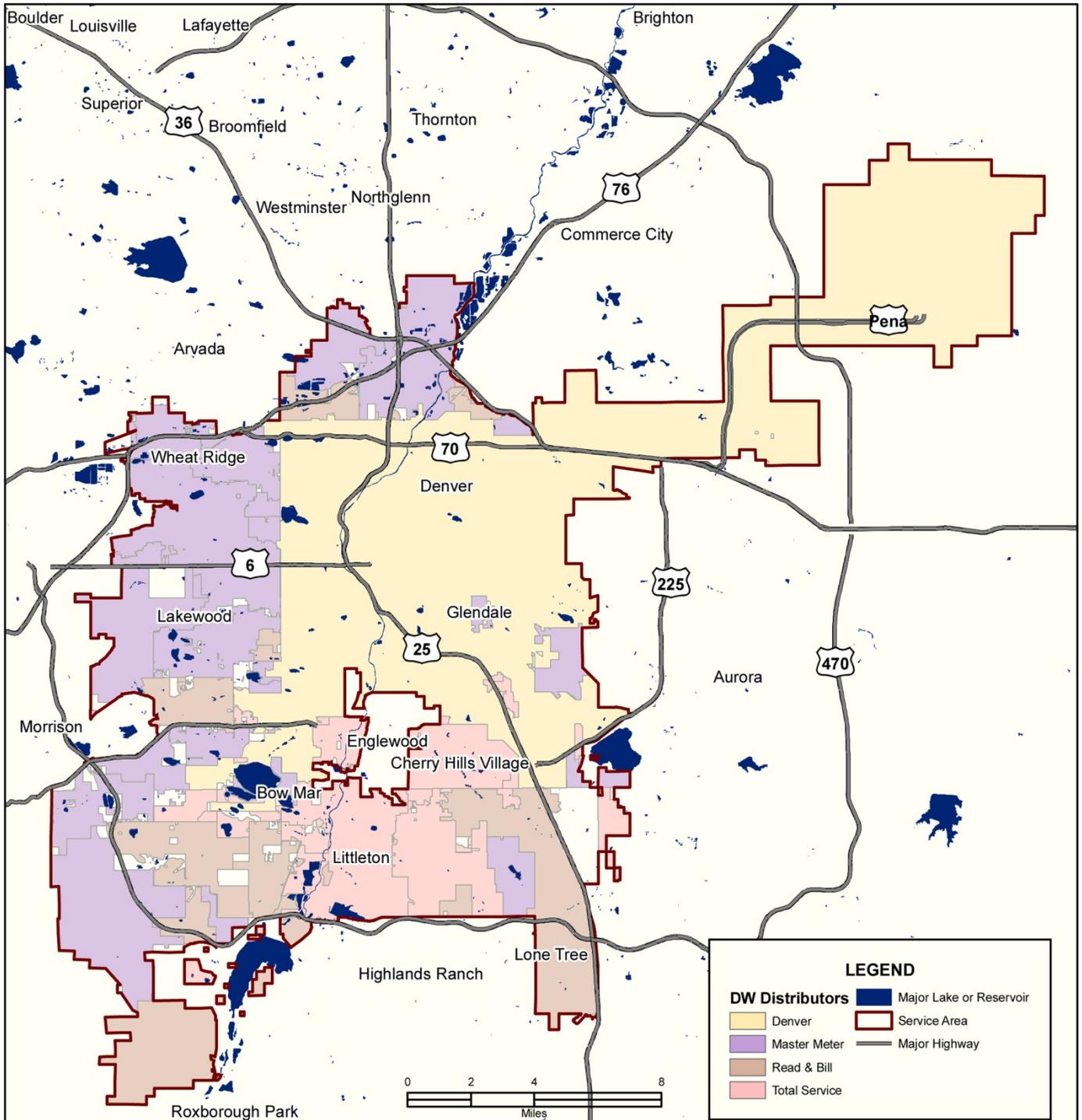
- **Master Meter.** Master Meter distributors purchase water on a wholesale basis from Denver Water and resell it to retail customers. Master Meter distributors own and operate the transmission and distribution systems in their service territories and are responsible for meter reading, billing, and customer service. Rates exclude local distribution costs, meter reading, billing and customer service costs for individual customers served by Master Meters. Denver Water serves 25 Master Meter distributors.
- **Read and Bill.** Read and Bill distributors own and operate the transmission and distribution systems within their service territories. Denver Water provides meter reading, billing, and customer service. Read and Bill rates exclude local distribution costs. Denver Water serves 15 Read and Bill distributors.
- **Total Service.** Denver Water provides full service to Total Service distributors. This includes operation of the local distribution system within their service territories as well as meter reading, billing, and customer service. Denver Water serves 29 Total Service distributors.

In addition to the water service provided within the CSA, Denver Water also sells water to OSCA customers through temporary, fixed-volume contracts for treated, raw, and recycled water. Treated and raw water service is available in the CSA; recycled water is currently only available to outside-city customers within the CSA.

Approximately 55% of total water sold is to outside-city and OSCA customers. The remainder is sold to inside-city customers. Of that 55%, approximately 81% of outside-city water sales is attributed to treated water, 17% to raw water and 2% to recycled water. Of the total water sold to inside-city customers, approximately 95% is treated, 3% is raw, and 2% is recycled water.

2. Denver Water Statistics

Figure 2-2
Denver Water Service Area



2. Denver Water Statistics

2.5 Denver Water customer classes

Denver Water groups individual customers to classes based on similar usage characteristics. Revenue recovered through each customer classes' rates is commensurate with the cost to provide service. Cost responsibility is a function of customer class average and peak water demands relative to the demands of other customer classes, as well as billing, meter reading, and fire protection costs. Table 2-1 lists the customer classes served by location and type of service.

Table 2-1 Denver Water Customer Classes						
Customer Rate Class	Inside City		Outside City			
	Retail ¹	City/County	Read and Bill ²	Total Service ³	OCSA	Master Meter ⁴
Retail Treated Water						
Single Family Residential	✓		✓	✓		
Small Multifamily Residential	✓		✓	✓		
Nonresidential	✓	✓	✓	✓		
Irrigation	✓	✓	✓	✓		
Retail Nonpotable Water						
Raw Water	✓	✓			✓	
Recycled Water	✓	✓			✓	
Wholesale Treated Water					✓	✓

1. Inside City applies to customers inside the City and County of Denver.
2. Outside City Read and Bill applies to customers served by suburban Read and Bill distributor districts.
3. Outside City Total Service applies to customers served by suburban Total Service distributor districts.
4. Master Meter applies to customers served by suburban Master Meter distributor districts.

2. Denver Water Statistics

2.6 Historical rate structures

Denver Water's rate structures have varied by customer class over the years to reflect changing pricing and policy objectives. Table 2-2 provides a summary of Denver Water rate structure changes since 1958.

Table 2-2 Denver Water Historical Rate Structures by Customer Class								
Year	All Customers	Residential	Duplex	Single Family Res.	Single Family Residential Irrigation	Small Multifamily	Nonresidential Retail	Other Irrigation
1957-58	DB (8)							
1959-79	DB (5)							
1980-89	DB (4)							
1990-94		IB (2)					DB (2)	
1995		IB (2)	IB (2)				UB	
1996-98				IB (2)		IB (2)	UB	
1999-05				IB (3)		IB (2)	Seasonal	
2006				IB (4)		IB (2)	Seasonal	
2007				IB (4)	Seasonal	IB (2)	Seasonal	
2008				IB (4)	Seasonal	IB (2)	Seasonal	Seasonal
2009				IB (4)	Seasonal	IB (2)	Seasonal	Seasonal
2010-2014				IB (4)		IB (2)	Seasonal	Seasonal

DB: Declining Block
IB: Increasing Block
UB: Uniform Block
(#): Number of Blocks

3.1 Introduction

Denver Water operates from a self-supporting water works fund. Denver Water financial activities are independent of the City and County of Denver as stated in Article X of the City and County Charter. Funding for annual operations and maintenance expenses, capital projects, and debt service is met primarily through water rates, system development charges (SDC), participation fees, other miscellaneous revenue, and non-operating revenue.

3.2 Cash flow fund analysis

The cash flow fund tracks activities associated with funding annual expenditures through rate revenue, bond proceeds, and other income. The 2014 beginning balance is projected to be \$182.1 million.

3.3.1 Sources of funds

3.3.1.1 Rate Revenue

Operating revenues consist of water sales, hydropower, reimbursement and grants, interest income and other miscellaneous revenue. Projected water sales are based on a detailed analysis of Denver Water’s historical utility billing records in 2009 through 2012. This data is used to project revenue under existing rates by customer class, considering the projected number of accounts and projected water usage. Total water sales are projected to be 69.4 billion gallons in 2014, which will generate \$241.9 million in water sales under at 2013 rates. The projection includes a 10% reduction in water sales due to expected continuing drought conditions in 2014. Growth in the number of accounts is projected at less than 0.5% for 2014.

3.3.1.2 Miscellaneous Revenue

Miscellaneous revenue consists of hydropower sales from Denver Water’s dam operations, miscellaneous service fees, ditch fees, and interest income on fund balances. Table 3-1 summarizes the 2014 miscellaneous revenue.

Table 3-1 2014 Miscellaneous Revenue		
Description	Amount (\$ thousands)	Percent of Total
Hydropower	\$4,680	27%
Special Assessments	5,750	34%
Miscellaneous Fees	2,360	14%
Ditch Fees	320	2%
All Other	460	3%
CIS Billing	2,128	12%
Interest Income	1,413	8%
Total 2014 Miscellaneous Revenue	\$17,110	100%

3.3.1.3 Other sources

Other income sources include annual SDC revenue, participation fees, land sales, bond proceeds, and transfers from the specifically designated reserve fund for water rights mitigation. The reserve fund contains money recovered from rate payers for operations and maintenance (O&M) and capital expenditures budgeted in the prior years but not spent. These expenditures have been carried over into the 2014 budget and will be funded through the reserve transfer. SDC revenue is based on an annual growth rate of approximately 0.5% and is projected to be approximately \$15 million for 2014. A bond issue of 36.0 million is projected in 2014 to assist in funding expansion capital projects. SDC revenue and the proposed bond issue will fund approximately 38% of all capital projects. Table 3-2 summarizes other revenue sources for 2014.

Table 3-2 2014 Other Sources of Funds		
Description	Amount (\$ thousands)	Percent of Total
Bond Proceeds	\$36,000	48%
BABs Subsidy	2,225	3%
System Development Charges	15,294	20%
Participation Fees	2,163	3%
Transfer From Specific Reserve Fund	<u>20,000</u>	<u>26%</u>
Total 2014 Other Sources	\$75,682	100%

3.3.2 Uses of funds

3.3.2.1 Operation and maintenance expense

The operating fund revenue requirements include operation and maintenance expense, payments on existing and proposed debt service, and capital expenditures associated with expansion, repair and replacement, and equipment. O&M consist of personnel, materials, and supplies to treat, distribute, and maintain the water system continuously. A portion of operations and maintenance indirect expenses are transferred to capital funds and are capitalized with the completion of projects. Indirect operations and maintenance expenses include general and administrative costs associated with maintenance; employee benefits, prorated leaves, vehicles and equipment. Indirect expense total \$20.8 million for 2014. Table 3-3 on the following page summarizes the 2014 operation and maintenance expenses by functional category.

Table 3-3 2014 Operation and Maintenance Expense		
Description	Amount (\$ thousands)	Percent of Total
Source of Supply	\$15,900	9%
Water Treatment	29,372	16%
Pumping	7,351	4%
Storage	1,011	1%
Transmission and Distribution	26,098	15%
Customer	16,327	9%
Fire Protection	1,361	1%
General and Administrative	<u>81,223</u>	<u>45%</u>
Total 2014 O&M Expense	\$178,643	100%

Payments on existing and proposed debt service total \$47.9 million for 2014. This average annual payment is net of Build America Bond Subsidies (BABs) received from the federal government. The (BABs) is approximately \$2.2 million in 2014.

3.3.2.2 Capital expenditures

Capital expenditures include expansion, repair and replacement projects and other general equipment purchases. Expansion project costs total \$58.6 million for 2014; repair and replacement projects and general equipment total \$83.7 million for 2014. Table 3-4 summarizes projects by category.

Table 3-4 2014 Capital Projects by Category		
Description	Amount (\$ thousands)	Percent of Total
Source of Supply	\$45,499	32%
Recycled Distribution	5,316	4%
Treatment	15,996	11%
Distribution Mains <=24"	20,220	14%
Treated Pumping	17,954	13%
Treated Storage	9,402	7%
Transmission Mains >24"	16,407	12%
General Plant	9,958	7%
Hydrants	<u>1,494</u>	<u>1%</u>
Total 2014 Functionalized Capital Projects	\$142,246	100%

3.6 Target reserve requirements

Denver Water follows a financial management strategy designed to maintain smooth and predictable annual revenue increases to meet annual revenue requirements. Denver Water uses cash reserves and adjusts bond proceeds to assist with minimizing annual revenue increases. Denver Water strives to maintain a minimum reserve allowance as part of its financial strategy. The annual reserve requirement components are listed in Table 3-5 along with their 2014 requirements on the following page.

Table 3-5	
2014 Target Reserves	
Description	Amount (\$ thousands)
Legally Restricted-Debt Reserve	\$33,600
90 Days O&M Expense	45,100
2% of Fixed Assets	50,300
Insurance Reserve	10,000
Other	4,800
Total 2014 Reserve Requirements	\$143,800
Specifically Held Reserves for Future Use	\$39,300

3.7 Debt service coverage requirements

Denver Water maintains the stand-alone revenue bond rating of AA or better. Denver Water uses the following debt guidelines to meet or exceed this rating:

- A debt ratio less than or equal to 40%.

$$\text{Debt Ratio} = \text{Total Debt} \div (\text{Net Fixed Assets} + \text{Net Working Capital})$$

- Interest coverage equal to or greater than 2.5x.

$$\text{Interest Coverage} = \text{Net Revenues} \div (\text{Interest Requirements-SDC})$$

- Debt service coverage, as defined in the Master Bond Resolution should be equal to or greater than 2.0x. The legal minimum requirement stated is 1.2x

$$\text{Debt Service Coverage} = \text{Net Revenues} \div \text{Annual Debt Service}$$

- Year-end balance in the Water Works Fund, net of principal and interest should be equal to or greater than \$5 million.

3.8 Indicated revenue adjustments

Revenue should be sufficient to meet annual revenue requirements, bond covenants, and target reserves. To meet these requirements, a revenue adjustment of 3.5% is required in 2014. This adjustment will produce an additional \$8.5 million in rate revenue. Table 3-6 summarizes the 2014 cash flow analysis. Denver Water reviews, updates and adopts the budget and revenue increases on an annual basis.

3. Financial plan

Table 3-6	
2014 Cash Flow Analysis	
Description	2014
Sources of Funds	
Rate Revenue	
Revenue at Existing Rates	\$241,909
3.5% Revenue Increase	<u>8,467</u>
Total Rate Revenue	\$250,376
Miscellaneous Revenue	\$17,110
Other Sources	75,682
Total Sources of Funds	\$343,168
Uses of Funds	
Operation and Maintenance Expense	\$178,643
Debt Service	47,879
Capital Programs	
Expansion	\$58,554
Repair and Replacement	<u>83,691</u>
Total Capital Programs	\$142,246
Total Uses of Funds	\$368,767
<i>Annual Surplus/(Deficiency)</i>	<i>(\$25,599)</i>
Plus: Beginning Balance	<u>\$182,070</u>
Ending Fund Balance	156,471
Ending Fund Balance	\$156,471
Target Reserves	<u>143,800</u>
Variance from Target	12,671
Performance Measures	
Debt Ratio	21.5%
Debt Coverage	
Including SDC and Participation	222%
Excluding SDC and Participation	186%
Days Cash on Hand	344

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4.1 Introduction

To develop equitable water rates, Denver Water uses the industry-accepted cost-of-service principles to allocate costs to customer classes. Cost allocations recognize class usage, peak rates of demand, number of customers, and fire protection requirements. Denver Water's annual cost-of-service rate study uses the industry standard methodologies supported by the American Water Works Association M1 Manual³ (AWWA). A test year of 2014, the period in which resultant rates are effective, was selected for the cost-of-service study. Appendix B contains the supporting tables referenced in this chapter.

4.2 Cost-of-service process

The cost-of-service process is a method to assign costs based on each customer classes' proportionate share of water demands and number of customers to the total system water demands and customers. The cost-of-service analysis consists of the following eight steps:

1. Determine annual revenue requirement
2. Determine additional amount
3. Allocate costs to functions
4. Allocate costs to cost pools
5. Allocate costs to cost components
6. Determine system units of service
7. Determine customer class units of service
8. Distribute costs to customer classes

4.3 2014 revenue requirement

Expenditures for 2014 total \$250.4 million. Expenditures include annual operation and maintenance expenses, capital projects and payments on existing and proposed debt service. Of that \$250.4 million, \$101.3 million are expenditures recovered through non-rate revenue sources consisting of system development charges, participation fees, bond proceeds and changes in reserves. The net of these costs, including an offset of miscellaneous operating revenue of \$17.1 million, represent the 2014 revenue requirement or revenue recovered from rates. The cost allocation process discussed in this chapter provides a means of assigning the revenue requirement between inside- and outside-city customer classes. The costs assigned to each customer class are then used to develop 2014 rates. Table 4-1 summarizes the 2014 revenue required from rates.

³ Woodcock, C.P.N., et al. Principles of Water Rates, Fees, and Charges: Manual of Water Supply Practices, M1. (2001). American Water Works Association: Denver, CO.

4. Cost of service

Table 4-1 2014 Revenue Requirement Summary			
Item	Total Revenue Requirements	Non-rate Adjustments	Net Revenue Requirement
Expenditures			
Operation and Maintenance Expense	\$178.6	\$0.0	\$178.6
Capital Costs	142.2	(101.3)	41.0
Debt Service	<u>47.9</u>	<u>0.0</u>	<u>47.9</u>
Total expenditures	\$368.8	(\$101.3)	\$267.5
Non-rate revenue adjustment			
SDC and Participation Fees	(\$17.5)	(\$17.5)	\$0.0
2014 Bond Issue	(36.0)	(36.0)	0.0
Miscellaneous Revenue	(17.1)	0.0	(17.1)
BABs Subsidy	(2.2)	(2.2)	0.0
Specifically Held Project Reserve Transfer	(20.0)	(20.0)	0.0
Change in Operating Reserves	<u>(25.6)</u>	<u>(25.6)</u>	<u>0.0</u>
Non-rate Revenue Adjustment	(\$118.4)	(\$101.3)	(\$17.1)
Net Revenue Requirement	\$250.4	(\$0.0)	\$250.4
<i>Totals may not add due to rounding</i>			

4.4 Additional amount

Section 10.1.13 of the City and County Charter requires Denver Water to recover the full cost of providing water service to outside-city customers plus an additional amount to be determined by the Board. The Board of Water Commissioners adopted a method to calculate an additional amount that is based on a return on investment approach common with municipal and private utilities. The additional amount calculation consists of two components; the outside-city rate base and an equity risk premium derived from Denver Water's weighted average cost of capital or rate of return. The product of the rate base and the equity risk premium is the additional amount. Because the rate base and the rate of return do not vary significantly from year-to-year, this method for determining the additional amount will assist with rate stability for inside- and outside-city customers.

4.4.1 Outside-city rate base

The outside-city rate base includes the original cost of existing assets less contributions, SDC, participation fees, and accumulated depreciation. Capital projects anticipated to be in service during the test year are included as part of the rate base. Assets allocated to outside-city are based on the cost pool analysis discussion in Section 4.6. For joint-related assets, approximately 70.8% of costs are allocated to the outside-city rate base. This is based on Denver Water's 2002 long-term demand forecast between inside- and outside-city customers. This percentage allocated to outside-city will decrease over time. The 2014 outside-city rate base totals \$551,330.

4. Cost of service

4.4.2 Equity risk premium

The equity risk premium is based on Denver Water's weighted average cost of capital (WACC). The WACC consists of the weighted amount of debt and equity that has been used to fund the utility's rate base. There are costs associated with using debt and using equity to fund capital. The cost of debt is the interest rate on outstanding debt. The cost of equity represents the return required by an investor for the opportunity costs of investing in the rate base. Whereas the cost of debt can be estimated from financial statements, the cost of equity is more difficult. Because Denver Water is not publically traded, the cost of equity analysis used is based on comparable companies in the utility industry. The cost of equity from these comparable companies was calculated using a discounted cash flow (DCF) analysis as well as the capital asset pricing model (CAPM). The rate of return is summarized below in Table 4-2:

Table 4-2 Weighted Average Cost of Capital				
Item	Amount (\$ millions)	Ratio	Cost	Weighted Cost
Equity Capital	\$905,330	67.55%	7.97%	5.39%
Debt Capital	\$434,962	32.45%	2.94%	0.95%
Total	\$1,340,292	100.00%		6.34%
Less: Cost of debt				2.94%
<i>Equity risk premium for additional amount</i>				3.40%

The equity risk premium is the net of the rate of return less the cost of debt. This recognizes that the cost of debt for outside-city customers is already reflected in their revenue requirement (i.e. their portion of interest expense).

4.4.3 Additional amount calculation

The 2014 additional amount is product of the 2013 and 2014 weighted average rate base and equity risk premium. Table 4-3 summarizes the calculation.

Table 4-3 Additional Amount Calculation			
Item	Rate Base	Risk Premium	Additional Amount
	\$millions		
2013 Additional Amount	\$563,569	3.2%	\$17,768
2014 Additional Amount	\$551,330	3.4%	<u>\$18,733</u>
Average			\$18,250

This amount is added to the outside-city revenue requirement and subtracted from the inside-city revenue requirement. The total utility revenue requirement remains unchanged at \$250.4 million.

4.5 Cost functionalization

The utility is comprised of various facilities that serve a particular function to provide water service. These facilities are designed and operated to meet the both average day demands, peak demands as well as customer-related requirements. The revenue requirement, or the annual costs to operate, maintain and expand the water system can be allocated to the facilities used to provide water service. For purposes of the cost-of-service analysis, costs are allocated into the following major functional areas:

- Source of Supply
- Water Treatment Plant
- Pumping
- Storage
- Transmission and Distribution
- General Plant
- Fire Protection/Hydrants
- Customer
- General and Administrative

Each of these functional categories contains specific facilities associated with that function. Costs can be further allocated to specific facilities associated with a particular function to assist in the cost allocation process. For example, the storage functional component consists of the costs associated with the Capitol Hill, Green Mountain, and Belleview storage facilities. The functionalized costs can then be used to allocate to cost components to recognize their specific service requirements.

4.6 Cost pools

Cost pools identify costs that are shared by a group of customers. Denver Water cost pools separate costs based on facilities that serve all customer classes, customers within the City and County and Denver, and customers outside the city. Allocating the functionalized costs described in Section 4.5 to cost pools provides a means for equitably recovering facility costs from those who benefit. Table 4-4 describes Denver Water's cost pools.

Table 4-4 Cost Pools	
Cost Pool	Revenue requirement cost Allocation
Joint Cost	Shared among all customer classes
Inside Specific	Incurred by inside-city customer classes only
Outside Specific	Incurred by all outside-city customer classes
Outside Specific - Total Service	Incurred by outside-city Total Service customer classes only
OCSA	OCSA premium costs based on Board policy

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For example, the cost of maintaining raw water supply reservoirs, such as the Gross and Antero reservoirs, benefits all customers and is categorized as a Joint facility. As such, all customer classes would share in the annual cost of these facilities based on their proportionate share of water usage characteristics. Costs associated with the Capitol Hill storage facility serve and benefit only inside-city customers and as such, these costs are allocated to the specific inside-city cost pool. The Green Mountain and Bellview storage facilities benefit only outside-city customers, these costs are allocated to outside-specific cost pool. In a similar manner, transmission and distribution mains outside the City and County of Denver benefit only specific outside-city customers. Costs associated with these facilities are allocated to the specific outside-city cost pool. Table 4-5 shows the allocation of revenue requirements by cost pool.

Description	Total	Joint		Inside City	Total Service	Outside City
		Inside City	Outside City			
O&M	\$178,643	\$78,751	81,207	\$10,567	\$3,986	\$4,132
Capital	142,246	45,680	58,438	25,402	2,246	10,480
Debt	47,879	21,572	25,807	358	0	141
Adjustments (1)	<u>(118,391)</u>	<u>(49,440)</u>	<u>(57,208)</u>	<u>(8,264)</u>	<u>(218)</u>	<u>(3,261)</u>
Total	\$250,376	\$96,563	\$108,244	\$28,063	\$6,014	\$11,492
1. Includes changes in reserves, non-rate revenue, and BABS subsidy, and bond issue, and miscellaneous revenue.						

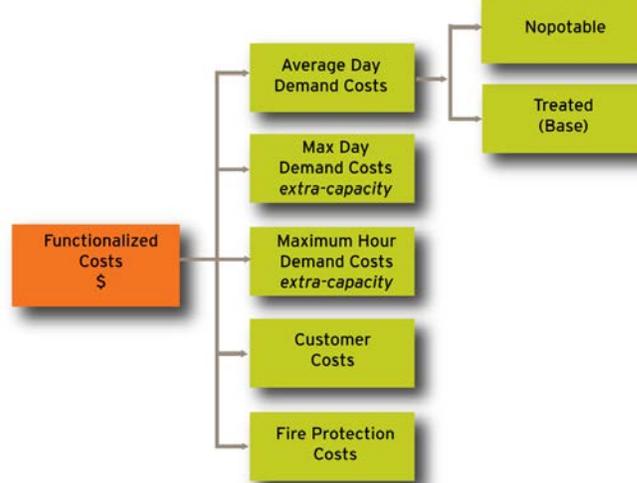
The outside-city cost pool includes the treated water customer groups Read & Bill, Master Meter, Total Service, and OCSA. Outside city also serves raw water customers. All treated customer groups with the exception of Total Service maintain their own distribution system. As a result, the Total Service cost pool captures only those distribution-related costs required to provide them service. See Section 2.4 for additional information on the outside-city customer groups.

4.7 Cost component allocation

4.7.1 Cost components

Once costs have been separated by function and by cost pool, they can be further allocated to cost components. Allocating costs by function to cost components recognizes that cost to design and operate facilities service requirements. Cost components include the annual water usage (base and nonpotable), peak rates of demand, number of customers, and fire protection requirements. Figure 4-1 on the following page illustrates the allocation of functionalized costs to cost components.

Figure 4-1
Allocation of Functionalized Costs to Cost Components



The cost components are described below:

- Base and nonpotable costs vary directly with the quantity of water sold under average day load conditions. Base load represents average day treated demands and nonpotable represents raw and recycled average day demands in addition to the treated water demands.
- Extra-capacity costs represent those costs incurred from customer peak demands for water in excess of average day demand. Extra-capacity associated with maximum day demands represents usage in excess of average day demand.
- Extra-capacity costs associated with maximum hour demands represent usage in excess of maximum day.
- Customer costs vary based on the number of connections, meters served by them and billing expenses.
- Direct fire protection costs consist of maintenance of private fire lines. For the purposes of this report, direct fire protection costs, are included in the max day and max hour cost components.
- Indirect costs (not shown in Figure 4-1) include administrative overhead and are allocated in proportion to all other cost components.

For example, the Capital Hill, Green Mountain, and Belleview storage facilities are designed to meet maximum hour demand requirements. These facilities are part of the storage functional area and their costs are allocated to the base, maximum day, and maximum hour cost components.

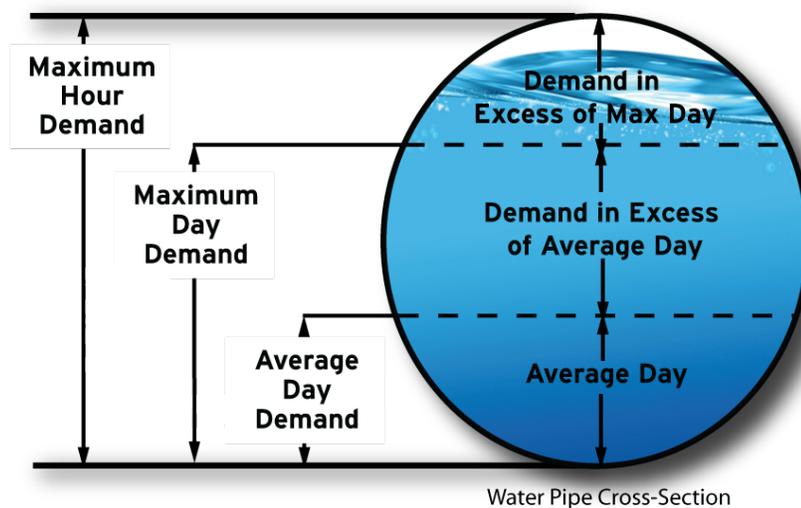
4.7.2 Allocation demand factors

Allocation demand factors (peaking factors) determine the percent of costs that are allocated to the water demands cost components. Allocation factors are based on the total water system demand profile as well as individual customer class demand profiles.

The allocation of each functionalized cost to cost components is based on the system demand factors or by direct assignment. Facilities are operated and designed to function together with other facilities to meet the overall demand requirements of the system. The capacities of water facilities are designed to meet coincidental demands of all classes because all customers do not exert their maximum demand for water at the same time. Coincidental peak demand represents the peak demand in the system at a particular point in time.

For every facility on the system, there is an underlying average demand, or uniform rate of usage, exerted coincidentally by customers for which the average day cost component applies. Certain facilities are operated and designed to meet the demand above the average day demand or maximum day extra-capacity demand. Costs associated with those facilities are allocated to both the average day and maximum day cost components. In a similar manner, other facilities are designed to meet demands in excess of maximum day requirements or maximum hour extra-capacity. Costs associated with these facilities are allocated to the average day, maximum day, and maximum hour cost components. Figure 4-2 represents the cross-section of a water pipe, which illustrates the relationship between average day, maximum day and maximum hour demands.

Figure 4-2
Average and Peak Demand Relationships



The ratio of maximum day and average day demand is used to allocate costs between average day and maximum day cost components. The 4-year system maximum day to average day ratio is 2.03. Stated differently; maximum day demand is 2.03 times average day demand. In a similar

4. Cost of service

manner, the ratio of maximum hour and average day demand is used to allocate costs between average day, maximum day, and maximum hour cost components. The maximum hour to average day ratio is 3.15. Table 4-6 on the following page shows the calculation to determine the portion of costs allocated to each cost component.

Table 4-6 Development of Allocation Demand Factors			
Description	4-Year Ave	Ratio	% Allocation
<i>mgd</i>			
Maximum Day Demand			
Average Day Demand	180	1.00	49.0%
Maximum Day Extra Capacity Demand	<u>186</u>	<u>1.03</u>	<u>51.0%</u>
Maximum Day Demand	366		
<i>Max Day:Ave Day Ratio</i>	2.03	2.03	100.0%
Maximum Hour Demand			
Average Day Demand	180	1.00	32.0%
Maximum Day Extra Capacity Demand	366	1.03	33.0%
Maximum Hour Extra Capacity Demand	<u>202</u>	<u>1.12</u>	<u>35.0%</u>
Maximum Hour Demand	568		
<i>Max Hour:Ave Day Ratio</i>	3.16	3.16	100.0%

The maximum day allocation indicates that approximately 49% of the capacity of facilities designed and operated for maximum day demand is needed for average day demands use. Accordingly, the remaining 51% is for maximum day extra-capacity requirements.

The maximum hour allocation indicates that approximately 32% of the capacity of facilities designed and operated for maximum hour demand is needed for average day demands, 33% is required to meet maximum day extra-capacity demand, and the remaining 35% is for maximum hour extra-capacity demand. These ratios are used to allocate the line item functionalized costs to cost components. Facilities associated with source of supply collection and hydropower are based on a specific allocation analysis. Fire protection is based on the allocation of meeting maximum day and maximum hour demands. Table 4-7 summarizes the allocations for the primary facility types.

Table 4-7 Demand Factors by Function					
Description	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Customer
Source of Supply	100.0%				
General Plant		100.0%			
Water Treatment, Pumping		49.0%	51.0%		
Pumping, Storage, Distribution Mains		32.0%	33.0%	35.0%	
SOS Collection	50.0%	50.0%			
Hydropower	66.0%		16.5%	17.5%	
Customer					100.0%
Private Fire		50.0%	50.0%		

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4.7.3 Allocation to cost components

Functionalized costs are allocated based on the system demand ratios described in Section 4.7.2 or by direct assignment. This separation of costs provides a means for distributing costs to customer classes based on their respective demand requirements (e.g. average day, maximum day, maximum hour, customer, etc.).

For example, storage reservoirs such as Gross and Antero are associated with storing raw water for delivery for the benefit of all customers. As such, these costs are allocated to the nonpotable cost component in the joint cost pool. In a similar manner, treatment plants are designed to meet average day and maximum day demands for all customers. Costs associated with the treatment plants are allocated 49% to the average day cost component and 51% to the maximum day extra-capacity cost component in the joint cost pool.

Distribution-related expenses are designed to meet average day, maximum day, and maximum hour demands. Therefore, 32% of costs are allocated to the average day cost component, 33% of costs are allocated to the maximum day extra-capacity cost component, and 35% of costs are allocated to the maximum hour extra-capacity cost component. For example, distribution main costs associated with serving the Denver International Airport are allocated to the average day, maximum day, and maximum hour cost components in the specific inside-city cost pool.

Other revenue requirements can be directly assigned to a specific cost component. Billing and administrative costs such as meter reading are allocated directly to the billing cost component. Indirect expenditures not specifically assigned are allocated in proportion to all other operations and maintenance cost components. Table 4-8 summarizes cost component categories by cost pool. These values include the reallocation of the additional amount between the outside-city and the inside-city cost pool. As a result, the total column for each cost pool will vary from the cost pool totals in Table 4-5.

Description	Total	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Customer
Joint (1)						
Inside City	\$81,756	\$15,196	\$29,552	\$19,242	\$5,187	\$12,578
Outside City	122,636	35,562	40,395	33,409	7,516	5,755
Inside Specific	24,220	0	9,202	6,764	8,254	
Total Service Specific	6,848	0	1,984	2,370	2,493	
Outside Specific	14,516	0	4,849	5,006	4,661	
OCSA Premium	<u>400</u>	<u>208</u>	<u>80</u>	<u>83</u>	<u>29</u>	
Total System	\$250,376	\$50,965	\$86,061	\$66,876	\$28,140	\$18,333
<i>1. Includes all non-rate revenue and miscellaneous revenue adjustments.</i>						

4.8 System units of service

Units of service are based on the test year’s projected water demands and customer data for each customer class. The units of service for each customer class and cost component are grouped by cost pool. The units of service are used to calculate the unit cost of service for each cost pool. Joint facilities benefit all customers and as a result, this cost pool includes usage for all customers. Inside-city units of service include only the demand from inside-city customers; total service units of service include only the demand for all customers and outside city units of service include demand for all outside city customers. Table 4-9 shows the units of service for each cost pool. The units of service that make up inside city and outside city units are discussed in Section 4.10.1.

Table 4-9 Cost Pool Units of Service						
Description	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Customer	Private Fire
	<i>MG per Year</i>	<i>MG per Year</i>	<i>MG per Day</i>	<i>MG per Day</i>	<i>Accounts</i>	<i>Eq. Fireline</i>
Joint (1,2)	69,359	60,012	162	179	232,191	
Inside Specific	30,430	29,612	71	83	159,318	4,903
Total Service Specific	7,240	7,240	21	23	36,245	
Outside Specific	38,929	31,022	91	96	72,873	1,631
OCSA Premium	3,582	1,179	4	4		
<ol style="list-style-type: none"> <i>The Joint nonpotable units of service include inside city and outside city recycled water demands because there are recycled water costs associated with the nonpotable cost component. There are no joint recycled related costs in the average day, max day, and max hour cost components. As a result, recycled demands are excluded from those units of service.</i> <i>Inside city recycled water distribution costs are included in the inside-city specific cost pool.</i> <i>Read & Bill total private fire lines = 792 Total Service total private fire lines = 839</i> 						

4.9 Unit cost of service

Unit costs of service are calculated for each cost component within each cost pool. The unit cost of service equals the cost for each cost component (average day, maximum day, maximum hour, etc.) for each cost pool divided by the units of service associate with each cost component. Unit costs are calculated for each cost pool (e.g. joint, inside specific, etc.) and their respective cost pool. For example, joint unit costs for the base component equals total joint average day costs divided by joint system average day units. Joint unit costs are the same for all customer classes within the inside-city, outside city, and total service cost pools. Because joint facilities benefit all customers, the joint unit costs of service are included in each cost pool area. Similarly, Total Service includes the outside city unit costs.

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Inside-city unit costs = Joint unit costs + inside-city specific unit costs

Total Outside city unit costs = Joint unit costs + outside city specific unit costs

Total Service unit costs = Total Outside city unit costs + total service unit costs

OCSA unit costs = Total Outside city unit costs + OCSA premium unit costs

The unit costs for all other outside city customer classes such as Read & Bill, Master Meter, raw and recycled water is the sum of outside joint unit costs and outside city unit costs. Table 4-10 on the following page each cost component's unit cost measurement.

Description	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Customer
	\$ per 1,000 gallons	\$ per 1,000 gallons	\$ per 1,000 gal per day	\$ per 1,000 gal per day	\$ per acct
Inside-city Specific	\$0.51	\$1.36	\$377.98	\$167.65	\$78.96
Total Service Specific	\$0.91	\$1.73	\$534.51	\$237.96	\$78.96
Outside City Specific	\$0.91	\$1.46	\$422.18	\$127.16	\$78.96
OCSA Premium	\$0.06	\$0.07	\$20.84	\$7.49	
<ol style="list-style-type: none"> 1. Joint unit costs are included in the totals for each cost pool. 2. Denver Water separates average day demand into two components; nonpotable and base. Nonpotable measures average day water use for nonpotable water. Base measures average day water use for treated water. 					

4.10 Allocation of costs to customer classes

The revenue requirements allocated to cost functions, cost pools, and cost components can be distributed to each customer class based on their respective customer usage characteristics as discussed in Section 4.7.

4.10.1 Customer class units of service

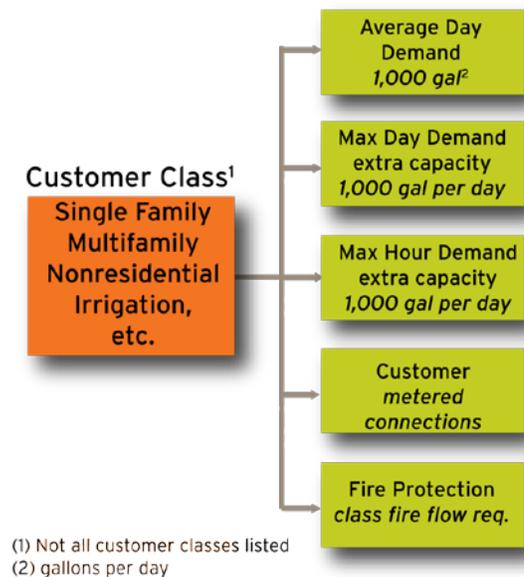
Customers of a water utility are often identified according to customer class. Each customer class has unique water demand and usage characteristics. Because cost-of-service is based on the concept of proportionality, customer service characteristics for each customer class must be analyzed to allocate the system revenue requirements equitably. Table 4-11 lists these characteristics.

4. Cost of service

Table 4-11 Customer Class Characteristics	
Characteristics	Measurement
Nonpotable Average day (Base)	Annual nonpotable use in 1,000 gallons Annual potable use in 1,000 gallons
Maximum day demand	Demand in excess of the average day demand in gallons per day (gpd) (maximum day demand less average day demand)
Maximum hour demand	Demand in excess of the max day demand in gallons per day (gpd) (maximum hour demand less maximum day demand)
Customer	Number of bills for metered connections

The average day cost responsibility of each customer class is related to the quantity of water used by each class under annual average demand load conditions. The responsibility for extra-capacity costs, or costs associated with meeting demands in excess of average day demand, varies with extra-capacity requirements for maximum day and maximum hour demands for each class. The ratio of maximum day and maximum hour demands to average day demands are used to develop the extra-capacity requirements for each class. The estimated capacity ratios are based on an analysis of monthly usage characteristics which includes average day demands and average day of maximum month demands for each customer class. These calculated average day, maximum day, and maximum hour demands are used to allocate the functionalized cost of service discussed above to each customer class. Figure 4-3 illustrates the cost component allocation.

Figure 4-3
Units of Service

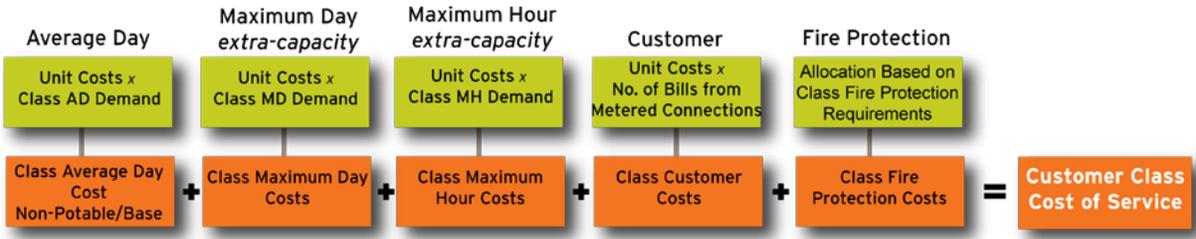


4. Cost of service

4.10.2 Customer class cost-of-service

The customer class cost of service is the sum of the unit costs for each cost component discussed in Section 4.9 times the customer class usage characteristics for each cost component. Figure 4-4 illustrates the calculation of the customer class cost of service.

Figure 4-4
Development of Customer Class Cost of Service



(1) Calculation repeated for each customer class. Sum each class' cost of service equals total cost of service.

Table 4-12 shows the total cost of service summarized by service area.

Description	Total	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Customer
Inside City	\$105,977	\$15,196	\$38,753	\$26,007	\$13,441	\$12,579
Outside City						
Read & Bill	\$32,333	\$6,615	\$10,561	\$9,337	\$2,931	\$2,888
Total Service	38,652	6,614	12,544	11,278	5,355	2,862
Master Meter	60,804	14,032	22,403	18,478	5,887	3
OCSA	7,582	3,480	1,800	1,775	526	1
Raw	<u>5,028</u>	<u>5,028</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Outside City	\$144,399	\$35,769	\$47,308	\$40,869	\$14,699	\$5,754
Total Cost of Service	\$250,376	\$50,965	\$86,061	\$66,876	\$28,140	\$18,333

4.11 Adjusted cost of service

The adjusted cost of service recognizes City Charter requirements for reallocating city and county capital costs to inside-city customers as well as Denver Water financial practices of full cost of service recovery. The overall change in the revenue requirement increase does not change. Table 4-13 summarizes the adjusted cost of service.

Table 4-13 Adjusted Cost of Service			
Description	Cost of Service	Adjustment	Total
Inside City	\$105,977	\$142	\$106,118
Outside City			
Read & Bill	\$32,333	(\$69)	\$32,264
Total Service	38,652	(87)	38,565
Master Meter	60,804	(179)	60,625
OCSA	7,582	209	7,791
Raw	<u>5,028</u>	<u>(15)</u>	<u>5,013</u>
Total Outside City	\$144,399	(\$142)	\$144,257
Total Cost of Service	\$250,376	\$0	\$250,376

5.1 Introduction

The principle concern in establishing water rate schedules is to design rates reasonably commensurate with the cost of providing water service. Denver Water designed rate schedules by grouping customers into classes with similar usage characteristics. Practicality further dictates the use of a rate schedule that is simple to apply, reasonably recovers costs from all classes, and is subject to as few misinterpretations as possible.

*The Principles of Utility Rates*⁴ and the AWWA M1 manual establish basic rate-making principles for water rate design. Denver Water combines these principles and utility-specific objectives to address community values and policy requirements when setting rates.

- **Revenue sufficiency** – Rates sufficient to meet annual revenue requirements
- **Predictability** – Minimize unexpected changes to revenues or rates
- **Ease of administration** – Compatible with utility billing processes and systems
- **Easy to understand** – Understandable by customers and subject to proper interpretation
- **Defensibility** – Compliant with industry-standard guidelines and free from controversy
- **Equity** – Distribution of costs without arbitrariness or capriciousness
- **Conservation** – Promotes the efficient and effective use of water through technology, changes in consumer behavior and pricing signals

5.2 Water rates

5.1.1 Existing rates

Existing rates have been in effect since January 2013. The existing rate structure consists of a monthly service charge, which is uniform for all customer classes regardless of customer class, location, or meter size. A volume charge is assessed to customer classes for all water use. The volume charge structure varies by customer class. Table 5-1 details the volume rate structure for each customer class.

Table 5-1	
Rate Structure Descriptions	
Rate Structure	Descriptions
Single Family Residential	Four-tiered increasing block
Multifamily	Two-tiered increasing block
All Other (Nonresidential)	Seasonal rate
Irrigation Only	Seasonal rate
Other classes	Uniform

⁴ Bonbright, James C., Danielsen, Albert L., Kamerschen, David R. (1988). *Principles of Public Utility Rates*. Arlington, Virginia: Public Utilities Reports, Inc.

5.1.2 Comparison of 2013 and adopted 2014 rates

Adopted rates retain the existing rate structure. These rates are designed to generate the level of revenue sufficient to meet the 2014 revenue requirements. Tables 5-2 compares 2013 current rates with adopted 2014 rates. Appendix A contains the 2014 published rate schedules.

Table 5-2 Comparison of 2013 Rates with 2014 Adopted Rates		
Description	Existing 2013	Adopted 2014
Service Charge, \$ per bill	\$6.33	\$6.58
Volume Charge, \$ per 1,000 gallons		
Single Family Residential		
Inside City		
Block 1 (0 to 11,000 gallons)	\$2.59	\$2.68
Block 2 (12 to 30,000 gallons)	5.18	5.36
Block 3 (30 to 40,000 gallons)	7.77	8.04
Block 4 (over 40,000 gallons)	10.36	10.72
Read & Bill		
Block 1 (0 to 11,000 gallons)	\$2.61	\$2.73
Block 2 (12 to 30,000 gallons)	5.22	5.46
Block 3 (30 to 40,000 gallons)	7.83	8.19
Block 4 (over 40,000 gallons)	10.44	10.92
Total Service		
Block 1 (0 to 11,000 gallons)	\$2.93	\$3.02
Block 2 (12 to 30,000 gallons)	5.86	6.04
Block 3 (30 to 40,000 gallons)	8.79	9.06
Block 4 (over 40,000 gallons)	11.72	12.08
Small Multifamily⁽¹⁾		
Inside City		
Block 1 (0 to 15,000 gallons)	\$2.83	\$2.93
Block 2 (over 15,000 gallons)	3.40	3.52
Read & Bill		
Block 1 (0 to 15,000 gallons)	\$3.30	\$3.39
Block 2 (over 15,000 gallons)	3.96	4.07
Total Service		
Block 1 (0 to 15,000 gallons)	\$3.99	\$4.21
Block 2 (over 15,000 gallons)	4.79	5.05
Nonresidential		
Inside City		
Winter	\$1.78	\$1.84
Summer	3.57	3.68
Read & Bill		
Winter	\$2.26	\$2.35
Summer	4.52	4.70
Total Service		
Winter	\$2.54	\$2.70
Summer	5.08	5.40
<i>(1) Applies to two dwelling units. Threshold increases by 6,000 for each additional unit up to 5 units.</i>		

Table 5-2 Comparison of 2013 Rates with 2014 Adopted Rates		
Description	Existing 2013	Adopted 2014
Irrigation Only		
Inside City		
Winter	\$1.20	\$1.20
Summer	4.81	4.81
Read and Bill		
Winter	\$1.29	\$1.31
Summer	5.15	5.24
Total Service		
Winter	\$1.47	\$1.56
Summer	5.88	6.24
Other		
Master Meter	\$3.81	\$3.95
Treated OCSA	\$4.25	\$4.44
Raw Water		
Inside City	\$0.50	\$0.52
Outside City	0.91	0.91
OCSA	1.04	1.04
Recycled Water		
Inside City	\$0.99	\$0.99
OCSA	1.11	1.11

5.3 Single family bills

Table 5-3 shows monthly bills for inside city, Read & Bill, and Total Service customers based on typical usage distribution for a year. Total consumption is 115,000 gallons.

Table 5-3 Single Family Bills by Service Area Under 2014 Adopted Rates					
Month	Usage Distribution	Monthly Consumption	Inside City	Read & Bill	Total Service
January	3.9%	5.00	\$19.98	\$20.23	\$21.68
February	3.4%	4.00	17.30	17.50	18.66
March	3.5%	4.00	17.30	17.50	18.66
April	4.7%	5.00	19.98	20.23	21.68
May	8.4%	10.00	33.38	33.88	36.78
June	12.1%	14.00	52.14	52.99	57.92
July	15.5%	18.00	73.58	74.83	82.08
August	13.9%	16.00	62.86	63.91	70.00
September	15.3%	18.00	73.58	74.83	82.08
October	10.0%	12.00	41.42	42.07	45.84
November	5.3%	6.00	22.66	22.96	24.70
December	3.8%	3.00	14.62	14.77	15.64
Total	100.0%	115.00	\$448.80	\$455.70	\$495.72
<i>Ave. Winter Bill (Jan – April, Nov. and Dec.)</i>			\$18.64	\$18.87	\$20.17
<i>Ave. Summer Bill (May – Oct.)</i>			\$56.16	\$57.09	\$62.45

Table 5-4 shows annual single family bills at varying levels of consumption for each service area. The distribution of usage is based on the distribution shown in Table 5-3.

Table 5-4 Comparison of Annual Bills Under Existing 2013 and 2014 Adopted Rates			
Annual Usage Kgal	Existing 2013	Adopted 2014	Annual Change
Inside City			
60	\$231	\$240	\$8
100	369	382	13
150	586	607	21
200	819	848	29
250	1,104	1,143	39
300	1,462	1,513	51
400	2,293	2,373	80
500	3,189	3,300	111
Outside-city Read & Bill			
60	\$233	\$243	\$10
100	371	387	17
150	590	617	27
200	825	862	37
250	1,112	1,163	51
300	1,472	1,540	67
400	2,310	2,416	106
500	3,213	3,360	147
Outside-city Total Service			
60	\$252	\$260	\$8
100	407	420	13
150	653	674	21
200	917	946	29
250	1,239	1,278	39
300	1,644	1,695	51
400	2,584	2,664	80
500	3,598	3,709	111

5.4 Monthly single family bills

Table 5-5 on the following page compares monthly bills for inside-city and outside-city customers at varying levels of consumption. Approximately 77% of inside city customer bills is for consumption of 11,000 gallons or less. The monthly increase for bills with this range of consumption is 1.24 or less. The table shows similar information for Read & Bill and Total Service customers.

5. Rates

Table 5-5 Comparison of Monthly Single Family Bills Under 2013 and Adopted 2014 Rates					
Usage Kgal	Existing 2013	Adopted 2014	Bill Change	Percent of Bills	Cumulative Percent
Inside City					
0	6.33	6.58	0.25	3.6%	3.6%
1	8.92	9.26	0.34	5.6%	9.2%
2	11.51	11.94	0.43	9.3%	18.5%
3	14.10	14.62	0.52	10.9%	29.4%
4	16.69	17.30	0.61	10.4%	39.8%
5	19.28	19.98	0.70	8.9%	48.7%
6	21.87	22.66	0.79	7.2%	55.9%
7	24.46	25.34	0.88	5.8%	61.8%
8	27.05	28.02	0.97	4.8%	66.6%
9	29.64	30.70	1.06	4.1%	70.6%
10	32.23	33.38	1.15	3.5%	74.1%
11	34.82	36.06	1.24	3.0%	77.1%
15	55.54	57.50	1.96	11.8%	85.9%
20	81.44	84.30	2.86	6.4%	92.3%
25	107.34	111.10	3.76	3.4%	95.7%
30	133.24	137.90	4.66	1.8%	97.5%
40	210.94	218.30	7.36	1.6%	99.1%
Read & Bill					
0	6.33	6.58	5.82	1.7%	1.7%
1	8.94	9.31	8.78	2.8%	4.5%
2	11.55	12.04	11.74	5.8%	10.2%
3	14.16	14.77	14.70	8.6%	18.8%
4	16.77	17.50	17.66	9.8%	28.6%
5	19.38	20.23	20.62	9.2%	37.8%
6	21.99	22.96	23.58	7.6%	45.4%
7	24.60	25.69	26.54	6.1%	51.5%
8	27.21	28.42	29.50	4.8%	56.3%
9	29.82	31.15	32.46	4.0%	60.4%
10	32.43	33.88	35.42	3.5%	63.9%
11	35.04	36.61	38.38	3.0%	66.9%
15	55.92	58.45	62.06	13.0%	76.8%
20	82.02	85.75	91.66	8.8%	85.6%
25	108.12	113.05	121.26	5.6%	91.2%
30	134.22	140.35	150.86	3.4%	94.6%
40	212.52	222.25	239.66	3.0%	97.6%
Total Service					
0	6.33	6.58	5.82	2.0%	2.0%
1	9.26	9.60	8.98	3.3%	5.3%
2	12.19	12.62	12.14	6.4%	11.6%
3	15.12	15.64	15.30	8.7%	20.4%
4	18.05	18.66	18.46	9.7%	30.0%
5	20.98	21.68	21.62	8.8%	38.9%
6	23.91	24.70	24.78	7.3%	46.1%
7	26.84	27.72	27.94	5.7%	51.8%
8	29.77	30.74	31.10	4.5%	56.3%
9	32.70	33.76	34.26	3.7%	60.1%
10	35.63	36.78	37.42	3.2%	63.3%
11	38.56	39.80	40.58	2.8%	66.1%
15	62.00	63.96	65.86	11.9%	75.1%
20	91.30	94.16	97.46	8.2%	83.3%
25	120.60	124.36	129.06	5.6%	88.9%
30	149.90	154.56	160.66	3.6%	92.5%
40	237.80	245.16	255.46	3.5%	96.1%

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Appendix A
Board action items;
2014 water rate schedules;



DENVER WATER

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DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: September 25, 2013

] Board Item 2-B-4

2014 Revenue Requirements

Action by Consent

Action

Information

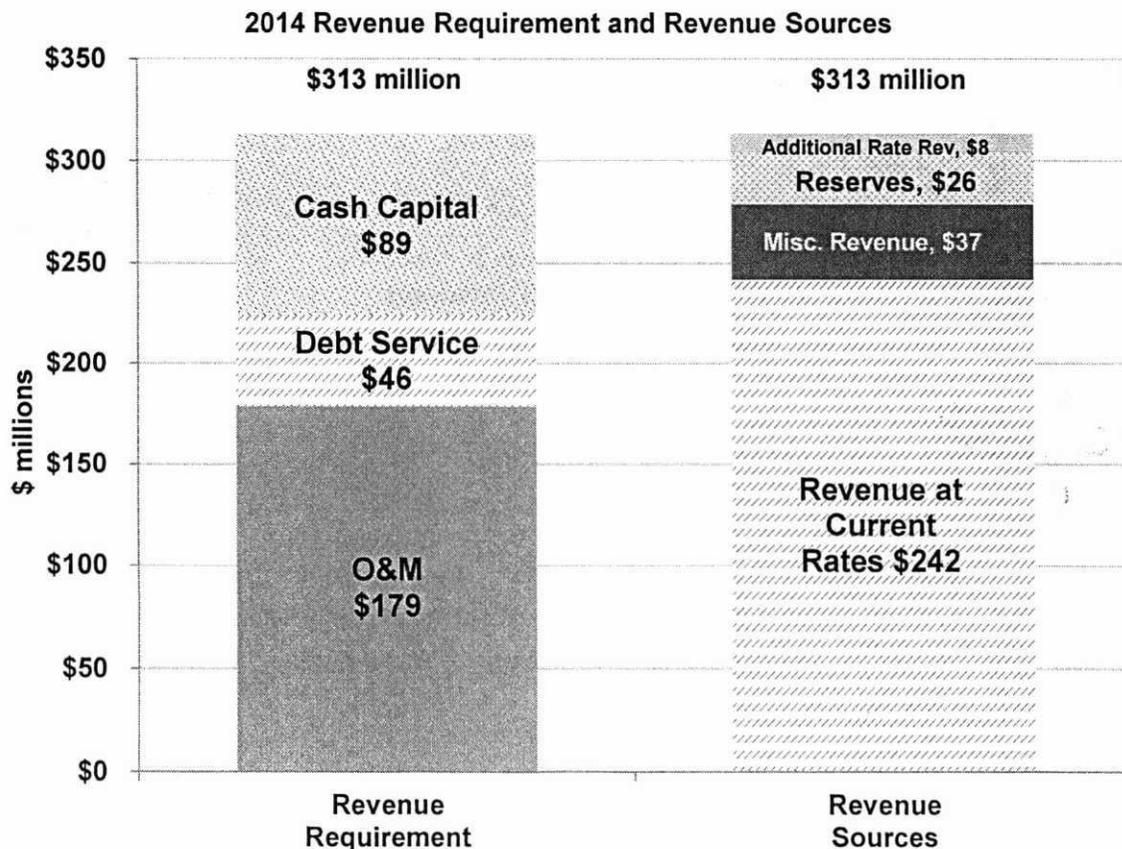
This action item summarizes the revenue requirements and proposed rates for 2014. Staff recommends the proposed rate revenue adjustment of 3.5% for customers meters read on or after January 1, 2014:

2014 Budget

The 2014 budget totals \$371 million which consists of \$246 million of operating expenses and \$125 million of capital costs. Of the \$246 million in operating costs, \$48 is reserved for debt service.

2014 Revenue Requirements

Revenue requirements for 2014 total \$313 million and consist of operation and maintenance expenses, rate-funded expansion and repair and replacement capital, and debt service. These revenue requirements are met from rate revenue, miscellaneous revenue, and cash reserves. A revenue increase of 3.5% in 2014 is requested in order to meet these requirements. A 3.5% increase would generate approximately \$8 million of additional revenue. The chart below summarizes the 2014 revenue requirements.



2014 Cost-of-Service Rates

The cost-of-service analysis developed for 2014 are based on the cash basis rate methodology. The 2014 revenue requirement is allocated to the various customer classes based on cost-causative rate making principles – i.e. those who cause the cost, pay the cost. These costs are allocated based on each customer classes' usage characteristics and number of accounts in each class. Usage characteristics include customer class average day, peak day and peak hour demands as well as fire flow requirements. Changes in customer class usage characteristics have a direct effect on the cost required to serve them. Usage characteristics vary annually and as a result, the rates for customer classes may vary as well.

2014 Typical Monthly Residential Bills

The table below summarizes the annual increase for single family residential customers under existing and proposed rates based on an annual consumption of 115,000 gallons.

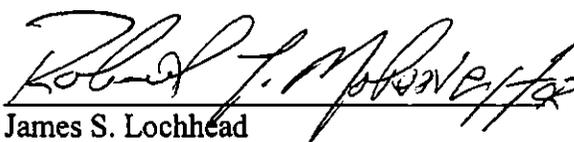
Customer Class	2013	2014	\$ Annual Change	\$ Change per month	% Change
Inside City	\$433.38	\$448.80	\$15.42	\$1.29	3.6%
Read & Bill	\$436.14	\$455.70	\$19.56	\$1.63	4.5%
Total Service	\$480.30	\$495.72	\$15.42	\$1.29	3.2%

The rates adopted on September 25 will be effective January 1, 2014.

Approvals:


Angela Bricmont
Director of Finance

Respectfully submitted,



James S. Lochhead
CEO/Manager



Terri Bryant
Controller

Denver Water
Rate Schedule No. 1
Inside City
For Meters Read On or After January 1, 2014

A. Treated Water Consumption Charges

<u>Single Family Residential</u>	<u>Monthly Consumption</u> <u>(Gallons)</u>	<u>Rate per</u> <u>1,000 Gallons</u>
Block 1	0,000 - 11,000	\$2.68
Block 2	12,000 - 30,000	\$5.36
Block 3	31,000-40,000	\$8.04
Block 4	Over 40,000	\$10.72

<u>Multifamily</u>	<u>Monthly Consumption</u> <u>(Gallons)</u>	<u>Rate per</u> <u>1,000 Gallons</u>
Block 1	0 - 15,000	\$2.93
Block 2	Over 15,000	\$3.52

Applies to duplexes through 5-Plexes served through a single tap.
Applies to two dwelling units. Block threshold increases by 6,000 gallons per dwelling unit up to five (5) dwelling units.

<u>All Other (Non-Residential)</u>	<u>Monthly Consumption</u> <u>(Gallons)</u>	<u>Rate per</u> <u>1,000 Gallons</u>
Winter	All consumption	\$1.84
Summer	All consumption	\$3.68

Winter billing period begins November 1 through April 30.
Summer billing period begins May 1 through October 31.

<u>Irrigation-Only</u>	<u>Monthly Consumption</u> <u>(Gallons)</u>	<u>Rate per</u> <u>1,000 Gallons</u>
Winter	All consumption	\$1.20
Summer	All consumption	\$4.81

Applies to irrigation-only taps.
Winter billing period begins November 1 through April 30.
Summer billing period begins May 1 through October 31.

B. Treated Water Fixed Charges

<u>Fixed Charges</u>	<u>Monthly</u>
Service Charge (All Meter Sizes)	\$6.58

C. Private Fire Protection Charges

<u>Sprinkler Systems and Standpipes</u>	
Tap Size	<u>Monthly</u>
1 Inch	\$3.78
2 Inch	\$6.31
4 Inch	\$9.75
6 Inch	\$13.92
8 Inch	\$24.36
10 Inch	\$34.80
12 Inch	\$55.68
16 Inch	\$139.20
Fire Hydrants	\$13.92

D. Notes

Applicability: Charges under this schedule are applicable to all licensees for treated water service or private fire protection service inside the limits of the City and County of Denver.

Payment: Bills are due and payable to Denver Water upon issuance. Monthly bills are delinquent 20 days after the billing date. Late charges will be assessed per Denver Water policy.

Rates: Charges for treated water service consist of a consumption charge and a fixed charge. Fire protection charges include only a fixed charge. The consumption charge is based upon the amount of water delivered during the billing period. The fixed charge applies to all accounts that are active at any time during the billing period.

Denver Water
Rate Schedule No. 2
Outside City - Read and Bill
For Meters Read On or After January 1, 2014

A. Treated Water Consumption Charges

<u>Single Family Residential</u>	<u>Monthly Consumption</u> <u>(Gallons)</u>	<u>Rate per</u> <u>1,000 Gallons</u>
Block 1	0,000 - 11,000	\$2.73
Block 2	12,000 - 30,000	\$5.46
Block 3	31,000-40,000	\$8.19
Block 4	Over 40,000	\$10.92

<u>Multifamily</u>	<u>Monthly Consumption</u> <u>(Gallons)</u>	<u>Rate per</u> <u>1,000 Gallons</u>
Block 1	0 - 15,000	\$3.39
Block 2	Over 15,000	\$4.07

Applies to duplexes through 5-Plexes served through a single tap.
Applies to two dwelling units. Block threshold increases by 6,000 gallons per dwelling unit up to five (5) dwelling units.

<u>All Other (Non-Residential)</u>	<u>Monthly Consumption</u> <u>(Gallons)</u>	<u>Rate per</u> <u>1,000 Gallons</u>
Winter	All consumption	\$2.35
Summer	All consumption	\$4.70

Winter billing period begins November 1 through April 30.
Summer billing period begins May 1 through October 31.

<u>Irrigation-Only</u>	<u>Monthly Consumption</u> <u>(Gallons)</u>	<u>Rate per</u> <u>1,000 Gallons</u>
Winter	All consumption	\$1.31
Summer	All consumption	\$5.24

Applies to irrigation-only taps.
Winter billing period begins November 1 through April 30.
Summer billing period begins May 1 through October 31.

B. Treated Water Fixed Charges

<u>Fixed Charges</u>	<u>Monthly</u>
Service Charge (All Meter Sizes)	\$6.58

C. Private Fire Protection Charges

Sprinkler Systems and Standpipes

Tap Size	<u>Monthly</u>
1 Inch	\$2.34
2 Inch	\$3.90
4 Inch	\$6.03
6 Inch	\$8.62
8 Inch	\$15.07
10 Inch	\$21.53
12 Inch	\$34.45
16 Inch	\$86.13
Fire Hydrants	\$8.62

D. Notes

Applicability: Charges under this schedule are applicable to all licensees for treated water service or private fire protection service outside the limits of the City and County of Denver served in accordance with distributor contracts.

Payment: Bills are due and payable to Denver Water upon issuance. Monthly bills are delinquent 20 days after the billing date. Late charges will be assessed per Denver Water policy.

Rates: Charges for treated water service consist of a consumption charge and a fixed charge. Fire protection charges include only a fixed charge. The consumption charge is based upon the amount of water delivered during the billing period. The fixed charge applies to all accounts that are active at any time during the billing period.

**Denver Water
Rate Schedule No. 3
Outside City - Total Service
For Meters Read On or After January 1, 2014**

A. Treated Water Consumption Charges

<u>Single Family Residential</u>	<u>Monthly Consumption (Gallons)</u>	<u>Rate per 1,000 Gallons</u>
Block 1	0,000 - 11,000	\$3.02
Block 2	12,000 - 30,000	\$6.04
Block 3	31,000-40,000	\$9.06
Block 4	Over 40,000	\$12.08

<u>Multifamily</u>	<u>Monthly Consumption (Gallons)</u>	<u>Rate per 1,000 Gallons</u>
Block 1	0 - 15,000	\$4.21
Block 2	Over 15,000	\$5.05

Applies to duplexes through 5-Plexes served through a single tap.

Applies to two dwelling units. Block threshold increases by 6,000 gallons per dwelling unit up to five (5) dwelling units.

<u>All Other (Non-Residential)</u>	<u>Monthly Consumption (Gallons)</u>	<u>Rate per 1,000 Gallons</u>
Winter	All consumption	\$2.70
Summer	All consumption	\$5.40

Winter billing period begins November 1 through April 30.

Summer billing period begins May 1 through October 31.

<u>Irrigation-Only</u>	<u>Monthly Consumption (Gallons)</u>	<u>Rate per 1,000 Gallons</u>
Winter	All consumption	\$1.56
Summer	All consumption	\$6.24

Applies to irrigation-only taps.

Winter billing period begins November 1 through April 30.

Summer billing period begins May 1 through October 31.

B. Treated Water Fixed Charges

<u>Fixed Charges</u>	<u>Monthly</u>
Service Charge (All Meter Sizes)	\$6.58

C. Private Fire Protection Charges

Sprinkler Systems and Standpipes

Tap Size	<u>Monthly</u>
1 Inch	\$3.71
2 Inch	\$6.19
4 Inch	\$9.57
6 Inch	\$13.66
8 Inch	\$23.91
10 Inch	\$34.15
12 Inch	\$54.65
16 Inch	\$136.61
Fire Hydrants	\$13.66

D. Notes

Applicability: Charges under this schedule are applicable to all licensees for treated water service or private fire protection service outside the limits of the City and County of Denver served in accordance with distributor contracts.

Payment: Bills are due and payable to Denver Water upon issuance. Monthly bills are delinquent 20 days after the billing date. Late charges will be assessed per Denver Water policy.

Rates: Charges for treated water service consist of a consumption charge and a fixed charge. Fire protection charges include only a fixed charge. The consumption charge is based upon the amount of water delivered during the billing period. The fixed charge applies to all accounts that are active at any time during the billing period.

Denver Water
Rate Schedule No. 4
Outside City - Master Meter
For Meters Read On or After January 1, 2014

A. Treated Water Consumption Charges

<u>Consumption Charges</u>	<u>Rate per</u> <u>1,000 Gallons</u>
All Consumption	\$3.95

B. Treated Water Fixed Charges

<u>Fixed Charges</u>	<u>Monthly</u>
Service Charge (All Meter Sizes)	\$6.58

D. Notes

Applicability: Charges for treated water service under this schedule are applicable to entities (i.e. municipalities, quasi-municipal districts and water companies outside the limits of the City and County of Denver) served under distributor agreements whereby the entity operates and maintains water systems to supply individual licensees. Denver Water bills distributors for water delivered through master meters. Each distributor establishes charges for its individual licensees for water service.

Payment: Bills are due and payable to Denver Water upon issuance. Monthly bills are delinquent 20 days after the billing date. Late charges will be assessed per Denver Water policy.

Rates: Charges for treated water service consist of a consumption charge and a fixed charge. The consumption charge is based upon the amount of water delivered during the billing period. The fixed charge applies to all accounts that are active at any time during the billing period.

Denver Water
Rate Schedule No. 5
Raw and Recycled Water Service
For Recycled Water Meters Read On or After January 1, 2014
For Raw Water Billing Periods Ending On or After January 1, 2014

A. Raw Water Consumption and Fixed Charges

<u>Consumption Charges</u>	<u>Rate per 1,000 Gallons</u>	<u>Rate per Acre Foot</u>
Inside City	\$0.52	\$169.44
Outside City	\$0.91	\$296.52
Outside the Combined Service Area	\$1.04	\$338.88
<u>Fixed Charges</u>		
Service Charge (All Meter Sizes)	Not Applicable	Not Applicable

B. Recycled Water Consumption and Fixed Charges

<u>Consumption Charges</u>	<u>Rate per 1,000 Gallons</u>	<u>Rate per Acre Foot</u>
Inside City	\$0.99	\$322.59
Outside City	Not Applicable	Not Applicable
Outside the Combined Service Area	\$1.11	\$361.69
<u>Fixed Charges</u>	<u>Monthly</u>	
Service Charge (All Meter Sizes)	\$6.58	

C. Notes

Applicability: Charges under this schedule are applicable to entities (i.e. municipalities, quasi-municipal districts and corporations) with whom Denver Water has contracts to deliver raw or recycled water service.

Payment: Bills are due and payable to Denver Water upon issuance. Monthly bills are delinquent 20 days after the billing date. Late charges will be assessed per Denver Water policy.

Rates: Charges for recycled water service consist of a consumption charge and a fixed charge. Raw water charges exclude the service charge. The consumption charge is based upon the amount of water delivered during the billing period. The fixed charge applies to all recycled accounts that are active at any time during the billing period.

Denver Water
Rate Schedule No. 6
Outside the Combined Service Area
For Treated and Recycled Water Meters Read On or After January 1, 2014
For Raw Water Billing Periods Ending On or After January 1, 2014

A. Treated Water Consumption and Fixed Charges

<u>Consumption Charges</u>	<u>Rate per</u> <u>1,000 Gallons</u>	<u>Rate per</u> <u>Acre Foot</u>
All Consumption	\$4.44	\$1,446.77
<u>Fixed Charges</u>	<u>Monthly</u>	
Service Charge (All Meter Sizes)	\$6.58	

B. Raw Water Consumption and Fixed Charges

<u>Consumption Charges</u>	<u>Rate per</u> <u>1,000 Gallons</u>	<u>Rate per</u> <u>Acre Foot</u>
All Consumption	\$1.04	\$338.88
<u>Fixed Charges</u>		
Service Charge (All Meter Sizes)	Not Applicable	Not Applicable

C. Recycled Water Consumption and Fixed Charges

<u>Consumption Charges</u>	<u>Rate per</u> <u>1,000 Gallons</u>	<u>Rate per</u> <u>Acre Foot</u>
All Consumption	\$1.11	\$361.69
<u>Fixed Charges</u>	<u>Monthly</u>	
Service Charge (All Meter Sizes)	\$6.58	

D. Notes

Applicability: Charges under this schedule are applicable to entities (including municipalities, quasi-municipal districts and corporations) served outside the combined service area with whom Denver Water has contracts to deliver a fixed amount of water each year. Denver Water is only obligated to provide specified amounts of treated, raw, or recycled water as specified by contract. Denver Water has no relationship with, or obligation to, individual customers of the entity holding the fixed amount contract.

Payment: Bills are due and payable to Denver Water upon issuance. Monthly bills are delinquent 20 days after the billing date. Late charges will be assessed per Denver Water policy.

Rates: Charges for recycled water service consist of a consumption charge and a fixed charge. Charges for raw water service consist of a consumption charge. The consumption charge is based upon the amount of water delivered during the billing period. The fixed charge applies to all recycled accounts that are active at any time during the billing period.

Denver Water
Rate Schedule No. 7
Residential Multiplex (Inside City Only)
For Meters Read On or After January 1, 2014

A. Treated Water Consumption Charges

<u>Single Family Residential</u>	<u>Monthly Consumption (Gallons)</u>	<u>Rate per 1,000 Gallons</u>
Block 1	0,000 - 11,000	\$2.68
Block 2	12,000 - 30,000	\$5.36
Block 3	31,000-40,000	\$8.04
Block 4	Over 40,000	\$10.72

Block thresholds are determined for each multiplex based on the number of units.
Each block threshold is multiplied by the number of units served by single meter.

B. Treated Water Fixed Charges

<u>Fixed Charges</u>	<u>Monthly</u>
Service Charge (All Meter Sizes)	\$6.58

C. Private Fire Protection Charges

<u>Sprinkler Systems and Standpipes</u>	
<u>Tap Size</u>	<u>Monthly</u>
1 Inch	\$3.78
2 Inch	\$6.31
4 Inch	\$9.75
6 Inch	\$13.92
8 Inch	\$24.36
10 Inch	\$34.80
12 Inch	\$55.68
16 Inch	\$139.20
Fire Hydrants	\$13.92

D. Notes

Applicability: Charges under this schedule are applicable to all licensees for treated water service or private fire protection service inside the limits of the City and County of Denver.

Payment: Bills are due and payable to Denver Water upon issuance. Monthly bills are delinquent 20 days after the billing date. Late charges will be assessed per Denver Water policy.

Rates: Charges for treated water service consist of a consumption charge and a fixed charge. Fire protection charges include only a fixed charge. The consumption charge is based upon the amount of water delivered during the billing period. The fixed charge applies to all accounts that are active at any time during the billing period.

**Denver Water
Rate Schedule No. 8
City and County of Denver Government
For Meters Read On or After January 1, 2014**

A. Raw Water Consumption and Fixed Charges

<u>Consumption Charges</u>	<u>Rate per 1,000 Gallons</u>
Domestic	\$2.36
Irrigation	
Winter	\$1.05
Summer	\$2.63
Applies to irrigation-only taps.	
Winter billing period begins November 1 through April 30.	
Summer billing period begins May 1 through October 31.	
 <u>Fixed Charges</u>	 <u>Monthly</u>
Service Charge (All Meter Sizes)	\$6.58

B. Raw Water Consumption and Fixed Charges

<u>Consumption Charges</u>	<u>Rate per 1,000 Gallons</u>
All Consumption	\$0.28

C. Recycled Water Consumption and Fixed Charges

<u>Consumption Charges</u>	<u>Rate per 1,000 Gallons</u>
All Consumption	\$0.31
 <u>Fixed Charges</u>	 <u>Monthly</u>
Service Charge (All Meter Sizes)	\$6.58

C. Private Fire Protection Charges

<u>Sprinkler Systems and Standpipes</u>	<u>Monthly</u>
Tap Size	
1 Inch	\$3.78
2 Inch	\$6.31
4 Inch	\$9.75
6 Inch	\$13.92
8 Inch	\$24.36
10 Inch	\$34.80
12 Inch	\$55.68
16 Inch	\$139.20

D. Notes

Applicability: Charges under this schedule are applicable to all licensees for treated, raw, or recycled water service inside the limits of the City and County of Denver.

Payment: Bills are due and payable to Denver Water upon issuance. Monthly bills are delinquent 20 days after the billing date. Late charges will be assessed per Denver Water policy.

Rates: Charges for treated and recycled water service consist of a consumption charge and a fixed charge. Raw water is charged only for consumption. The consumption charge is based upon the amount of water delivered during the billing period. The fixed charge applies to all accounts that are active at any time during the billing period.



Revenue Requirements

September 11, 2014

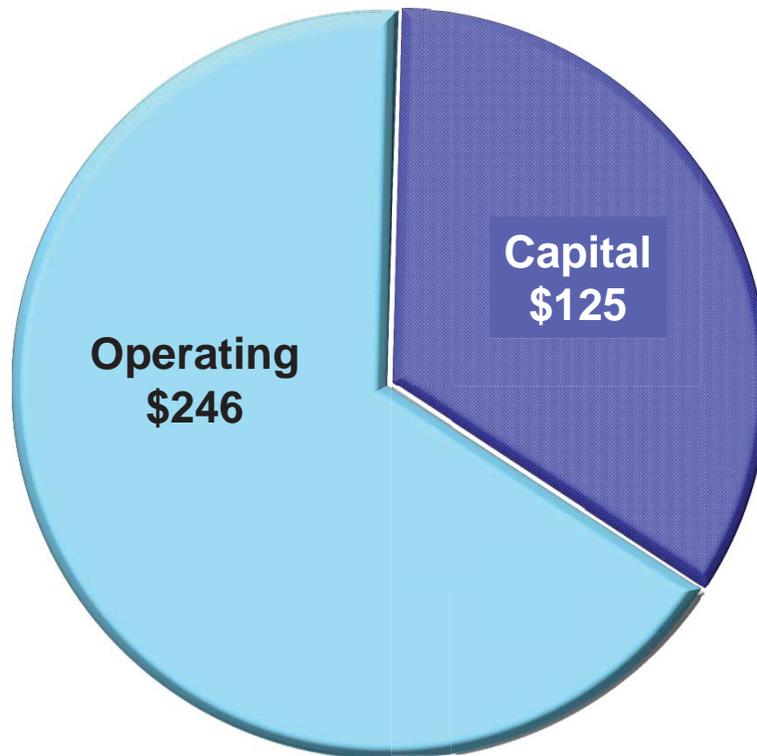
Board Item VI-B-1



Agenda

- **2014 financial plan**
- **2014 revenue requirements**
- **2014 cost of service and rates**

2014 proposed budget: \$371 million



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Process for Developing Rates

- **Step 1: Financial plan**
 - Forecast revenues to meet projected costs (revenue requirements)
- **Step 2: Cost of service**
 - Determines the cost basis for customer class rate design
- **Step 3: Rates**
 - Recovers cost to provide service through the service charge and volume charge

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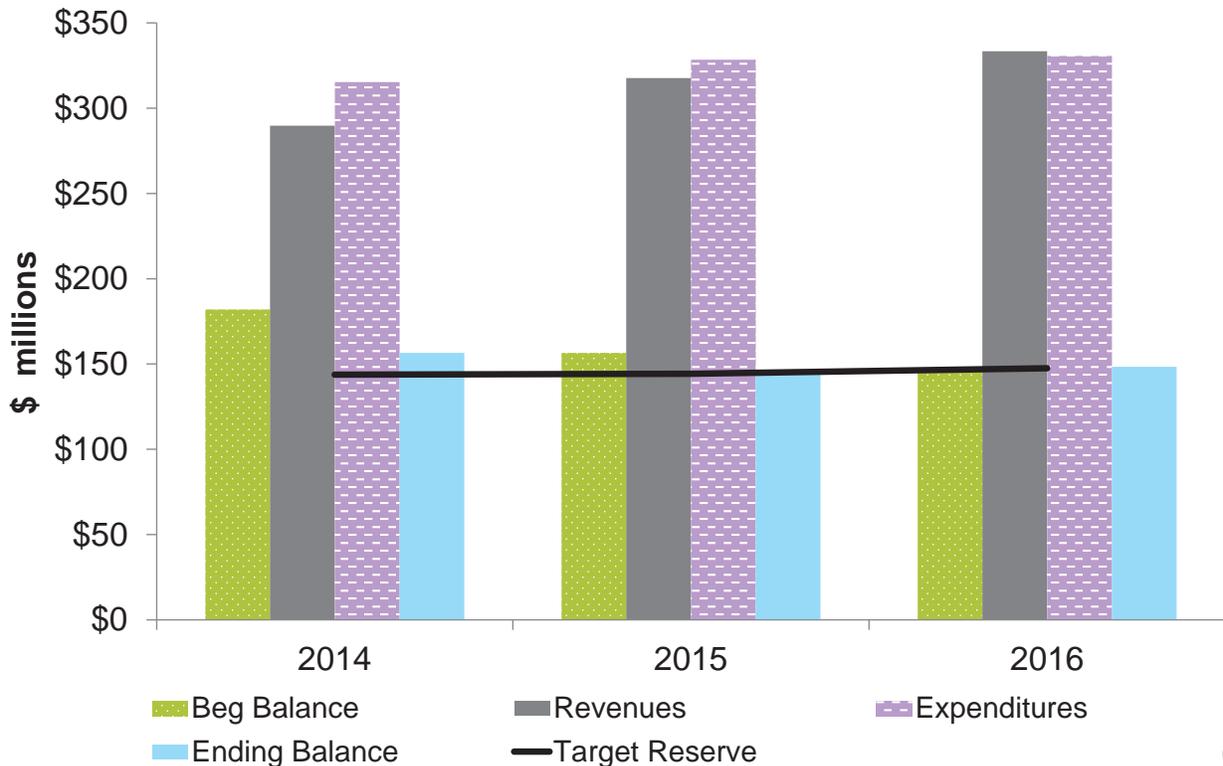
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Financial plan assumptions

Meet target reserves	<ul style="list-style-type: none"> • O&M \$45.1 • Repair and replacement \$50.2 • Debt service \$33.6 • Insurance reserve/other <u>\$14.8</u> <li style="text-align: right;">Total \$143.8
Comply with debt policies	<ul style="list-style-type: none"> • Min. debt coverage of 2.0x net revenue • Debt to fixed asset ratio of less than 35%
Fund balances	<ul style="list-style-type: none"> • 2014 beginning balance: \$182 million • Specific reserves: \$40 million • Strontia, forest health, mediation, drought reserve
2014 rate revenue	<ul style="list-style-type: none"> • Continued Stage 1 drought • 10% expected reduction in consumption

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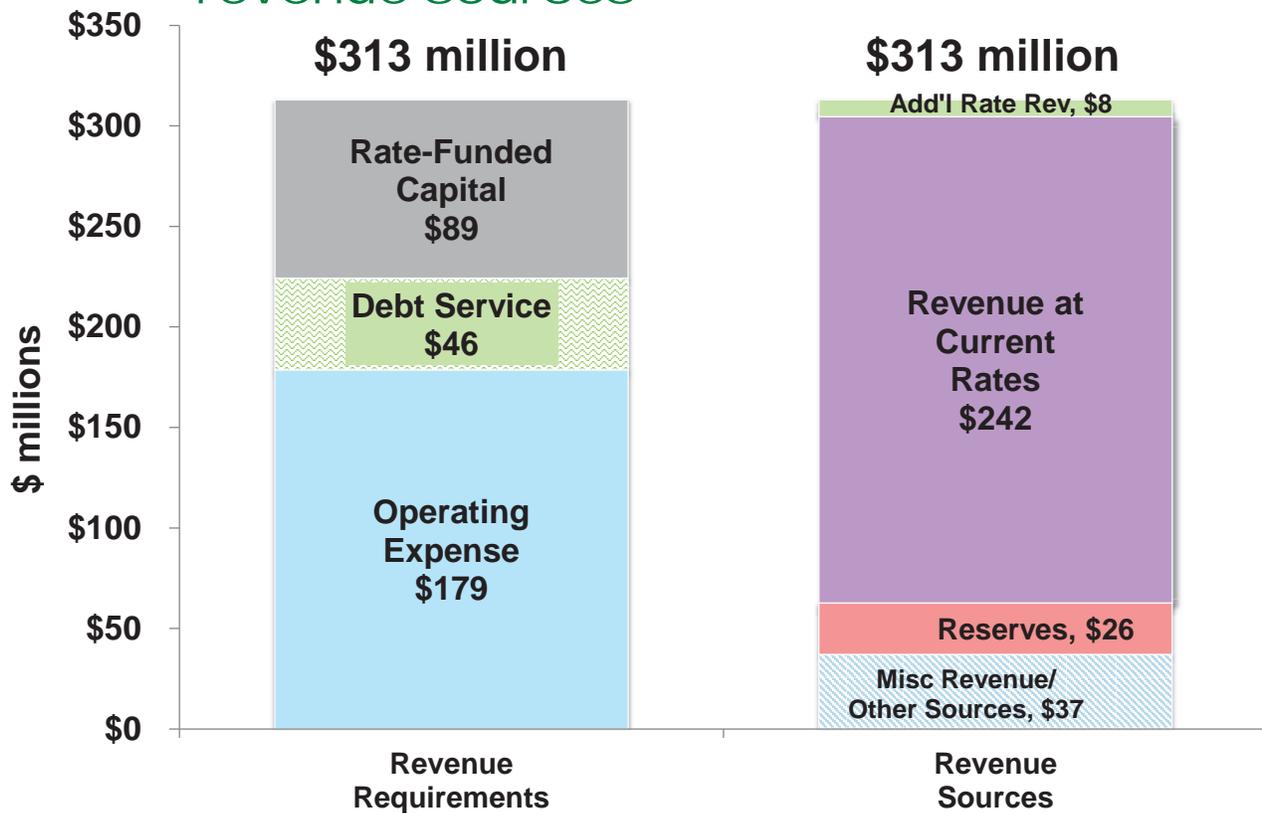
2014 – 2016 financial plan forecast 3.5% increase in 2014



6

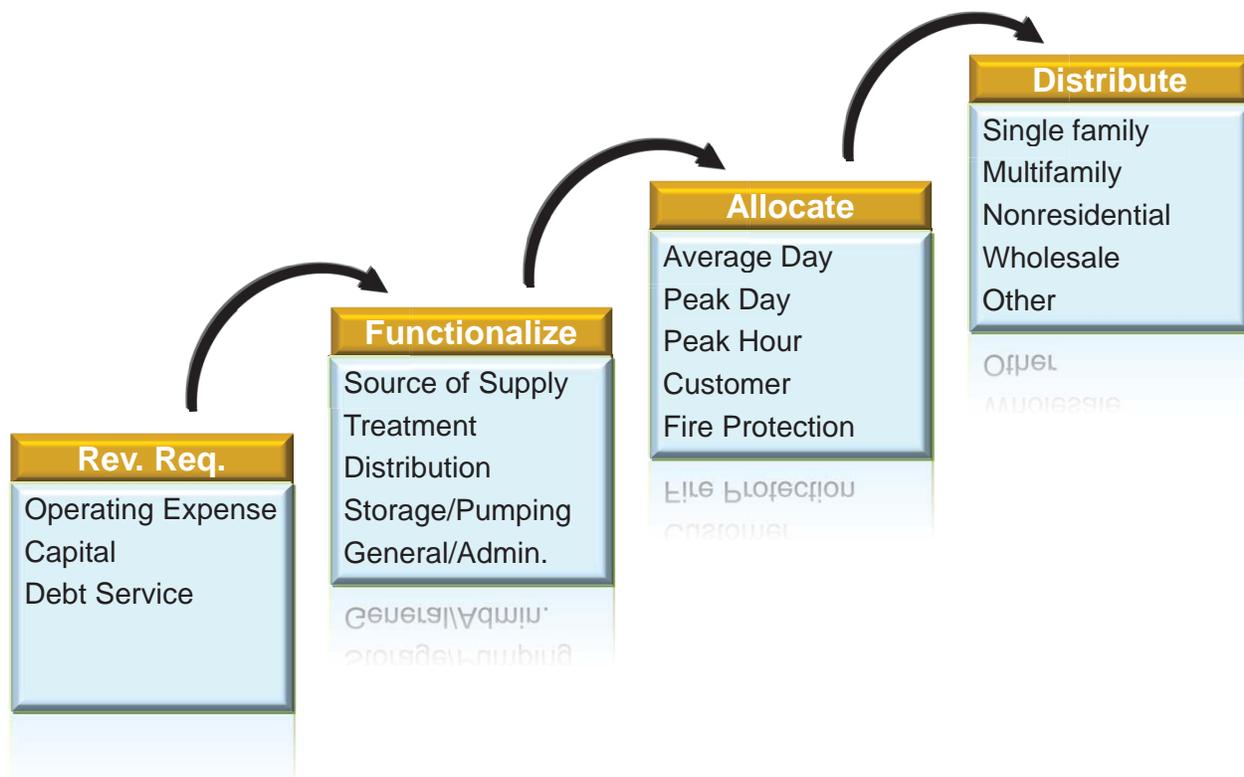
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2014 Revenue requirement and revenue sources



7

Cost-of-service process



8

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What do rates recover?

- **Monthly service charge, \$ per bill**
 - Billing and administrative costs
 - Meter inspections, reading, and repair
- **Volume charge, \$ per 1,000 gallons**
 - Cost of treatment and delivery under average and peak demand conditions
 - Capital reinvestment to maintain level of service
 - Public fire protection

Comparison of existing and proposed 2014 rates

Customer Class	Inside City			Read & Bill			Total Service		
	2013	2014	Change (\$)	2013	2014	Change (\$)	2013	2014	Change (\$)
Service Charge	\$6.33	\$6.58	\$0.25	\$6.33	\$6.58	\$0.25	\$6.33	\$6.58	\$0.25
Volume Rate, \$ per Kgal									
Single Family									
Blk 1: 0 - 11 Kgal	\$2.59	\$2.68	\$0.09	\$2.61	\$2.73	\$0.12	\$2.93	\$3.02	\$0.09
Blk 2: 12 - 30	5.18	5.36	0.18	5.22	5.46	0.24	5.86	6.04	0.18
Blk 3: 31 - 40	7.77	8.04	0.27	7.83	8.19	0.36	8.79	9.06	0.27
Blk 4: Over 40	10.36	10.72	0.36	10.44	10.92	0.48	11.72	12.08	0.36
Multifamily									
Block 1: 0 - 15	\$2.83	\$2.93	\$0.10	\$3.30	\$3.39	\$0.09	\$3.99	\$4.21	\$0.22
Block 2: Over 15	3.40	3.52	0.12	3.96	4.07	0.11	4.79	5.05	0.26
Nonresidential									
Winter	\$1.78	\$1.84	\$0.06	\$2.26	\$2.35	\$0.09	\$2.54	\$2.70	\$0.16
Summer	3.57	3.68	0.11	4.52	4.70	0.18	5.08	5.40	0.32
Irrigation									
Winter	\$1.20	\$1.20	\$0.00	\$1.29	\$1.31	\$0.02	\$1.47	\$1.56	\$0.09
Summer	4.81	4.81	0.00	5.15	5.24	0.09	5.88	6.24	0.36

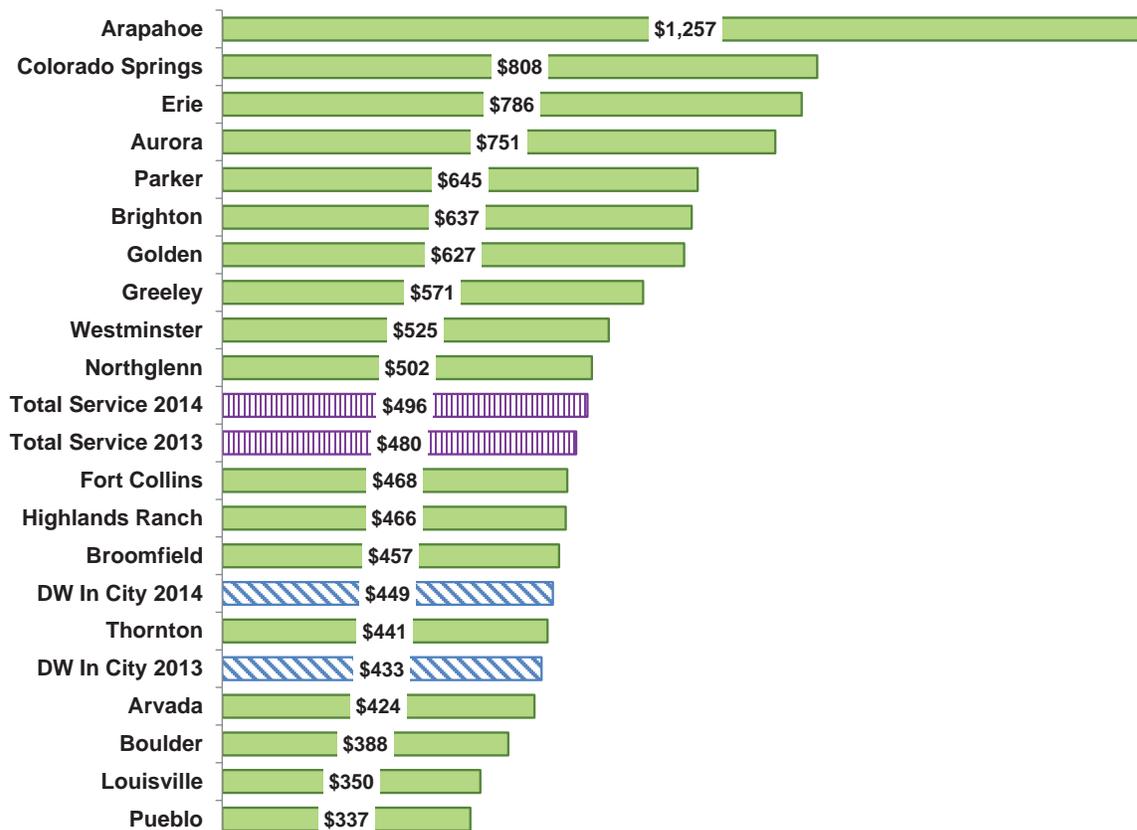
Annual bill comparison

115,000 gallons annual usage

Customer Class	2013	2014	% Change
Inside City			
Annual bill at 115,000 gal	\$433.38	\$448.80	3.6%
Annual bill increase			\$15.42
Average monthly increase			\$1.29
Average monthly summer bill increase			\$1.92
Average rate, \$ per 1,000 gal	3.77	3.90	\$0.04
Read & Bill			
Annual bill at 115,000 gal	\$436.14	\$455.70	4.5%
Annual bill increase			\$19.56
Average monthly increase			\$1.63
Average monthly summer bill increase			\$2.47
Average rate, \$ per 1,000 gal	3.79	3.96	\$0.04
Total Service			
Annual bill at 115,000 gal	\$480.30	\$495.72	3.2%
Annual bill increase			\$15.42
Average monthly increase			\$1.29
Average monthly summer bill increase			\$1.92
Average rate, \$ per 1,000 gal	4.18	4.31	\$0.03

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Front Range Survey-Single Family Residential 115,000 Gallons Annual Use



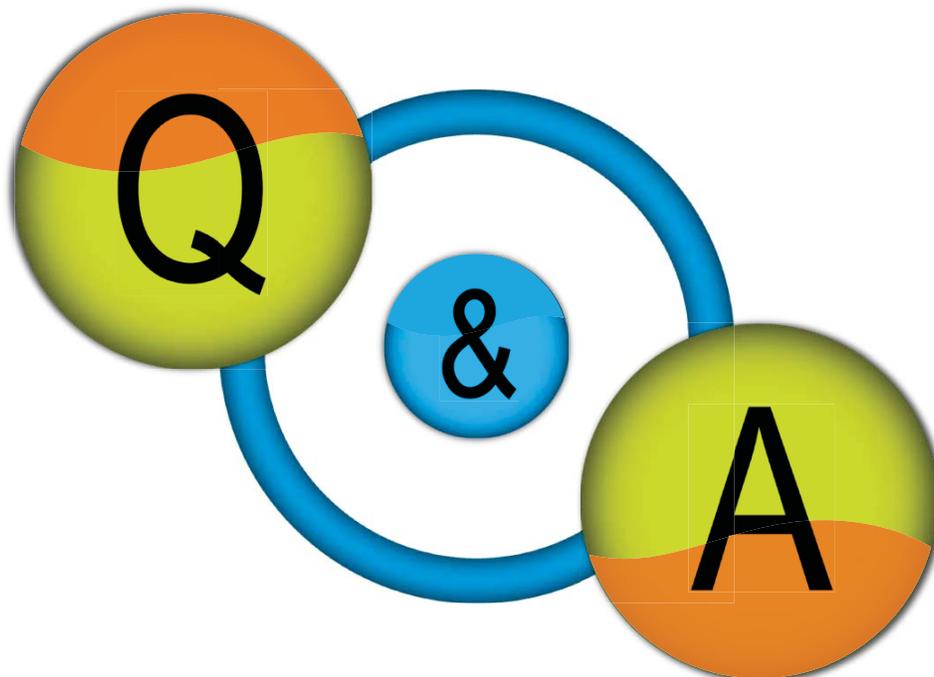
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Upcoming meetings

- **September 17**
 - Presentation to the Distributor's Forum
- **September 19**
 - Presentation to the Citizens Advisory Committee
- **September 25**
 - 2014 operating and capital budget adoption
 - Adoption of 2014 rates
- **January 1, 2014**
 - Adopted rates implemented

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Denver Water Distributor's Rates and Fees Technical Advisory Committee

September 24, 2013

Board of Water Commissioners
Denver Water
1600 W. 12th Ave.
Denver, CO 80204

RE: Endorsement of 2014 Water Rate Proposal

Dear Board of Water Commissioners,

On behalf of the Technical Advisory Committee (TAC) of the Denver Water Distributor Forum, I would like to thank you for the opportunity to have reviewed the 2014 rate proposal being presented to you today. Our access to staff's recommendations and findings for last year's rate proposal was unprecedented in the level of information provided as well as the timing, which allowed us to review the rate proposal in advance of it being forwarded to the Board of Water Commissioners for consideration. I am happy to report that this year's rate proposal was prepared with equal consideration for the TAC, and this level of access and advanced review has been instrumental in forming our endorsement for the proposal now in front of you.

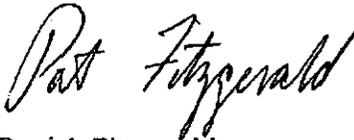
If you will recall from last year, the TAC expressed concern that there was a disproportionate adjustment to the rates to achieve the then 2.5% increase in system revenues recommended by staff. In the 2014 proposal, we note that the adjustments to rates are far more proportionate with Distributors bearing roughly the same incremental burden in their rates as Denver's inside-city customers. This result is indeed promising and we are pleased that Denver Water now appears to be on track to achieve ongoing proportionality in the annual rate adjustments. As you may recall, this was said to be a major reason for implementing the change in rate making methodology in 2012.

One of the goals of the TAC each year is to advise the members of the Distributor Forum on matters concerning Denver Water's rates and charges. One of the issues that we have decided to track, is the actual rate of return produced by the so-called "additional amount" that is embedded in the calculation of the Distributors' rates. Last year, we measured that the additional amount produced a rate of return of 8.3% on Denver Water's investment in assets used to provide service for outside-city customers (this is called the "rate base", your staff is aware of its value). At one

point, we communicated to you that the TAC had proposed a guideline rate of return equal to a 15% premium on staff's calculated return. In 2012, that calculated return was 7.15%; a 15% premium would have brought the guideline return to 8.2%. Thus, in the proposed 2013 rates, the rate of return implied in Denver Water's rate filing was 8.3% vs. a guideline level proposed by the TAC at 8.2%. The variance totaled \$0.47 million. The rates proposed for 2014 show a proposed return of 7.8% vs. a calculated return with 15% premium of 7.3% (Denver Water's 6.34% calculated return plus 15% premium). In the 2014 rate proposal, this variance amounts to \$2.99 million.

The values above are known and measurable and we provide them here primarily to share our concerns and make you aware of them. Issues like these are important to us. We intend to continue to work closely with your staff in the spirit of collaboration that has been established over the last two years. We are pleased that this collaboration has already resulted in resolution of many long-standing issues that we have had with Denver Water's rate making process. We are certain that continued effort will continue to yield excellent, mutually agreeable results.

Yours sincerely,



Patrick Fitzgerald
Chairman

cc: Jim Lochhead
Angela Bricmont
Todd Cristiano

Appendix B
Cost of service



DENVER WATER

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Table B-1
2014 Cost-of-Service Study
2014 Revenue Requirements

Description	2014
Operations & Maintenance	
Total O&M	\$199,416
Less: Capital Indirects	(20,774)
Net O&M	<u>\$178,643</u>
Capital Costs	
Part 1 - Expansion	\$58,554
Part 2 & 3 - Repair and replacement	83,691
Debt service	47,879
Total Capital	<u>\$190,124</u>
Revenue Requirements	\$368,767
Less: Revenue Requirement Adjustments	
Non-Rate Revenue	
SDC and participation	(\$17,457)
Bond issue	(36,000)
Other interest income	(1,413)
Operating revenue	(10,430)
Other income	(5,268)
BABS subsidy	(2,225)
Specifically Held Reserve Transfer	0
Transfers In	(20,000)
Total Non-Rate Revenue	<u>(\$92,792)</u>
Change in Operating Reserves	(25,599)
Total Revenue Requirement Adjustments	<u>(\$118,391)</u>
Total Cost of Service	<u>\$250,376</u>

Table B-2
 2014 Cost-of-Service Study
 Customer Profile: 2014 Projected Units of Service

Line No	Customer Class	Potable <i>1,000 Gal.</i>	Delivered <i>1,000 Gal.</i>	Average Day Use <i>1,000 Gal.</i>	Max Day Peaking Factor	Max Day Total Demand <i>1,000 Gal.</i>	Max Day Extra Capacity <i>1,000 Gal.</i>	Max Hour Peaking Factor <i>1,000 Gal.</i>	Max Hour Total Use <i>1,000 Gal.</i>	Max Hour Extra Capacity <i>1,000 Gal.</i>	Customer <i>Bills</i>	Fire Protection
Inside City												
1	Single Family Residentia	11,875,405	11,875,405	32,535	2.1	66,697	34,162	3.2	102,812	36,114	1,588,492	
2	Duplex	715,010	715,010	1,959	1.7	3,330	1,371	2.6	5,132	1,802	70,289	
3	3-Plex	216,569	216,569	593	1.7	1,009	415	2.6	1,555	546	16,757	
4	4-Plex	317,329	317,329	869	1.7	1,478	609	2.6	2,278	800	18,243	
5	5-Plex	158,682	158,682	435	1.7	739	304	2.6	1,139	400	7,150	
6	Commercial	11,298,259	11,298,259	30,954	1.6	49,527	18,572	2.5	76,147	26,621	175,627	
7	Industrial	1,141,605	1,141,605	3,128	1.6	5,004	1,877	2.5	7,694	2,690	3,115	
8	Government	542,126	542,126	1,485	1.6	2,376	891	2.5	3,654	1,277	2,856	
9	Irrigation Only	816,220	816,220	2,236	2.9	6,440	4,204	4.4	9,929	3,489	14,805	
10	City and County of Denver	1,909,652	1,909,652	5,232	2.6	13,341	8,109	3.9	20,561	7,220	14,092	
11	Private Fire Protection					470	470		2,820	2,350		4,903
12	Subtotal Treated Inside City	28,990,856	28,990,856	79,427		150,412	70,985		233,721	83,308	1,911,426	4,903
13	Raw	542,746										
14	City and County of Denver Raw	275,362										
15	Recycled	356,438	356,438	977	1.0	977	0	1.0	977	0	153	
16	City and County of Denver Recy	264,560	264,560	725	1.0	725	0	1.0	725	0	241	
17	Subtotal Raw Inside City	1,439,106	620,997	1,701		1,701	0		1,701	0	393	0
18	Total Inside City	30,429,962	29,611,853	81,128		152,114	70,985		235,422	83,308	1,911,819	4,903
Outside City												
Read and Bill												
19	Single Family Residentia	3,984,866	3,984,866	10,917	2.1	23,145	12,228	3.3	35,700	12,555.057	396,308	
20	Duplex	23,719	23,719	65	1.8	114	49	2.7	176	61,735	1,813	
21	3-Plex	23,765	23,765	65	1.8	115	49	2.7	176	61,853	1,621	
22	4-Plex	67,454	67,454	185	1.8	325	140	2.7	501	175,566	3,179	
23	5-Plex	13,832	13,832	38	1.8	67	29	2.7	103	36,000	604	
24	Commercial	2,236,779	2,236,779	6,128	2.0	12,256	6,128	3.1	18,875	6,618.416	29,667	
25	Industrial	155,978	155,978	427	2.0	855	427	3.1	1,316	461,525	72	
26	Government	267,853	267,853	734	2.0	1,468	734	3.1	2,260	792,551	665	
27	Irrigation Only	467,094	467,094	1,280	2.8	3,532	2,252	4.3	5,439	1,906,766	5,018	
28	Private Fire Protection					80	80		460	380.000		792
29	Subtotal Read and Bill	7,241,340	7,241,340	19,839		41,957	22,117		65,006	23,049.469	438,946	792
Total Service												
30	Single Family Residentia	4,266,836	4,266,836	11,690	2.1	24,783	13,093	3.3	38,226	13,443.454	386,082	
31	Duplex	43,050	43,050	118	1.8	213	96	2.8	329	115,587	3,344	
32	3-Plex	26,621	26,621	73	1.8	132	59	2.8	203	71,475	1,435	
33	4-Plex	68,637	68,637	188	1.8	340	152	2.8	525	184,287	2,628	
34	5-Plex	25,522	25,522	70	1.8	127	57	2.8	195	68,526	1,045	
35	Commercial	2,062,410	2,062,410	5,650	1.8	10,284	4,633	2.8	15,821	5,537.429	32,583	
36	Industrial	35,209	35,209	96	1.8	176	79	2.8	270	94,534	96	
37	Government	186,277	186,277	510	1.8	929	418	2.8	1,429	500,141	983	
38	Irrigation Only	525,384	525,384	1,439	2.7	3,872	2,433	4.1	5,959	2,087.141	6,744	
39	Private Fire Protection					80	80		480	400.000		839
40	Subtotal Total Service	7,239,946	7,239,946	19,835		40,935	21,100		63,438	22,502.575	434,941	839
41	Master Meters	15,360,875	15,360,875	42,085	2.0	85,853	43,768	3.1	132,146	46,293	480	
42	OCSA Treated	1,179,422	1,179,422	3,231	2.2	7,238	4,007	3.5	11,148	3,910	96	
43	Subtotal Treated Outside City	31,021,582	31,021,582	84,991		175,983	90,992		271,738	95,754.954	874,463	1,631
44	Raw	5,504,000										
45	OCSA Raw	1,553,016										
46	OCSA Recycled	850,000	0	0	1.0	0	0	1.0	0	0	12	
47	Subtotal Raw Outside City	7,907,016	0	0		0	0		0	0	12	0
48	Total Outside City	38,928,598	31,021,582	84,991		175,983	90,992		271,738	95,755	874,475	1,631
49	Total Treated	60,012,438	60,012,438	164,418		326,395	161,977		505,458	179,063	2,785,889	6,534
50	Total Raw	7,875,124	0	0		0	0		0	0	0	0
51	Total Recycled	1,470,997	620,997	1,701		1,701	0		1,701	0	405	0
52	Total	69,358,560	60,633,436	166,119		328,096	161,977		507,160	179,063	2,786,295	6,534

Table B-3
2014 Cost-of-Service Study
Allocation of O&M expense by cost pool (\$ thousands)

Line No No	Description	Joint	Inside City	Total Service	Outside City	Total
Source of Supply						
1	General	\$566	\$0	\$0	\$0	\$566
2	Storage	11,078	0	0	0	11,078
3	Dams	251	0	0	0	251
4	Wells	44	0	0	0	44
5	Raw Water Collection	3,066	0	0	0	3,066
6	Ditches	99	0	0	0	99
7	Hydropower	797	0	0	0	797
Water Treatment						
8	General	\$5,017	\$0	\$0	\$0	\$5,017
9	Kassler	3	0	0	0	3
10	Marston	5,776	0	0	0	5,776
11	Foothills	8,632	0	0	0	8,632
12	Moffat	5,725	0	0	0	5,725
13	Hydropower	165	0	0	0	165
14	Recycled	4,055	0	0	0	4,055
Pumping						
15	General	\$458	\$0	\$0	\$0	\$458
16	Pumping Facilities	1,915	1,307	0	3,671	6,893
Distribution						
17	General	\$8,557	\$0	\$0	\$0	\$8,557
18	DIA	0	261	0	0	261
19	Storage Facilities	103	446	0	461	1,011
20	Mains Less than 24"	1,544	7,321	3,687	0	12,552
21	Raw Water Mains	0	67	0	0	67
22	Conduits	4,652	0	0	0	4,652
23	Hydrants	0	974	283	0	1,257
24	Hydrants-DIA	0	104	0	0	104
25	Recycled Distribution	0	10	0	0	10
All Other						
26	Customer - Meters	\$2,230	\$73	\$15	\$0	\$2,318
27	Customer - General	2,283	0	0	0	2,283
28	Customer Service Field	11,418	0	0	0	11,418
29	Customer - Water Sales	0	0	0	0	0
30	Customer - Conservation	304	4	1	0	309
31	General	81,223	0	0	0	81,223
32	Total O&M	\$159,959	\$10,567	\$3,986	\$4,132	\$178,643

Table B-4
2014 Cost-of-Service Study
Allocation of Joint O&M to Cost Pools and Cost Components (\$ Thousands)

Line No	Description	Total	Cost Component					Billing	Customer
			Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity			
JOINT COSTS									
Source of Supply									
1	General	\$566	\$566	\$0	\$0	\$0	\$0	\$0	
2	Storage	11,078	8,267	0	2,810	0	0	0	
3	Dams	251	251	0	0	0	0	0	
4	Wells	44	44	0	0	0	0	0	
5	Raw Water Collection	3,066	2,921	0	145	0	0	0	
6	Ditches	99	99	0	0	0	0	0	
7	Hydropower	736	277	101	174	184	0	0	
Water Treatment									
8	General	\$5,017	\$0	\$2,458	\$2,558	\$0	\$0	\$0	
9	Kassler	3	0	1	1	0	0	0	
10	Marston	5,776	0	2,830	2,946	0	0	0	
11	Foothills	8,632	0	4,230	4,402	0	0	0	
12	Moffat	5,725	0	2,805	2,920	0	0	0	
13	Hydropower	165	0	53	54	58	0	0	
14	Recycled	4,055	4,055	0	0	0	0	0	
Pumping									
15	General	\$458	\$0	\$146	\$151	\$160	\$0	\$0	
16	Pumping Facilities	1,915	80	753	781	302	0	0	
Distribution									
17	General	\$8,557	\$0	\$2,738	\$2,824	\$2,995	\$0	\$0	
18	DIA	0	0	0	0	0	0	0	
19	Storage Facilities	103	0	33	34	36	0	0	
20	Mains Less than 24"	1,544	0	494	509	540	0	0	
21	Raw Water Mains	0	0	0	0	0	0	0	
22	Conduits	4,652	92	1,459	1,505	1,596	0	0	
23	Hydrants	0	0	0	0	0	0	0	
24	Hydrants-DIA	0	0	0	0	0	0	0	
25	Recycled Distribution	0	0	0	0	0	0	0	
All Other									
26	Meters	\$2,230	\$0	\$1,466	\$0	\$0	\$0	\$764	
27	Hydropower	61	0	20	20	21	0	0	
28	Customer - General	2,283	0	1,184	0	0	0	1,099	
29	Customer Service Field	11,418	0	0	0	0	0	11,418	
30	Customer - Water Sales	0	0	0	0	0	0	0	
31	Conservation	304	0	29	0	0	0	274	
32	General	81,223	17,441	31,043	17,316	4,673	0	10,750	
33	Total	\$159,959	\$34,094	\$51,843.81	\$39,151	\$10,565	\$0	\$24,304	
34	<i>Percent Allocation</i>		21.3%	32.4%	24.5%	6.6%	0.0%	15.2%	
Allocation of Joint O&M to Inside and Outside Cost Components									
35	<i>Joint Capital Costs</i>	\$159,959	\$34,094	\$51,844	\$39,151	\$10,565	\$0	\$24,304	
Units of Service									
			mg	mg	mgd	mgd	1,000 bills	1,000 accts	
36	Inside City		30,430						
37	Inside City-Excluding Recycled Demanc			28,991	71	83	1,911	159	
38	Outside City		38,929	31,022	91	96	874	73	
39	Total		69,359	60,012	162	179	2,786	232	
40	Inside City, % of Total by Cost Component, ex. recycled		43.9%	48.3%	43.8%	46.5%	68.6%	68.6%	
41	Outside City, % of Total by Cost Component		56.1%	51.7%	56.2%	53.5%	31.4%	31.4%	
42	Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
43	Inside City, \$ of Total by CC	\$78,751	\$14,958	\$25,045	\$17,158	\$4,916	\$0	\$16,675	
44	Outside City, \$ of Total by CC	81,207	19,136	26,799	21,993	5,650	0	7,629	
45	Total	\$159,959	\$34,094	\$51,844	\$39,151	\$10,565	\$0	\$24,304	
Percent Allocation by Cost Component									
46	Inside City	100.0%	19.0%	31.8%	21.8%	6.2%	0.0%	21.2%	
47	Outside City	100.0%	23.6%	33.0%	27.1%	7.0%	0.0%	9.4%	

Table B-4
 2014 Cost-of-Service Study
 Allocation of Joint O&M to Cost Pools and Cost Components (\$ Thousands)

Line No	Description	Total	Cost Component					Billing	Customer
			Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity			
INSIDE CITY SPECIFIC									
Source of Supply									
49	General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
50	Storage	0	0	0	0	0	0	0	
51	Dams	0	0	0	0	0	0	0	
52	Wells	0	0	0	0	0	0	0	
53	Raw Water Collection	0	0	0	0	0	0	0	
54	Ditches	0	0	0	0	0	0	0	
55	Hydropower	0	0	0	0	0	0	0	
Water Treatment									
56	General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
57	Kassler	0	0	0	0	0	0	0	
58	Marston	0	0	0	0	0	0	0	
59	Foothills	0	0	0	0	0	0	0	
60	Moffat	0	0	0	0	0	0	0	
61	Hydropower	0	0	0	0	0	0	0	
62	Recycled	0	0	0	0	0	0	0	
Pumping									
63	General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
64	Pumping Facilities	1,307	0	612	337	357	0	0	
Distribution									
65	General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
66	DIA	261	0	84	86	91	0	0	
67	Storage Facilities	446	0	161	138	147	0	0	
68	Mains Less than 24"	7,321	0	2,343	2,416	2,562	0	0	
69	Raw Water Mains	67	0	67	0	0	0	0	
70	Conduits	0	0	0	0	0	0	0	
71	Hydrants	974	0	0	487	487	0	0	
72	Hydrants-DIA	104	0	0	52	52	0	0	
73	Recycled Distribution	10	0	10	0	0	0	0	
All Other									
74	Meters	\$73	\$0	\$73	\$0	\$0	\$0	\$0	
75	Hydropower	0	0	0	0	0	0	0	
76	Customer - General	0	0	0	0	0	0	0	
77	Customer Service Field	0	0	0	0	0	0	0	
78	Customer - Water Sales	0	0	0	0	0	0	0	
79	Conservation	4	0	4	0	0	0	0	
80	General	0	0	0	0	0	0	0	
81	Total	\$10,567	\$0	\$3,354	\$3,516	\$3,697	\$0	\$0	
82	<i>Percent Allocation</i>	<i>100.0%</i>	<i>0.0%</i>	<i>31.7%</i>	<i>33.3%</i>	<i>35.0%</i>	<i>0.0%</i>	<i>0.0%</i>	

Table B-4
 2014 Cost-of-Service Study
 Allocation of Joint O&M to Cost Pools and Cost Components (\$ Thousands)

Line No	Description	Total	Cost Component					Billing	Customer
			Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity			
TOTAL SERVICE									
Source of Supply									
83	General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
84	Storage	0	0	0	0	0	0	0	
85	Dams	0	0	0	0	0	0	0	
86	Wells	0	0	0	0	0	0	0	
87	Raw Water Collection	0	0	0	0	0	0	0	
88	Ditches	0	0	0	0	0	0	0	
89	Hydropower	0	0	0	0	0	0	0	
Water Treatment									
90	General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
91	Kassler	0	0	0	0	0	0	0	
92	Marston	0	0	0	0	0	0	0	
93	Foothills	0	0	0	0	0	0	0	
94	Moffat	0	0	0	0	0	0	0	
95	Hydropower	0	0	0	0	0	0	0	
96	Recycled	0	0	0	0	0	0	0	
Pumping									
97	General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
98	Pumping Facilities	0	0	0	0	0	0	0	
Distribution									
99	General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
100	DIA	0	0	0	0	0	0	0	
101	Storage Facilities	0	0	0	0	0	0	0	
102	Mains Less than 24"	3,687	0	1,180	1,217	1,290	0	0	
103	Raw Water Mains	0	0	0	0	0	0	0	
104	Conduits	0	0	0	0	0	0	0	
105	Hydrants	283	0	0	141	141	0	0	
106	Hydrants-DIA	0	0	0	0	0	0	0	
107	Recycled Distribution	0	0	0	0	0	0	0	
All Other									
108	Meters	\$15	\$0	\$15	\$0	\$0	\$0	\$0	
109	Hydropower	0	0	0	0	0	0	0	
110	Customer - General	0	0	0	0	0	0	0	
111	Customer Service Field	0	0	0	0	0	0	0	
112	Customer - Water Sales	0	0	0	0	0	0	0	
113	Conservation	1	0	1	0	0	0	0	
114	General	0	0	0	0	0	0	0	
115	Total	\$3,986	\$0	\$1,196	\$1,358	\$1,432	\$0	\$0	
116	<i>Percent Allocation</i>	<i>100.0%</i>	<i>0.0%</i>	<i>30.0%</i>	<i>34.1%</i>	<i>35.9%</i>	<i>0.0%</i>	<i>0.0%</i>	

Table B-4
 2014 Cost-of-Service Study
 Allocation of Joint O&M to Cost Pools and Cost Components (\$ Thousands)

Line No	Description	Total	Cost Component					Billing	Customer
			Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity			
OUTSIDE CITY									
Source of Supply									
117	General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
118	Storage	0	0	0	0	0	0	0	
119	Dams	0	0	0	0	0	0	0	
120	Wells	0	0	0	0	0	0	0	
121	Raw Water Collection	0	0	0	0	0	0	0	
122	Ditches	0	0	0	0	0	0	0	
123	Hydropower	0	0	0	0	0	0	0	
Water Treatment									
124	General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
125	Kassler	0	0	0	0	0	0	0	
126	Marston	0	0	0	0	0	0	0	
127	Foothills	0	0	0	0	0	0	0	
128	Moffat	0	0	0	0	0	0	0	
129	Hydropower	0	0	0	0	0	0	0	
130	Recycled	0	0	0	0	0	0	0	
Pumping									
131	General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
132	Pumping Facilities	3,671	0	1,303	1,347	1,020	0	0	
Distribution									
133	General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
134	DIA	0	0	0	0	0	0	0	
135	Storage Facilities	461	0	148	152	161	0	0	
136	Mains Less than 24"	0	0	0	0	0	0	0	
137	Raw Water Mains	0	0	0	0	0	0	0	
138	Conduits	0	0	0	0	0	0	0	
139	Hydrants	0	0	0	0	0	0	0	
140	Hydrants-DIA	0	0	0	0	0	0	0	
141	Recycled Distribution	0	0	0	0	0	0	0	
All Other									
142	Meters	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
143	Hydropower	0	0	0	0	0	0	0	
144	Customer - General	0	0	0	0	0	0	0	
145	Customer Service Field	0	0	0	0	0	0	0	
146	Customer - Water Sales	0	0	0	0	0	0	0	
147	Conservation	0	0	0	0	0	0	0	
148	General	0	0	0	0	0	0	0	
149	Total	\$4,132	\$0	\$1,451	\$1,500	\$1,182	\$0	\$0	
150	<i>Percent Allocation</i>	<i>100.0%</i>	<i>0.0%</i>	<i>35.1%</i>	<i>36.3%</i>	<i>28.6%</i>	<i>0.0%</i>	<i>0.0%</i>	

*Totals may not add due to rounding.

Table B-5
2014 Cost-of-Service Study
Development of O&M unit cost of service (\$ thousands)

Line No	Description	Total	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Customer
Percent Allocation of O&M Expense by Cost Pool by Cost Component							
Joint							
1	Joint Inside, (Table C-4, Line 47)	100.0%	19.0%	31.8%	21.8%	6.2%	21.2%
2	Joint Outside (Table C-4, Line 48)	100.0%	23.6%	33.0%	27.1%	7.0%	9.4%
3	Inside Specific,(Table C-4, Line 82)	100.0%	0.0%	31.7%	33.3%	35.0%	0.0%
4	Outside Specific - Total Service, (Tbl C-4, Line 116)	100.0%	0.0%	30.0%	34.1%	35.9%	0.0%
5	Outside Spceific, (Table C-4, Line 150)	100.0%	0.0%	35.1%	36.3%	28.6%	0.0%
Allocation of O&M by Cost Pool by Cost Component							
Joint							
6	Joint Inside	\$78,751	\$14,958	\$25,045	\$17,158	\$4,916	\$16,675
7	Joint Outside	81,207	19,136	26,799	21,993	5,650	7,629
8	Inside Specific (Table C-4, Line 81)	10,567	0	3,354	3,516	3,697	0
9	Outside Specific - Total Service (Tbl C-4, Line 115)	3,986	0	1,196	1,358	1,432	0
10	Outside Specific (Table C-4, Line 149)	4,132	0	1,451	1,500	1,182	0
11	Total	\$178,643	\$34,094	\$57,844	\$45,525	\$16,876	\$24,304
Customer Service Characteristics, Kgal							
Joint							
12	Joint Inside (Table C-1, Line 18)		30,429,962				
13	Joint Inside (excluding recycled base costs)			28,990,856	70,985	83,308	159,318
14	Joint Outside (Table C-1, Line 48)		38,928,598	31,021,582	90,992	95,755	72,873
15	Inside Specific (Table C-1, Line 18)		30,429,962	29,611,853	70,985	83,308	159,318
16	Outside Specific - Total Service (Table C-1, Line 40)		7,239,946	7,239,946	21,100	22,503	36,245
17	Outside Specific (Table C-1, Line 48)		38,928,598	31,021,582	90,992	95,755	72,873
Unit Cost by Cost Pool by Cost Component							
Joint							
18	Joint Inside (Line 6/Line 12)		\$0.49	\$0.86	\$241.71	\$59.00	\$104.67
19	Joint Outside (Line 7/Line 14)		0.49	0.86	241.71	59.00	104.67
20	Inside Specific (Line 8/Line 15)		0.00	0.11	49.53	44.37	0.00
21	Outside Specific - Total Service (Line 9/Line 16)		0.00	0.17	64.36	63.63	0.00
22	Outside Specific (Line 10/Line17)		0.00	0.05	16.48	12.34	0.00
Inside City							
23	Joint		\$0.49	\$0.86	\$241.71	\$59.00	\$104.67
24	Inside Specific		0.00	0.11	49.53	44.37	0.00
25	Total Inside City O&M		\$0.49	\$0.98	\$291.24	\$103.38	\$104.67
Outside City (Read & Bill, Master Meter)							
26	Joint		\$0.49	\$0.86	\$241.71	\$59.00	\$104.67
27	Outside Specific		0.00	0.05	16.48	12.34	0.00
			\$0.49	\$0.91	\$258.19	\$71.35	\$104.67
Total Service							
28	Joint		\$0.49	\$0.86	\$241.71	\$59.00	\$104.67
29	Outside Specific		0.00	0.05	16.48	12.34	0.00
30	Outside Specific - Total Service		0.00	0.17	64.36	63.63	0.00
31	Total TS Specific O&M		\$0.49	\$1.08	\$322.55	\$134.97	\$104.67

*Totals may not add due to rounding.

Table B-6
2014 Cost-of-Service Study
Functional Allocation of Capital to Cost Pools (\$ thousands)

Line No	Function	Code	2014 Capital	Joint		Inside City	Total Service	Outside City
				Inside	Outside			
Expansion Capital								
1	Source of Supply		\$27,404	\$9,586	\$12,263	\$4,137	\$2	\$1,417
2	Recycled Distribution		5,176	1,169	1,495	2,245	0	268
3	Treatment		2,025	708	906	306	0	105
4	Distribution Mains <26"		3,249	1,086	1,389	599	7	168
5	Treated Pumping		9,268	2,096	2,682	1,733	1	2,756
6	Treated Storage		8,836	2,019	2,583	3,775	1	457
7	Distribution Mains >24"		2,493	760	972	632	0	129
8	General Plant		102	36	46	15	0	5
9	Hydrants		0	0	0	0	0	0
10	Customer		0	0	0	0	0	0
11	Total 2013 - 2014		\$58,554	\$17,460	\$22,336	\$13,442	\$12	\$5,304
12	<i>Allocation</i>			29.8%	38.1%	23.0%	0.0%	9.1%
Repair and Replacement, General Equipment Capital								
13	Source of Supply		\$8,740	\$3,418	\$4,372	\$593	\$124	\$233
14	Recycled Distribution		12	2	3	6	0	0
15	Treatment		11,110	4,344	5,557	754	158	296
16	Distribution Mains <26"		11,209	3,242	4,147	2,845	675	299
17	Treated Pumping		4,704	1,026	1,312	981	67	1,319
18	Treated Storage		324	71	91	22	5	135
19	Distribution Mains >24"		8,269	2,566	3,282	1,446	117	858
20	General Plant		5,575	2,180	2,789	378	79	149
21	Hydrants		973	0	0	0	0	0
22	Treated Pumping		0	0	0	0	0	0
23	Total		\$83,691	\$28,220	\$36,101	\$11,961	\$2,234	\$5,175
24	<i>Allocation</i>			33.7%	43.1%	14.3%	2.7%	6.2%
25	Total Capital		\$142,246	\$45,680	\$58,438	\$25,402	\$2,246	\$10,480

2014 capital costs are allocated to cost pools and cost components based on a 6-year average of historic capital costs and 2014 budgeted capital costs, 2008 through 2014.

Table B-7
2014 Cost-of-Service Study
Functional Allocation of Assets to Cost Pools (\$ thousands)

Line No	Description	Cost Component						
		Total	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Billing	Customer Service
ALL FACILITIES								
Source of Supply								
1	Non-Treatment	\$262,817	\$260,200	\$0	\$2,617	\$0	\$0	\$0
2	Treatment	111,680	55,840	0	55,840	0	0	0
3	Structures	4,426	2,213	0	2,213	0	0	0
4	Other	182,089	160,051	0	22,038	0	0	0
5	Recycled Water	99,422	77,316	22,106	0	0	0	0
6	Hydropower	65,385	43,154	0	10,789	11,442	0	0
7	Pumping	\$96,942	\$0	\$41,471	\$29,607	\$25,864	\$0	\$0
Treatment Plants								
8	Marston	\$138,807	\$0	\$68,015	\$70,791	\$0	\$0	\$0
9	Moffat	77,800	0	38,122	39,678	0	0	0
10	Foothills	169,875	0	82,739	86,108	1,028	0	0
11	Hydropower	6,310	0	2,019	2,082	2,208	0	0
Transmission and Distribution								
12	Conduits	\$4,065	\$0	\$1,450	\$1,499	\$1,117	\$0	\$0
13	Storage	67,099	0	27,077	19,422	20,600	0	0
14	Recycled Distribution	64,419	0	64,419	0	0	0	0
15	Distribution <26"	494,437	0	158,220	163,164	173,053	0	0
16	Conduits	302,976	0	108,142	110,733	84,101	0	0
17	Conduits-DIA	9,958	0	3,187	3,286	3,485	0	0
All Other								
18	Hydrants	\$53,229	\$0	\$0	\$26,614	\$26,614	\$0	\$0
19	General	154,285	7,904	140,030	5,205	1,147	0	0
20	Meters	70,984	0	70,984	0	0	0	0
21	Total	\$2,437,004	\$606,678	\$827,981	\$651,686	\$350,659	\$0	\$0
22	<i>Percent Allocation</i>	<i>100%</i>	<i>25%</i>	<i>34%</i>	<i>27%</i>	<i>14%</i>	<i>0%</i>	<i>0%</i>

Table B-7
2014 Cost-of-Service Study
Functional Allocation of Assets to Cost Pools (\$ thousands)

Line No	Description	Cost Component						
		Total	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Billing	Customer Service
JOINT								
Source of Supply								
23	Non-Treatment	\$262,817	\$260,200	\$0	\$2,617	\$0	\$0	\$0
24	Treatment	111,680	55,840	0	55,840	0	0	0
25	Structures	4,426	2,213	0	2,213	0	0	0
26	Other	182,089	160,051	0	22,038	0	0	0
27	Recycled Water	77,316	77,316	0	0	0	0	0
28	Hydropower	65,385	43,154	0	10,789	11,442	0	0
29	Pumping	\$13,289	\$0	\$5,139	\$5,324	\$2,826	\$0	\$0
Treatment Plants								
30	Marston	\$138,807	\$0	\$68,015	\$70,791	\$0	\$0	\$0
31	Moffat	77,800	0	38,122	39,678	0	0	0
32	Foothills	169,875	0	82,739	86,108	1,028	0	0
33	Hydropower	6,310	0	2,019	2,082	2,208	0	0
Transmission and Distribution								
34	Conduits	\$2,206	\$0	\$855	\$885	\$466	\$0	\$0
35	Storage	3,390	0	1,085	1,119	1,186	0	0
36	Recycled Distribution	0	0	0	0	0	0	0
37	Distribution <26"	98,704	0	31,585	32,572	34,546	0	0
38	Conduits	156,624	0	61,160	62,278	33,187	0	0
39	Conduits-DIA	0	0	0	0	0	0	0
All Other								
40	Hydrants	\$0	\$0	\$0	\$0	\$0	\$0	\$0
41	General	154,285	7,904	140,030	5,205	1,147	0	0
42	Meters	70,984	0	70,984	0	0	0	0
43	Total	\$1,595,987	\$606,678	\$501,733	\$399,539	\$88,037	\$0	\$0
44	<i>Joint Percent Allocation</i>	<i>100%</i>	<i>38%</i>	<i>31%</i>	<i>25%</i>	<i>6%</i>	<i>0%</i>	<i>0%</i>
INSIDE CITY								
Source of Supply								
45	Non-Treatment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
46	Treatment	0	0	0	0	0	0	0
47	Structures	0	0	0	0	0	0	0
48	Other	0	0	0	0	0	0	0
49	Recycled Water	22,106	0	22,106	0	0	0	0
50	Hydropower	0	0	0	0	0	0	0
51	Pumping	\$37,101	\$0	\$20,582	\$8,017	\$8,503	\$0	\$0
Treatment Plants								
52	Marston	\$0	\$0	\$0	\$0	\$0	\$0	\$0
53	Moffat	0	0	0	0	0	0	0
54	Foothills	0	0	0	0	0	0	0
55	Hydropower	0	0	0	0	0	0	0
Transmission and Distribution								
56	Conduits	\$373	\$0	\$119	\$123	\$130	\$0	\$0
57	Storage	31,644	0	15,731	7,722	8,190	0	0
58	Recycled Distribution	64,419	0	64,419	0	0	0	0
59	Distribution <26"	336,242	0	107,597	110,960	117,685	0	0
60	Conduits	88,513	0	28,324	29,209	30,980	0	0
61	Conduits-DIA	9,958	0	3,187	3,286	3,485	0	0
All Other								
62	Hydrants	\$43,660	\$0	\$0	\$21,830	\$21,830	\$0	\$0
63	General	0	0	0	0	0	0	0
64	Meters	0	0	0	0	0	0	0
65	Total	\$634,015	\$0	\$262,065	\$181,147	\$190,803	\$0	\$0
66	<i>Inside City Percent Allocation</i>	<i>100.0%</i>	<i>0.0%</i>	<i>41.3%</i>	<i>28.6%</i>	<i>30.1%</i>	<i>0.0%</i>	<i>0.0%</i>

Table B-7
2014 Cost-of-Service Study
Functional Allocation of Assets to Cost Pools (\$ thousands)

Line No	Description	Cost Component						
		Total	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Billing	Customer Service
TOTAL SERVICE								
Source of Supply								
67	Non-Treatment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
68	Treatment	0	0	0	0	0	0	0
69	Structures	0	0	0	0	0	0	0
70	Other	0	0	0	0	0	0	0
71	Recycled Water	0	0	0	0	0	0	0
72	Hydropower	0	0	0	0	0	0	0
73	Pumping	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Treatment Plants								
74	Marston	\$0	\$0	\$0	\$0	\$0	\$0	\$0
75	Moffat	0	0	0	0	0	0	0
76	Foothills	0	0	0	0	0	0	0
77	Hydropower	0	0	0	0	0	0	0
Transmission and Distribution								
78	Conduits	\$0	\$0	\$0	\$0	\$0	\$0	\$0
79	Storage	0	0	0	0	0	0	0
80	Recycled Distribution	0	0	0	0	0	0	0
81	Distribution <26"	59,294	0	18,974	19,567	20,753	0	0
82	Conduits	0	0	0	0	0	0	0
83	Conduits-DIA	0	0	0	0	0	0	0
All Other								
84	Hydrants	\$9,569	\$0	\$0	\$4,784	\$4,784	\$0	\$0
85	General	0	0	0	0	0	0	0
86	Meters	0	0	0	0	0	0	0
87	Total	\$68,862	\$0	\$18,974	\$24,351	\$25,537	\$0	\$0
88	<i>Total Service Percent Allocation</i>	<i>100.0%</i>	<i>0.0%</i>	<i>27.6%</i>	<i>35.4%</i>	<i>37.1%</i>	<i>0.0%</i>	<i>0.0%</i>
OUTSIDE CITY								
Source of Supply								
89	Non-Treatment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
90	Treatment	0	0	0	0	0	0	0
91	Structures	0	0	0	0	0	0	0
92	Other	0	0	0	0	0	0	0
93	Recycled Water	0	0	0	0	0	0	0
94	Hydropower	0	0	0	0	0	0	0
95	Pumping	\$46,552	\$0	\$15,751	\$16,266	\$14,535	\$0	\$0
Treatment Plants								
96	Marston	\$0	\$0	\$0	\$0	\$0	\$0	\$0
97	Moffat	0	0	0	0	0	0	0
98	Foothills	0	0	0	0	0	0	0
99	Hydropower	0	0	0	0	0	0	0
Transmission and Distribution								
100	Conduits	\$1,486	\$0	\$476	\$491	\$520	\$0	\$0
101	Storage	32,065	0	10,261	10,581	11,223	0	0
102	Recycled Distribution	0	0	0	0	0	0	0
103	Distribution <26"	197	0	63	65	69	0	0
104	Conduits	57,838	0	18,658	19,245	19,934	0	0
105	Conduits-DIA	0	0	0	0	0	0	0
All Other								
106	Hydrants	\$0	\$0	\$0	\$0	\$0	\$0	\$0
107	General	0	0	0	0	0	0	0
108	Meters	0	0	0	0	0	0	0
109	Total	\$138,139	\$0	\$45,208	\$46,649	\$46,282	\$0	\$0
110	<i>Outside City Percent Allocation</i>	<i>100.0%</i>	<i>0.0%</i>	<i>32.7%</i>	<i>33.8%</i>	<i>33.5%</i>	<i>0.0%</i>	<i>0.0%</i>
111	GRAND TOTAL	\$2,437,004	\$606,678	\$827,981	\$651,686	\$350,659	\$0	\$0

Table B-8
2014 Cost-of-Service Study
2014 Capital Costs - Allocation to Cost Pools (\$ thousands)

Line No	Description	Joint		Inside Specific	Total Service	Outside Specific	Total
		Inside	Outside				
1	Expansion Projects (Table C-6, Line 12)	29.8%	38.1%	23.0%	0.0%	9.1%	100.0%
2	Bond Proceeds (Table C-6, Line 12)	29.8%	38.1%	23.0%	0.0%	9.1%	100.0%
3	SDCs (Based on inside and outside water use)	44.6%	54.2%				100.0%
4	Existing Debt Service (Tbl C-9, Line 3, 4)	45.6%	54.4%				100.0%
5	2014 Debt Service (Table C-6, Line 12)	29.8%	38.1%	23.0%	0.0%	9.1%	100.0%
6	Repair and Replacement, Gen. Equip. (Tbl 6, Line 2)	33.7%	43.1%	14.3%	2.7%	6.2%	100.0%
7	Interest Income (Tbl C-9, Line 3, 4)	45.6%	54.4%	0.0%	0.0%	0.0%	100.0%
8	BABs Subsidy (2009A and 2010B)	45.7%	54.3%	0.0%	0	0	100.0%
9	Transfer In (Tbl C-9, Line 3, 4)	45.6%	54.4%	0.0%	0	0	100.0%
10	Change in Reserves (Tbl C-9, Line 3, 4)	45.6%	54.4%	0.0%	0.0%	0.0%	100.0%

Line No	Description	Joint		Inside Specific	Total Service	Outside Specific	Total	
		Inside	Outside					
11	Expansion Projects (Table C-6, Line 12)	\$17,460	\$22,336	\$13,442	\$12	\$5,304	\$58,554	OK
12	Bond Proceeds (Table C-6, Line 12)	(10,735)	(13,733)	(8,264)	(7)	(3,261)	(\$36,000)	OK
13	SDCs (Based on inside and outside water use)	(7,788)	(9,459)	0	(211)	0	(\$17,457)	OK
14	Existing Debt Service (Tbl C-9, Line 3, 4)	21,106	25,212	0	0	0	\$46,319	OK
15	2014 Debt Service (Table C-6, Line 12)	465	595	358	0	141	\$1,560	OK
16	Repair and Replacement, Gen. Equip. (Tbl 6, Line 2)	28,220	36,101	11,961	2,234	5,175	\$83,691	OK
17	Interest Income (Tbl C-9, Line 3, 4)	0	0	0	0	0	\$0	OK
18	BABs Subsidy (2009A and 2010B)	(1,017)	(1,207)	0	0	0	(\$2,225)	OK
19	Transfer In (Tbl C-9, Line 3, 4)	(9,114)	(10,886)	0	0	0	(\$20,000)	OK
20	Change in Reserves (Tbl C-9, Line 3, 4)	(11,665)	(13,934)	0	0	0	(\$25,599)	OK
21	Total	\$26,933	\$35,026	\$17,496	\$2,029	\$7,360	\$88,843	OK

Table B-9
2014 Cost-of-Service Study
2014 Allocation of Capital to Cost Pools (\$ thousands)

Line No	Description	Nonpotable	Ave day	Max day Extra Capacity	Max Hour Extra Capacity	Fire	Total	%	% of Joint
	Joint (Table C-7, Line 43)	606,678	501,733	399,539	88,037	-	1,595,987		
1	Inside City (Table C-1, Line 18/Line 52)	43.9%	48.8%	43.8%	46.5%	68.6%	-		
2	Outside City (Table C-1, Line 48/Line 52)	56.1%	51.2%	56.2%	53.5%	31.4%	-		
3	Inside City	266,170	245,034	175,095	40,959	-	727,258	29.8%	45.6%
4	Outside City	340,508	256,699	224,444	47,078	-	868,729	35.6%	54.4%
5	Inside City Specific (Table C-7, Line 65)	-	262,065	181,147	190,803	-	634,015	26.0%	
6	Total Service Specific (Table C-7, Line 87)	-	18,974	24,351	25,537	-	68,862	2.8%	
7	Outside City Specific (Table C-7, Line 109)	-	45,208	46,649	46,282	-	138,139	5.7%	
8	2013 NBV, ex. water rights	\$606,678	\$827,981	\$651,686	\$350,659	\$0	\$2,437,004	100.0%	
Cost Component Allocations									
9	Joint Inside City (Line 3 / Total Line 3)	36.6%	33.7%	24.1%	5.6%	0.0%	100.0%		
10	Joint Outside City (Line 4/Total Line 4)	39.2%	29.5%	25.8%	5.4%	0.0%	100.0%		
11	Inside City Specific (Line 5/Total Line 5)	0.0%	41.3%	28.6%	30.1%	0.0%	100.0%		
12	Total Service Specific (Line 6/Total Line 6)	0.0%	27.6%	35.4%	37.1%	0.0%	100.0%		
13	Outside City Specific (Line 7/Total Line 7)	0.0%	32.7%	33.8%	33.5%	0.0%	100.0%		
14	Total Inside City Allocation (Line 3 + Line 5)	19.6%	37.3%	26.2%	17.0%	0.0%	100.0%		
15	Total Outside City Allocation (Line 4, Line 6, Line 7)	31.7%	29.8%	27.5%	11.1%	0.0%	100.0%		
16	System allocation (Line 8/Total Line 8)	24.9%	34.0%	26.7%	14.4%	0.0%	100.0%		
Inside City Cost Pool Allocation									
17	Joint (Line 3 / Line 5)	100.0%	48.3%	49.2%	17.7%	0.0%	53.4%		
18	Specific	0.0%	51.7%	50.8%	82.3%	100.0%	46.6%		
19	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
Outside City Cost Pool Allocation									
20	Joint (Line 4/(Line 4 + 6 + 7))	100.0%	80.0%	76.0%	39.6%	0.0%	80.8%		
21	Total Service (Line 6/(Line 4 + 6 + 7))	0.0%	5.9%	8.2%	21.5%	0.0%	6.4%		
22	Outside City (Line 7/(Line 4 + 6 + 7))	0.0%	14.1%	15.8%	38.9%	0.0%	12.8%		
23	Total	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%		
24	Total Capital Requirement	\$22,117	\$30,185	\$23,758	\$12,784	\$0	88,843		
Outside City Capital Requirement									
25	Outside City Joint (Line 10 * OC Joint \$)	\$13,729	\$10,350	\$9,049	\$1,898	\$0	\$35,026		
26	Total Service (Line 12 * Total Service \$)	0	559	717	752	0	2,029		
27	Specific Outside City (Line 13/Outside City \$)	0	2,409	2,485	2,466	0	7,360		
28	Total Outside City capital requirement	\$13,729	\$13,317	\$12,252	\$5,116	\$0	\$44,414		
Outside City Risk Premium									
29	Outside City Joint (Total Line 29 \$ * Line 10)	\$5,641	\$4,253	\$3,718	\$780	\$0	\$14,392		
30	Total Service (Total Line 30 \$ * Line 12)	0	230	295	309	0	834		
31	Specific Outside City (Total Line 31 \$ * Line 13)	0	990	1,021	1,013	0	3,024		
32	Total Outside City Additional Amount	\$5,641	\$5,472	\$5,034	\$2,102	\$0	\$18,250		
33	<i>Inside City Capital Requirement</i>	<i>\$8,388</i>	<i>\$16,868</i>	<i>\$11,506</i>	<i>\$7,667</i>	<i>\$0</i>	<i>\$44,429</i>		
34	<i>Additional Amount Credit</i>	<i>(\$5,641)</i>	<i>(\$5,472)</i>	<i>(\$5,034)</i>	<i>(\$2,102)</i>	<i>\$0</i>	<i>(\$18,250)</i>		

Table B-10
2014 Cost-of-Service Study
Projected 2014 Capital Unit Costs (\$ thousands)

Line No	Description	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Fire	Total
1	Inside City Capital Costs	\$8,388	\$16,868	\$11,506	\$7,667	\$0	\$44,429
2	Inside City Additional Amount	(\$5,849)	(\$5,552)	(\$5,118)	(\$2,132)	\$0	(\$18,650)
3	Percentage Inside Joint Costs	100.0%	48.3%	49.2%	17.7%	0.0%	
4	Percentage Inside Specific Costs	0.0%	51.7%	50.8%	82.3%	100.0%	
Unit Cost Summary							
Inside City Joint Unit Cost							
5	Cost	\$8,388	\$8,151	\$5,655	\$1,355	\$0	\$23,549
6	Total Inside City Demand w/o C&C	27,980					
7	Inside City Demand w/o Recycled and C&C		27,081	63	76	0	
8	Inside City Joint Unit Cost	\$0.30	\$0.30	\$89.94	\$17.81		
Inside City Joint Unit Cost - Additional Amount							
9	Cost	(\$5,849)	(\$2,683)	(\$2,515)	(\$377)	\$0	(\$11,424)
10	Total Inside City Demand w/o C&C	27,980					
11	Inside City Demand w/o Recycled and C&C		27,081	63	76	0	
12	Inside City Joint Unit Cost	(\$0.21)	(\$0.10)	(\$40.01)	(\$4.95)		
13	Unit Cost - Joint Inside City	\$0.09	\$0.20	\$49.94	\$12.86	\$0.00	
Inside City Specific Costs							
14	Cost		\$8,717	\$5,851	\$6,312	\$0	\$20,880
15	Total Inside City Demand		27,438	63	76	4,903	
16	Inside City Specific Unit Costs		\$0.32	\$93.05	\$82.96	\$0.00	
Inside City Specific Costs - Additional Amount							
17	Cost		(\$2,869)	(\$2,602)	(\$1,755)	\$0	(\$7,226)
18	Total Inside City Demand		27,438	63	76	4,903	
19	Inside City Specific Unit Costs		(\$0.10)	(\$41.39)	(\$23.06)	\$0.00	
20	Net Unit Cost - Specific Inside City		\$0.213	\$51.66	\$59.90	\$0.00	
Outside City Joint Unit Cost							
21	Joint Outside City Cost	\$13,729	\$10,350	\$9,049	\$1,898	\$0	\$35,026
22	Total Outside City Demand	38,929	0	0	0		
23	Outside City Demand w/o Recycled	0	31,022	91	96	0	
24	Outside City Joint Unit Cost	\$0.35	\$0.33	\$99.45	\$19.82		
Outside City Joint Unit Costs - Additional Amount							
25	Joint Outside City Cost	\$5,641	\$4,253	\$3,718	\$780	\$0	\$14,392
26	Total Outside City Demand	38,929					
27	Outside City Demand w/o Recycled	0	31,022	91	96	0	
28	Outside City Joint Unit Cost - Additional Amount	\$0.14	\$0.14	\$40.87	\$8.15		
29	Net Unit Cost - Joint Outside City	\$0.50	\$0.47	\$140.32	\$27.97		
Outside City Specific Cost							
30	Cost		\$2,409	\$2,485	\$2,466	\$0	\$7,360
31	Total Outside City Demand		31,022	91	96	0	
32	Outside City Specific Unit Cost		\$0.08	\$27.31	\$25.75		
Outside City Specific Cost - Additional Amount							
33	Cost		\$989.72	\$1,021.25	\$1,013.21	\$0.00	\$3,024
34	Total Outside City Demand		31,022	91	96	0	
35	Outside City Specific Unit Cost - Additional Amount		\$0.03	\$11.22	\$10.58		
36	Net Unit Cost - Specific Outside City		\$0.11	\$38.54	\$36.33	\$0.00	

Table B-10
2014 Cost-of-Service Study
Projected 2014 Capital Unit Costs (\$ thousands)

Line No	Description	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Fire	Total
37	Outside City Total Service Specific Cost		\$559	\$717	\$752	\$0	\$2,029
38	Total Service Demand		7,240	21	23	839	
39	Outside City Total Service Specific Unit Cost		\$0.08	\$34.00	\$33.43	\$0.00	
40	Outside City Total Service Specific Cost - Additional Amount		\$230	\$295	\$309	\$0	\$834
41	Total Service Demand		7,240	21	23	839	
42	Outside City Total Service Specific Unit Cost - Additional Amount		\$0.03	\$13.97	\$13.74	\$0.00	
43	Net Unit Cost - Total Service		\$0.11	\$47.97	\$47.17	\$0.00	
44	Outside City Specific Unit Cost	\$0.50	\$0.58	\$178.85	\$64.30	\$0.00	
45	Outside City Total Service Specific Unit Cost	\$0.50	\$0.69	\$226.82	\$111.47	\$0.00	
<hr/>							
OCSA Premium Unit Costs (1.4x)							
46	Joint	\$0.06	\$0.05	\$16.35	\$3.26	\$0.00	
47	Specific Outside		\$0.01	\$4.49	\$4.23	\$0.00	
OCSA Units of Service							
48	Treated	1,179,422	1,179,422	4,007	3,910	0	
49	Raw	1,553,016					
50	Recycled	850,000	0	0	0	0	
51	Treated	\$68	\$80	\$83	\$29	\$0	\$261
52	Raw	90					90
53	Recycled	49	0	0	0	0	49
54	Total OCSA Premium	\$208	\$80	\$83	\$29	\$0	\$400
55	Joint Unit Costs	\$22,117	\$18,500	\$14,704	\$3,253	\$0	
56	Units of Service	66,909	58,103	154	172	0	
57	Joint Unit Cost	\$0.33	\$0.32	\$95.57	\$18.93	\$0.00	
58	Specific Unit Costs		\$9,276	\$6,568	\$7,065	\$0	
59	Units of Service		34,678	84	99	5,742	
60	Specific Unit Costs		\$0.27	\$78.21	\$71.66	\$0.00	
<hr/>							
Summary by Cost Pool and Cost Component							
61	Joint (Tbl C-9, Line 25 +29, Tbl C-10, Line 5 + 9)	\$21,909	\$20,070	\$15,907	\$3,656	\$0	\$61,543
62	Inside Specific (Line 14 + Line 17)	0	5,848	3,248	4,557	0	13,654
63	Total Service Specific (Tbl C-9, Line 26 + Line 30)	0	789	1,012	1,061	0	2,862
64	Outside Specific (Tbl C-9, Line 27 + Line 31)	0	3,398	3,507	3,479	0	10,384
65	OCSA Premium (Line 54)	208	80	83	29	0	400
66	Total	\$22,117	\$30,185	\$23,758	\$12,784	\$0	\$88,843

Table B-11
2014 Cost-of-Service Study
Weighted Average Cost of Capital

Capital Structure	Amount	Ratio	Cost ³	Weighted Cost
Total Equity Capital ¹	\$905,330	67.55%	7.97%	5.39%
Total Debt Capital ²	\$434,962	32.45%	2.94%	0.95%
Total	\$1,340,292	100.00%		6.34%
			WACC	6.34%
			Less: Cost of Debt	2.94%
			Equity RP	3.40%

Notes:

(1). The amount of equity capital shown above is the sum of general ledger accounts: 216.000 Retained Earnings; 216.009 Transfers of Expense to Contributions in Aid of Construction; 216.109; and 2012 net income.

(2) Page II-18 in the 2012 CAFR. Debt is the sum of revenue bonds, G.O. bonds, Obligations under capital lease, discounts and net of premiums. Premium totals \$15,594 million.

(3) The cost of equity capital is from Table 9. The cost of debt is the weighted average yield to maturity of all outstanding debt.

Table B-12
2014 Cost-of-Service Study
Development of 2014 rate base

Line No	Item	Inside City	Outside City	Total	Allocation Basis		Description
					Inside City	Outside City	
		\$	\$	\$			
2014 Net Book Value (a)							
1	Specific assignment	482,540	145,359	627,899	76.8%	23.2%	Specifically allocated
2	Joint	300,160	726,507	1,026,667	29.2%	70.8%	LTD Forecast
3	Water Rights	19,363	46,865	66,228	29.2%	70.8%	LTD Forecast
4	Working Capital	9,663	12,362	22,024	43.9%	56.1%	
5	Total 2014 Net Book Value	\$811,725	\$931,093	\$1,742,818			
10-year Capital Plan Project Costs							
6	2013	45,361	58,170	103,531	43.8%	56.2%	2012 CWIP Projects
7	2013	35,676	45,749	81,425	43.8%	56.2%	2013 Forecast CapPlan Projects
8	2014	31,204	39,919	71,123	43.9%	56.1%	2014 Budgeted CapPlan Projects
9	2015				44.0%	56.0%	
10	2016				44.1%	55.9%	
11	Total Capital Plan Project Costs	\$112,241	\$143,838	\$256,079			
Accumulated Depreciation							
12	2013	(324)	(415)	(740)	43.8%	56.2%	2012 CWIP Projects
13	2013	(255)	(327)	(582)	43.8%	56.2%	2013 Forecast CapPlan Projects
14	2014	(1,381)	(1,770)	(3,150)	43.9%	56.1%	2014 Budgeted CapPlan Projects
15	2015				44.0%	56.0%	
16	2016				44.1%	55.9%	
17	Total Accumulated Depreciation	(\$1,959)	(\$2,512)	(\$4,471)			
Contributions							
18	Existing CIAC Through 2012	(442,068)	(643,544)	(1,085,612)			
19	2013	(13,119)	(15,437)	(28,556)			
20	2014	(7,788)	(9,669)	(17,457)			
21	2015	0	0	0			
22	2016	0	0	0			
23	Total Contributions	(\$462,975)	(\$668,650)	(\$1,131,625)			
CIAC Amortization							
	Existing CIAC Amort Through 2012	100,902	146,888	247,789			
24	2013	149	176	325			
25	2014	400	497	897			
26	2015	0	0	0			
27	2016	0	0	0			
28	Total CIAC Amortization	\$101,451	\$147,561	\$249,012			
29	Rate Base	\$560,483	\$551,330	\$1,111,813			

(a) The 2014 NBV (Line 1 + Line 2) is net of 2013 and 2014 depreciation expense. Estimated depreciation expense is \$48,054,000 per year. 2012 NBV is \$1.750 billion dollars excluding water rights.

Inside City CapPlan Accumulated Depreciation				
Description	2013	2014	2015	2016
2013	\$324	\$648	\$648	\$648
2013	255	510	510	510
2014		223	446	446
2015				
2016				
Total	\$579	\$1,381	\$1,603	\$1,603

Outside City CapPlan Accumulated Depreciation				
Description	2013	2014	2015	2016
2013	\$415	\$831	\$831	\$831
2013	\$327	\$654	\$654	\$654
2014		285	570	570
2015				
2016				
Total	\$742	\$1,770	\$2,055	\$2,055

Additional Amount	Additional Amount		
	Rate Base	Risk Premium	Amount
2013 Additional Amount	\$563,569	3.2%	\$17,768
2014 Additional Amount	\$551,330	3.4%	\$18,733
Average			\$18,250

Table B-13
2014 Cost-of-Service Study
Projected 2014 Miscellaneous Revenue (\$ thousands)

Line No	Description	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Customers	Total
Miscellaneous Revenue							
1	Hydropower	\$3,089	\$0	\$772	\$819	\$0	\$4,680
2	Special Assessments	841	1,126	1,036	444	2,303	5,750
3	Miscellaneous Fees	279	376	233	100	1,372	2,360
4	Ditch Fees	320	0	0	0	0	320
5	All Other	420	0	0	0	40	460
6	CIS Billing	0	0	0	0	2,128	2,128
7	BABS Subsidy	0	0	0	0	0	0
8	Interest Income	297	465	366	157	128	1,413
9	Total Miscellaneous Revenue	\$5,245	\$1,967	\$2,407	\$1,519	\$5,971	\$17,110
Joint Demand							
10	Inside City, Kgal (Tbl C-1, Line 18)	30,430	29,612	71	83	159	
11	Outside City, Kgal (Tbl C-1, Line 48)	38,929	31,022	91	96	73	
Percent of Total Demand							
10	Inside City	43.9%	48.8%	43.8%	46.5%	68.6%	
12	Outside City	56.1%	51.2%	56.2%	53.5%	31.4%	
Miscellaneous Revenue							
13	Inside City	\$2,301	\$961	\$1,055	\$707	\$4,097	\$9,121
14	Outside City	2,944	1,007	1,352	812	1,874	7,989
Unit Cost							
15	Inside City	\$ per 1,000 gal \$0.08	\$ per 1,000 gal \$0.03	\$ per 1,000 gpd \$14.86	\$ per 1,000 gpd \$8.48	\$ per account \$25.72	
16	Outside City	\$0.08	\$0.03	\$14.86	\$8.48	\$25.72	

Table B-14
2014 Cost-of-Service Study
Summary of Cost Allocation, Units of Service, and Unit Cost of Service (\$ thousands)

Line No.	Description	Total	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Customers
FUNCTIONALIZED COSTS							
JOINT							
<u>O&M</u>							
1	Inside City	\$78,751	\$14,958	\$25,045	\$17,158	\$4,916	\$16,675
2	Outside City	81,207	19,136	26,799	21,993	5,650	7,629
<u>Capital</u>							
3	Inside City	\$23,549	\$8,388	\$8,151	\$5,655	\$1,355	\$0
4	Less Additional Amount	(11,424)	(5,849)	(2,683)	(2,515)	(377)	0
5	Outside City	35,026	13,729	10,350	9,049	1,898	0
6	Plus Additional Amount	14,392	5,641	4,253	3,718	780	0
<u>Non-rate Revenue</u>							
7	Inside City	(\$9,121)	(\$2,301)	(\$961)	(\$1,055)	(\$707)	(\$4,097)
8	Outside City	(7,989)	(2,944)	(1,007)	(1,352)	(812)	(1,874)
INSIDE CITY SPECIFIC							
9	O&M	\$10,567	\$0	\$3,354	\$3,516	\$3,697	\$0
10	Capital	13,654	0	5,848	3,248	4,557	0
TOTAL SERVICE							
11	O&M	\$3,986	\$0	\$1,196	\$1,358	\$1,432	\$0
12	Capital	2,862	0	789	1,012	1,061	0
OUTSIDE CITY							
13	O&M	\$4,132	\$0	\$1,451	\$1,500	\$1,182	\$0
14	Capital	10,384	0	3,398	3,507	3,479	0
15	Plus OCSA Premium	400	208	80	83	29	0
16	Total Functionalized Costs	\$250,376	\$50,965	\$86,061	\$66,876	\$28,140	\$18,333
UNITS OF SERVICE							
JOINT							
<u>O&M</u>							
17	Inside City		30,430	28,991	71	83	159
18	Outside City		38,929	31,022	91	96	73
<u>Capital</u>							
19	Inside City		27,980	27,081	63	76	
20	Less Additional Amount		27,980	27,081	63	76	
21	Outside City		38,929	31,022	91	96	
22	Plus Additional Amount		38,929	31,022	91	96	
<u>Non-rate Revenue</u>							
23	Inside City		30,430	29,612	71	83	159
24	Outside City		38,929	31,022	91	96	73
INSIDE CITY SPECIFIC							
25	O&M			29,612	71	83	
26	Capital			27,438	63	76	
TOTAL SERVICE							
27	O&M			7,240	21	23	
28	Capital			7,240	21	23	
OUTSIDE CITY							
29	O&M			31,022	91	96	
30	Capital			31,022	91	96	
31	Plus OCSA Premium		3,582	1,179	4	4	

Table B-14
2014 Cost-of-Service Study
Summary of Cost Allocation, Units of Service, and Unit Cost of Service (\$ thousands)

Line No.	Description	Total	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Customers
			<i>\$ per 1,000 gal</i>	<i>\$ per 1,000 gal</i>	<i>\$ per 1,000 gal/day</i>	<i>\$ per 1,000 gal/day</i>	<i>\$ per Account per Year</i>
UNIT COSTS							
JOINT							
<u>O&M</u>							
32	Inside City		0.49	0.86	241.71	59.00	104.69
33	Outside City		0.49	0.86	241.71	59.00	104.69
<u>Capital</u>							
34	Inside City		0.30	0.30	89.94	17.81	
35	Less Additional Amount		(0.21)	(0.10)	(40.01)	(4.95)	
36	Outside City		0.35	0.33	99.45	19.82	
37	Plus Additional Amount		0.14	0.14	40.87	8.15	
<u>Non-rate Revenue</u>							
38	Inside City		(0.08)	(0.03)	(14.86)	(8.48)	(25.72)
39	Outside City		(0.08)	(0.03)	(14.86)	(8.48)	(25.72)
INSIDE CITY							
40	O&M			0.11	49.53	44.37	
41	Capital			0.21	51.66	59.90	
TOTAL SERVICE							
42	O&M			0.17	64.36	63.63	
43	Capital			0.11	47.97	47.17	
OUTSIDE CITY							
44	O&M			0.05	16.48	12.34	
45	Capital			0.11	38.54	36.33	
46	Plus OCSA Premium		0.06	0.07	20.84	7.49	
Unit Cost Summary							
47	Inside City		0.51	1.36	377.98	167.65	78.97
48	Outside City Specific		0.91	1.46	422.18	127.16	78.97
49	Total Service		0.91	1.73	534.51	237.96	78.97
50	OCSA		0.97	1.80	555.35	245.45	78.97

Table B-15
2014 Cost-of-Service Study
Unit Cost of Service

Line No	Description	Nonpotable	Average Day	Max Day Extra	Max Hour Extra	Customer
		<i>\$ per Kgal</i>	<i>\$ per Kgal</i>	<i>\$ per gpd</i>	<i>\$ per gpd</i>	<i>\$ per account</i>
	Inside City Specific					
1	O&M	\$0.49	\$0.98	\$291.24	\$103.38	\$104.67
2	Capital Inside Joint	0.09	0.20	49.94	12.86	0.00
3	Capital Inside Specific	0.00	0.21	51.66	59.90	0.00
4	Capital Total	0.09	0.42	101.60	72.76	0.00
5	Less: Non-Rate Revenue	0.08	0.03	14.86	8.48	25.72
6	Total	\$0.51	\$1.36	\$377.98	\$167.65	\$78.96
	City and County of Denver					
7	O&M	\$0.49	\$0.98	\$291.24	\$103.38	\$104.67
8	Capital	0.00	0.00	0.00	0.00	0.00
9	Less: Non-Rate Revenue	0.08	0.03	14.86	8.48	25.72
10	Total	0.42	0.94	276.38	94.89	78.96
	Outside City TS Specific					
11	O&M	\$0.49	\$1.08	\$322.55	\$134.97	\$104.67
12	Capital	0.50	0.69	226.82	111.47	0.00
13	Less: Non-Rate Revenue	0.08	0.03	14.86	8.48	25.72
14	Total	\$0.91	\$1.73	\$534.51	\$237.96	\$78.96
	Outside City Specific					
15	O&M	\$0.49	\$0.91	\$258.19	\$71.35	\$104.67
16	Capital	0.50	0.58	178.85	64.30	0.00
17	Less: Non-Rate Revenue	0.08	0.03	14.86	8.48	25.72
18	Total	\$0.91	\$1.46	\$422.18	\$127.16	\$78.96
	OCSA					
19	O&M	\$0.49	\$1.08	\$322.55	\$134.97	\$104.67
20	Capital	0.50	0.69	226.82	111.47	0.00
21	Premium	0.06	0.07	20.84	7.49	0.00
22	Less: Non-Rate Revenue	0.08	0.03	14.86	8.48	25.72
23	Total	\$1.12	\$1.87	\$585.07	\$262.41	\$130.39

Table B-16
2014 Cost-of-Service Study
Projected 2014 O&M cost of service (\$ thousands)

Line No	Description	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Customers	Total
Inside City							
1	Single Family Residential	\$5,837	\$11,604	\$9,949	\$3,733	\$13,856	\$44,980
2	Duplex	351	699	399	186	613	2,249
3	3-Plex	106	212	121	56	146	642
4	4-Plex	156	310	177	83	159	885
5	5-Plex	78	155	89	41	62	425
6	Commercial	5,554	11,040	5,409	2,752	1,532	26,287
7	Industrial	561	1,116	547	278	27	2,528
8	Government	266	530	260	132	25	1,213
9	Irrigation Only	401	798	1,224	361	129	2,913
10	City and County of Denver	939	1,866	2,362	746	123	6,036
		0	0	0	0	0	0
11	Private Fire Protection	0	0	137	243	0	380
12	Subtotal Treated Inside City	\$14,251	\$28,328	\$20,674	\$8,612	\$16,673	\$88,538
13	Raw	\$267	\$0	\$0	\$0	\$0	\$267
14	City and County of Denver Raw	135	0	0	0	0	135
15	Recycled	175	40	0	0	1	217
16	City and County of Denver Recycled	130	30	0	0	2	162
17	Subtotal Nonpotable Inside City	\$707	\$70	\$0	\$0	\$3	\$781
18	Total Inside City	\$14,958	\$28,398	\$20,674	\$8,612	\$16,676	\$89,319
Outside City							
Read and Bill							
19	Single family residential	\$1,959	\$3,629	\$3,157	\$896	\$3,457	\$13,097
20	Duplex	12	22	13	4	16	66
21	3-plex	12	22	13	4	14	65
22	4-plex	33	61	36	13	28	171
23	5-plex	7	13	7	3	5	35
24	Commercial	1,100	2,037	1,582	472	259	5,450
25	Industrial	77	142	110	33	1	363
26	Government	132	244	189	57	6	627
27	Irrigation only	230	425	582	136	44	1,416
28	Private Fire Protection	0	0	21	27	0	48
29	Total Read & Bill	\$3,560	\$6,594	\$5,710	\$1,644	\$3,829	\$21,338
Total Service							
30	Single family residential	\$2,097	\$4,590	\$4,223	\$1,814	\$3,368	\$16,093
31	Duplex	21	46	31	16	29	143
32	3-plex	13	29	19	10	13	83
33	4-plex	34	74	49	25	23	205
34	5-plex	13	27	18	9	9	77
35	Commercial	1,014	2,219	1,494	747	284	5,759
36	Industrial	17	38	26	13	1	94
37	Government	92	200	135	68	9	503
38	Irrigation only	258	565	785	282	59	1,949
39	Private Fire Protection	0	0	26	54	0	80
40	Total Total Service	\$3,559	\$7,789	\$6,806	\$3,037	\$3,794	\$24,985
41	Master Meters	\$7,551	\$13,988	\$11,300	\$3,303	\$4	\$36,147
42	OCSA Treated	580	1,074	1,035	279	1	2,968
43	Subtotal Treated Outside City	\$15,249	\$29,446	\$24,851	\$8,263	\$7,628	\$85,437
44	Raw	\$2,706	\$0	\$0	\$0	\$0	\$2,706
45	OCSA Raw	763	0	0	0	0	763
46	OCSA Recycled	418	0	0	0	0	418
47	Subtotal Non-potable Outside City	\$3,887	\$0	\$0	\$0	\$0	\$3,887
48	Total Outside City	\$19,136	\$29,446	\$24,851	\$8,263	\$7,628	\$89,324
49	Total Treated	\$29,500	\$57,774	\$45,525	\$16,876	\$24,301	\$173,975
50	Total Raw	\$3,871	\$0	\$0	\$0	\$0	\$3,871
51	Total Recycled	\$723	\$70	\$0	\$0	\$4	\$797
52	Total	\$34,094	\$57,844	\$45,525	\$16,876	\$24,304	\$178,643

Table B-17
2014 Cost-of-Service Study
Projected 2014 Capital Cost of Service (\$ thousands)

Line No	Description	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Fire	Total
Inside City							
1	Single Family Residential	\$1,078	\$4,929	\$3,471	\$2,628	\$0	\$12,105
2	Duplex	65	297	139	131	0	632
3	3-Plex	20	90	42	40	0	191
4	4-Plex	29	132	62	58	0	281
5	5-Plex	14	66	31	29	0	140
6	Commercial	1,025	4,689	1,887	1,937	0	9,538
7	Industrial	104	474	191	196	0	964
8	Government	49	225	91	93	0	458
9	Irrigation Only	74	339	427	254	0	1,094
10	City and County of Denver	0	0	0	0	0	0
11	Private Fire Protection	0	0	48	171	0	219
12	Subtotal Treated Inside City	\$2,458	\$11,240	\$6,388	\$5,536	\$0	\$25,621
13	Raw	\$49	\$0	\$0	\$0	\$0	\$49
14	City and County of Denver Raw	0	0	0	0	0	0
15	Recycled	32	76	0	0	0	108
16	City and County of Denver Recycled	0	0	0	0	0	0
17	Subtotal Nonpotable Inside City	\$82	\$76	\$0	\$0	\$0	\$158
18	Total Inside City	\$2,539	\$11,316	\$6,388	\$5,536	\$0	\$25,779
Outside City							
Read and Bill							
19	Single family residential	\$1,983	\$2,312	\$2,187	\$807	\$0	\$7,289
20	Duplex	12	14	9	4	0	38
21	3-plex	12	14	9	4	0	38
22	4-plex	34	39	25	11	0	109
23	5-plex	7	8	5	2	0	22
24	Commercial	1,113	1,298	1,096	426	0	3,933
25	Industrial	78	91	76	30	0	274
26	Government	133	155	131	51	0	471
27	Irrigation only	232	271	403	123	0	1,029
28	Private Fire Protection	0	0	14	24	0	39
29	Total Read & Bill	\$3,603	\$4,202	\$3,956	\$1,482	\$0	\$13,243
Total Service							
30	Single family residential	\$2,123	\$2,941	\$2,970	\$1,499	\$0	\$9,532
31	Duplex	21	30	22	13	0	86
32	3-plex	13	18	13	8	0	53
33	4-plex	34	47	35	21	0	137
34	5-plex	13	18	13	8	0	51
35	Commercial	1,026	1,421	1,051	617	0	4,116
36	Industrial	18	24	18	11	0	70
37	Government	93	128	95	56	0	372
38	Irrigation only	261	362	552	233	0	1,408
39	Private Fire Protection	0	0	18	45	0	63
40	Total Total Service	\$3,602.43	\$4,990	\$4,786	\$2,508	\$0	\$15,886
41	Master Meters	\$7,643	\$8,913	\$7,828	\$2,977	\$0	\$27,361
42	OCSA Treated	655	764	800	281	0	2,500
43	Subtotal Treated Outside City	\$15,504	\$18,869	\$17,370	\$7,248	\$0	\$58,991
44	Raw	\$2,739	\$0	\$0	\$0	\$0	\$2,739
45	OCSA Raw	863	0	0	0	0	863
46	OCSA Recycled	472	0	0	0	0	472
47	Subtotal Non-potable Outside City	\$4,074	\$0	\$0	\$0	\$0	\$4,074
48	Total Outside City	\$19,578	\$18,869	\$17,370	\$7,248	\$0	\$63,064
49	Total Treated	\$17,962	\$30,109	\$23,758	\$12,784	\$0	\$84,612
50	Total Raw	\$3,651	\$0	\$0	\$0	\$0	\$3,651
51	Total Recycled	\$505	\$76	\$0	\$0	\$0	\$581
52	Total	\$22,117	\$30,185	\$23,758	\$12,784	\$0	\$88,843

Table B-18
2014 Cost-of-Service Study
Projected 2014 Non-Rate Cost of Service (\$ thousands)

Line No	Description	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Customers	Total
Inside City							
1	Single Family Residential	\$898	\$385	\$508	\$306	\$3,404	\$5,502
2	Duplex	54	23	20	15	151	264
3	3-Plex	16	7	6	5	36	70
4	4-Plex	24	10	9	7	39	89
5	5-Plex	12	5	5	3	15	40
6	Commercial	854	367	276	226	376	2,099
7	Industrial	86	37	28	23	7	181
8	Government	41	18	13	11	6	89
9	Irrigation Only	62	26	62	30	32	212
10	City and County of Denver	144	62	121	61	30	418
11	Private Fire Protection	0	0	7	20	0	27
12	Subtotal Treated Inside City	\$2,192	\$941	\$1,055	\$707	\$4,096	\$8,991
13	Raw	\$41	\$0	\$0	\$0	\$0	\$41
14	City and County of Denver Raw	21	0	0	0	0	21
15	Recycled	27	12	0	0	0	39
16	City and County of Denver Recycled	20	9	0	0	1	29
17	Subtotal Nonpotable Inside City	\$109	\$20	\$0	\$0	\$1	\$130
18	Total Inside City	\$2,301	\$961	\$1,055	\$707	\$4,097	\$9,121
Outside City							
Read and Bill							
19	Single family residential	\$301	\$129	\$182	\$107	\$849	\$1,568
20	Duplex	2	1	1	1	4	8
21	3-plex	2	1	1	1	3	7
22	4-plex	5	2	2	1	7	18
23	5-plex	1	0	0	0	1	4
24	Commercial	169	73	91	56	64	453
25	Industrial	12	5	6	4	0	27
26	Government	20	9	11	7	1	48
27	Irrigation only	35	15	33	16	11	111
28	Private Fire Protection	0	0	1	3	0	4
29	Total Read & Bill	\$548	\$235	\$329	\$196	\$941	\$2,248
Total Service							
30	Single family residential	\$323	\$138	\$195	\$114	\$827	\$1,597
31	Duplex	3	1	1	1	7	14
32	3-plex	2	1	1	1	3	7
33	4-plex	5	2	2	2	6	17
34	5-plex	2	1	1	1	2	6
35	Commercial	156	67	69	47	70	409
36	Industrial	3	1	1	1	0	6
37	Government	14	6	6	4	2	33
38	Irrigation only	40	17	36	18	14	125
39	Private Fire Protection	0	0	1	3	0	5
40	Total Total Service	\$548	\$235	\$314	\$191	\$932	\$2,219
41	Master Meters	\$1,162	\$498	\$650	\$393	\$1	\$2,704
42	OCSA Treated	89	38	60	33	0	220
43	Subtotal Treated Outside City	\$2,346	\$1,007	\$1,352	\$812	\$1,874	\$7,391
44	Raw	\$416	\$0	\$0	\$0	\$0	\$416
45	OCSA Raw	117	0	0	0	0	117
46	OCSA Recycled	64	0	0	0	0	64
47	Subtotal Non-potable Outside City	\$598	\$0	\$0	\$0	\$0	\$598
48	Total Outside City	\$2,944	\$1,007	\$1,352	\$812	\$1,874	\$7,989
49	Total Treated	\$4,539	\$1,947	\$2,407	\$1,519	\$5,970	\$16,382
50	Total Raw	\$596	\$0	\$0	\$0	\$0	\$596
51	Total Recycled	\$111	\$20	\$0	\$0	\$1	\$132
52	Total	\$5,245	\$1,967	\$2,407	\$1,519	\$5,971	\$17,110

Table B-19
2014 Cost-of-Service Study
Projected 2014 Cost of Service (\$ thousands)

Line No	Description	Nonpotable	Average Day	Max Day Extra Capacity	Max Hour Extra Capacity	Customer	Total
Inside City							
1	Single Family Residential	\$6,017	\$16,147	\$12,912	\$6,055	\$10,452	\$51,583
2	Duplex	362	972	518	302	462	2,617
3	3-Plex	110	294	157	92	110	763
4	4-Plex	161	431	230	134	120	1,076
5	5-Plex	80	216	115	67	47	525
6	Commercial	5,725	15,363	7,020	4,463	1,156	33,726
7	Industrial	578	1,552	709	451	20	3,311
8	Government	275	737	337	214	19	1,582
9	Irrigation Only	414	1,110	1,589	585	97	3,795
10	City and County of Denver	794	1,804	2,241	685	93	5,617
11	Private Fire Protection	0	0	178	394	0	572
12	Subtotal Treated Inside City	\$14,516	\$38,627	\$26,007	\$13,441	\$12,577	\$105,168
13	Raw	\$275	\$0	\$0	\$0	\$0	\$275
14	City and County of Denver Raw	115	0	0	0	0	115
15	Recycled	181	105	0	0	1	286
16	City and County of Denver Recycled	110	21	0	0	2	133
17	Subtotal Nonpotable Inside City	\$680	\$126	\$0	\$0	\$3	\$809
18	Total Inside City	\$15,196	\$38,753	\$26,007	\$13,441	\$12,579	\$105,977
Outside City							
Read and Bill							
19	Single family residential	\$3,640	\$5,812	\$5,162	\$1,597	\$2,608	\$18,818
20	Duplex	22	35	21	8	12	97
21	3-plex	22	35	21	8	11	96
22	4-plex	62	98	59	22	21	263
23	5-plex	13	20	12	5	4	54
24	Commercial	2,043	3,262	2,587	842	195	8,930
25	Industrial	142	227	180	59	0	610
26	Government	245	391	310	101	4	1,050
27	Irrigation only	427	681	951	242	33	2,334
28	Private Fire Protection	0	0	34	48	0	82
29	Total Read & Bill	\$6,615	\$10,561	\$9,337	\$2,931	\$2,888	\$32,333
Total Service							
30	Single family residential	\$3,898	\$7,393	\$6,998	\$3,199	\$2,540	\$24,028
31	Duplex	39	75	51	28	22	214
32	3-plex	24	46	32	17	9	128
33	4-plex	63	119	81	44	17	324
34	5-plex	23	44	30	16	7	121
35	Commercial	1,884	3,573	2,477	1,318	214	9,466
36	Industrial	32	61	42	22	1	159
37	Government	170	323	224	119	6	842
38	Irrigation only	480	910	1,300	497	44	3,231
39	Private Fire Protection	0	0	43	95	0	138
40	Total Total Service	\$6,614	\$12,544	\$11,278	\$5,355	\$2,862	\$38,652
41	Master Meters	\$14,032	\$22,403	\$18,478	\$5,887	\$3	\$60,804
42	OCSA Treated	1,146	1,800	1,775	526	1	5,248
43	Subtotal Treated Outside City	\$28,407	\$47,308	\$40,869	\$14,699	\$5,754	\$137,036
44	Raw	\$5,028	\$0	\$0	\$0	\$0	\$5,028
45	OCSA Raw	1,509	0	0	0	0	1,509
46	OCSA Recycled	826	0	0	0	0	826
47	Subtotal Non-potable Outside City	\$7,362	\$0	\$0	\$0	\$0	\$7,362
48	Total Outside City	\$35,769	\$47,308	\$40,869	\$14,699	\$5,754	\$144,399
49	Total Treated	\$42,923	\$85,935	\$66,876	\$28,140	\$18,331	\$242,204
50	Total Raw	\$6,926	\$0	\$0	\$0	\$0	\$6,926
51	Total Recycled	\$1,116	\$126	\$0	\$0	\$3	\$1,245
52	Total	\$50,965	\$86,061	\$66,876	\$28,140	\$18,333	\$250,376

Table B-20
2014 Cost-of-Service Study
Cost-of-Service Adjustment

Line No	Description	2014 Rev at 2013 rates	2014 COS	CCD Charter Adjustment	Reserve Adjustment	Adjusted COS	% Variance
Inside City							
1	Single Family Residential	50,134	51,583	518	(153)	51,948	3.6%
2	Duplex	2,546	2,617	27	(8)	2,637	3.6%
3	3-Plex	740	763	8	(2)	769	3.9%
4	4-Plex	1,046	1,076	12	(3)	1,085	3.7%
5	5-Plex	513	525	6	(2)	530	3.2%
6	Commercial	33,146	33,726	409	(100)	34,034	2.7%
7	Industrial	3,083	3,311	41	(10)	3,343	8.4%
8	Government	1,685	1,582	20	83	1,685	0.0%
9	Irrigation Only	3,877	3,795	47	36	3,877	0.0%
10	City and County of Denver	4,443	5,617	(1,018)	0	4,599	3.5%
11	Private Fire Protection	819	572	8	239	819	0.0%
12	Subtotal Treated Inside City	102,032	105,168	77	80	105,326	3.2%
13	Raw	271	275	4	(1)	278	2.6%
14	City and County of Denver Raw	74	115	(38)	0	77	3.5%
15	Recycled	354	286	6	62	354	0.0%
16	City and County of Denver Recycled	81	133	(49)	0	84	3.5%
17	Subtotal Raw Inside City	780	809	(77)	61	793	
18	Total Inside City	102,813	105,977	0	142	106,118	3.2%
Outside City							
Read and Bill							
19	Single Family Residential	17,952	18,818	0	(55)	18,763	4.5%
20	Duplex	94	97	0	(0)	97	2.7%
21	3-Plex	92	96	0	(0)	96	3.5%
22	4-Plex	255	263	0	(1)	262	2.6%
23	5-Plex	51	54	0	(0)	53	3.9%
24	Commercial	8,571	8,930	0	(26)	8,903	3.9%
25	Industrial	549	610	0	(2)	608	10.6%
26	Government	1,073	1,050	0	23	1,073	0.0%
27	Irrigation Only	2,298	2,334	0	(7)	2,327	1.3%
28	Private Fire Protection	71	82	0	(0)	82	15.8%
29	Total Read & Bill	31,006	32,333	0	(69)	32,264	4.1%
Total Service							
30	Single Family Residential	23,221	24,028	0	(71)	23,957	3.2%
31	Duplex	202	214	0	(1)	214	5.7%
32	3-Plex	121	128	0	(0)	128	5.4%
33	4-Plex	309	324	0	(1)	323	4.5%
34	5-Plex	112	121	0	(0)	121	7.7%
35	Commercial	8,833	9,466	0	(28)	9,438	6.9%
36	Industrial	153	159	0	(0)	158	3.6%
37	Government	866	842	0	24	866	0.0%
38	Irrigation Only	3,033	3,231	0	(10)	3,222	6.2%
39	Private Fire Protection	132	138	0	(0)	138	4.3%
40	Total Total Service	36,982	38,652	0	(87)	38,565	4.3%
41	Master Meters	58,528	60,804	0	(179)	60,625	3.6%
42	OCSA Treated	5,013	5,248	0	(15)	5,232	4.4%
43	Subtotal Treated Outside City	131,529	137,036	0	(351)	136,685	3.9%
44	Raw	5,009	5,028	0	(15)	5,013	0.1%
45	OCSA Raw	1,615	1,509	0	106	1,615	0.0%
46	OCSA Recycled	944	826	0	118	944	0.0%
47	Subtotal Raw Outside City	7,567	7,362	0	209	7,572	0.1%
48	Total Outside City	139,096	144,399	0	(142)	144,257	3.7%
49	Total Treated	233,561	242,204	77	(271)	242,011	3.6%
50	Total Raw	6,969	6,926	(33)	91	6,984	0.2%
51	Total Recycled	1,378	1,245	(44)	180	1,381	0.2%
52	Total	241,909	250,376	0	0	250,376	3.5%

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Appendix C
Rate design



DENVER WATER

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Table C-1
2014 Cost-of-Service Study
Adopted 2014 Rates - Single Family Residential

Line No	Description	Inside City	Read & Bill	Total Service
Service Charge				
1	Customer Costs	10,452	2,608	2,540
2	Accounts	132,374	33,026	32,173
3	Bills per Year	12	12	12
4	Service Charge, \$ per month	\$6.58	\$6.58	\$6.58
Volume Charge				
5	Volume Costs, \$ thousands	\$41,496	\$16,155	\$21,417
6	Usage	11,875,405	3,984,866	4,266,836
Usage Distribution				
7	Block 1	75.0%	64.9%	58.5%
8	Block 2	21.4%	26.8%	26.9%
9	Block 3	1.9%	3.3%	4.4%
10	Block 4	1.7%	5.1%	10.2%
Usage by Block, 1,000 gallons				
11	Block 1	8,905,658	2,585,161	2,497,948
12	Block 2	2,541,798	1,068,817	1,147,688
13	Block 3	226,426	129,516	187,090
14	Block 4	201,524	201,372	434,110
15	Total Usage	11,875,405	3,984,866	4,266,836
Price Ratio				
16	Block 1	1.0	1.0	1.0
17	Block 2	2.0	2.0	2.0
18	Block 3	3.0	3.0	3.0
19	Block 4	4.0	4.0	4.0
Proposed Rate, \$ per Kgal				
20	Block 1	\$2.68	\$2.73	\$3.02
21	Block 2	5.36	5.46	6.04
22	Block 3	8.04	8.19	9.06
23	Block 4	10.72	10.92	12.08
24	Average Rate	\$3.49	\$4.05	\$5.02
Revenue by Block, \$ thousands				
25	Block 1	\$23,867	\$7,057	\$7,544
26	Block 2	13,624	5,836	6,932
27	Block 3	1,820	1,061	1,695
28	Block 4	2,160	2,199	5,244
29	Total Volume Revenue	\$41,472	\$16,153	\$21,415

Table C-2
2014 Cost-of-Service Study
Proposed 2014 Rates - Multifamily Residential

Line No	Description	Inside City	Read & Bill	Total Service
Service Charge				
1	Customer Costs	740	47	56
2	Accounts	9,370	601	704
3	Bills per Year	12	12	12
4	Service Charge, \$ per month	\$6.58	\$6.58	\$6.58
Volume Charge				
1	Volume Costs, \$ thousands	\$4,281	\$460	\$730
2	Usage	1,407,589	128,770	163,831
Usage Distribution				
3	Block 1	81.3%	73.9%	71.1%
4	Block 2	18.7%	26.1%	28.9%
Usage by Block, 1,000 gallons				
5	Block 1	1,144,362	95,113	116,453
6	Block 2	263,227	33,657	47,378
7	Total Usage	1,407,589	128,770	163,831
Price Ratio				
8	Block 1	1.0	1.0	1.0
9	Block 2	1.2	1.2	1.2
Proposed Rate, \$ per Kgal				
10	Block 1	\$2.93	\$3.39	\$4.21
11	Block 2	3.52	4.07	5.05
12	Average Rate	\$3.04	\$3.57	\$4.46
Revenue by Block, \$ thousands				
13	Block 1	\$3,353	\$322	\$490
14	Block 2	927	137	239
15	Total Volume Revenue	\$4,280	\$459	\$730

Table C-3
2014 Cost-of-Service Study
Proposed 2014 Rates - Nonresidential (\$ in thousands)

Line No	Description	Inside City	Read & Bill	Total Service
Service Charge				
1	Customer Costs	1,195	200	221
2	Accounts	15,133	2,534	2,805
3	Bills per Year	12	12	12
4	Service Charge, \$ per month	\$6.58	\$6.58	\$6.58
Volume Charge				
1	Cost of Service, \$ thousands	\$37,867	\$10,384	\$10,241
2	Usage	12,981,990	2,660,611	2,283,896
Usage Distribution				
3	Winter	41.2%	33.7%	33.9%
4	Summer	58.8%	66.3%	66.1%
Usage by Season 1,000 gallons				
5	Winter	5,353,083	896,125	773,222
6	Summer	7,628,907	1,764,486	1,510,674
7	Total Usage	12,981,990	2,660,611	2,283,896
Price Ratio				
8	Winter	1.0	1.0	1.0
9	Summer	2.0	2.0	2.0
Proposed Rate, \$ per 1,000 gallons				
10	Winter	\$1.84	\$2.35	\$2.70
11	Summer	\$3.68	\$4.70	\$5.40
12	Average Rate	\$2.92	\$3.90	\$4.48
Revenue by Block, \$ thousands				
13	Winter	\$9,850	\$2,106	\$2,088
14	Summer	28,074	8,293	8,158
15	Total Volume Revenue	\$37,924	\$10,399	\$10,245

Table C-4
2014 Cost-of-Service Study
Proposed 2014 Rates - Irrigation

Line No	Description	Inside City	Read & Bill	Total Service
Service Charge				
1	Customer Costs	97	33	44
2	Accounts	1,234	418	562
3	Bills per Year	12	12	12
4	Service Charge, \$ per month	\$6.58	\$6.58	\$6.58
Volume Charge				
1	Volume Costs, \$ thousands	\$3,780	\$2,294	\$3,178
2	Usage	816,220	467,094	525,384
Usage Distribution				
3	Winter	4.8%	7.7%	4.3%
4	Summer	95.2%	92.3%	95.7%
Usage by Season 1,000 gallons				
5	Winter	39,505	36,171	22,436
6	Summer	776,715	430,923	502,947
7	Total Usage	816,220	467,094	525,384
Price Ratio				
8	Winter	1.0	1.0	1.0
9	Summer	4.0	4.0	4.0
Proposed Rate, \$ per 1,000 gallons				
10	Winter	\$1.20	\$1.31	\$1.56
11	Summer	\$4.81	\$5.24	\$6.24
12	<i>Average Rate</i>	<i>\$4.63</i>	<i>\$4.91</i>	<i>\$6.05</i>
Revenue by Block, \$ thousands				
13	Winter	47	47	35
14	Summer	3,736	2,258	3,138
15	Total Volume Revenue	\$3,783	\$2,305	\$3,173

**Table C-5
2014 Cost-of-Service Study
Proposed 2014 Rates - All Other**

Line No	Description	Units
Recycled Water		
<u>Inside City</u>		
Service Charge		
1	Customer Costs, \$ thousands	\$1
2	Accounts	13
3	Bills per Year	12
4	<i>Service Charge</i>	\$6.58
Volume Charge		
5	Volume Costs, \$ thousands	\$353
6	Usage, 1,000 gallons	356,438
7	<i>Rate, \$ per 1,000 gallons</i>	\$0.99
<u>Outside the Combined Service Area (OCSA)</u>		
Service Charge		
8	Customer Costs, \$ thousands	\$0.08
9	Accounts	1
10	Bills per Year	12
11	<i>Service Charge</i>	\$6.58
Volume Charge		
12	Volume Costs, \$ thousands	\$943
13	Usage, 1,000 gallons	850,000
14	<i>Rate, \$ per 1,000 gallons</i>	\$1.11
Raw Water		
<u>Inside City</u>		
Volume Charge		
15	Volume Costs, \$ thousands	\$278
16	Usage, 1,000 gallons	542,746
17	<i>Rate, \$ per 1,000 gallons</i>	\$0.52
<u>Outside City</u>		
Volume Charge		
18	Volume Costs, \$ thousands	\$5,013
19	Usage, 1,000 gallons	5,504,000
20	<i>Rate, \$ per 1,000 gallons</i>	\$0.91
<u>Outside the Combined Service Area (OCSA)</u>		
Volume Charge		
21	Volume Costs, \$ thousands	\$1,615
22	Usage, 1,000 gallons	1,553,016
23	<i>Rate, \$ per 1,000 gallons</i>	\$1.04
Wholesale Treated		
<u>Master Meter</u>		
Service Charge		
24	Customer Costs, \$ thousands	\$3
25	Accounts	40
26	Bills per Year	12
27	<i>Service Charge</i>	\$6.58
Volume Charge		
28	Volume Costs, \$ thousands	\$60,622
29	Usage, 1,000 gallons	15,360,875
30	<i>Rate, \$ per 1,000 gallons</i>	\$3.95
<u>Outside the Combined Service Area (OCSA)</u>		
Service Charge		
31	Customer Costs, \$ thousands	\$0.63
32	Accounts	\$8.00
33	Bills per Year	12
34	<i>Service Charge</i>	\$6.58
Volume Charge		
35	Volume Costs, \$ thousands	\$5,232
36	Usage, 1,000 gallons	1,179,422
37	<i>Rate, \$ per 1,000 gallons</i>	\$4.44

Table C-6
2014 Cost-of-Service Study
Proposed 2014 Rates - Private Fire Protection

Line No	Description	Inside City	Read & Bill	Total Service
1	Cost of Service, \$ thousands)	\$819	\$82	\$138
2	Equivalent Meters	4,903	792	839
3	Annual Unit Cost	\$167.04	\$103.35	\$163.93
4	Monthly Unit Cost	\$13.92	\$8.61	\$13.66
	Connection Size, inches			
5	1"	0.27	0.27	0.27
6	2"	0.45	0.45	0.45
7	4"	0.70	0.70	0.70
8	6"	1.00	1.00	1.00
9	8"	1.75	1.75	1.75
10	10"	2.50	2.50	2.50
11	12"	4.00	4.00	4.00
12	16"	10.00	10.00	10.00
	Private Fireline Charge, \$ per bill			
13	1"	\$3.78	\$2.34	\$3.71
14	2"	6.31	3.90	6.19
15	4"	9.75	6.03	9.57
16	6"	13.92	8.62	13.66
17	8"	24.36	15.07	23.91
18	10"	34.80	21.53	34.15
19	12"	55.68	34.45	54.65
20	16"	139.20	86.13	136.61