

CITY OF BOULDER

**WATER RESOURCES ADVISORY BOARD
AGENDA ITEM**

MEETING DATE: May 19, 2014

AGENDA TITLE: Public Hearing and Discussion of Draft Proposed 2015 Utilities Budget (Water, Wastewater and Stormwater/ Flood Management) including the 6-year Capital Improvement Program (CIP)

PRESENTERS:

Jeff Arthur, Director of Public Works for Utilities
Bob Harberg, Principal Engineer – Utilities
Ken Baird, Utilities Financial Manager
Annie Noble, Flood and Greenways Engineering Coordinator
Steve Buckbee, Engineering Project Manager
Kevin Clark, Engineering Project Manager
Douglas Sullivan, Engineering Project Manager
Pieter Beyer, Civil Engineer II

EXECUTIVE SUMMARY:

As part of the city’s annual budget process, Utilities develops a six-year planning budget, this year for the time period of 2015 through 2020. The Water Resources Advisory Board (WRAB) role in this process is defined in the Boulder Revised Code: “. . . to review all environmental assessments and capital improvements conducted or proposed by the utilities division.” Utilities staff has formulated initial revenue and expenditure projections for each of the three utility funds through the year 2020. Within the budget process, City Council approves and appropriates funds only for the first year, 2015.

The September 2013 flood highlighted the vulnerability of the community and utility infrastructure to natural disasters, including flooding. In order to better integrate data and public feedback related to the flood into the 2015-2020 CIP discussion, staff presented “previews” of the Water, Wastewater, and Stormwater/Flood Management Utility Capital Improvement Programs at the January, February, and March WRAB meetings. The April meeting provided an opportunity for the WRAB to discuss a “preliminary draft” of the CIP. At the April meeting, the majority of questions and discussions concerned the preliminary Wastewater Utility CIP. Following this meeting, staff presented preliminary information regarding utility rates at a City Council study session related to the 2015 budget. Staff focused on a scenario that included a 10% rate increase in the Wastewater Fund rather than 7% to be more conservative based on initial WRAB feedback and pending results of the condition assessment on the wastewater inceptor, a project which is discussed below.

WRAB will be asked to make a recommendation to City Council regarding the 2015-2020 CIP at

its June meeting. The Planning Board will review the complete city CIP, including utilities, in August. City Council generally plans for two study sessions regarding the CIP in September, prior to adopting the 2015 budget.

This packet contains the draft proposed 2015 Utilities Budget and 2015-2020 Utilities CIP. The fund financials (**Attachment A**) have been updated to reflect actual revenues and expenditures for 2013, and the revised budget for 2014. These fund financials incorporate recommended changes to the CIP. There will be other likely less significant changes in the operating budget as the guidelines recently provided by the budget office are incorporated into each fund.

More detailed information regarding the draft proposed 2015-2020 Utilities CIP is presented in **Attachment B**. This document is being developed to support city wide CIP recommendations and captures information that has been developed to date.

Fiscal Impacts: Based on preliminary feedback from WRAB and the community, staff has been evaluating rate scenarios that would support immediate flood recovery needs and increase investment in resilient utilities infrastructure. Maintaining only the inflationary increases proposed last year (4% water, 5% wastewater, 3% stormwater/flood) would result in a net reduction or deferral of investment due to the need to fund immediate flood recovery expenses. Immediate implementation of a “vision plan” level of investment to substantially eliminate flood risk is not considered to be financially feasible. The following percentage increases in additional revenue from the monthly utility fees are currently being considered to balance community desire for additional investment with the need to maintain affordability for rate payers:

Water	5%
Wastewater	10%
Stormwater/ Flood Management	71%

Public Feedback: A public hearing and recommendation is scheduled for the June WRAB meetings. At the June meeting, staff will request that the WRAB provide a final recommendation on the proposed 2015-2020 CIP to City Council and associated rates changes.

BACKGROUND and ANALYSIS:

The preliminary draft 2015 budget provided with this memorandum reflects the following billed revenue increases: 5% Water, 10% Wastewater, and 71% Stormwater/Flood Management. The following table summarizes the 2014 adopted increase and preliminary projections for 2015-2017. The preliminary 2015 increases are in bold.

Table 1 – Proposed Rate Increases

	2014	2015	2016	2017
Water	4%	5%	6%	8%
Wastewater	5%	10%	7%	7%
Stormwater/Flood Management	3%	71%	3%	3%

Utility Bill Comparisons

Estimated annual bills for the City’s current and proposed rates are compared with other Colorado Front Range communities. **Attachment C** shows the combined water and wastewater charges, and a 5% Water increase and 10% Wastewater increase puts Boulder in the middle for single-family residential bills. Since 2015 rate proposals are not yet available for the other cities, the survey uses their 2014 rates. Based on rate projections previously published by other utilities, it is expected that the City’s relative position will be similar once all 2015 rates are known.

A comparison of the charges to support the Stormwater/Flood Management utility is provided in **Attachment D**. With a 71% rate increase, Boulder’s 2015 Stormwater/Flood Management rate would be one to two dollars higher annually than the 2014 rate charged in Fort Collins and Longmont. The City of Boulder is widely considered the number one flash flood risk in Colorado due to its location at the mouth of Boulder Canyon and other major tributaries.

A third chart, **Attachment E** shows the annual bill comparison when all three utility fees are included. Of the fifteen communities in the survey, Boulder’s combined rates would be in the middle at number seven.

Using the Front Range survey data, annual bills of our comparison cities were averaged together and compared the annual charges in Boulder. **Attachment F** shows this comparison for the annual residential bill (including water, wastewater, and stormwater). From 2007 to 2014, the Front Range average bill increased at 5% per year, while the Boulder’s increase averaged 3%.

Single Family Residential Customer Bill Impact

The proposed preliminary 2015 revenue increases (5%-10%-71%) would increase a typical residential customer’s monthly utility bill by \$9.53, or an increase of \$114.36 annually. The following table provides a breakdown of the potential increases by utility.

Table 3 – Average Monthly Bill Impacts

	Monthly Bill 2014 Rates	Monthly Bill 2015 Rates	Monthly Difference
Water	\$34.95	\$36.69	\$1.74
Wastewater	\$23.25	\$25.58	\$2.33
Stormwater/ Flood Mgmt	\$7.69	\$13.15	\$5.46
Total	\$65.89	\$75.42	\$9.53

Commercial Customer Impacts

The following tables show the estimated impact of the proposed 2015 rate increases on some sample commercial customers. The total increase in monthly charges varies by user type because of the way rates are determined. A larger water/wastewater user in a small building footprint (such as a downtown restaurant) may be most impacted by the increase in water/wastewater rates. A user with a large building and/or parking lot, such as a grocery store or large format retailer, would see a more significant increase in their stormwater monthly charge.

Table 4 – Commercial Customer Impacts - Water and Wastewater

Customer	Water & Wastewater Monthly Bill 2014 Rates	Water & Wastewater Monthly Bill 2015 Rates
Hotel	\$2,572	\$2,772
Grocery Store	\$5,658	\$6,046
Large Format Retailer	\$1,292	\$1,389
Pearl Street Retail	\$86	\$92
Industrial/Institutional	\$4,123	\$4,421
Downtown Restaurant	\$254	\$274
Downtown Restaurant/Brewery	\$614	\$664

Table 4 – Commercial Customer Impacts - Stormwater

Customer	Stormwater Monthly Bill 2014 Rates	Stormwater Monthly Bill 2015 Rates
Hotel	\$225	\$383
Grocery Store	\$879	\$1,494
Large Format Retailer	\$884	\$1,503
Pearl Street Retail	\$10	\$17
Industrial/Institutional	\$1,078	\$1,833
Downtown Restaurant	\$16	\$27
Downtown Restaurant/Brewery	\$14	\$24

Table 5 – Commercial Customer Impacts - Total

Customer	Monthly Bill 2014 Rates	Monthly Bill 2015 Rates
Hotel	\$2,797	\$3,155
Grocery Store	\$6,537	\$7,541
Large Format Retailer	\$2,176	\$2,833
Pearl Street Retail	\$96	\$109
Industrial/Institutional	\$5,201	\$6,254
Downtown Restaurant	\$270	\$301
Downtown Restaurant/Brewery	\$628	\$688

Impact of Rate Changes

The impact of a 1% increase in revenue varies substantially across the three funds:

Table 6–Rate Impact	1%	2%	3%
Water	\$220,000	\$440,000	\$660,000
Wastewater	\$140,000	\$280,000	\$420,000
Stormwater / Flood Mgmt	\$ 53,000	\$106,000	\$159,000

Also, as a point of reference, \$100,000 provides for debt service coverage on a bond of approximately \$1,000,000. So a revenue reduction of \$100,000 could mean reduced funding for a one-time capital expense or capital bond project by \$1,000,000.

UPDATES FROM THE APRIL WRAB MEETING:

The draft proposed Water Utility and Stormwater/Flood Management Utility CIPs are unchanged from those presented at the April WRAB meeting. However, significant changes in the draft proposed Wastewater Utility CIP have been made and additional supporting information is provided below.

September 2013 Flood Disaster

Flood disaster recovery cost estimates have been reduced based primarily on revised estimates for sediment and debris removal quantities and are now anticipated to be:

Water Utility	\$ 1.5 million
Wastewater Utility	\$ 1.5 million
Stormwater and Flood Management Utility	\$ 7.8 million

It is anticipated that 75% of eligible costs will eventually be reimbursed by FEMA. There is a possibility that an additional 12.5% of eligible costs may be reimbursed if the State of Colorado appropriates funds for this purpose. To be eligible for reimbursement the work must meet certain criteria established by FEMA and be completed within 18 months of the disaster declaration. Eligible costs are uncertain and are currently estimated to be 80-90 percent of actual costs. The timing of the reimbursement is unknown and may occur over a period of 1-3 years.

Wastewater Utility CIP

Since the April WRAB presentation utilities staff have been able to reallocate existing 2014 funding to start the condition assessment program ahead of schedule as well as implement the collection system flow monitoring study in 2014 instead of 2016. Based on the preliminary results of this work, the recommended CIP recommendation has been updated as follows:

Project	2015	2016	2017	2018	2019	2020
Condition Assessment	\$780,000	\$811,200	\$843,648	\$877,394	\$912,490	\$948,989

Program						
Sanitary Sewer Rehabilitation	\$780,000	\$811,200	\$843,648	\$1,169,859	\$1,216,653	\$1,265,319
Sanitary Sewer Rehabilitation - Bond	\$10,000,000	\$0	\$0	\$0	\$0	\$0
Sanitary Sewer Manhole Rehabilitation	\$208,000	\$216,320	\$224,973	\$233,972	\$243,331	\$253,064
Collection System Monitoring*	\$0	\$0	\$0	\$0	\$0	\$0
IBM Pump Station	\$500,000	\$0	\$0	\$0	\$0	\$0
Digester Complex	\$0	\$0	\$0	\$0	\$200,000	\$2,000,000

**Utilities staff initiated a \$340,000 city-wide flow monitoring evaluation in early 2014 (May–July) to assess the inflow and infiltration (I&I) component in the wastewater collection system.*

Condition Assessment Program

The initial goal of the Condition Assessment Program was to clean and provide TV inspection for 100% of the wastewater collection system. This effort would require hiring a contractor to complete the inspection of approximately 360 miles of sanitary sewer ranging in diameter from 4-inch through 60 inch diameter. Approximately 75% of the collection system is comprised of 8-inch diameter pipe. The estimated cost for this program was \$4,000,000 – \$5,000,000 based on \$1.50 per lineal foot for the 8-inch diameter lines and a higher cost for the larger diameter pipe. The program goal was to complete the inspection of the entire collection system in a 5-year period. Based on the results of the initial inspection, staff would then develop a recommended plan identifying inspection recurrence intervals for all sections of the system.

The Condition Assessment Program work completed to date has not identified significant flood debris remaining the wastewater collection system. These results can likely be explained by the following. The first reason is that the high wastewater collection system velocities experienced during the September 2013 flood event likely conveyed the majority of the debris downstream to the WWTF. The second reason is that the majority of the debris that was found in the wastewater collection system, which was not conveyed to the WWTF, was removed by City crews and private contractors in the weeks immediately following the flood event. Based on these findings, the funding level for the Condition Assessment Program has been reduced to reflect a recent decline in costs to perform this type of work as well as to allocate some of this funding in support of the Sanitary Sewer Rehabilitation Bond project (described below).

Sanitary Sewer Rehabilitation - Bond

The City’s main wastewater interceptor collects approximately 90% of the City’s wastewater and conveys it to the wastewater treatment facility (WWTF). The interceptor was constructed in the late 1960’s of reinforced concrete pipe (RCP) which is susceptible to corrosion from the harsh environment found in sanitary sewers, specifically hydrogen sulfide gas.

As part of the condition assessment program, the City contracted with Redzone Robotics to perform an inspection of the downstream section of the interceptor. The inspection involved a

condition assessment of approximately 31,000 feet (about 6 miles) of the concrete sewer including 30-inch, 36-inch, and 42-inch diameter pipe. The inspection was completed in April and preliminary data obtained from Redzone have shown that portions of the interceptor have experienced severe levels of corrosion to the point where there is a threat of the interceptor collapsing in some areas. Such a collapse could result in the majority of the City's untreated wastewater spilling into Boulder Creek and could allow Boulder Creek itself to flow into the interceptor and overwhelm and damage the wastewater treatment facility.

As a result of this discovery, Utilities staff is recommending the addition of a new Sanitary Sewer Rehabilitation Bond in the 2015-2020 CIP for the rehabilitation and reconstruction of the City's interceptor. City staff is already working with an engineering consulting firm that has expertise in the replacement and rehabilitation of large diameter pipelines. The city's approach to the interceptor replacement and rehabilitation project will be determined in 2014 after a thorough review of the condition assessment data has been completed. The project will likely involve a number of rehabilitation techniques including sections of new sewer, sewer lining, cured-in-place pipe (CIPP), and potentially parallel sewers.

Based on the corrosion found in the sanitary sewer interceptor, Utilities staff is concerned about the remaining sections of reinforced concrete pipe sewer. In reviewing the wastewater collection system database, Utilities staff has determined that there is an additional 47,000 feet (about 9 miles) of reinforced concrete pipe. Utilities staff will complete a condition assessment of the remaining concrete sewer sections in 2014 before proceeding with the interceptor replacement and rehabilitation project.

Utilities staff has added a \$10,000,000 bond to the 2015–2020 CIP for replacement and rehabilitation of the sanitary sewer interceptor. This estimate may be revised in late 2014 following two deliverables: the completed Redzone Interceptor condition assessment, and the condition assessment results for the system's remaining reinforced concrete pipe.

Collection System Monitoring

City staff recognized that 2014 represented an ideal opportunity to complete a city-wide inflow and infiltration (I&I) study of the wastewater collection system. With historically high groundwater remaining from the September 2013 flood event, rare conditions exist with which to capture rainfall impacts (and subsequent stormwater runoff) on the collection system. The city has installed 54 flow monitoring devices throughout the wastewater collection system to record 24-hour flow data in the sewers. The goal of the I&I evaluation is document the collection system's response to rainfall events over the next three months (mid April through mid July). This project has a fee of approximately \$340,000. Utilities staff had previously identified an I&I evaluation to be completed in 2016 with a proposed budget of \$250,000. The 2016 I&I project has been removed from the CIP.

Digester Complex

The WWTF utilizes two anaerobic digesters to treat the facility's biosolids to meet CDPHE Class B (Restricted Use – Agriculture) regulations for biosolids treatment. The digesters are 90-foot diameter concrete tanks that store liquid biosolids (4%-6% solids). The digesters are

operated in “series” utilizing the primary digester for the treatment and the secondary digester as a polishing step to meet requirements for time and temperature. The primary digester has a fixed concrete roof. The secondary digester has a floating steel roof that is used to store methane gas before the gas is conveyed to the cogeneration engines. The cogeneration engines use the gas to supply heat to various facility buildings and to offset the facility’s energy requirement.

The secondary digester cover has failed on numerous occasions. This failure occurs when moisture gets inside the roof and causes an imbalance in the roof structure, and the cover tips rendering it inoperable. When this occurs, the facility must be taken off-line, emptied, cleaned and repaired. Utilities staff have identified a project to replace the secondary digester cover in the 2015-2020 CIP. The estimated construction cost is \$2,000,000, with \$200,000 identified for the design in 2019.

Other Wastewater Collection System Issues

Of the 360 miles of sanitary sewer pipe, approximately 54% (190 miles) is constructed of vitrified clay pipe (VCP). The VCP ranges in size between 8-inch and 36-inch diameter. VCP was primarily installed in the 1950’s, 1960’s and 1970’s, thus, the age of the system’s clay pipe is generally 40-60 years old. Clay pipe was the most commonly used sewer pipe material at that time, but clay pipe has started to fail with some regularity in recent years. For this reason, the city has been working to rehabilitate sections of clay pipe with cracks and structural deficiencies.

The City has lined approximately 25 miles of pipe to date over the last 20 years, which leaves approximately 165 miles of unlined clay pipe remaining. The current cost for lining 8-inch diameter pipe is \$25 per linear foot. There are also larger diameter sections of VCP in the system that will be more expensive to line. Utilities staff has estimated approximately \$30 million (in 2014 dollars) will be required to line the system’s remaining clay pipe.

In addition, the 2009 Wastewater Collection System Master Plan (WWCSMP) identified potential future hydraulic limitations that would require approximately \$30 million of improvement investment over the next 20 years. City staff will be completing WWCSMP update in 2014 to incorporate data from the September 2013 flood event. For this update, staff will review the previous collection system recommendations to see if they still represent the system’s highest priorities.

BUDGET SCHEDULE:

The current schedule of major budget milestones is provided below. Elements involving the WRAB are highlighted in bold italics.

<u>Milestone</u>	<u>Date</u>
<i>WRAB Draft Proposed CIP Review</i>	<i>May 19, 2014</i>
Proposed Budget Submittal to City Manager	May 30, 2014
<i>WRAB Recommendation on CIP/Budget</i>	<i>June 16, 2014</i>
Departmental Budget Review by City Manager	May/June 2014
Planning Board Recommendation on CIP	August 2014
City Council Study Session on CIP	August 12, 2014

NEXT STEPS:

Staff is seeking feedback on the draft proposed CIP, updated financial information, and potential rate impacts. This feedback will be considered by staff in modifying the proposed budget that will be presented at the June 21, 2014 WRAB meeting. At this meeting, staff will request that WRAB provide a final recommendation concerning the proposed 2015-2020 CIP to Planning Board and City Council.

Attachments:

- A:** Fund Financials – Water, Wastewater, Stormwater/Flood Management
- B:** Overview of the 2015-2020 Utilities Division CIP
- C:** Colorado Utility Bill Comparison – Water, Wastewater
- D:** Colorado Utility Bill Comparison – Stormwater/Flood Management
- E:** Colorado Utility Bill Comparison – Water, Wastewater, Stormwater/Flood Management
- F:** Residential Annual Bill Change Comparison – Boulder and Front Range Average
- G:** Draft Proposed 2015-2020 CIP, Water, Wastewater, Stormwater/Flood Management

**CITY OF BOULDER
2015 FUND FINANCIAL**

WATER UTILITY

	2013 Actual	2014 Revised	2015 Proposed	2016 Projected	2017 Projected	2018 Projected	2019 Projected	2020 Projected
Beginning of Year Fund Balance	\$ 35,375,682	\$ 34,394,474	\$ 30,126,922	\$ 30,738,097	\$ 29,210,389	\$ 30,559,382	\$ 34,083,602	\$ 38,526,639
Sources of Funds								
Operating-								
Sale of Water to General Cust	\$ 21,066,313	\$ 21,460,807	\$ 22,363,662	\$ 23,528,592	\$ 24,989,973	\$ 27,042,933	\$ 29,264,564	\$ 30,789,032
Projected Rate Increase	-	858,432	1,118,183	1,411,716	1,999,198	2,163,435	1,463,228	1,539,452
Bulk/Irrigation Water Sales	147,045	141,050	143,050	143,050	143,050	143,050	143,050	143,050
Hydroelectric Revenue	1,948,628	2,405,978	2,395,484	2,404,812	2,449,120	2,508,586	2,558,724	2,558,724
Miscellaneous Operating Revenues	36,129	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Non-Operating--								
Plant Investment Fees	3,417,766	2,200,000	2,200,000	2,200,000	2,200,000	2,000,000	2,000,000	2,000,000
Connection Charges	257,551	130,000	130,000	130,000	130,000	130,000	130,000	130,000
Special Assessments	100,035	5,000	2,505,000	2,505,000	5,000	5,000	5,000	5,000
State & Federal Grants	205,068	-	1,125,000	-	-	-	-	-
Interest on Investments	219,563	257,959	301,269	461,071	438,156	763,985	852,090	963,166
Rent, assessments and other misc revenues	121,033	20,000	20,500	20,500	20,500	20,500	20,500	20,500
Sale of Real Estate	-	450,000	714,750	-	-	-	-	-
Transfer from General Fund - Fire Training Center	92,785	92,785	92,785	92,785	92,785	92,785	92,785	92,785
Projected Bond Proceeds	-	-	-	12,125,000	-	34,300,000	8,134,000	-
Total Sources of Funds	\$27,611,915	\$ 28,047,011	\$33,134,683	\$ 45,047,526	\$ 32,492,781	\$ 69,195,273	\$ 44,688,941	\$ 38,266,708
Uses of Funds								
Operating-								
Administration	\$ 953,670	\$ 883,659	\$ 918,192	\$ 945,738	\$ 974,110	\$ 1,003,333	\$ 1,033,433	\$ 1,064,436
Planning and Project Management	567,134	602,092	617,392	635,914	654,991	674,641	694,880	715,727
Water Resources and Hydroelectric Operations	2,623,220	2,035,907	2,242,944	2,310,232	2,379,539	2,450,925	2,524,453	2,600,187
Water Treatment	4,593,810	4,699,333	4,670,125	4,810,229	4,954,536	5,103,172	5,256,267	5,413,955
Water Quality and Environmental Svcs	981,412	1,004,893	1,040,379	1,071,590	1,103,738	1,136,850	1,170,956	1,206,084
Water Conservation	384,948	395,910	425,743	438,515	451,671	465,221	479,177	493,553
System Maintenance	3,214,315	3,165,659	3,148,554	3,243,011	3,340,301	3,440,510	3,543,725	3,650,037
Windy Gap Payment	2,394,139	2,633,250	2,714,004	2,776,959	2,396,581	336,000	341,000	346,000
Sick and Vacation Accrual	(56,413)	100,000	100,000	103,000	106,090	109,273	112,551	115,927
TOTAL OPERATING USES OF FUNDS	\$15,656,235	\$ 15,520,703	\$15,877,333	\$16,335,188	\$16,361,557	\$14,719,925	\$15,156,443	\$15,605,906

**CITY OF BOULDER
2015 FUND FINANCIAL**

WATER UTILITY								
	2013 Actual	2014 Revised	2015 Proposed	2016 Projected	2017 Projected	2018 Projected	2019 Projected	2020 Projected
Debt-								
BRWTP 1996 Revenue Bond; Refunding in 2006	854,438	856,594	857,708	858,531	-	-	-	-
Refunding of the 1999 and 2000 Revenue Bonds	2,512,621	2,523,521	2,522,054	2,517,388	2,524,233	2,524,650	1,375,102	-
Lakewood 2001 Rev Bond; Refunded in 2012	2,057,650	2,057,000	2,065,733	2,065,950	2,065,333	2,072,083	2,080,817	2,081,367
Projected Bond-Betasso WTP Improvements	-	-	-	1,140,000	1,140,000	1,140,000	1,140,000	1,140,000
Projected Bond-NCWCD Conveyance Line	-	-	-	-	-	3,224,177	3,224,177	3,224,177
Projected Bond - Barker Dam	-	-	-	-	-	-	763,244	763,244
TOTAL DEBT SERVICE	\$5,424,709	\$5,437,115	\$5,445,495	\$6,581,869	\$5,729,566	\$8,960,910	\$8,583,339	7,208,787
Transfers -								
Cost Allocation	1,208,285	1,255,221	1,255,221	1,317,982	1,383,881	1,453,075	1,525,729	1,602,015
Planning & Development Services	206,373	212,564	212,564	218,941	225,509	232,274	239,243	246,420
General Fund - City Attorney	31,893	52,888	52,888	55,004	57,204	59,492	61,871	63,728
Capital	\$6,009,216	4,025,000	9,780,007	\$10,044,251	7,492,162	6,065,949	6,657,687	12,068,898
Projected Bond - Betasso WTP IMP	-	-	-	\$12,000,000	-	-	-	-
Projected Bond - NCWCD Conveyance	-	-	-	-	-	\$33,938,701	-	-
Projected Bond - Barker Dam	-	-	-	-	-	-	\$8,034,143	-
Projected Bond - Issuance Costs	-	-	-	\$125,000	-	\$350,000	100,000	-
Encumbrances, Carryover and Adjustments to Base	-	5,911,071	-	-	-	-	-	-
Total Uses of Funds	\$ 28,536,710	\$ 32,414,562	\$ 32,623,508	\$46,678,234	\$ 31,249,878	\$65,780,325	\$ 40,358,455	\$36,795,754
Sick/Vacation Accrual Adjustment	\$ (56,413)	\$ 100,000	\$ 100,000	\$ 103,000	\$ 106,090	\$ 109,273	\$ 112,551	\$ 115,927
Ending Fund Balance Before Reserves	\$ 34,394,474	\$ 30,126,922	\$ 30,738,097	\$ 29,210,389	\$ 30,559,382	\$ 34,083,602	\$ 38,526,639	\$ 40,113,521
Reserves								
Bond Reserve	\$ 3,034,796	\$ 3,034,796	\$ 3,034,796	\$ 4,174,796	\$ 3,321,429	\$ 6,545,606	\$ 7,308,850	\$ 7,731,680
Lakewood Pipeline Remediation Reserve	14,932,560	15,588,815	16,254,473	17,214,860	18,204,457	19,224,155	19,953,763	21,026,667
Sick/Vacation/Bonus Reserve	574,219	591,445	609,189	627,464	646,288	665,677	685,647	706,217
Pay Period 27 Reserve	112,400	163,400	214,400	265,400	316,400	367,400	418,400	469,400
Operating Reserve	4,275,696	4,260,344	4,349,502	4,481,779	4,507,038	4,116,192	4,245,821	4,379,517
Capital Reserve	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Total Reserves	\$ 24,929,671	\$ 25,638,800	\$ 26,462,359	\$ 28,764,299	\$ 28,995,612	\$ 32,919,029	\$ 34,612,481	\$ 36,313,481
Ending Fund Balance After Reserves	\$ 9,464,803	\$ 4,488,122	\$ 4,275,738	\$ 446,090	\$ 1,563,769	\$ 1,164,572	\$ 3,914,158	\$ 3,800,040

Note:
Operating reserve levels are based on industry standards and are maintained for revenue bonds, revenue fluctuations (weather and water usage impacts) and the capital intensive nature of the utility.

**CITY OF BOULDER
2015 FUND FINANCIAL**

WASTEWATER UTILITY

	2013 Actual	2014 Projected	2015 Proposed	2016 Projected	2017 Projected	2018 Projected	2019 Projected	2020 Projected
Beginning Fund Balance	\$ 13,034,309	\$ 12,453,008	\$ 8,931,358	\$ 7,438,555	\$ 7,157,264	\$ 6,357,896	\$ 7,155,932	\$ 7,943,661
Sources of Funds								
Operating-								
Sewer Charges to General Customers	\$ 13,900,486	\$ 13,426,614	\$ 14,126,140	\$ 15,569,832	\$ 16,693,039	\$ 17,897,275	\$ 19,726,377	\$ 21,742,412
Projected Rate Increase	-	671,331	1,412,614	1,089,888	1,168,513	1,789,728	1,972,638	2,174,241
Surcharge/ Pretreatment Fees	157,674	118,000	118,000	118,000	118,000	118,000	118,000	118,000
Plant Investment Fees	952,501	650,000	650,000	650,000	650,000	650,000	650,000	650,000
Connection Charges	16,491	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Special Assessments	71,504	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Federal & State Grants	-	200,000	1,967,500	-	-	-	-	-
Interest on Investments	88,616	311,325	133,970	148,771	178,932	190,737	214,678	238,310
Rent and other miscellaneous revenue	226,096	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Sale of Real Estate - Yards Masterplan	-	-	357,375	-	-	-	-	-
Transfer from Other Funds	-	-	-	-	-	-	-	-
Bond Proceeds	-	-	10,125,000	-	-	-	-	20,625,000
Total Sources of Funds	\$ 15,413,369	\$ 15,393,769	\$ 28,907,100	\$ 17,592,991	\$ 18,824,984	\$ 20,662,240	\$ 22,698,192	\$ 45,564,463
Uses of Funds								
Operating-								
Administration	\$ 549,744	\$ 566,554	\$ 580,427	\$ 597,840	\$ 615,775	\$ 634,248	\$ 653,276	\$ 672,874
Planning and Project Management	195,715	352,768	361,050	371,882	383,038	394,529	406,365	418,556
Wastewater Quality & Environmental Svcs	1,113,531	1,154,257	1,196,842	1,232,747	1,269,730	1,307,822	1,347,056	1,387,468
System Maintenance	1,754,263	1,697,108	1,866,407	1,922,399	1,980,071	2,039,473	2,100,658	2,163,677
Wastewater Treatment	4,910,241	5,134,520	5,178,630	5,333,989	5,494,009	5,658,829	5,828,594	6,003,451
Sick/Vacation Accrual	14,115	75,000	75,000	77,250	79,568	81,955	84,413	86,946
TOTAL OPERATING USES OF FUNDS	8,537,609	8,980,207	9,258,356	9,536,107	9,822,190	10,116,856	10,420,361	10,732,972

**CITY OF BOULDER
2015 FUND FINANCIAL**

WASTEWATER UTILITY

	2013 Actual	2014 Projected	2015 Proposed	2016 Projected	2017 Projected	2018 Projected	2019 Projected	2020 Projected
Debt-								
2012 Refunding of the WWTP 2005 Revenue Bond	3,467,233	3,463,046	3,439,463	3,199,450	3,177,125	3,153,292	3,145,375	3,132,458
WWTP UV, Digester, Headworks Imp 2010 Rev Bond	673,963	670,854	672,638	673,863	670,938	672,700	674,013	669,888
WWTP Nutrient Compliance Bond 2020								1,947,500
Sanitary Sewer Rehabilitation Bond 2015			950,000	950,000	950,000	950,000	950,000	950,000
Cost Allocation	866,761	900,430	900,430	945,452	992,725	1,042,361	1,094,479	1,149,203
Planning & Development Services	207,000	213,210	213,210	219,606	226,194	232,980	239,969	247,168
General Fund - Utilities Attorney	10,631	17,629	17,629	18,334	19,068	19,830	20,623	21,448
Capital Improvement Program	\$1,755,088	1,777,654	4,898,176	2,408,720	3,845,680	3,758,139	5,450,055	4,973,032
Anticipated Adjustment to Base (Flood)		700,000						
2011 Bond-UV, Digester, Headworks IMP	490,499	16,346	-	-	-	-	-	-
PROJECTED BOND-WWTP IMPROVEMENTS	-	-	-	-	-	-	-	\$20,500,000
PROJECTED BOND-SANITARY SEWER REHAB	\$0	\$0	\$10,000,000	\$0	\$0	\$0	\$0	\$0
Bond Issuance Costs	-	-	125,000	-	-	-	-	125,000
Carryover, Encumbrances and Adjustments to Base	-	2,251,044	-	-	-	-	-	-
Total Uses of Funds	\$ 16,008,784	\$ 18,990,420	\$ 30,474,902	\$ 17,951,532	\$ 19,703,920	\$ 19,946,158	\$ 21,994,876	\$ 44,448,670
Sick/Vacation Accrual Adjustment	\$ 14,115	\$ 75,000	\$ 75,000	\$ 77,250	\$ 79,568	\$ 81,955	\$ 84,413	\$ 86,946
Ending Fund Balance Before Reserves	\$ 12,453,008	\$ 8,931,358	\$ 7,438,555	\$ 7,157,264	\$ 6,357,896	\$ 7,155,932	\$ 7,943,661	\$ 9,146,401
Reserves								
Bond Reserves	\$ 670,139	\$ 670,139	\$ 1,620,139	\$ 1,620,139	\$ 1,620,139	\$ 1,620,139	\$ 1,620,139	\$ 3,567,139
Sick/Vacation/Bonus Reserve	584,523	602,059	620,120	638,724	657,886	677,622	697,951	718,890
Pay Period 27 Reserve	103,480	142,480	181,480	220,480	259,480	298,480	337,480	376,480
Operating Reserve	2,405,500	2,527,869	2,597,406	2,679,875	2,765,044	2,853,007	2,943,858	3,037,698
Capital Reserve	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
Total Reserves	\$ 4,263,642	\$ 4,442,547	\$ 5,519,146	\$ 5,659,218	\$ 5,802,549	\$ 5,949,248	\$ 6,099,428	\$ 8,200,206
Ending Fund Balance After Reserves	\$ 8,189,366	\$ 4,488,811	\$ 1,919,409	\$ 1,498,046	\$ 555,347	\$ 1,206,684	\$ 1,844,233	\$ 946,194

Note:

Operating reserve levels are based on industry standards and are maintained for revenue bonds, revenue fluctuations (weather and water usage impacts) and the capital intensive nature of the utility.

**CITY OF BOULDER
2015 FUND FINANCIAL**

STORMWATER/FLOOD MANAGEMENT UTILITY

	2013 Actual	2014 Revised	2015 Projected	2016 Projected	2017 Projected	2018 Projected	2019 Projected	2020 Projected
Beginning Fund Balance	\$ 15,373,639	\$ 16,246,356	\$ 2,631,838	\$ 12,160,312	\$ 9,085,433	\$ 7,046,865	\$ 6,075,379	\$ 6,552,548
Sources of Funds								
Operating-								
Service Charge Fees	\$ 5,505,792	\$ 5,157,008	\$ 5,322,342	\$ 9,119,407	\$ 9,411,775	\$ 9,713,517	\$ 10,024,932	\$ 10,346,332
Projected Rate Increases	-	154,710	3,778,863	273,582	282,353	291,406	300,748	310,390
TOTAL OPERATING SOURCES OF FUNDS	5,505,792	5,311,719	9,101,205	9,392,989	9,694,129	10,004,922	10,325,680	10,656,722
Non-Operating--								
Plant Investment Fees	591,301	400,000	400,000	400,000	400,000	400,000	400,000	400,000
Urban Drainage District Funds	-	2,003,164	267,500	170,000	500,000	412,000	424,360	437,091
State and Federal Grants	-	2,900,000	5,850,000	-	-	-	-	-
Interest on Investments	102,124	406,159	39,478	243,206	227,136	211,406	182,261	196,576
Intergovernmental Transfers (KICP Program)	120,406	159,135	163,909	168,826	173,891	179,108	184,481	190,016
Rent and other miscellaneous revenue	89,439	40,000	40,000	40,000	5,000	5,000	5,000	5,000
Sale of Real Estate - Yards Masterplan	-	-	357,375	-	-	-	-	-
Projected Bonds	-	-	16,075,000	-	-	10,150,000	-	-
TOTAL NON-OPERATING SOURCES OF FUNDS	\$903,270	\$5,908,458	\$23,193,262	\$1,022,033	\$1,306,027	\$11,357,514	\$1,196,102	\$1,228,683
Total Sources of Funds	\$ 6,409,062	\$ 11,220,176	\$ 32,294,466	\$10,415,022	\$ 11,000,156	\$ 21,362,436	\$ 11,521,783	\$ 11,885,404
Uses of Funds								
Operating-								
Administration	\$ 402,081	\$ 400,927	\$ 423,856	\$ 436,572	\$ 449,669	\$ 463,159	\$ 477,054	\$ 491,365
Planning and Project Management	1,088,823	1,082,866	1,177,755	1,213,088	1,249,480	1,286,965	1,325,574	1,365,341
Stormwater Contract Management	44,444	49,442	49,442	50,925	52,453	54,027	55,647	57,317
Stormwater Quality and Education	840,989	953,534	929,386	957,268	985,986	1,015,565	1,046,032	1,077,413
System Maintenance	830,109	817,412	813,474	837,878	863,015	888,905	915,572	943,039
Sick/Vacation Accrual	(13,064)	50,000	50,000	51,500	53,045	54,636	56,275	57,964
Refunding of the Goose Creek 1998 Revenue Bond	391,542	384,042	387,038	381,675	386,138	380,175	-	-
Projected Bond - South Boulder Creek	-	-	-	-	-	950,000	950,000	950,000
Projected Bond - Wonderland Creek	-	-	1,302,310	1,302,310	1,302,310	1,302,310	1,302,310	1,302,310
Cost Allocation	211,245	219,451	219,451	230,424	241,945	254,042	266,744	280,081
Planning & Development Services	124,768	128,511	128,511	132,366	136,337	140,427	144,640	148,979
General Fund - Utilities Attorney	10,631	17,629	10,746	11,176	11,623	12,088	12,571	12,948
Capital	\$1,591,713	9,821,500	\$3,540,500	7,936,220	7,359,769	\$5,436,260	4,548,469	\$5,987,252
Projected Bond - South Boulder Creek	-	-	-	-	-	10,000,000	-	\$0
Projected Bond - Wonderland Creek	-	-	\$13,708,524	-	-	-	-	-
Projected Bond Issuance Costs	-	\$0	\$75,000	-	-	150,000	-	-
Encumbrances, Carryover and Adjustments to Base	-	10,959,380	-	-	-	-	-	-
Total Uses of Funds	\$ 5,523,281	\$ 24,884,694	\$ 22,815,993	\$ 13,541,401	\$ 13,091,769	\$ 22,388,558	\$ 11,100,889	\$ 12,674,010

**CITY OF BOULDER
2015 FUND FINANCIAL**

STORMWATER/FLOOD MANAGEMENT UTILITY

	2013 Actual	2014 Revised	2015 Projected	2016 Projected	2017 Projected	2018 Projected	2019 Projected	2020 Projected
Sick and Vacation Accrual Adjustment	\$ (13,064)	\$ 50,000	\$ 50,000	\$ 51,500	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964
Ending Fund Balance Before Reserves	\$ 16,246,356	\$ 2,631,838	\$ 12,160,312	\$ 9,085,433	\$ 7,046,865	\$ 6,075,379	\$ 6,552,548	\$ 5,821,906
Reserves								
Bond Reserves	\$ 324,984	\$ 324,984	\$ 1,844,984	\$ 1,844,984	\$ 2,282,019	\$ 2,907,035	\$ 2,907,035	\$ 2,907,035
Post Flood Property Acquisition	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000
Sick/Vacation/Bonus Reserve	59,494	61,279	63,117	65,011	66,961	68,970	71,039	73,170
Pay Period 27 Reserve	21,480	34,480	47,480	60,480	73,480	86,480	99,480	113,169
Operating Reserve	885,007	929,943	950,655	980,299	1,010,888	1,042,453	1,075,028	1,108,612
Capital Reserve	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000
Total Reserves	\$ 2,540,964	\$ 2,600,686	\$ 4,156,236	\$ 4,200,774	\$ 4,683,348	\$ 5,354,938	\$ 5,402,581	\$ 5,451,986
Ending Fund Balance After Reserves	\$13,705,392	\$31,152	\$8,004,075	\$4,884,659	\$2,363,517	\$720,441	\$1,149,966	\$369,920

Note:

Operating reserve levels are based on industry standards and are maintained for revenue bonds, revenue fluctuations (weather and water usage impacts) and the capital intensive nature of the utility.

**CIP OVERVIEW OF THE 2015-2020
UTILITIES DIVISION CAPITAL IMPROVEMENT PROGRAM**

Draft 05/12/14

FUNDING OVERVIEW

Each of the city's three utility funds is established as a separate enterprise fund designed to finance and account for each utility's facilities and services. Funding for the Utilities Division capital improvement program is derived primarily from monthly utility fees. The 2015-2020 capital improvement program (CIP) was developed using the following proposed 2014 revenue increases from monthly utility fees:

- Water – 5%
- Wastewater – 10%
- Stormwater/ Flood Management – 71%

Any revenue increases for 2015 will be reviewed by the Water Resources Advisory Board and considered by City Council. Approval of revenue increases that are different from what is listed above may impact the 2015-2020 CIP.

In addition to the monthly utility fees, significant revenue sources include Plant Investment Fees (PIFs) from new development or redevelopment and hydroelectric sales. Sales from monthly utility fees can be variable and reflect the overall growth of the service area and yearly weather fluctuations.

Other revenue sources include reimbursements from the Urban Drainage & Flood Control District (UDFCD), this is for stormwater/ flood management projects), Colorado Department of Transportation (CDOT) state and federal grants, and revolving loans from the Colorado Department of Public Health and Environment (none anticipated at this time). These revenues are project specific and are highly variable depending on the external agency's funding situation and priorities. Currently, the following projects are anticipated to qualify for such revenues:

- Pre-Flood Acquisition
- Wonderland Creek
- Fourmile Canyon Creek
- South Boulder Creek

If the above mentioned funds are insufficient, projects may be funded by issuing revenue bonds with the debt service financed by general utility charges. For the years 2015-2020, it is anticipated that new bonds will be issued for the following projects:

Water:

1. Betasso Water Treatment Plant Improvements (\$12 million in 2016) to fund improvements to maintain compliance with federal Safe Drinking Water Act regulations

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2. Southern Water Supply Pipeline II (Carter Lake Pipeline) (\$33.9 million in 2018)
3. Barker Dam Improvements (\$8 million in 2019) to fund repairs to the outlet works

Wastewater:

1. Wastewater Interceptor Improvements (\$10 million in 2015) to replace and rehabilitate sections of the reinforced concrete pipe (RCP) sewer
2. WWTF Improvements (\$18.5 million in 2020) to fund phosphorus treatment to meet Regulation 85 requirements

Stormwater and Flood Management:

1. Wonderland Creek project (\$16 million in 2015)
2. South Boulder Creek Improvements (\$10 million in 2018) to fund improvements designed to mitigate flood hazards in the South Boulder Creek West Valley area

The following table summarizes the debt obligations of the utilities, the year the debt is retired and the average annual debt payment. Items shown in italics are projects that are anticipated to be funded by issuing bonds.

Table 5 – Debt Obligations

Utility	Projects	Year Debt is Retired	Approximate Annual Debt Payment
Water	Boulder Reservoir WTF Improvements	2016	\$858,000
	Multiple Projects including Silver Lake Pipeline, Barker Purchase	2019	\$2,522,000
	Lakewood Pipeline	2021	\$2,066,000
	<i>Betasso WTP Imp. (2016)</i>	<i>2036</i>	<i>\$1,140,000</i>
	<i>Carter Lake Pipeline (2018)</i>	<i>2038</i>	<i>\$3,224,000</i>
	<i>Barker Dam Improvements (2019)</i>	<i>2039</i>	<i>\$763,244</i>
Wastewater	WWTP Improvements	2025	\$3,500,000
	WWTP Improvements	2030	\$674,000
	<i>WWTP Improvements – Reg 85 (2020)</i>	2040	\$1,757,500
Storm/Flood	Multiple projects including Goose Creek Improvements	2018	\$385,000
	<i>Wonderland Creek Imp. (2015)</i>	<i>2035</i>	<i>\$1,520,000</i>
	<i>South Boulder Creek Imp. (2017)</i>	<i>2037</i>	<i>\$437,000</i>

The Water Utility also pays a portion of the Northern Colorado Water Conservancy District’s debt related to the Windy Gap project. This debt will be retired in 2017 and Boulder’s annual debt payment is approximately \$1,650,000.

The utility continues to maintain a high credit rating, most recently Aa1 from Moody’s and AAA

from Standard and Poor's. This is due to sound financial practices, one of the most important of which is maintaining sufficient reserves.

ACCOMPLISHMENTS AND HIGHLIGHTS

September 2013 Flood Disaster

The 2013 flood disaster significantly affected the city's utilities system and the city's finances. City utility funds have been used to fund recovery efforts and the following is a summary of current and anticipated expenses:

Water Utility	\$ 1.5 million
Wastewater Utility	\$ 1.5 million
Stormwater and Flood Management Utility	\$ 7.8 million

It is anticipated that 75% of eligible costs will eventually be reimbursed by FEMA. There is a possibility that an additional 12.5% of eligible costs may be reimbursed if the State of Colorado appropriates funds for this purpose. To be eligible for reimbursement the work must meet certain criteria established by FEMA and be completed within 18 months of the disaster declaration. Eligible costs are uncertain and are currently estimated to be 80-90 percent of actual costs. The timing of the reimbursement is unknown and may occur over a period of 1-3 years.

The flood disaster also highlighted certain vulnerabilities in the city's utility infrastructure. Although the water system infrastructure performed admirably and sustained minimal damage, the sanitary sewer, storm water and major drainageway systems were overwhelmed by rain of up to 18 inches in a relatively short period of time and resulting runoff, groundwater infiltration and inflow to the city's open channel and pipe conveyance systems. City staff is in the process of identifying and quantifying the disaster impacts and has developed a preliminary budget that contemplates additional work to make the infrastructure more robust and mitigate future rainfall/runoff event impacts. New projects have been identified or funding increased for mitigation projects including:

Wastewater Utility:

- September 2013 Flood Disaster Recovery
- Collection System Monitoring
- Condition Assessment Program
- Sanitary Sewer Rehabilitation
- Sanitary Sewer Manhole Rehabilitation
- IBM Pump Station
- Digester Complex Improvements

Stormwater and Flood Management Utility:

- September 2013 Flood Disaster Recovery
- South Boulder Creek
- Skunk Creek
- Twomile Canyon Creek
- Bluebell Canyon Creek – King’s Gulch
- Fourmile Canyon Creek
- Bear Canyon Creek
- Gregory Canyon Creek
- Boulder Creek
- Wonderland Creek
- Local Drainage Improvements
- Storm Sewer Rehabilitation
- Transportation Coordination

Water Utility

In addition to the September 2013 flood disaster there have been several developments over the past year that should be considered in formulating the Water Utility CIP. These developments are discussed and addressed below under the Highlights of 2015-2020 Projects section.

2013 Accomplishments

1. Over 18,000 feet of old deteriorated water pipe was replaced. Pipe is being systematically replaced based on information from the asset management system that considers factors such as pipe age, material, break history, type of break, diameter, system pressure and soil type.
2. The walls of Kohler Reservoir were replaced and work completed in the summer of 2013.
3. A construction contract for the Boulder Canyon Hydroelectric Modernization Project was executed in 2011 and work has now been completed with power generation through a revised PPA with Tri-State since June 2013.
4. One of the lower gates, Gate No. 8, on Barker Dam was successfully tested with placement of a temporary bulkhead which allowed operational testing without risk of an uncontrolled draining of the reservoir to that level. Gates No. 1 through Gate No. 8 were also inspected with the use of an underwater diving contractor and appear to be in operational condition.
5. Three Boulder Creek transmission line water crossings were replaced in Boulder Canyon.
6. A permit for the Carter Lake Pipeline was secured from Boulder County and the pipeline ROW along the existing pipe alignment was purchased. An agreement with Northern Water provides for the preliminary design and ROW acquisition along the designated and permitted alignment in Boulder County.

7. Studies were started and continued at Betasso to inform the upcoming Capital Improvement Project.

Projects Anticipated for Completion in 2014

1. Phase 1 of the Sunshine Pipeline inspection and replacement
2. Kossler Reservoir Concrete Facing Rehabilitation
3. Barker Gravity Pipeline Repairs – ongoing repairs in order of priority and availability
4. Barker Dam Outlet Gate Test – ongoing plan to test / inspect gates as reservoir level allows
5. Green Lake No. 2 Assessment and Rehabilitation Study
6. Albion Dam Assessment and Rehabilitation Alternatives Study
7. Replacement of approximately 20,000 feet of water main
8. Mixing improvements at Devil’s Thumb storage tank
9. Gunbarrel Tank painting and structural steel rehabilitation
10. Boulder Reservoir Water Treatment Facility Post Filter Mixing Improvements
11. Betasso Residuals Study and Filter Analysis

Highlights of 2015-2020 Projects

1. Annual funding for waterline replacement of \$3,000,000 (2014 dollars) is proposed in order to provide for the replacement of additional waterlines located in residential streets scheduled to be reconstructed by the city’s Transportation Division as part of the Capital Investment Bond Program. Completing water main replacement just ahead of street resurfacing results in significant savings since pavement restoration costs can be eliminated. Coordination also reduces the risk that the useful life of a newly reconstructed street will be impacted by a main break.
2. It is recommended that the city continue its annual maintenance program of the Barker Gravity Line by prioritizing pipeline repair projects based on the most critical needs, providing enough earthen cover to protect the pipeline, and anchoring the pipeline in areas prone to landslides. Replacement or lining of pipe sections are options that may be used in different parts of the pipeline.
3. It is recommended that capital funding be allocated in the 2015-2016 time period to address issues related to aging equipment and underperforming treatment processes at the Betasso Water Treatment Facility.
4. Funding for the final design of the Carter Lake Pipeline is identified in 2017 and construction is identified in 2018. Project costs were updated with a new construction estimate provided by Northern in 2014 and forecasted costs have increased. The pipeline is considered the best long-term solution to water quality, operational and security vulnerability issues related to drawing water directly from either the Boulder Feeder Canal or Boulder Reservoir. The recent disaster event revealed that the pipeline could also mitigate the potential for future problems in delivering water from the Boulder

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Reservoir WTP during future disaster events. The pipeline would potentially provide an opportunity to develop a new hydroelectric facility and funding for construction of this facility is allocated in 2020.

5. The Barker Dam outlet facilities are over 100-years old and in need of significant rehabilitation. As a result of the successful testing and operation of the existing outlet gates as described above, funding has been delayed by 1 year for final design (now 2018) and construction (now 2019) of the rehabilitation project. The outlet facilities would also provide an opportunity to develop a new hydroelectric facility and funding for construction of this facility is allocated in 2020.
6. The 2014-2015 assessment of rehabilitation options for Green Lake No. 2 and Albion dams will confirm the path forward on re-establishing operational levels of storage on these dams. Construction funding of these projects is not shown in the 2015-2020 CIP at this time because of the unknown results of the assessment and cost/benefit of associated improvements.
7. Funding for treated water transmission infrastructure includes both assessment and replacement of critical pressure zone 3 pipes. During the summer of 2013 several transmission mains experienced failures that were repaired and revealed the need to replace certain pipe segments sooner than anticipated.

Wastewater Utility

Impacts of the September 2013 flood disaster are the primary drivers of changes being considered in the Wastewater Utility CIP.

2013 Accomplishments

1. Utilities completed a major rehabilitation/improvement project at the 75th Street Wastewater Treatment Facility (WWTF). The project involved significant upgrades to the headworks facility and the digester complex, as well as the construction of a new UV Disinfection system to replace the existing chlorine gas and sulfur dioxide systems.
2. A new discharge permit was issued to the City by the State of Colorado in May 2011 which included more restrictive effluent limits for various water quality parameters including nitrogen and ammonia. In 2012, City staff commissioned an engineering analysis called the Nutrient Compliance Study (NCS) which was completed in December 2012. The NCS included a list of recommendations and associated costs for additional capital projects to be completed to improve the WWTF capability to meet the new regulations. For more information and next steps, see the highlights section below.
3. Utilities received a \$1,080,000 grant from CDPHE to help fund the planning, design and construction of WWTF facility improvements to meet more stringent nutrient effluent discharge requirements. The \$80,000 planning component is being used for facility optimization and to evaluate the need for supplemental carbon addition facilities. The

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\$1,000,000 design and construction component will be used to help fund the Nitrogen Upgrades project.

4. Utilities completed a Process Automation System (PAS) Strategic Plan to address instrumentation and control (I&C) upgrades at the WWTF. The PAS plan identified approximately \$6,000,000 in improvements that will be completed over the next 10 years. These improvements include various software and hardware upgrades to replace aging and antiquated systems and equipment.
5. An inflow and infiltration (I&I) study of the wastewater collection system tributary to the IBM Lift Station was completed in 2012. The purpose of this study was to quantify the rainfall induced I&I component entering the wastewater collection system. This I&I study was scheduled in preparation for the design and construction improvements at the lift station which will be necessary to meet the CDPHE permit regulations.
6. Following the September 2013 flood, staff initiated an assessment of the wastewater collection system infrastructure. During the flood, the existing sewer system was overwhelmed by surface inflows, groundwater infiltration and illegal basement dewatering systems. Utilities maintenance crews and private contractors performed pumping and debris removal that relieved sewer backups in some areas but provided little relief in other areas.

Projects Anticipated for Completion in 2014

1. IBM Lift Station Design Improvements
2. Nitrogen Upgrades Design Improvements
3. WWTF Process Automation System (PAS) recommendations implementation
4. Wastewater collection system condition assessment and debris removal
5. Wastewater Collection System Master Plan (WWCSMP) Update - to integrate flood inundation data from the 2013 flood event.
6. Wastewater Interceptor Evaluation

Highlights of 2015-2020 Projects

1. Staff recommends a more robust wastewater collection system condition assessment program and has including preliminary funding in the 2015-2020 CIP. The condition assessment may reveal additional rehabilitation needs that are not fully anticipated in this preliminary budget.
2. Increased funding for the annual Sanitary Sewer Rehabilitation project is being considered at a base rate of \$750,000 per year in 2014 dollars escalating at 4% annually.. Increased funding for Sanitary Sewer Manhole Rehabilitation project is also being considered.

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3. The city received a new discharge permit for the 75th Street wastewater treatment facility (WWTF) with an effective date of May 1, 2011. The City has begun a Nitrogen Upgrades design project that will be completed this year for submittal to CDPHE. This project will include improvements to meet new permit regulations for new total inorganic nitrogen (TIN) and daily maximum ammonia limits. This project's construction cost is estimated at \$4,000,000 and will be completed in 2016.
4. New CDPHE regulations concerning nutrient criteria, specifically Regulation 85 and Regulation 31, were adopted by the Colorado Department of Public Health and Environment (CDPHE) in March 2012. The criteria will pose serious treatment challenges for the WWTF and will have significant financial impacts. City staff has estimated approximately \$18.5 million of funding in 2020 to address the phosphorus treatment improvements required to address Regulation 85. Regulation 31 contains much more stringent provisions and funding for this regulation is identified in the 20-year CIP with \$11 million in 2029.
5. The Process Automation System (PAS) Strategic Plan, which was completed in 2013, included approximately \$6,000,000 in instrumentation and controls (I&C) recommendations to be completed at the WWTF. Funding for these improvements is estimated at \$600,000 per year (escalated at 4% annually) for the next 10 years.
6. Additional funding for construction of overflow improvements at the IBM lift station necessary to meet the CDPHE permit regulations will be completed in 2015.
7. Wastewater Interceptor Replacement/Rehabilitation - Bond Project. Utilities staff has identified the need for a \$10,000,000 bond in the 2015-2020 CIP to fund improvements to the City's largest sanitary sewer interceptor. In 2014, City staff hired Redzone Robotics to perform a condition assessment of 31,000 feet of the interceptor. Initial data received from the contractor indicate that sections of the interceptor have experienced significant internal corrosion and that the sewer is at risk of failure and potential collapse. Utilities staff will begin an evaluation in 2015 to identify the project's magnitude and schedule.
8. Digester Complex Improvements. The secondary digester cover has failed on numerous occasions. This failure occurs when moisture gets inside the roof and causes an imbalance in the roof structure, and the cover tips rendering it inoperable. When this occurs, the facility must be taken off-line, emptied, cleaned and repaired. Utilities staff has identified a project to replace the secondary digester cover in the 2015-2020 CIP. The estimated construction cost is \$2,000,000, with \$200,000 identified for the design in 2019.
9. A comprehensive list of WWTF rehabilitation projects has been identified from the Wastewater Utility Fund Asset Management tool, and included in the 20-year CIP based on staff input, engineering studies and the asset management database. For the current 6-

year CIP, funding for the rehabilitation projects has been allocated to various WWTF components as shown in the detailed CIP list.

Stormwater and Flood Management Utility

Based on analysis of the September 2013 event, the majority of the disaster impacts were related to the event exceeding the capacity of existing stormwater infrastructure. Similar to the Wastewater Utility, the impacts of the September 2013 flood disaster are the primary drivers of changes being considered in the Stormwater and Flood Management Utility CIP. More information will be made available in the near future and staff plans to refine these preliminary recommendations based on this information during this budget process.

Besides the significant direct flood recovery costs that have been and will need to be absorbed, significant additional mitigation project work has been identified as discussed and addressed below under the Highlights of 2015-2020 Projects section. Mitigation of flood hazards along major drainageways has been the major thrust of the city's Stormwater and Flood Management utility for the last three decades. City of Boulder residents and businesses pay nearly \$3M in total annual flood insurance premiums. Investment in flood mitigation serves to reduce the associated risks and costs.

2013 Accomplishments

1. Following the September 2013 flood, staff completed an assessment of the drainage infrastructure along all of the major drainageways. Flood recovery efforts for sediment and debris removal and infrastructure repair were bid in early 2014. Emergency channel repair work and sediment removal were completed along Twomile Canyon Creek, Wonderland Creek and Boulder Creek immediately after the flood, in conjunction with the Urban Drainage and Flood Control District. A post-flood evaluation of the Fourmile Canyon Creek and Wonderland Creek flood mapping study was initiated to confirm the adopted mapping.
2. A flood mapping update for Boulder Creek was submitted to FEMA in 2013.
3. A Multi-hazard Mitigation Plan was approved by City Council in April, 2013.
4. High resolution LiDAR (light and radar) data was collected in the spring of 2013 to update the city's topographic and GIS data. The updated mapping will be available in 2014.
5. Flood mapping updates are currently underway for Skunk Creek, Bluebell Creek, King's Gulch, Upper Goose Creek, Twomile Creek, Boulder Slough and lower Bear Canyon Creek. Preliminary information from the Upper Goose Creek and Twomile Canyon Creek Flood Mapping Study was presented to WRAB in May 2013. As these mapping updates progress, they will be presented to WRAB during 2014. Once they have been adopted, flood mitigation plans will be developed to evaluate feasible capital improvements for reducing the flood risk along these creeks and tributaries.

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6. Significant progress was made on the design of the Wonderland Creek Greenways and Flood improvement projects (Foothills to 30th and 30th to Winding Trail).

Projects Completed or Anticipated for Completion in 2014

1. A flood mitigation planning study for Boulder Creek, Gregory Creek and Bear Canyon Creek is currently being initiated in conjunction with the Urban Drainage and Flood Control District. This plan will identify feasible flood improvement projects along these drainageways.
2. It is anticipated that the following mapping studies will be completed in 2014: Upper Goose Creek, Twomile Canyon Creek, Skunk Creek, Bluebell Creek and King's Gulch, Boulder Slough and the Bear Canyon Creek/Harrison Avenue levee.
3. The South Boulder Creek Flood Mitigation Plan is anticipated to be completed in 2014.
4. Utilities will complete a brief update to the 2007 Stormwater Master Plan (SMP) to integrate flood inundation data from the 2013 flood event.

Highlights of 2015-2020 Projects

1. Flood mitigation improvements in the near term focus on Wonderland and Fourmile Canyon Creeks. The Wonderland Creek Foothills to 30th Street project is proposed to implement flood mitigation measures along Wonderland Creek from just upstream of Iris Avenue to Foothills Parkway and extend the multi-use trail from Foothills Parkway to the intersection of Iris Avenue and 30th Street. This project will include a bicycle and pedestrian underpass under the Burlington Northern Railroad. The Wonderland Creek at 28th Street project (Diagonal to Winding Trail) is the next upstream reach and will also include flood mitigation and path improvements, including bicycle and pedestrian underpasses at 28th Street and Kalmia Avenue. Funding for the construction of these improvements is proposed to be bonded in 2015, based on the current total estimated cost assuming the additional \$2.9 million received through the Transportation Improvement Program (TIP). Funds originally budgeted for this project have been reprioritized to address immediate flood recovery expenses.
2. Improvements along Fourmile Canyon Creek, 19th to 22nd Streets include 100 year flood mitigation at 19th Street, a multi-use path and an emergency access connection from 19th Street to Tamarack Avenue and a bicycle and pedestrian underpass at 19th Street. Funding is shown for additional improvements along Fourmile Canyon Creek between Upland and Violet in outlying years.
3. Funding is shown in 2015 for design of improvements along South Boulder Creek, Bear Canyon Creek, Gregory Creek and Boulder Creek and will be based on the recommendations of the mitigation planning studies. Funding is shown for construction of these improvements starting in 2016, with bond money shown in 2018 for South

Boulder Creek.

4. Funding for design of capital improvements along Skunk, Bluebell, King's Gulch, Twomile and Upper Goose Creeks is shown starting in 2017 and will be based on the updated mapping and a mitigation planning effort.
5. Funding for the design and construction of localized drainage improvements throughout the city. These improvements include storm water collection and conveyance facilities designed to address the 2-year and 5-year storm events.

RELATIONSHIP TO GUIDING PRINCIPLES AND PRIORITIZATION

CIP Guiding Principles

The proposed Utilities Division CIP is consistent with these guiding principles in that 1) all projects (except those noted below) have been identified and prioritized through Council accepted master plans 2) capital improvements are designed to achieve community sustainability goals, 3) funds to operate and maintain the project or program have been identified, 4) adequate financial capacity and flexibility is available to respond to emerging, unanticipated needs (except for the WWTP permit issue identified below, 5) the maintenance and enhancement of city-wide business systems is captured elsewhere in the CIP, 6) projects sustain or improve maintenance of existing assets before investing in new assets, 7) project have been identified to meet legal mandates, maintain public safety and security, leverage external investments, promote community partnerships, reduce operating cost and improve efficiency, 8) capital projects have been screened through a cost/benefit analysis, 9) the CIP provides sufficient reserves to allow for a strong bond rating and the ability to address emergencies and natural disasters.

The projects identified in the 2015-2020 CIP are intended to implement these guiding principles and are consistent with the department master plans identified below.

In 2002 it was decided to develop an overarching master plan for each of the City's three utilities. More detailed plans have been developed for major functional areas. Recent master plans include recommendations for CIP projects over a 20-year time period. The project recommendations consider the prioritization listed below as well as information from the Utilities Division asset management system. This system includes replacement cost, useful life and condition rating which have been documented for each significant utility asset. This information informs the six-year CIP.

Current Utilities Division master plans include:

Water

- Source Water Master Plan – 2009
- Treated Water Master Plan (TWMP) – 2011
- Water Utility Master Plan (WUMP) – 2011

Wastewater

- Wastewater Collection System Master Plan - 2010
- Wastewater Utility Master Plan - 2010

Stormwater/ Flood Management

- Stormwater Master Plan -2007
- Comprehensive Flood and Stormwater (CFS) Master Plan - 2004

Prioritization

The overall program and funding priorities are reflected in the timing of projects over the six-year CIP time period. In addition to master plan recommendations, the following factors were considered in determining the overall program and funding priorities:

Water and Wastewater

- Reliability of water and wastewater collection, delivery and treatment
- Water quality and other environmental regulations
- Worker health and safety
- Opportunity to collaborate with other city projects, such as transportation
- Opportunity to collaborate with other utility providers to leverage funds or obtain federal or state grants
- Potential for operation and maintenance cost savings
- Accommodating new growth and development

Stormwater and Flood Management

- Life safety (high hazard) mitigation
- Flood emergency response capability
- Critical facility (vulnerable population) hazard mitigation
- Property damage mitigation
- Collaboration with other Greenways Program Objectives
- Potential for operation and maintenance cost savings
- Accommodating new growth and development

Within current appropriations all projects proposed have sufficient funds for ongoing operations and maintenance, and 90% of the Water Utility and Wastewater Utility projects are focused on maintaining or improving existing assets. Other Water and Wastewater Utility projects are intended to construct facilities required to comply with new regulations. In the Stormwater and Flood Management Utility, the majority of the project funding is focused on life safety and critical facility hazard mitigation issues.

Projects Not in Master Plans

Most Utilities Division projects in the 2015-2020 CIP have been previously identified in associated master plans. However, several projects have been added based on information gleaned from the September 2013 flood disaster.

NEW PROJECTS

The following new projects have been identified in the 6-year CIP:

Water

- Devil's Thumb Storage Tank
- Sunshine Transmission Pipe
- Silver Lake Dam
- Goose Lake Dam
- Silver Lake Hydroelectric/PRV
- Water System Security/Quality Improvements

Wastewater Utility

- WWTP Nutrient Management Grant
- Condition Assessment Program

Stormwater and Flood Management Utility

- Skunk Creek
- Twomile Canyon Creek
- Bluebell Canyon Creek – King's Gulch
- Bear Canyon Creek
- Gregory Canyon Creek
- Boulder Creek
- Local Drainage Improvements

OPERATIONS AND MAINTENANCE IMPACTS

The majority of the utilities expenditures are for rehabilitating and improving the capital infrastructure either through the capital improvements program (cash financed) or through annual debt payments for revenue bonds that have been issued to fund capital improvements. The infrastructure is core in carrying out the utilities' mission of delivering safe and reliable water to our customers, ensuring that water is available for fire protection, conveying and treating wastewater and stormwater and mitigating the effects of flood events. Rehabilitating and improving the capital infrastructure reduces the need to react to failures, associated expense and disruption to customers and the community.

It should be noted that the proposed CIP assumes funding for the replacement/rehabilitation of existing Utilities assets at a level of 75% of the predicted rate based on a recent asset management analysis. Staff believes this will be adequate and sustainable since renewal and rehabilitation techniques and approaches can be accomplished at a lower cost than complete replacement.

The proposed CIP budget should be adequate to address essential projects within the six-year

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planning time frame. The delays in the projects listed above are not expected to have a significant negative effect on the service level of the city’s utilities systems. Therefore there are no unfunded needs identified within the 6-year CIP.

However, to continue to meet capital project needs, including the recommended asset replacement goals of 60-75%, maintain compliance with Federal and State permit regulations and respond to the September 2013 flood disaster, utility rate increases will be needed as indicated in the following table. The preliminary 2015 increases are in bold.

	2014	2015	2016	2017
Water	4%	5%	6%	8%
Wastewater	5%	10%	7%	7%
Stormwater/Flood Management	3%	71%	3%	3%

The revenue increase represents the amount of additional revenue to be generated from the monthly utility charges. The actual rate increase (e.g. \$ per 1,000 gallons) may or may not be equal to the revenue increase depending on whether any changes in consumption or use are factored in when calculating the actual rates. For example, if there were a projected decrease in consumption, in order to generate 4% more revenue from last year’s budget, monthly rates may need to increase greater than 4% to generate the needed revenue requirements.

Staff will continue to monitor and refine the asset replacement analysis and adjust the actual replacement rate within the 60-75 percent range as part of the annual budget process. Asset replacement at 75 percent of the predicted level has been used to formulate the 2015-2020 CIP budget.

Construction Cost Inflation

Construction cost inflation is tracked using the Engineering News Record (ENR) Cost Index for Denver and the Colorado Department of Transportation (CDOT) Colorado Construction Cost Index. The ENR index is a composite index based on costs for: 1) local portland cement, 2) local 2x4 lumber, 3) national structural steel, and 4) local union wages plus fringes for carpenters, bricklayers and iron workers. The CDOT index is a composite index based on costs for 1) unclassified excavation, 2) hot bituminous pavement 3) concrete pavement, 4) structural steel and 5) reinforcing steel. The ENR index is more reflective of equipment and building construction such as projects that occur at the treatment plants. The Colorado Construction Cost Index is more reflective of heavy civil construction such as roadway and major drainageway work. The following table presents information concerning these indices through December 2013:

	2013 Change	Running Average Yearly Change	
		5 years	10 years
ENR Construction Cost Index for	0.48%	3.63%	3.98%

Table 2 – Inflation Indexes

Denver			
CDOT Colorado Construction Cost Index	-12.02%	-2.38%	7.33%

Based on this information it is recommended that capital improvement construction costs continue at a rate of 4% during the planning period. Using an average inflation calculation is in keeping with the principle of consistent rate increases over time rather than periodic large rate increases.

DEFERRED, ELIMINATED OR CHANGED PROJECTS

Funding for several projects have been changed in response to the impact of the September 2013 flood disaster. These changes are noted in red in **Attachment B** - Utilities Division CIP worksheets.

UNFUNDED PROJECTS AND EMERGING NEEDS

The following unfunded projects have been identified:

Water

- Albion Dam – Unfunded
- Wittemyer Ponds - Unfunded
- Boulder Reservoir Water Treatment Facility - Unfunded

Wastewater

- Tier 1 Goose Creek 1/1A Master Plan Project - Unfunded

Stormwater/ Flood Management

- South Boulder Creek Flood Mitigation Phase II

The Utilities Division has developed and maintains a 20-year CIP and associated financial plan. Large Utilities Division projects require many years for planning and a longer term horizon is needed to capture the time period required for overall project implementation. A 20-year plan provides a basis for longer term financial planning that is needed to support decision making regarding project timing, issuance of revenue bonds and rate increases. The above mentioned projects are indicated in the 20-year CIP.

Emerging needs have been identified as part of the recent Water Utility Master Plan. During the development of this master plan, a technical analysis was performed regarding the city's water treatment facilities and other infrastructure. The analysis indicates that this infrastructure should be adequate to meet water demand needs well into the future with little need for capacity expansion. However, a comprehensive analysis of existing assets pointed to the poor condition and aging of some mechanical and electrical equipment at the Betasso Water Treatment Facility. The Betasso Water Treatment Facility is the city's primary Water Treatment Facility and has deteriorated during almost 50 years of continuous operation despite on-going maintenance and rehabilitation. These issues, combined with inherent deficiencies in certain treatment process,

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are the reasons that large capital funding is recommended in 2015-2016.

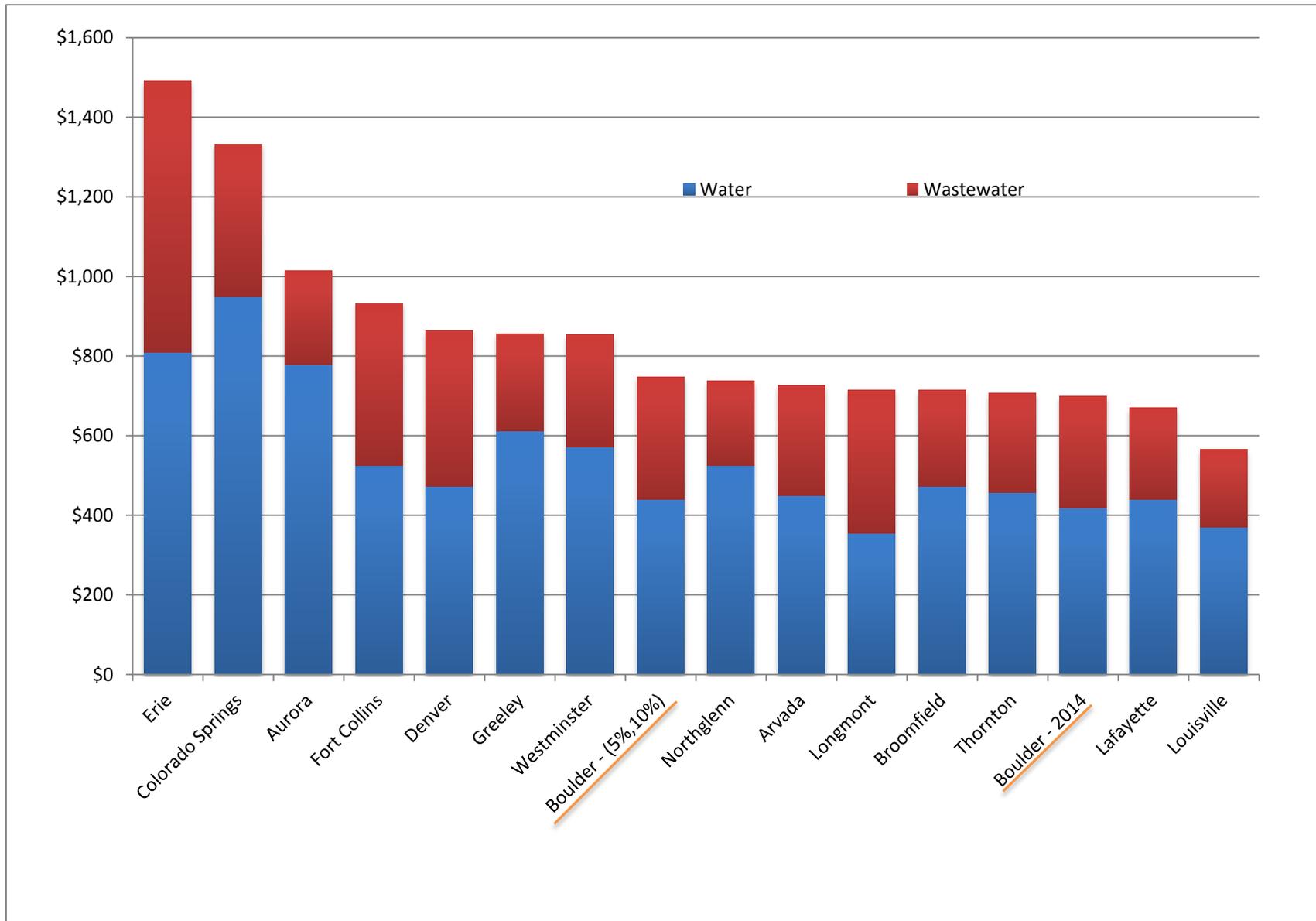
Regulatory changes are another source of uncertainty and create emerging needs. For example, as explained in the Accomplishments and Highlights section of this memo, the city received a new discharge permit for the 75th Street Wastewater Treatment Facility in 2011 with new effluent limits. Complying with these limits will require a combination of regulatory negotiations, environmental studies and Water Treatment Facility capital improvements.

ADVISORY BOARD ACTION

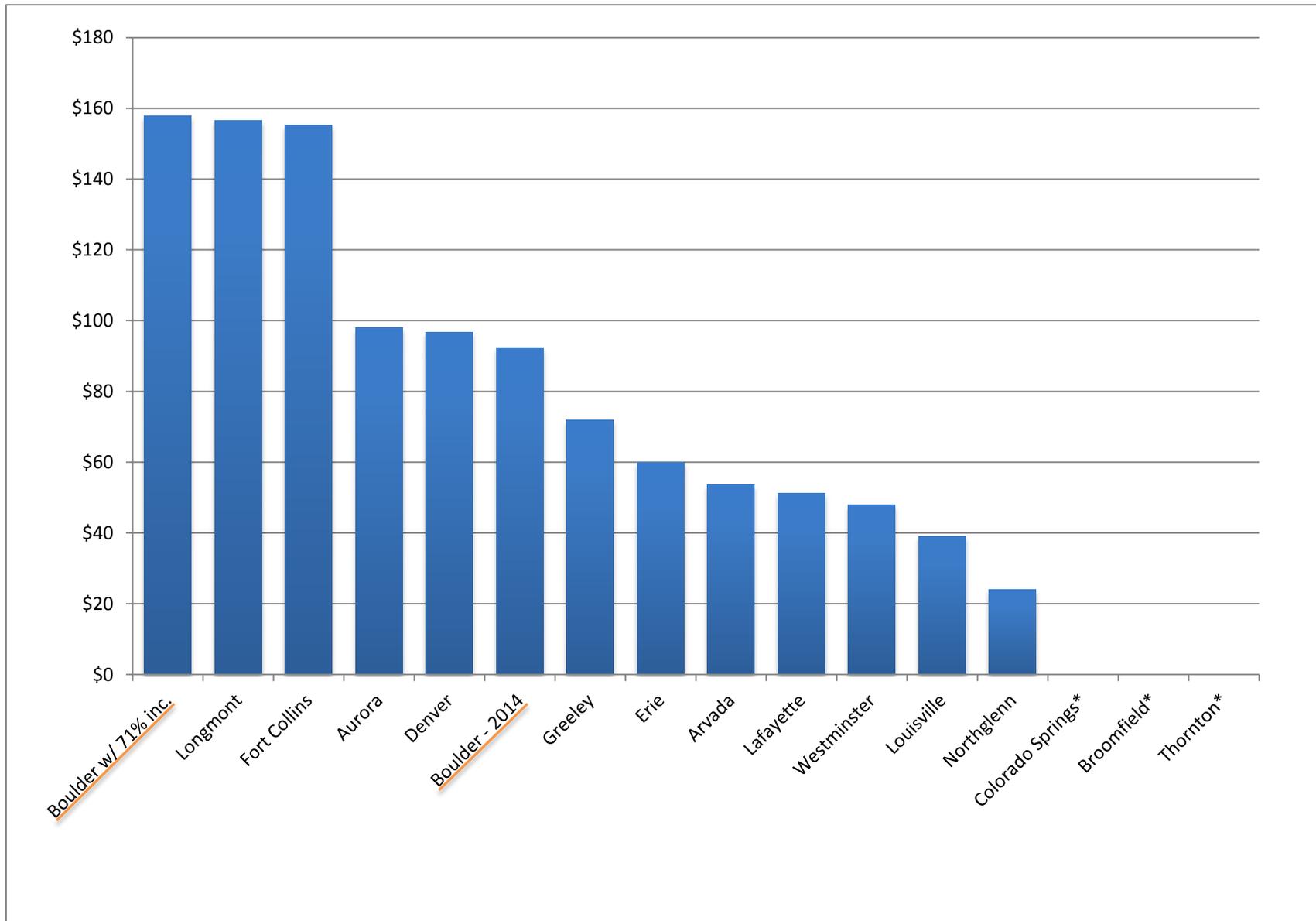
The preliminary 2015 Utilities budget and 2015-2020 CIP was presented to the WRAB on April 21, 2014 as a discussion item.

It is anticipated the WRAB will continue their discussion of the preliminary 2015 Utilities budget and 2015-2020 CIP on May 19, 2014 and provide a recommendation to Planning Board and City Council at the June 16, 2014 meeting.

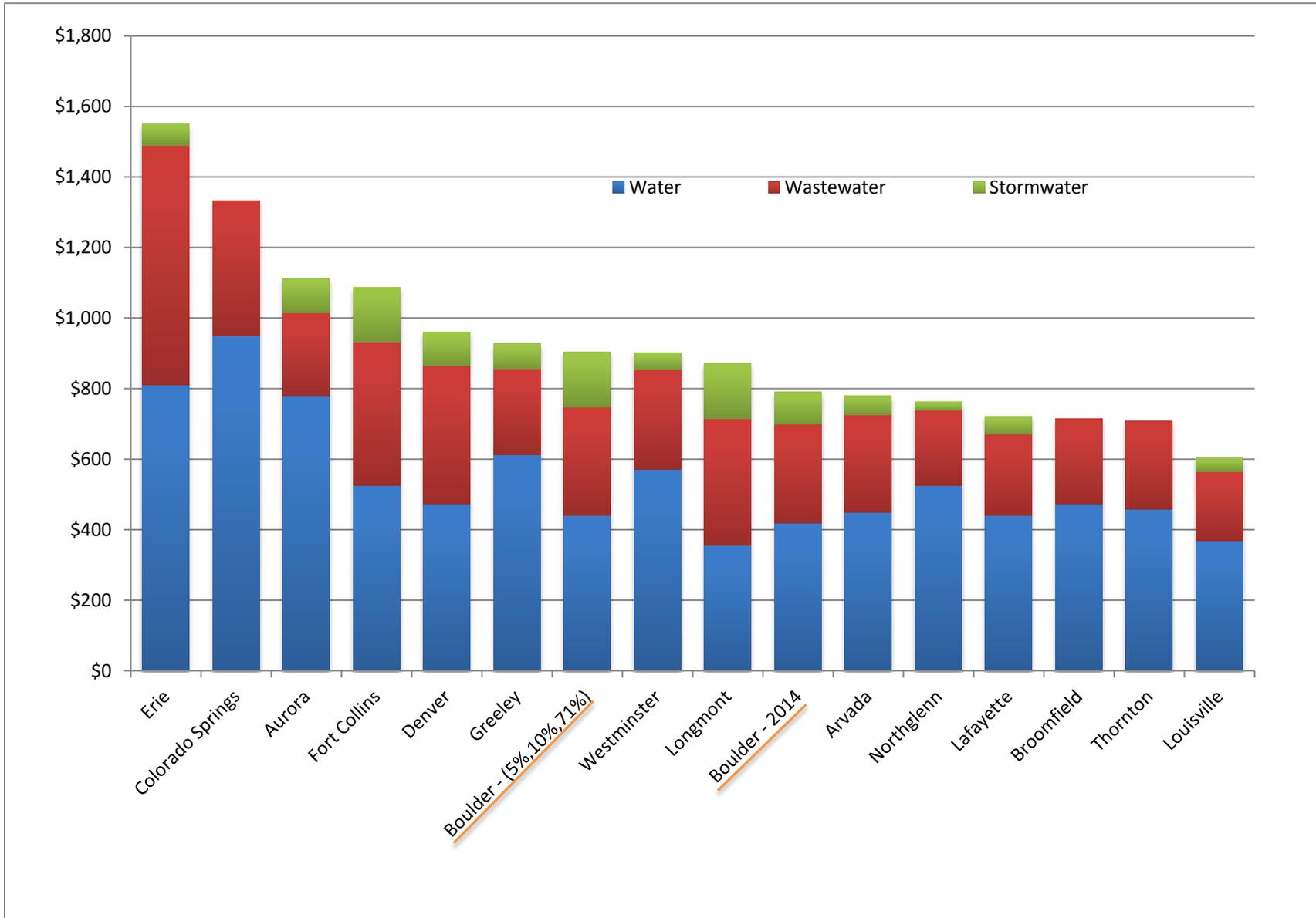
2014 Water and Wastewater Rates



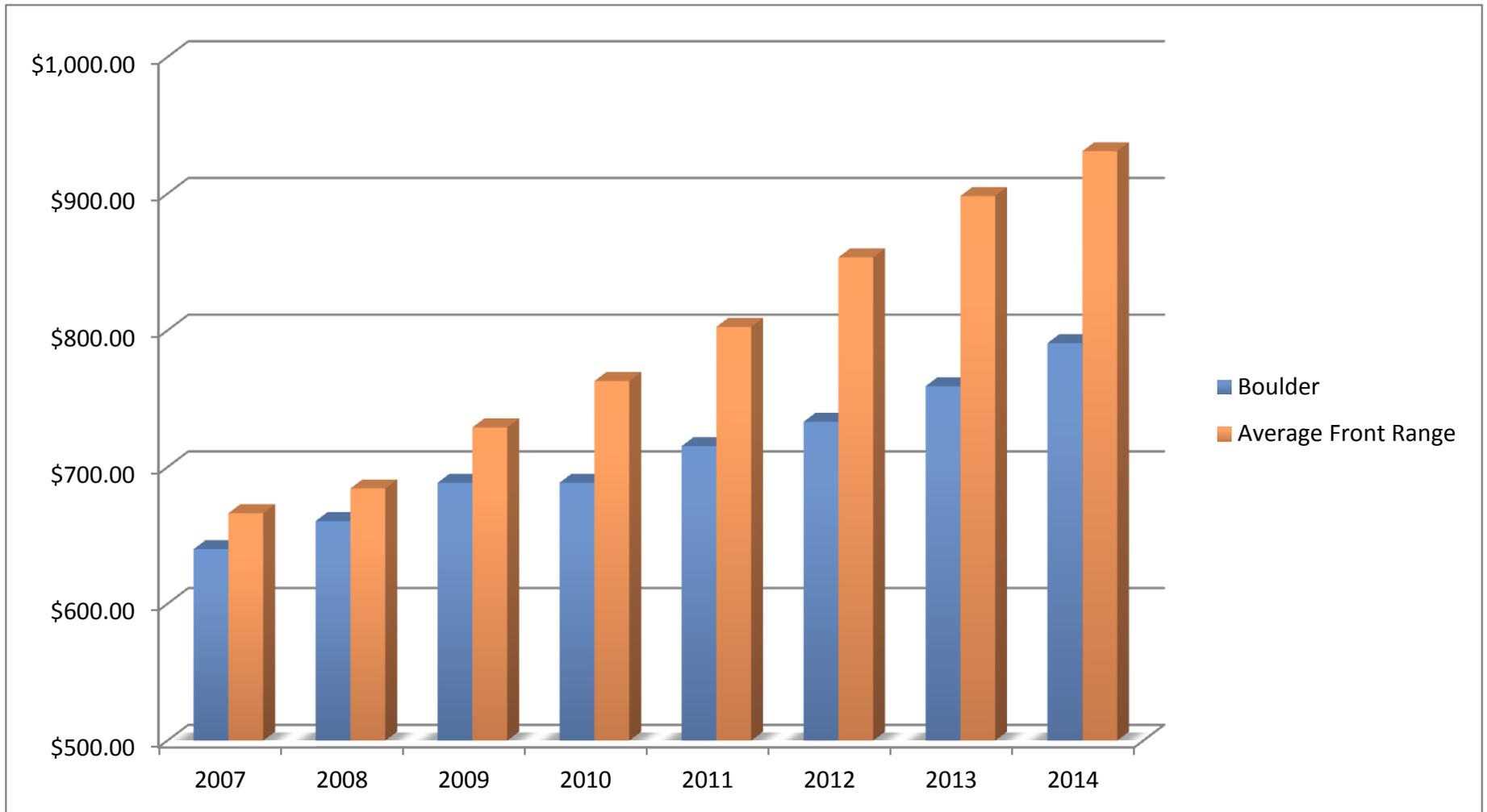
2014 Stormwater Rates



Combined 2014 Utility Rates



Annual Single Family Bill Change



**Attachment G -
Utility CIPs**

	A	B	G	H	I	J	K	L	M	N	
1	12-May-14					CITY OF BOULDER					
2						2014-2019 CAPITAL IMPROVEMENT PROGRAM					
3						WATER UTILITY FUND					
4											
5											
6	Assumed Inflation Rate	4.00%	2013	2014	2015	2016	2017	2018	2019	2020	
7	PROJECT NAME		ACTUAL	REVISED	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED	
8											
9	Treated Water Pressure Reducing and Hydroelectric Facilities										
10	Kohler Hydro/PRV Facility	411376	\$0	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	
11	Maxwell Hydro/PRV Facility	411342	\$0	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	
12	Orodel Hydro/PRV Facility	411331	\$18,860	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
13	Sunshine Hydro/PRV Facility	411347	\$0	\$0	\$0	\$0	\$271,875	\$0	\$0	\$0	
14	Pearl Street Hydro/PRV Facility		\$0	\$0	\$0	\$0	\$0	\$24,333	\$243,331	\$0	
15	Subtotal - Treated Water PRV and Hydro		\$18,860	\$100,000	\$0	\$0	\$271,875	\$24,333	\$243,331	\$0	
16											
17	Water Treatment Facilities										
18	Betasso WTF	411947	\$154,884	\$815,985	\$700,000	\$0	\$0	\$0	\$0	\$0	
19	Betasso WTF - Bond Proceeds		\$0	\$0	\$0	\$12,000,000	\$0	\$0	\$0	\$0	
20	Bond Issuance Costs		\$0	\$0	\$0	\$125,000	\$0	\$350,000	\$100,000	\$0	
21	Boulder Reservoir WTF	411652	\$110,046	\$131,886	\$0	\$164,000	\$0	\$0	\$0	\$0	
22	Boulder Res WTF - Bond Proceeds		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
23	Subtotal - Water Treatment Facilities		\$264,930	\$947,871	\$700,000	\$12,289,000	\$0	\$350,000	\$100,000	\$0	
24											
25	Treated Water Pump Stations										
26	Cherryvale Pump Station	411010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
27	Boulder Reservoir WTF High Service Pump Station	411011	\$0	\$162,800	\$0	\$0	\$0	\$0	\$0	\$0	
28	Iris Pump Stations	411012	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
29	Subtotal - Treated Water Pump Stations		\$0	\$162,800	\$0	\$0	\$0	\$0	\$0	\$0	
30											
31	Treated Water Storage Tanks										
32	Gunbarrel Storage Tank	411670	\$10,968	\$524,830	\$0	\$0	\$0	\$0	\$0	\$0	
33	Maxwell Storage Tank	411673	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
34	Booten Storage Tank		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
35	Devil's Thumb Storage Tank	411674	\$0	\$0	\$50,000	\$0	\$0	\$0	\$0	\$0	
36	Kohler Storage Tank	411671	\$232,724	\$0	\$103,487	\$799,875	\$0	\$0	\$0	\$0	
37	Chautauqua Storage Tank	411672	\$250,118	\$155,219	\$0	\$0	\$0	\$0	\$0	\$0	
38	Betasso Storage Tank		\$0	\$0	\$0	\$0	\$292,465	\$0	\$0	\$0	
39	Boulder Reservoir Storage Tank		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
40	Subtotal - Treated Water Storage Tanks		\$493,811	\$680,049	\$153,487	\$799,875	\$292,465	\$0	\$0	\$0	
41											
42	Treated Water Distribution System										
43	Zone Isolation Valves	411390	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
44	Cathodic Protection	411387	\$7,637	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
45	Waterline Replacement	411389	\$2,396,775	\$3,642,831	\$3,224,000	\$3,352,960	\$3,487,078	\$3,626,562	\$3,771,624	\$3,224,033	
46	Subtotal - Treated Water Distribution System		\$2,404,412	\$3,642,831	\$3,224,000	\$3,352,960	\$3,487,078	\$3,626,562	\$3,771,624	\$3,224,033	
47											
48	Treated Water Transmission System										
49	Sunshine Transmission Pipe	411006	\$21,747	\$978,252	\$1,000,000	\$0	\$0	\$0	\$0	\$0	
50	Boulder Canyon - Orodel to Fourmile Pipe	411007	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
51	Mountain Transmission Pipes	411007	\$69,778	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
52	Zone 1 Transmission Pipes	411002	\$0	\$0	\$0	\$0	\$0	\$250,000	\$0	\$0	
53	Zone 2 Transmission Pipes	411004	\$0	\$0	\$0	\$0	\$250,000	\$0	\$0	\$250,000	
54	Zone 3 Transmission Pipes	411005	\$0	\$0	\$0	\$1,200,000	\$0	\$0	\$250,000	\$0	
55	Subtotal - Treated Water Transmission System		\$91,525	\$978,252	\$1,000,000	\$1,200,000	\$250,000	\$250,000	\$250,000	\$250,000	
56											
57	Source Water Transmission System										
58	Lakewood Pipeline	411780	\$0	\$260,000	\$270,400	\$0	\$0	\$0	\$316,330	\$0	
59	Silver Lake Pipeline	411640	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
60	Source Water Transmission Pipe Inspections	411775	\$6,347	\$73,653	\$0	\$0	\$0	\$0	\$0	\$0	
61	Subtotal - Source Water Transmission System		\$6,347	\$333,653	\$270,400	\$0	\$0	\$0	\$316,330	\$0	
62											
63	Barker Water System										
64	Barker Gravity Pipeline Repair	411106	\$572,665	\$402,711	\$378,560	\$667,416	\$612,436	\$636,933	\$662,410	\$688,907	
65	Barker-Kossler Penstock Repair	411107	\$0	\$0	\$0	\$0	\$116,986	\$0	\$0	\$0	
66	Barker Dam Outlet	411109	\$0	\$0	\$0	\$50,000	\$175,000	\$803,414	\$0	\$0	
67	Barker Dam Outlet - Bond Proceeds		\$0	\$0	\$0	\$0	\$0	\$0	\$8,034,143	\$0	
68	Barker Dam and Reservoir	411110	\$0	\$119,040	\$378,560	\$0	\$0	\$0	\$0	\$0	
69	Barker Hydro System Integration	411111	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
70	Barker Relicensing	411112	\$39,621	\$109,612	\$0	\$0	\$0	\$0	\$0	\$0	
71	Barker Instream Flow Release	411114	\$0	\$6,052	\$0	\$0	\$0	\$0	\$0	\$0	
72	Barker Residence	411130	\$6,718	\$443,281	\$0	\$0	\$0	\$0	\$0	\$0	
73	Betasso Penstock	411940	\$4,823	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
74	Kossler Dam	411119	\$35,961	\$192,022	\$0	\$0	\$0	\$0	\$0	\$0	
75	Subtotal - Barker Water System		\$659,789	\$1,272,718	\$757,120	\$717,416	\$904,422	\$1,440,347	\$8,696,554	\$688,907	
76											
77	Raw Water Storage Reservoirs										
78	Albion Dam	411628	\$0	\$80,000	\$0	\$0	\$0	\$0	\$0	\$0	
79	Silver Lake Dam		\$0	\$0	\$75,000	\$0	\$0	\$0	\$0	\$0	
80	Island Lake Dam	411626	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
81	Green Lake 1 Dam		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
82	Green Lake 2 Dam - Bond Proceeds		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
83	Green Lake 2 Dam	411627	\$0	\$75,000	\$0	\$0	\$0	\$0	\$75,000	\$468,051	
84	Green Lake 3 Dam		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
85	Goose Lake Dam	411612	\$0	\$0	\$20,000	\$0	\$0	\$0	\$0	\$0	
86	Boulder Reservoir		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$118,434	
87	Lakewood Dam	411981	\$0	\$0	\$0	\$0	\$0	\$124,707	\$0	\$0	
88	Skyscraper Dam		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
89	Wittemyer Ponds		\$0	\$0	\$0	\$0	\$0	\$0	\$100,000	\$492,685	
90	Subtotal - Raw Water Storage Reservoirs		\$0	\$155,000	\$95,000	\$0	\$0	\$124,707	\$175,000	\$1,079,169	
91											
92	Other Raw Water Facilities										
93	Farmer's Ditch	411550	\$0	\$0	\$0	\$0	\$0	\$0	\$108,160	\$0	
94	Anderson Ditch	411883	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
95	Watershed Improvements	411770	\$62,838	\$145,243	\$80,000	\$80,000	\$0	\$0	\$0	\$100,000	
96	Nederland WWTP	411565	\$370,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
97	Instream Flow Structures and Gaging	411549	\$1,040	\$48,428	\$0	\$0	\$0	\$0	\$0	\$0	
98	Como Creek Diversion Structure	411548	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
99	Lakewood Diversion Structure		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
100	Silver Lake Diversion Structure		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
101	NCWCD Conveyance - Boulder Feeder Canal	411546	\$325	\$61,297	\$0	\$0	\$0	\$0	\$0	\$0	
102	NCWCD Conveyance - Carter Lake Pipeline	411547	\$366,756	\$250,000	\$500,000	\$850,000	\$2,036,322	\$0	\$0	\$0	
103	NCWCD Conveyance - Bond Proceeds		\$0	\$0	\$0	\$0	\$0	\$33,938,701	\$0	\$0	
104	Subtotal - Other Raw Water Facilities		\$800,959	\$504,968	\$580,000	\$930,000	\$2,036,322	\$33,938,701	\$108,160	\$100,000	
105											
106	Source Water Pressure Reducing, Pumping and Hydroelectric										
107	Lakewood Hydroelectric/PRV	411801	\$0	\$0	\$0	\$130,000	\$0	\$0	\$300,000	\$0	
108	Silver Lake Hydroelectric/PRV	411970	\$0	\$0	\$150,000	\$0	\$0	\$0	\$0	\$0	
109	Boulder Reservoir Intake and Pumping	411655	\$7,225	\$12,455	\$0	\$0	\$0	\$0	\$0	\$0	
110	Betasso Hydroelectric / Pressure Reducing Facility	411974	\$0	\$0	\$0	\$0	\$0	\$250,000	\$0	\$0	
111	Barker Dam Hydroelectric		\$0	\$0	\$0	\$0	\$0	\$50,000	\$390,832	\$0	
112	Barker Dam Hydro		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,908,317	
113	Boulder Canyon Hydroelectric	411975	\$183,155	\$134,397	\$0	\$0	\$0	\$0	\$0	\$0	
114	Boulder Canyon Hydro - Grant	411976	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
115	Boulder Canyon Hydro - Grant	411977	\$4,237	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
116	Carter Lake Hydroelectric		\$0	\$0	\$0	\$0	\$0	\$50,000	\$250,000	\$0	
117	Carter Lake Hydro		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,500,000	
118	Source Water Pressure Reducing, Pumping and Hydroelectric		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$193,472	
119	Subtotal - Source Water PRV, Pumping and Hydro		\$194,618	\$146,852	\$150,000	\$130,000	\$0	\$350,000	\$940,832	\$6,601,789	
120											
121	Water Distribution System Expansion										
122	Annexation Related Water System Expansion	411433	\$0	\$0	\$2,500,000	\$2,500,000	\$0	\$0	\$0	\$0	
123	Subtotal - Water Distribution System Expansion		\$0	\$0	\$2,500,000	\$2,500,000	\$0	\$0	\$0	\$0	
124											
125	Water System Monitoring and Metering										
126	Automated Meter Reading	411454	\$274,556	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
127	Water System Security/Quality Improvements	411440	\$32,132	\$13,561	\$150,000	\$150,000	\$				

**Attachment E -
Utility CIPs**

	A	B	G	H	I	J	K	L	M	N	
1	12-May-14				CITY OF BOULDER						
2					2014 - 2019 CAPITAL IMPROVEMENT PROGRAM						
3					WASTEWATER UTILITY FUND						
4											
5											
6	Assumed Inflation Rate	4.00%	2013	2014	2015	2016	2017	2018	2019	2020	
7	PROJECT NAME		ACTUAL	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED	
8											
9	Wastewater Treatment										
10	WWTF Pumps	421339	\$4,748	\$150,000	\$0	\$150,000	\$0	\$0	\$0	\$0	
11	WWTF Permit Improvements	421617	\$0	\$365,241	\$1,650,000	\$150,000	\$0	\$750,000	\$1,500,000	\$0	
12	WWTF Nutrient Management Grant	421618	\$25,292								
13	WWTF Permit Improvements - Proj. Bond	425xxx	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,500,000	
14	WWTF Laboratory	421010	\$5,795	\$25,163	\$0	\$50,000	\$0	\$0	\$0	\$0	
15	Lower Boulder Creek Enhancement	421661	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
16	WWTF Headworks	421003	\$132,474	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
17	WWTF Headworks - Proj. Bond		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
18	WWTF Instrumentation/Control	421437	\$93,500	\$586,677	\$540,800	\$0	\$674,918	\$701,915	\$729,992	\$759,191	
19	WWTF Electrical	421439	\$0	\$100,000	\$0	\$120,000	\$1,200,000	\$0	\$0	\$0	
20	WWTF Activated Sludge		\$0	\$0	\$389,376	\$0	\$58,493	\$0	\$0	\$0	
21	WWTF Primary Clarifiers	421005	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
22	WWTF Secondary Clarifiers	421006	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
23	WWTF UV Disinfection	421110	\$373,041	\$3,257	\$0	\$0	\$0	\$0	\$0	\$0	
24	WWTF UV Disinfection - Proj. Bond		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
25	WWTF Permit Improvements - 2010 Bond	424901	\$490,499	\$16,346	\$0	\$0	\$0	\$0	\$0	\$0	
26	WWTF Rehabilitation		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$150,000	
27	Valmont Butte	421675	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
28	Biosolids Processing & Dewatering	421670	\$92,935	\$150,000	\$0	\$0	\$0	\$0	\$0	\$0	
29	WWTF Biosolids Digester	421671	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
30	WWTF Biosolids Digester - Proj. Bond	424xxx									
31	WWTF Cogeneration	421329	\$0	\$150,000	\$0	\$0	\$0	\$0	\$0	\$184,481	
32	WWTF Digester Complex	421007	\$0	\$0	\$0	\$0	\$0	\$200,000	\$2,000,000	\$0	
33	September 2013 Flood Disaster Recovery	421913	\$389,570	\$1,060,430	\$0	\$0	\$0	\$0	\$0	\$0	
34	WWTF Digester Cleaning	421360	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
35	Bond Issuance Costs	423998	\$0	\$0	\$125,000	\$0	\$0	\$0	\$0	\$125,000	
36	Subtotal - Wastewater Treatment Plant		\$1,607,854	\$2,607,114	\$2,705,176	\$470,000	\$1,933,411	\$1,451,915	\$2,429,992	\$21,718,672	
37											
38	Marshall Landfill										
39	Marshall Landfill	421078	\$0	\$0	\$0	\$100,000	\$0	\$0	\$0	\$0	
40	Subtotal - Marshall Landfill		\$0	\$0	\$0	\$100,000	\$0	\$0	\$0	\$0	
41											
42	Wastewater System Monitoring and Metering										
43	Yards Master Plan Implementation	421039	\$0	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	
44	Automated Meter Reading	421548	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
45	Utility Billing Computer System	421453	\$0	\$0	\$50,000	\$0	\$0	\$0	\$65,000	\$0	
46	Subtotal - Monitoring and Metering		\$0	\$50,000	\$50,000	\$0	\$0	\$0	\$0	\$65,000	
47											
48	Collection and Conveyance System Rehabilitation										
49	Collection System Monitoring	421450	\$0	\$100,000	\$0	\$0	\$0	\$0	\$0	\$0	
50	Condition Assessment Program				\$780,000	\$811,200	\$843,648	\$877,394	\$912,490	\$948,989	
51	Sanitary Sewer Rehabilitation	421002	\$171,298	\$764,903	\$780,000	\$811,200	\$843,648	\$1,169,859	\$1,216,653	\$1,265,319	
52	Sanitary Sewer Rehabilitation - Bond		\$0	\$0	\$10,000,000	\$0	\$0	\$0	\$0	\$0	
53	Sanitary Sewer Manhole Rehabilitation	421454	\$464,046	\$155,186	\$208,000	\$216,320	\$224,973	\$233,972	\$243,331	\$253,064	
54	IBM Pump Station	421521	\$2,389	\$814,799	\$500,000	\$0	\$0	\$0	\$0	\$0	
55	Tier 1 Boulder Creek 2 Master Plan Project		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
56	Tier 1 Goose Creek 1/1A Master Plan Project		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
57	Tier 1 Goose Creek 3 Master Plan Project		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
58	Tier 1 Goose Creek 5 Master Plan Project		\$0	\$0	\$0	\$0	\$0	\$25,000	\$647,590	\$1,346,988	
59	Tier 2 Boulder Creek 1 Master Plan Project		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
60	Tier 2 Boulder Creek 3 Master Plan Project		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
61	Tier 2 Boulder Creek 4 Master Plan Project		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
62	Tier 2 Goose Creek 4 Master Plan Project		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
63	Tier 2 Gunbarrel 1 Master Plan Project		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
64	Tier 2 Gunbarrel 2 Master Plan Project		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
65	Tier 2 South Boulder Creek 1 Master Plan Project		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
66	Subtotal - Sewer System Rehabilitation		\$637,732	\$1,834,888	\$12,268,000	\$1,838,720	\$1,912,269	\$2,306,224	\$3,020,063	\$3,814,360	
67											
68	Wastewater System Expansion										
69	Annexation Related WW System Expansion	421436	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
70	Subtotal - Wastewater System Expansion		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
71											
72	TOTAL CAPITAL USES OF FUNDS		\$2,245,587	\$4,492,002	\$15,023,176	\$2,408,720	\$3,845,680	\$3,758,139	\$5,450,055	\$25,598,032	

Attachment E Utility CIPs

	A	B	F	G	H	I	J	K	L	M	
1	12-May-14				CITY OF BOULDER						
2				2014-2019 CAPITAL IMPROVEMENT PROGRAM							
3				STORMWATER AND FLOOD MANAGEMENT UTILITY FUND							
4											
5											
6	Assumed Inflation Rate	4.00%	2013	2014	2015	2016	2017	2018	2019	2020	
7	PROJECT NAME		ACTUAL	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED	
8											
9	Major Drainageways										
10	Elmer's Twomile Creek	431332	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
11	Goose Creek	431710	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
12	South Boulder Creek	431202	\$30,945	\$274,539	\$250,000	\$750,000	\$750,000	\$0	\$0	\$0	
13	South Boulder Creek - Bond Proceeds		\$0	\$0	\$0	\$0	\$0	\$10,000,000	\$0	\$0	
14	Bond Issuance Costs		\$0	\$0	\$0	\$0	\$0	\$150,000	\$0	\$0	
15	Skunk Canyon Creek		\$0	\$0	\$0	\$0	\$100,000	\$500,000	\$0	\$0	
16	Sunshine Creek		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
17	Twomile Canyon Creek		\$0	\$0	\$0	\$0	\$100,000	\$500,000	\$0	\$0	
18	Bluebell Canyon Creek - King's Gulch		\$0	\$0	\$0	\$0	\$100,000	\$500,000	\$0	\$0	
19	Viele Channel		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
20	Four Mile Canyon Creek	431729	\$0	\$0	\$0	\$0	\$0	\$0	\$500,000	\$1,250,000	
21	Four Mile Canyon Creek - Upland to Violet	431729	\$0	\$0	\$0	\$500,000	\$500,000	\$500,000	\$250,000	\$0	
22	Four Mile Canyon Creek - 19th to 22nd	431730	\$38,533	\$1,331,454	\$0	\$0	\$0	\$0	\$0	\$0	
23	Bear Canyon Creek	431010	\$0	\$0	\$100,000	\$500,000	\$0	\$0	\$0	\$0	
24	Gregory Canyon Creek	431702	\$0	\$0	\$100,000	\$500,000	\$0	\$0	\$0	\$0	
25	Boulder Creek	431015	\$0	\$100,000	\$500,000	\$2,500,000	\$0	\$0	\$0	\$0	
26	Boulder Slough	431016	\$6,451	\$788,164	\$0	\$0	\$0	\$0	\$0	\$0	
27	Wonderland Creek	431003	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
28	Wonderland Creek - Foothills to 30th	431011	\$203,650	\$3,551,158	\$0	\$0	\$0	\$0	\$0	\$0	
29	Wonderland Creek at 28th St.	431012	\$137,793	\$2,173,161	\$0	\$0	\$0	\$0	\$0	\$0	
30	Wonderland Creek - Bond Proceeds		\$0	\$0	\$13,708,524	\$0	\$0	\$0	\$0	\$0	
31	Bond Issuance Costs		\$0	\$0	\$75,000	\$0	\$0	\$0	\$0	\$0	
32	Preflood Acquisition	431622	\$7,875	\$2,856,395	\$500,000	\$500,000	\$550,000	\$600,000	\$632,660	\$657,966	
33	Greenways Program Transfer	431630	\$24,791	\$613,596	\$97,500	\$97,500	\$97,500	\$97,500	\$97,500	\$128,303	
34	Subtotal - Major Drainageway Improvements		\$450,038	\$11,688,467	\$15,331,024	\$5,347,500	\$4,697,500	\$12,847,500	\$1,480,160	\$2,036,269	
35											
36	Miscellaneous										
37	Yards Master Plan Implementation	431039	\$0	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	
38	CU Bike/Ped Bridge Replacement I	431054	\$0	\$200,000	\$0	\$0	\$0	\$0	\$0	\$0	
39	September 2013 Flood Disaster Recovery	431913	\$450,110	\$7,349,889							
40	Utility Billing Computer System	431453	\$0	\$0	\$50,000	\$0	\$0	\$0	\$0	\$65,000	
41	Subtotal - Miscellaneous Drainage Improvements		\$450,110	\$7,599,889	\$50,000	\$0	\$0	\$0	\$0	\$65,000	
42											
43	Stormwater Management										
44	Upper Goose Creek	431459	\$0	\$0	\$175,000	\$750,000	\$750,000	\$750,000	\$1,000,000	\$1,165,547	
45	Local Drainage Improvements				\$1,040,000	\$1,081,600	\$1,124,864	\$1,169,859	\$1,216,653	\$1,265,319	
46	Stormwater Quality Improvements	431775	\$143,999	\$119,996	\$156,000	\$162,240	\$168,730	\$175,479	\$182,498	\$189,798	
47	Storm Sewer Rehabilitation	431760	\$12,804	\$378,270	\$260,000	\$270,400	\$281,216	\$292,465	\$304,163	\$632,660	
48	Transportation Coordination	431780	\$534,762	\$490,719	\$312,000	\$324,480	\$337,459	\$350,958	\$364,996	\$632,660	
49	Subtotal - Localized Drainage Improvements		\$691,565	\$988,985	\$1,943,000	\$2,588,720	\$2,662,269	\$2,738,760	\$3,068,310	\$3,885,983	
50											
51	TOTAL CAPITAL USES OF FUNDS		\$1,591,713	\$20,277,341	\$17,324,024	\$7,936,220	\$7,359,769	\$15,586,260	\$4,548,469	\$5,987,252	