



## STAFF REPORT

**To:** Honorable Mayor and Members of Town Council

**From:** Mark Marlowe, P.E., Director of Castle Rock Water  
Anne Glassman, Business Solutions Manager

**Title:** Ordinance Amending Titles 3, 4, and 13 of the Castle Rock Municipal Code by Changing the Water and Wastewater System Development Fees and making certain editorial updates to such titles (Second Reading – Approved on First Reading on September 5, 2017 by a vote of 6-0)

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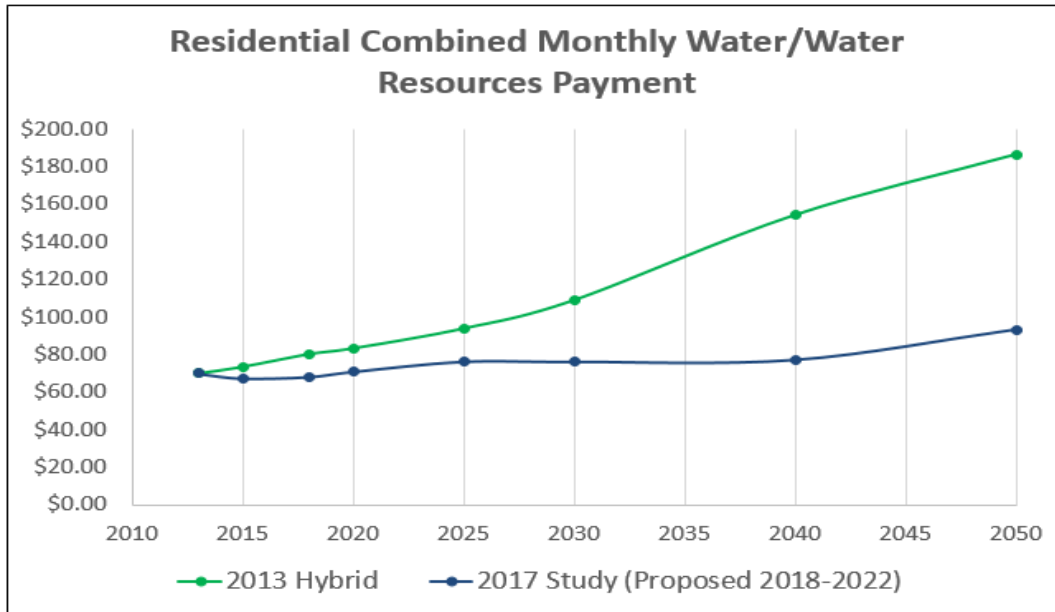
Table 1 summarizes the recommended 2018 rates relative to the 2017 adopted rates and projected 2018 rates from last year’s study (2016 Study) for a typical single family equivalent (SFE).

**Table 1: Summary of Recommended Residential Rates**

	2017 Adopted Rates	“2017 Study” Proposed 2018 Rates	\$ Increase (Decrease)	% Change	“2016 Study” Proposed 2018 Rates
Water, Fixed	\$9.54	\$9.54	\$0.00	0%	\$9.54
Water, Tier 1, Volumetric	\$2.82	\$2.82	\$0.00	0%	\$2.82
Water, Tier 2, Volumetric	\$5.53	\$5.53	\$0.00	0%	\$5.53
Water, Tier 3, Volumetric	\$8.29	\$8.29	\$0.00	0%	\$8.29
Water Resources, Fixed	\$26.15	\$26.15	\$0.00	0%	\$26.93
Wastewater, Fixed	\$9.30	\$9.30	\$0.00	0%	\$9.30
Wastewater, Volumetric	\$6.59	\$6.59	\$0.00	0%	\$6.59
Stormwater, Fixed	\$7.12	\$7.12	\$0.00	0%	\$7.41
Total Fixed	\$52.11	\$52.11	\$0.00	0%	\$53.18

The good news is that the 2017 Study shows that no increase is necessary contrary to the conclusions in the 2016 Study and that rates will continue to be lower than projected when compared to the 2013 hybrid (Box Elder / WISE alternate source of supply projects) long term renewable water plan approved by Council in 2013 as shown in Chart 1 below. This positive result has been driven by keeping operating expenditures and needed capital investments under budget, successful implementation of regional partnerships and creative approaches to optimize Castle Rock Water’s finances. Going forward, the results of the “2017 Study” predict the need for modest increases of around 3.5 percent in the water resources fee each year in order to continue to fund the long term renewable water plan.

**Chart 1: Comparison of 2018 Proposed Rates to 2013 Hybrid**



A rate change is not being recommended for 2018 which helps keep Castle Rock competitive with other surrounding South Metro water providers (see page 12 for details).

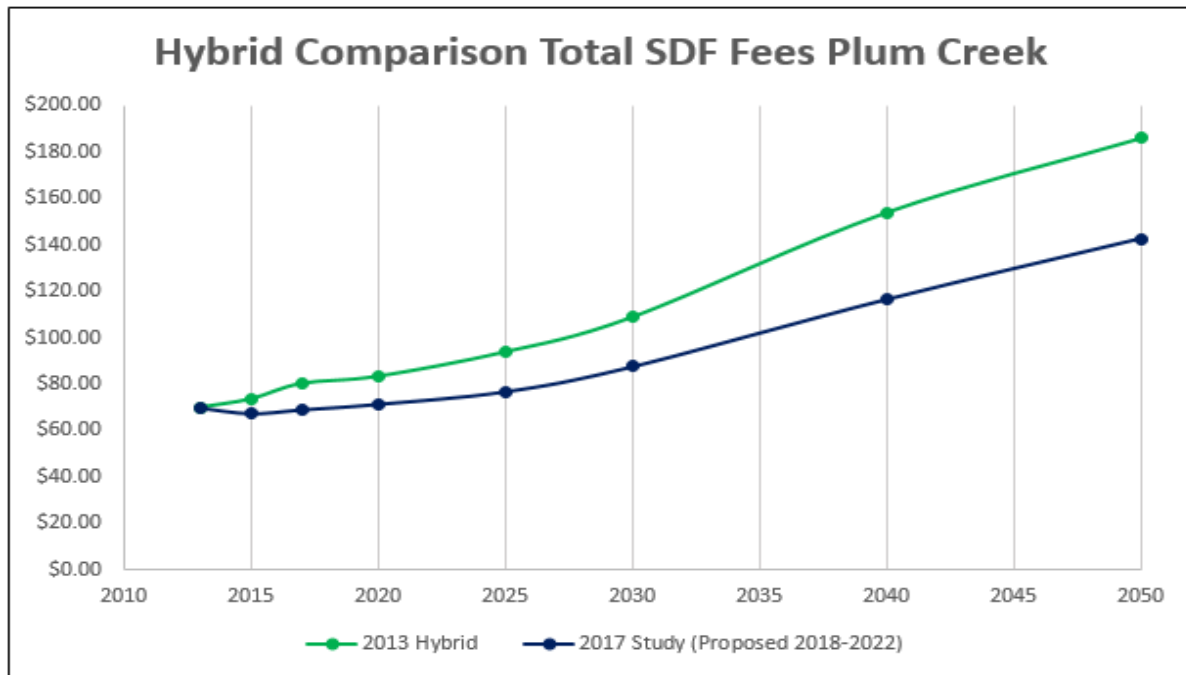
For SDFs related to new development, Castle Rock Water recommends an increase of \$718 per single family equivalent (SFE), a 3.08 to 3.14 percent increase depending on the basin. This recommendation is consistent with Town Council’s policy on system development fees that growth pays for growth. Recent growth has driven the need for additional water SDFs for new wells and an increase in the SDFs for wastewater for an expansion to the treatment plant. Table 2 summarizes the proposed SDFs for 2018 per SFE.

**Table 2: Summary of Recommended System Development Fees (SDFs)**

	2017 Adopted SDFs	“2017 Study” Proposed 2018 SDFs	\$ Increase (Decrease)	% Change	“2016 Study” Proposed 2018 SDFs
Water	\$3,314	\$3,510	\$196	5.9%	\$3,407
Water Resources	\$15,248	\$15,248	\$0	0.0%	\$15,675
Wastewater	\$3,437	\$3,959	\$522	15.2%	\$3,533
Stormwater, Plum Creek	\$1,317	\$1,317	\$0	0.0%	\$1,354
<b>TOTAL Plum Creek</b>	<b>\$23,316</b>	<b>\$24,034</b>	<b>\$718</b>	<b>3.1%</b>	<b>\$23,969</b>
Stormwater, Cherry Creek	\$843	\$843	\$0	0.0%	\$867
<b>TOTAL Cherry Creek</b>	<b>\$22,842</b>	<b>\$23,560</b>	<b>\$718</b>	<b>3.1%</b>	<b>\$23,482</b>

The 2018 proposed system development fees are very similar to the projected 2013 hybrid system development fees for 2018 as shown in Chart 2 below. Longer term the current model shows fees below the 2013 hybrid projections.

**Chart 2: Comparison of 2018 Proposed System Development Fees to 2013 Hybrid**



The proposed SDF changes keep Castle Rock competitive with other surrounding South Metro water providers that also need to fund investments in a long term renewable water supply as shown in Table 3 on the next page.

There is one other significant proposed change to SFEs which is for the 0.67 SFE SDF. Castle Rock Water staff reviewed actual data for these types of SFE houses and determined changes were necessary to the process for homebuilders to qualify for these SDFs. Castle Rock Water worked with the homebuilders on the changes. Proposed parameters to qualify for this type of SDF are shown below:

1. Lot size will be limited to 3,600 square feet unless the backyard landscaping plans are provided and the home builder can show that the total irrigable area with the backyard included is 1,200 square feet or less.
2. The total lot shall have a maximum defined irrigable area of 1,200 square feet which includes turf and other landscaping. For the purposes of this program, irrigable area will be defined as any area within the boundaries of the lot that have the *potential* to be irrigated. Features that will not be considered as potential irrigable area include areas such as the building footprint, driveways, walkways, decks, etc.
3. The backyard will be included in the maximum defined irrigable area outlined in item 2 above.
4. Basement rough-ins shall be included in the Residential Water Fixture Unit calculations.
5. To qualify for a 0.67 SFE meter, **THE FOLLOWING THREE CONDITIONS MUST ALL BE MET:**

- Maximum lot size will be limited to 3,600 square feet unless the backyard landscaping plans are included and the backyard is landscaped by the builder.
- The maximum defined irrigable area must be 1,200 square feet or less
- The Residential Water Fixture Unit Calculations must reflect a maximum peak flow of 20.00 gallons per minute (GPM) or less

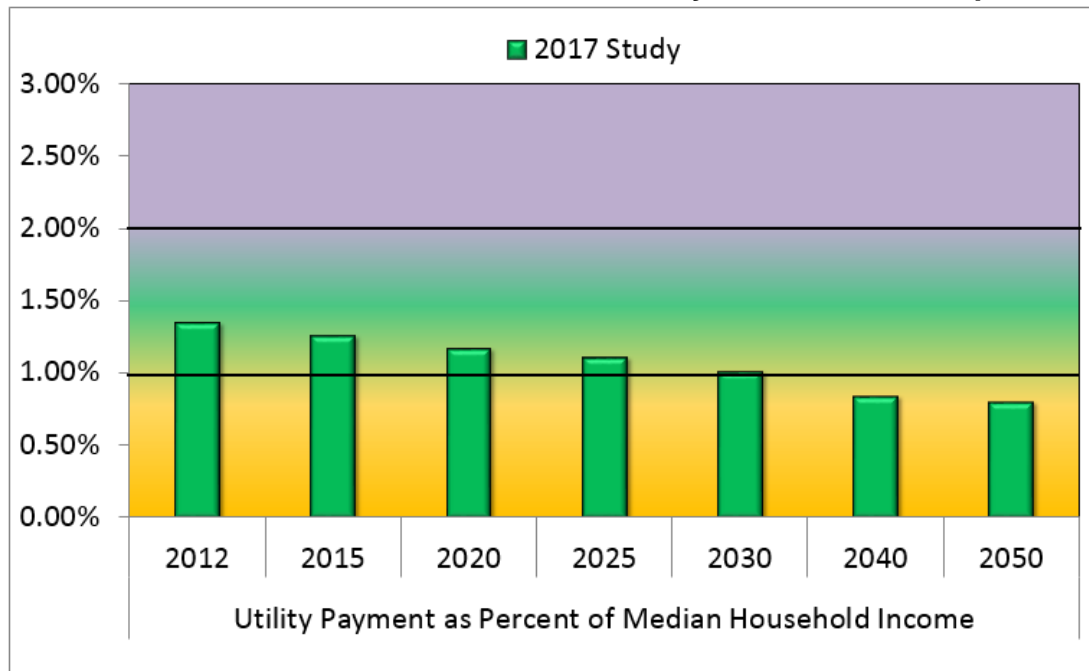
**Table 3: Comparison of System Development Fees (SDFs) – Plum Creek**

<b>Community</b>	<b>2017 Rates w/CR 2018 Proposed</b>
City of Fort Collins	\$7,097
Denver Water	\$7,400
Colorado Springs Utilities	\$8,401
City of Loveland	\$8,546
Inverness Water and Sanitation District	\$9,174
City of Fort Lupton	\$9,655
Meridian Service Metropolitan District	\$14,500
Centennial Water and Sanitation District (5 units/acre)	\$14,901
City of Greeley	\$16,100
East Larimer County Water District	\$18,824
City of Fountain (Fountain Creek Basin area)	\$19,449
Centennial Water and Sanitation District (3 units/acre)	\$19,709
Cottonwood Water and Sanitation District	\$23,070
City of Fountain (Jimmy Camp Creek Basin area)	\$23,314
<b>Castle Rock Water</b>	<b>\$24,034</b>
Parker Water and Sanitation District (includes additional/other fee of "Water Resource Toll")	\$25,660
Thornton Water	\$30,632
City of Brighton (Metro Wastewater Reclamation District area)	\$31,005
Thornton Water ( within Big Dry Creek Basin Area)	\$31,124
City of Brighton (Metro Wastewater Reclamation District area)	\$31,193
Stonegate Village Metropolitan District	\$31,350
Arapahoe County Water and Wastewater Authority	\$33,711
East Cherry Creek Valley Water and Sanitation District (Piney Creek Storm Drainage Basin)	\$34,691
East Cherry Creek Valley Water and Sanitation District (West Toll Gate Creek Storm Drainage Basin)	\$34,691
East Cherry Creek Valley Water and Sanitation District (No Name Creek Storm Drainage Basin)	\$36,491
Castle Pines North Metropolitan District	\$37,125
Pinery Water and Sanitation District	\$38,995
Roxborough Water and Sanitation District	\$41,339

Staff recommends moving forward with these proposed rates and fees, finalizing the “2017 Study” report and all of the associated data, bringing the appropriate ordinances to Town Council for approval on September 5, 2017, and September 19, 2017 and incorporating the proposed rates and fees into the 2018 proposed budget. Concurrent with the preparation of the proposed rates and fees for 2018, staff has updated the Financial Management Plan (FMP), to ensure the study is consistent with the goals of the FMP, which are:

- To minimize future rates at or below the 2013 Hybrid Model levels.
- To minimize debt carrying costs at or below industry standards.
- To minimize risk by keeping fixed versus variable revenues and expenses equal to or matching where possible.
- To keep costs at or under budget for capital and operational budgets each year by fund and to continuously strive towards more efficient operations.
- To keep our rates and fees competitive with surrounding communities.
- To keep adequate reserves and maintain fund balances between minimums and maximums.
- To keep rates and fees affordable within various national affordability indices, see Chart 3 where utility payments below 2 percent of Median Household Income are considered affordable.

**Chart 3: Median Household Income Affordability Index Chart Comparison**



- To develop regional partnerships to provide economies of scale to reduce total costs of infrastructure to our customers.
- To be an industry leader in the application of financial management benchmarking ourselves against others locally and nationally.

A few key conclusions, recommendations and action items from the FMP and the Rates Study this year include:

- Study the option of using inter-fund loans from water to help minimize the rate increases needed to fund the wastewater treatment plant expansion.
- Reevaluate annually the reserves to ensure that the levels meet the needed standards in the industry as well as to ensure that the levels are enough to cover the needs of the various enterprises.
- Reevaluate and consider establishing a more robust renewal and replacement reserve to ensure the long term management of the \$596 million worth of capital assets for which Castle Rock Water is responsible.

The key assumptions used in developing the rates and fee recommendations for 2018 to 2022 in the “2017 Study” include:

- The department is considering new debt in 2018 as well as other financing options for the needed expansion to the wastewater treatment facilities.
- The department continues to fund the capital plan for long-term renewable water projects.
- Capital projects continue to be funded with capital reserves in fund balances, rates and system development fees.
- Current Town growth forecasts for 2018 are incorporated.
- The operational budget is set to maintain levels of service as customer base and infrastructure grows.
- Minimum fund balance levels are maintained at \$1 million for water and wastewater, and \$500,000 for water resources and stormwater.
- Five new FTEs are added for the 2018 budget including 3 water plant operators, a water conservation specialist and a distribution system operator.
- Special charges were reviewed based on actual cost of service and minor updates made.
- Meter set fees were updated based on actual costs with an average increase of 2.7 percent over last year.
- Implementation of the five year strategic plan is continued.

Two major drivers in the “2017 Study” have had a significant impact on the proposed rates and fees for 2018. First, growth in the customer base has continued to increase significantly in 2017, and resulting projections on future growth have also continued to increase by 20.2% for the five year study period. Next, the timing and content of the projected capital needs for the system has changed as expected in the five year planning window.

Some of the major updates to the capital plan for the “2017 Study” include:

- For the 5 year period in the water fund the CIP changes included adding \$6 million over the study period for well re-drills and adding new capacity (e.g., the Lanterns Wells for \$1.8 million).
- For water resources changed the timing and adjusted the Plum Creek Diversion costs by \$18.6 million in 2018, changed the timing and adjusted the Advanced Oxidation Facility costs by \$6.9 million in 2018 and the \$9 million in 2019-2022 for WISE costs to complete the WISE infrastructure/project.
- Increased to \$35 million and pushed forward to 2018 the start of the expansion of the wastewater treatment plant in the wastewater fund.
- In the stormwater fund five year study period increased by \$1 million for updates to the Industrial Tributary and East Plum Creek stabilization projects.
- Included an additional VAC truck to support the aging existing equipment and expand preventative maintenance on the sewer system to decrease long term maintenance and replacement costs.

### **History of Past Town Council, Boards & Commissions, or Other Discussions**

On August 23, 2017, the Castle Rock Commission unanimously recommended Council support of the rates and fees as presented.

On November 23, 2010 with its adoption of 2011 – 2015 Rates and Charges, Town Council requested annual updates which have been done each year thereafter with Castle Rock Water Commission participation and Town Council adoption of endorsed recommendations. Aspects of the 2017 Study were presented to the Castle Rock Water Commission at each meeting September 2016 through July 2017.

The “2017 Study” results were initially presented at the Castle Rock Water Commission Meeting on July 26, 2017. A more detailed presentation was provided to Commission on August 23, 2017. The commission supported the recommendation for the increases in the water and wastewater funds system development fees. The commission also supported a zero percent increase in rates for existing customer in all four funds for 2018.

### **Discussion**

For common understanding, “rates” refers to the collective monthly fixed charges and volumetric rates billed to existing customers. “System Development Fees” is a general term used for water, water resources and wastewater system development fees (SDFs) and stormwater development impact fees (DIFs). Water, water resources and wastewater SDFs are assessed at the time of permitting for the right to access existing system capacity or for payment of a proportionate share of the capital cost required for capacity to meet the potential demand the new customer is expected to place on the system. SDFs ensure that growth pays for the cost of growth. Also paid at permitting, stormwater development impact fees are a proportionate share of the cost to add stormwater capital facilities to manage the runoff created by the impervious surfaces of new construction in the Plum Creek or Cherry Creek Basin.

This year Castle Rock Water engaged Stantec Consulting Services Inc. rather than Arcadis U.S., Inc., to prepare the Study. Beginning with the 2013 Study, Castle Rock Water brought an important part of the analysis in-house (the customer characteristics analysis). Castle Rock Water once again has performed the customer characteristics analysis. The department has chosen to move forward with using Stantec’s Financial Analysis and Management System (FAMs) model to help with the rates and fees study. For the “2017 Study” the department has brought more components of the study in house. This includes the department completing the rates and fees models and completing the Volumes I and II of the study report. The “2017 Study” develops recommended rates and fees for a five-year period, 2018 through 2022.

This helps Castle Rock Water to fully understand the rates and fees implications of updated financial plans. It also provides Castle Rock Water Commission, Town Council and the community information regarding the potential rate changes that may be necessary over the five-year planning window.

### **The “2017 Study”**

The steps for completing this year’s study as in previous studies are grounded in industry standards for cost-of-service ratemaking as summarized in the American Water Works Association’s AWWA Manual M1. As in prior years, work products include the following:

1. Growth Forecast

2. Customer Characteristics Analysis
3. Capital Improvement Projects Forecast
4. Revenue and Expenditures Forecasts
5. Rates & Fees Modeling
6. Community Engagement

### 2018 – 2022 Key Changes

To frame the context within which the “2017 Study” was conducted, Table 4 provides a synopsis of key changes from last year’s study (the 2016 Study) that impacted proposed ratemaking for each of the enterprises for the five-year planning window, 2018 to 2022. The subsequent narrative provides additional detailed change insights.

**Table 4: 2018 – 2022**

Category	2017 R&F Study	2016 R&F Study	Change	% Change
New Customers	4,310	4,000	310	7.75%
Rate Revenue	\$206,516,556	\$200,128,106	\$6,388,450	3.19%
System Development Fees Revenue (SDFs)	\$124,170,209	\$115,081,032	\$9,089,177	7.90%
Non-Rate Revenue	\$1,934,191	\$1,930,752	\$3,489	0.18%
Capital Plans <sup>(1)</sup>	\$158,584,472	\$106,181,289	\$52,403,183	49.35%
Personnel	\$47,743,552	\$45,274,297	\$2,469,255	5.45%
Electricity	\$19,214,968	\$19,327,672	\$(112,704)	-0.58%
Operations & Maintenance (w/o electricity & Personnel)	\$75,301,782	\$68,457,730	\$6,844,052	10.00%

(1) Much of the Capital Plan consists of preliminary estimates that are refined each year as better information becomes available particularly within the long-term water projects. Timing of projects in Water Resources and the Wastewater Treatment Plant Expansion have increased the 5 Year CIP Projections in that some of these expenditures were originally in 2016 and 2017 but have moved to the 2018 to 2022 window.

Capital plans, operations and maintenance costs and system development fees are the largest drivers in this year’s study as evidenced in Table 4.

Projection for new customers is the other primary driver in the financial plan updates with a projected increase of 7.75 percent over five years. Growth for 2016 was strong and has continued into 2017. It looks like strong growth will continue into 2018. Growth in 2019 and beyond is difficult to predict. If growth falls short of current forecasts, revenues in 2019 and beyond could fall short of requirements without additional rate action. The estimated difference in growth related funds, if we were to return to 2012 growth rates, could be over \$70 million during the five-year study period. Additional information on the impacts of key changes in the “2017 Study” is explained in the following sections.

### Fund Balances

Savings in actual costs and with the timing of spending on capital costs verses budgets each year have helped to increase fund balances throughout the years. This allows for some drawdown of fund balance to cover large capital costs in the near term without negatively impacting the longer term financial plan.



## **New Customers**

Customers provide revenues through both system development fees to fund growth-related capital projects and monthly billed revenues to fund the remaining costs. The Town's latest growth forecast continues the 2016 momentum in residential development. 2017 is matching expectations with 450 (as of June 2017) new customer meters set year to date compared to 380 as of June 2016.

The forecast used for 2018 through 2022 is slightly higher than the numbers seen in 2016. These numbers are also higher than those seen in years 2000 through 2015. Achieving this growth forecast provides an opportunity to pursue economies of scale and reduce upward pressure on both rates and fees. If growth falls short of this forecast, revenues are at risk with the severity and service delivery impacts dependent upon the depth of the shortfall.

## **Rate Revenue**

These revenues are subject to two primary drivers, weather and national, state and local pressure to conserve water or at least use it more efficiently. The combination of these two items has resulted in a downward trend in rate revenues since 2012. Despite this trend and primarily due to the increasing customer base, Castle Rock Water increased forecasted revenues by 3.19 percent for the 5 year period, 2018-2022. As always, Castle Rock Water is aware of the need to be cautious when projecting rate revenues due to the unpredictability of weather and conservation and plans this into the rate revenue projections.

## **Non-Rate Revenues**

Non-rate revenues are generated through charges and fees for miscellaneous or ancillary services that are not accessed or used by the broader customer base. Unbundling the special charges for these services results in additional revenues that can be expected that will help to alleviate rate pressures in the future. These special charges should recover the actual cost of service delivery consistent with cost-of-service principles and Town financial policies. Recovering costs directly from customers that access those services also enhances equity. These charges can also help manage demand for those services as well as address customer behavior patterns. Special charges include delinquency charges, specialized service order services, and administrative related fees just to name a few. Non-rate revenue projections being used in the "2017 Study" do, also, reflect significant improvements in customer account management, meter infrastructure maintenance, and accounts receivable collections.

## **Capital Improvement Projects (CIP)**

Costs for renewal and rehabilitation of existing infrastructure and infrastructure additions driven by the renewable water program (e.g., the WISE Authority) and growth have been forecasted.

Highlights of capital project changes that are included in the "2017 Study" are as follows:

Water Fund:

- Added \$4 million for Well Re-drills between 2018 and 2022.
- Increased New Wells funding by \$1.8 million in 2022.

#### Water Resources Fund:

- Moved \$18.6 million of Plum Creek Diversion Structure / Pump Station to 2018 from earlier years.
- Pushed Advanced Oxidation Facility costs of \$6.9 million to 2018 from early years.
- Moved \$9 million for the WISE project to the years 2019-2022.

#### Stormwater Fund:

- Changed the timing and anticipated costs of several projects including Hangmans Gulch, Parkview Tributary, Industrial Tributary and Douglas Lane Tributary work for a total of \$1.0 million.

#### Wastewater Fund:

- Added \$15 million in costs for the expansion of the treatment plant in 2018-2019.

### **Personnel**

Five new FTEs are proposed in the 2018 budget. These include three water plant operators, a distribution system operator and a water conservation technician. The Study reflects updated personnel cost allocations across the four enterprises to capture cost-of-service impacts on personnel resources, as well as Town-wide preliminary changes to the pay and benefits plans. The study also reflects the staffing needs for the rest of the study period from 2019-2022 based upon growth forecasts within the Town and the personnel needed to maintain customer service levels based upon this growth.

### **Electricity**

The second largest operating cost, electricity, reflects full operation of the Plum Creek Water Purification Facility and both alluvial and groundwater well operations. Additional costs will be incorporated as appropriate when rate increases are announced by IREA. Castle Rock Water has implemented an energy management and system optimization plan to maximize the efficiency of electrical usage. Future savings have been projected as part of the study. Electricity costs are shown to be fairly flat over the previous five year period based on the continued implementation of the energy management plan with a slight increase in the 2018 budget due to electric costs rising.

### **Operations & Maintenance**

Cost projections include increases for running the new Operations and Maintenance facility as well as normal projected increases to go along with the projected capital plans. The largest increase in O&M is due to Castle Rock Water beginning to account for full operating of the WISE project.

### **Proposed Rates and Fees for 2018 through 2022**

Based on impacts of the revised capital plan and assumed system growth by fund as well as the other key changes, the “2017 Study” has resulted in projected required rate revenue increases as shown in Table 5 below.

**Table 5: Rate Required Revenue Increases by Enterprise – “2017 Study”**

	2018	2019	2020	2021	2022
Water Fund	0.0%	0.0%-3.0%	0.0%-3.0%	0.0%-3.0%	0.0%-3.0%
Water Resources	0.0%	3.5%	3.5%	3.5%	3.5%
Stormwater	0.0%	0.0%-3.0%	0.0%-3.0%	0.0%-3.0%	0.0%-3.0%
Wastewater	0.0%	0.0%-3.0%	0.0%-3.0%	0.0%-3.0%	0.0%-3.0%

Note: The current model indicates rate increases may not be required if O&M costs stay flat.

Continued growth and the change in timing of the capital plan in this year’s study have impacted the funds allowing for no increase in rate required revenue for 2018, which is better than the projection from last year’s study. Projected rate required revenue for water resources in the 2018 to 2022 planning period is consistent with the financial planning done when the Town adopted the hybrid approach to renewable water. However, rates must ramp up slowly over time in order to ensure we can fund the large capital needs associated with these projects over the next 10 years without taking on new debt. Consistent and minimal rate action starting again in 2019 and going forward over time will also prevent future rate shock.

For the “2017 study” it has been calculated that no increase in the total typical annual residential utility bill will occur relative to the 2017 adopted rates due to a proposed 0% increase for 2018. This is summarized in Table 6 below.

**Table 6: 2017 Rate Adjustment Recommendations and Total Typical Annual Utility Bills**

Customer Class	2017 Actual Typical Annual Bill	“2017 Study” Proposed 2018 Typical Annual Bill	\$ Increase (Decrease) Relative to 2017 Actual	% Change Relative to 2017 Actual	“2016 Study” Proposed 2018 Typical Annual Bill
Residential ¾” Meter	\$1,368.11	\$1,368.11	\$0.00	0.0%	\$1,380.94
Commercial Indoor ¾” Meter	\$2,008.89	\$2,008.89	\$0.00	0.0%	\$2,053.64
Commercial Indoor 1 ½” Meter	\$9,213.07	\$9,213.07	\$0.00	0.0%	\$9,351.63
Commercial w/Irrigation ¾” Meter	\$2,560.47	\$2,560.47	\$0.00	0.0%	\$2,621.48
Commercial w/Irrigation 2” Meter	\$15,080.66	\$15,080.66	\$0.00	0.0%	\$15,264.60
Multi-family Indoor ¾” Meter	\$1,069.02	\$1,069.02	\$0.00	0.0%	\$1,081,56
Multi-family w/Irrigation 1 ½” Meter	\$11,190.05	\$11,190.05	\$0.00	0.0%	\$11,301.52
Irrigation ¾” Meter	\$2,070.07	\$2,070.07	\$0.00	0.0%	\$2,079.48
Irrigation 2” Meter	\$15,241.74	\$15,241.74	\$0.00	0.0%	\$15,534.61

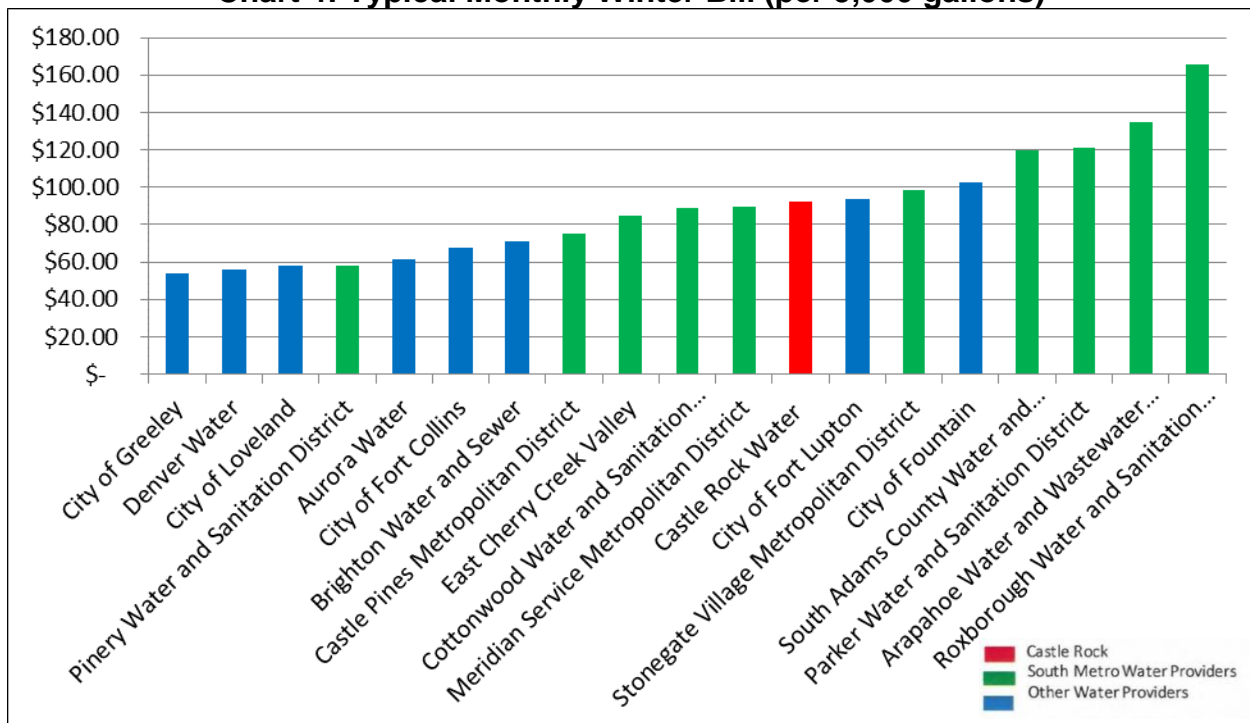
As a part of the presentation of the proposed rates and fees for 2018, Castle Rock Water compared the 2018 proposed rates and fees with other similar water providers in the South Metro area. Stormwater fees were done separately as many of the water providers do not provide that service. The comparisons do include any and all fees related to the water, water resources, and wastewater services. These fees have

different names across the various providers including for example water and sewer service fixed and volumetric fees, water resource fees, renewable water fees, capital improvement fees, sewer system replacement fund fees, and groundwater protection fees.

Rates were compared with other South Metro water providers for a typical winter usage of 5,000 gallons and a typical summer usage of 15,000 gallons. While we did compare the proposed rates and fees with other providers in Colorado, these comparisons are not apples to apples comparisons due to the local challenges faced by South Metro water providers. In summary, the South Metro water providers are generally currently operating on deep groundwater and are in the midst of building renewable surface water systems. A number of the systems have implemented monthly fees similar to Castle Rock's water resources fee including Castle Pines Metro, Meridian, Pinery, Stonegate, East Cherry Creek and Roxborough. Others have incorporated these fees into their standard water rates or utilized tax mill levies.

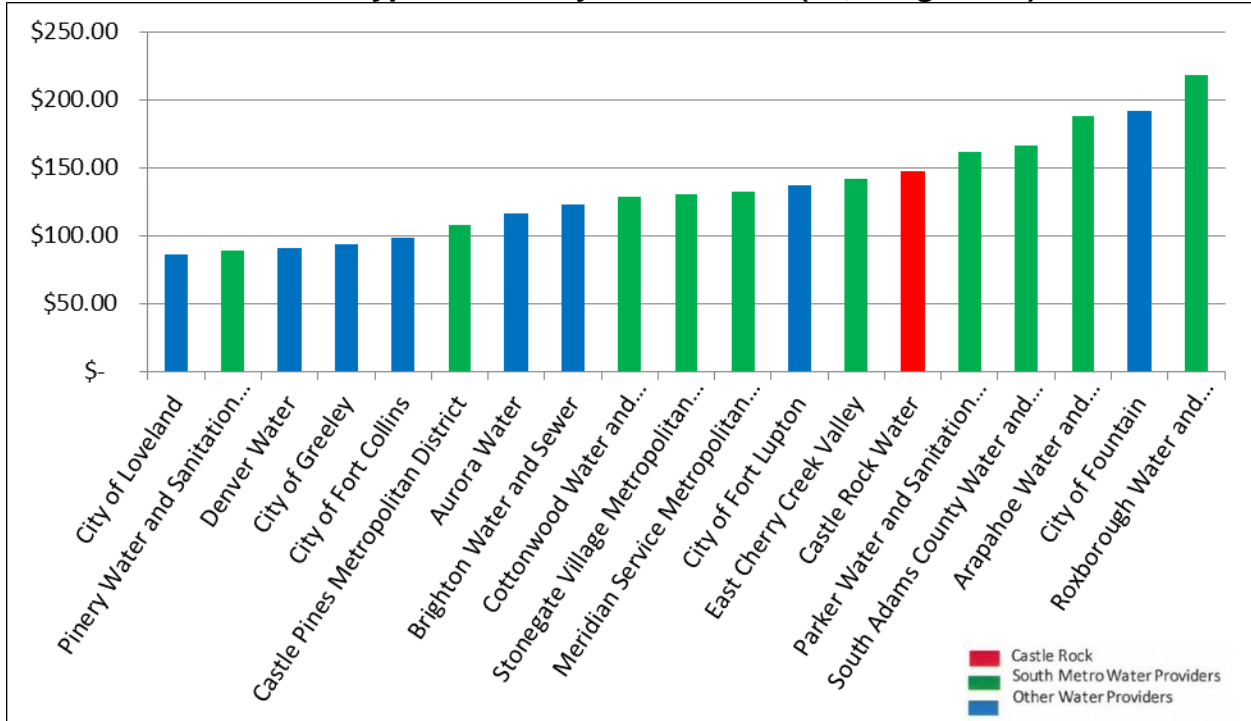
The results of the comparisons with other South Metro water providers are shown in charts 4 and 5. As indicated above, it is important to note that a number of the South Metro water providers have their revenues supplemented by tax mill levies to help with renewable water investments. The charts below show the approximate impact this has on the cost of service for a typical residential customer based on the average median price of a home in Douglas County of \$432,500 (<http://www.douglas.co.us/documents/douglas-county-demographics-summary.pdf>). This mill levy was then distributed across twelve equal payments for comparison sake even though this will typically be paid in fewer installments. The results of this comparison indicate that Castle Rock's rates and fees are comparable to other area providers.

**Chart 4: Typical Monthly Winter Bill (per 5,000 gallons)**



\*Includes tax mill levy based on median home price distributed equally over 12 months. Green on the chart indicates South Metro Water Providers

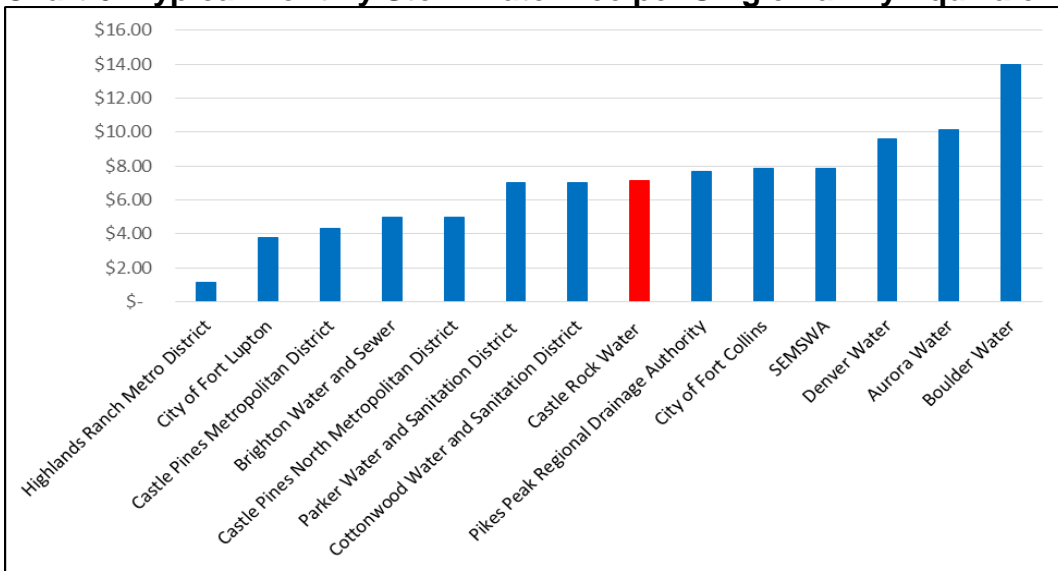
**Chart 5: Typical Monthly Summer Bill (15,000 gallons)**



\*Includes tax mill levy based on median home price distributed equally over 12 months. Green on the chart indicates South Metro Water Providers.

For stormwater fees, a similar comparison was performed. While this is not a comprehensive list of all providers, it shows some of the key stormwater providers in our area. The data indicates that Castle Rock’s proposed fees are consistent with many of the other local providers. It is important to note that some jurisdictions handle stormwater through general taxes instead of having a stormwater utility. The results of the comparisons are as follows:

**Chart 6: Typical Monthly Stormwater Fee per Single Family Equivalent**



Note: SEMSWA, stands for Southeast Metro Stormwater Authority and includes East Cherry Creek Valley Water and Sanitation District, Arapahoe County Water and Wastewater Authority, and Inverness. The rate shown for Parker Water and Sanitation District is through the Town of Parker and is the 2017 rate.

With respect to the fixed charges for a typical single family residential bill, study results indicate a zero percent increase. Table 7 summarizes proposed fixed charges for 2018 from this year's study.

**Table 7: Single Family Residential Fixed Charges**

	2017 Actual Typical Bill	"2017 Study" Proposed 2018 Typical Bill	\$ Increase (Decrease)	% Change	"2016 Study" Proposed 2018 Typical Bill
Water	\$9.54	\$9.54	\$0.00	0.0%	\$9.54
Water Resources	\$26.15	\$26.15	\$0.00	0.0%	\$26.93
Wastewater	\$9.30	\$9.30	\$0.00	0.0%	\$9.30
Stormwater	\$7.12	\$7.12	\$0.00	0.0%	\$7.40
<b>TOTAL</b>	<b>\$52.11</b>	<b>\$52.11</b>	<b>\$0.00</b>	<b>0.0%</b>	<b>\$53.17</b>

**System Development Fees**

System development fees (SDFs) are a function of year-end 2016 fixed assets, 2017 year-end estimate of capital improvement project costs, 2018 through 2055 capital improvement project plans, and system capacity (for water, water resources, and wastewater) or developable acres for stormwater.

Higher growth forecasts and increases to the capital plans in the "2017 Study" indicate that total system development fees for a typical single family equivalent will need to increase from the 2017 fees. The 2016 Study indicated fees would need to increase in 2018 by 2.8 percent. The "2017 Study" indicates an increase of around 3 percent as shown in Table 9.

**Table 9: Single Family Equivalent System Development Fee Comparison**

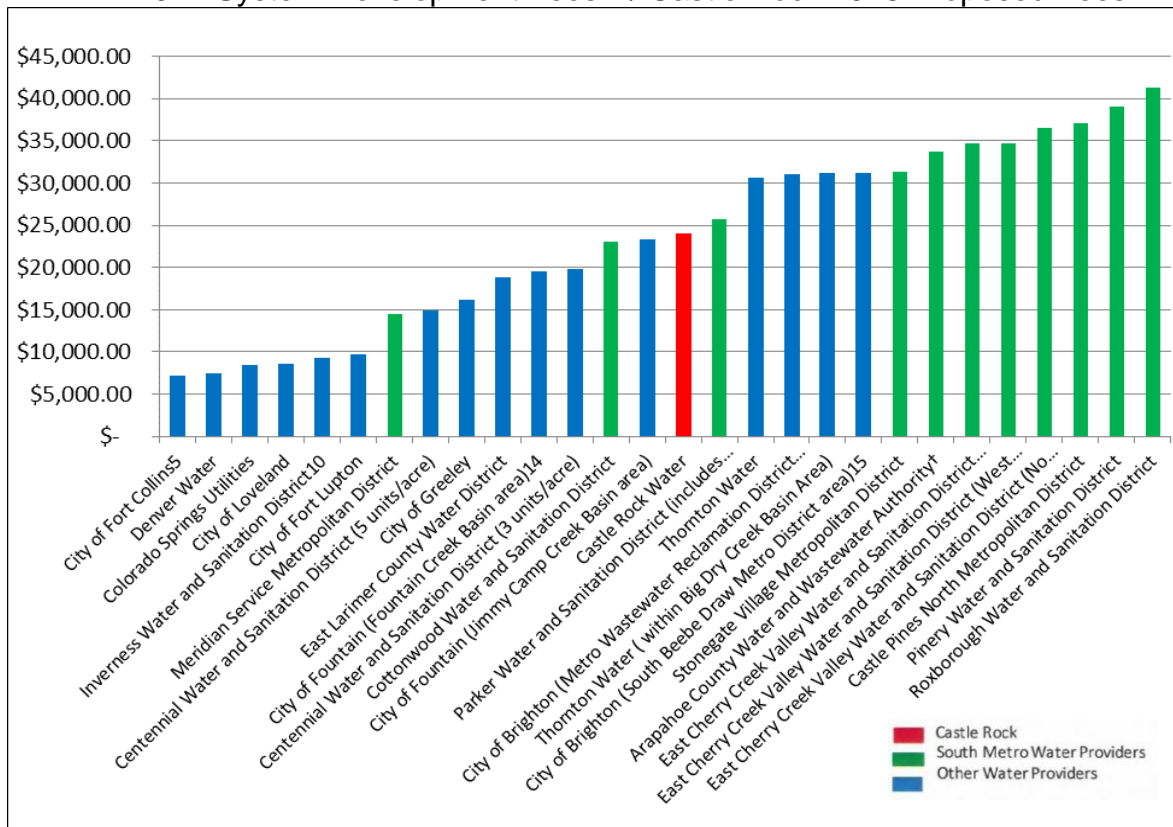
<b>PLUM CREEK BASIN</b>					
	2017 Actual Fees	"2017 Study" Proposed 2018 Fees	\$ Increase (Decrease)	% Change	"2016 Study" Proposed 2018 Fees
Water	\$3,314	\$3,510	\$196	5.9%	\$3,407
Water Resources	\$15,248	\$15,248	\$0	0.0%	\$15,675
Wastewater	\$3,437	\$3,959	\$522	15.2%	\$3,533
Stormwater	\$1,317	\$1,317	\$0	0.0%	\$1,354
<b>TOTAL</b>	<b>\$23,316</b>	<b>\$24,034</b>	<b>\$718</b>	<b>3.1%</b>	<b>\$23,969</b>

### CHERRY CREEK BASIN

	2017 Actual Fees	"2017 Study" Proposed 2018 Fees	\$ Increase (Decrease)	% Change	"2016 Study" Proposed 2018 Fees
Water	\$3,314	\$3,510	\$196	5.9%	\$3,407
Water Resources	\$15,248	\$15,248	\$0	0.0%	\$15,675
Wastewater	\$3,437	\$3,959	\$522	15.2%	\$3,533
Stormwater	\$843	\$843	\$0	0.0%	\$867
<b>TOTAL</b>	<b>\$22,842</b>	<b>\$23,560</b>	<b>\$718</b>	<b>3.1%</b>	<b>\$23,482</b>

As part of the review of proposed fees, Castle Rock Water reviewed Castle Rock Water system development fees compared to other providers in our area and Colorado. Stormwater development impact fees were not included in the evaluation due to the fact that many providers do not provide this service. System development fees that were incorporated include water and sewer tap fees, water development fees, outfall development fees (for reservoirs), metro sewer charges, construction water charges, renewable water fees, and water resource fees. Results of the comparison are shown in the following chart.

**Chart 7: SDF Rate Comparison with Surrounding Communities**  
2017 System Development Fees w/ Castle Rock 2018 Proposed Fees

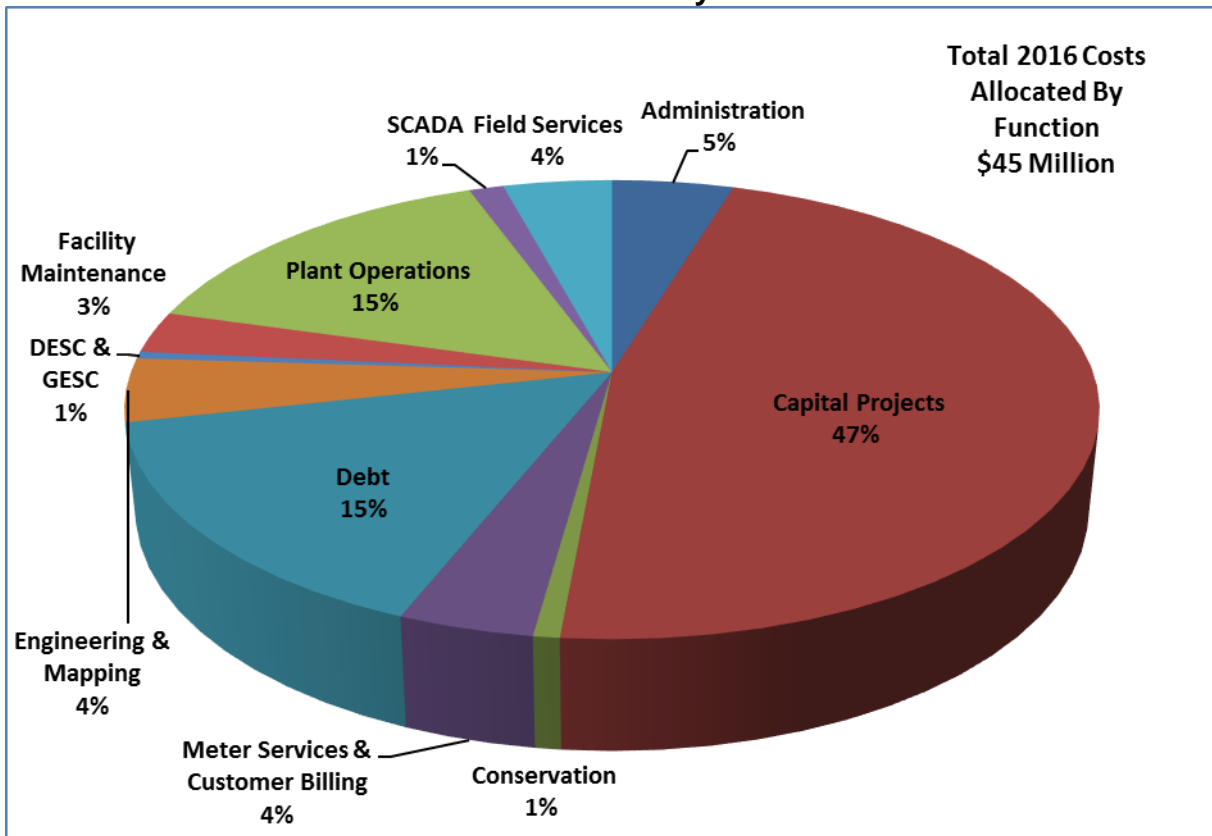


\*The Parker Water SDF includes a \$5,000 Water Resource's Toll, for a 3/4" meter, in the above calculation, which may not apply to all customers. Green on the chart indicates South Metro Water Providers.

## Utilization of Rates and Fees

The four enterprise services are funded by rates and fees. Chart 8 depicts Castle Rock Water year-end 2016 actuals from a water services functional perspective. Administration includes centralized services provided by other town departments.

**Chart 8: 2016 Costs by Function**

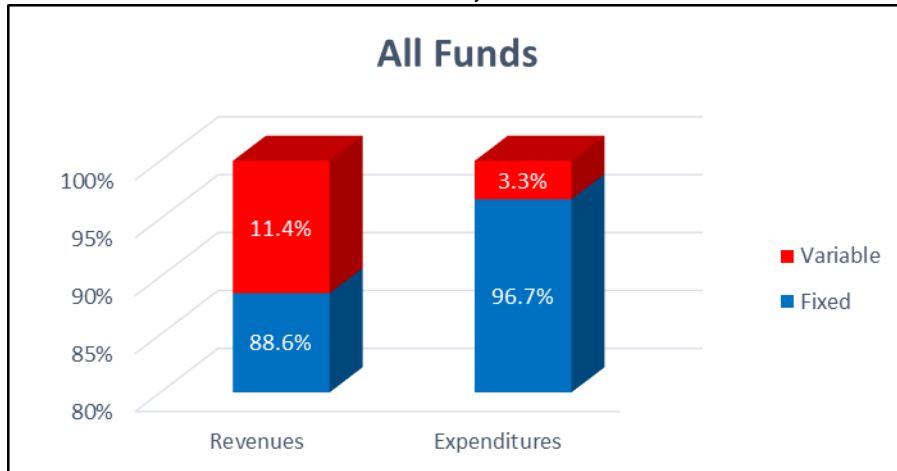


The chart above does not include a one-time \$64.4 million expense for debt refunding that is offset by revenues of \$60.2 million.

It is clear from this chart that the Capital Project Plan is a very significant portion of the rates and fees needed for operation of the funds. For the 2016 actuals, debt is also a larger portion of the expenses. There is also a \$64.4 million expense not shown in the chart due to a one-time expense for the 2016 refunding bonds, which is offset in revenues by \$60.2 million. The infrastructure intensive nature of the business results in significant fixed costs. Castle Rock Water wants to continue to implement a strategy, to the extent possible within our cost-of-service model, which matches fixed revenues with fixed costs to ensure revenue stability thereby minimizing the potential for future rate shocks. For year-end 2016 actuals, Chart 9 compares fixed costs to fixed revenues and variable costs to variable revenues for all four enterprises combined.



**Chart 9: Fixed Costs/Fixed Revenues; Variable Costs/Variable Revenues**



All reserves for operating expenditures, debt service coverage requirements and variable interest rates were maintained. Net fund balances were reviewed to help ensure smooth future rate increases.

### **Schedule**

The current schedule for the 2017 Rates and Fees Study targets the following milestones.

- July 27 – Castle Rock Water Commission update/discussion
- August 15 – Town Council discussion/direction
- August 23 – Castle Rock Water Commission recommendation
- September 5 – Town Council Rates and Fees recommendation, 1<sup>st</sup> Reading
- September 19 – Town Council Rates and Fees recommendation, 2<sup>nd</sup> Reading
- January 2018 – Rates and Fees Implementation

### **Staff Recommendation**

The recommended changes to 2018 adopted charges, rates and system development fees for single family equivalents based upon the results of the “2017 Study” are summarized below by enterprise fund.

#### **Water Fund**

1. Fixed Monthly Charge – no change
2. Volumetric Rates – no change
3. System Development Fee – 5.90% increase

#### **Water Resources Fund**

1. Fixed Monthly Charge – no change
2. System Development Fee – no change

#### **Stormwater Fund**

1. Fixed Monthly Charge – no change
2. Development Impact Fee - no change

**Wastewater Fund**

1. Fixed Monthly Charge – no change
2. Volumetric Rate – no change
3. System Development Fee – 15.20 %increase

Staff recommends moving forward with these recommended rates and fees, finalizing the “2017 Study” report and all of the associated data, and bringing the appropriate ordinances to Town Council for approval in accordance with the proposed schedule.