



STAFF REPORT

To: Honorable Mayor and Members of Town Council

From: Mark Marlowe, P.E., Director of Castle Rock Water

Date: December 7, 2021

Title: 2021 Rates and Fees Study Discussion / Direction

Executive Summary

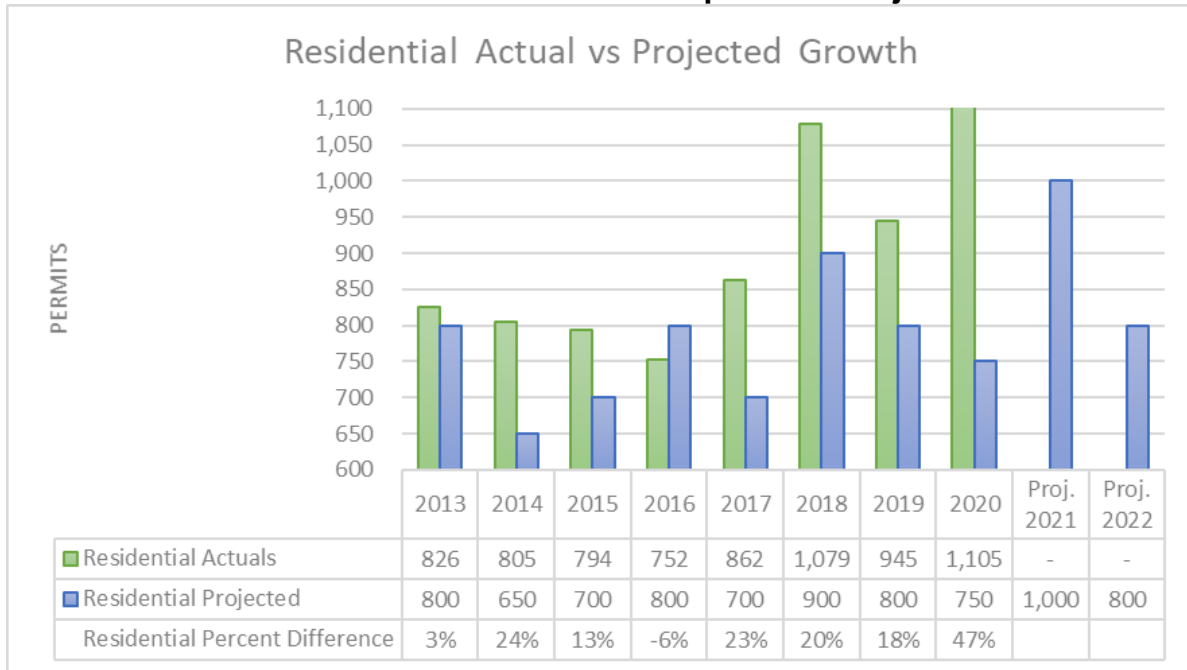
A primary goal of the annual rates and fees study is to evaluate the long-term financial plan for Castle Rock Water (CRW) to ensure that future rates and fees will cover future costs of service.

Table 1 summarizes the recommended 2022 residential rates from this year's study (2021 Study) compared to the 2021 adopted rates and projected 2022 rates from last year's study (2020 Study) for a typical single-family equivalent (SFE).

Table 1: Summary of Recommended Residential Rates

	2021 Adopted Rates	"2021 Study" Proposed 2022 Rates	\$ Change	% Change	"2020 Study" Proposed 2022 Rates
Water, Fixed	\$9.54	\$9.54	\$0.00	0.0%	\$9.83
Water, Tier 1, Volumetric	\$2.82	\$2.82	\$0.00	0.0%	\$2.90
Water, Tier 2, Volumetric	\$5.74	\$5.74	\$0.00	0.0%	\$5.91
Water, Tier 3, Volumetric	\$8.56	\$8.56	\$0.00	0.0%	\$8.82
Water, Surcharge, Volumetric	\$8.56	\$8.56	\$0.00	0.0%	\$8.82
Water Resources, Fixed	\$26.15	\$26.93	\$0.78	3.0%	\$26.93
Wastewater, Fixed	\$9.02	\$8.57	(\$0.45)	(5.0%)	\$9.02
Wastewater, Volumetric	\$6.39	\$6.07	(\$0.32)	(5.0%)	\$6.39
Stormwater, Fixed	\$7.12	\$7.30	\$0.18	2.5%	\$7.33
Total Fixed	\$51.83	\$52.34	\$0.51	1.0%	\$53.11

Key assumptions for growth projections, customer characteristics, capital improvement plans, fund balances, and revenue and expenditures forecasts were reviewed and updated by staff to determine the impact they each have on the recommended rates. The water supply and demand model was also evaluated taking the growth projections in Chart 1 below in mind to make sure that the capital plan was keeping pace with growth and that the timing of capital projects continues to be appropriately scheduled.

Chart 1: Residential Actual Growth Compared to Projected Growth

Note: Actual Annual Average 2013 to 2020: 896 Residential Permits

There were no major changes to customer characteristics affecting this year's recommendations. With respect to capital plans, there were some significant changes to the five-year capital plans, but there were also several major changes to the long term (>5 years out) capital plan which were made for this study year. Upcoming regulatory changes were incorporated into the project planning including changes to the lead and copper rules and future rules being developed now that will impact reuse water (specifically direct potable reuse). Significant changes to the five-year capital plan by enterprise are summarized in Table 2 and in more detail below.

Table 2: 5 Year CIP and Long Term CIP Differences

Fund	2021 Study CIP 2022-2026	2020 Study CIP 2021-2025	Variance	2021 Study CIP thru 2060	2020 Study CIP thru 2060	Variance
Water	\$45,819,547	\$36,766,344	\$9,053,203	\$302,853,812	\$259,883,000	\$42,970,812
Water Resources	\$96,907,950	\$59,199,312	\$37,708,638	\$525,619,757	\$470,313,328	\$55,306,429
Stormwater	\$13,932,056	\$15,315,609	\$(1,383,553)	\$135,107,884	\$130,531,063	\$4,576,821
Wastewater	\$25,741,188	\$27,673,508	\$(1,932,320)	\$186,916,719	\$171,459,381	\$15,457,338
Total All Funds	\$182,400,741	\$138,954,773	\$43,445,968	\$1,150,498,172	\$1,032,186,772	\$118,311,400

Water Fund:

- Added Advanced Metering Infrastructure (AMI) in the 5-year planning period of \$5.7M for water fund's 50% portion of the project
- Added Well Redrill and raw water pipeline for Bell Mountain Ranch for \$4.0M to be constructed in 2022 as well as upgrades to the Bell Mountain Water Treatment Plant.

Water Resources Fund:

- Added Advanced Metering Infrastructure (AMI) in the 5-year planning period of \$2.8M for water resources fund's 25% portion of the project
- Added \$10.0M for Newlin Gulch Pipeline and Pump Station
- Added \$14.4M for water rights acquisitions
- Added \$5.2M for Cherry Creek Basin Infrastructure
- Added \$13.0M for WISE Infrastructure for the Parker Midsection Pipeline Project

Stormwater Fund:

- Added \$0.3M in funding for corrugated metal pipe rehabilitation
- Added \$0.25M in funding for updating drainage way master plans

Wastewater Fund:

- Added Advanced Metering Infrastructure (AMI) in the 5-year planning period of \$2.8M for wastewater fund's 25% portion of the project

Castle Rock Water is also adding a wheeled excavator for maintenance of infrastructure that will be allocated across all four enterprise funds. The primary factors affecting revenue and expenditure forecasts in the rate models are as follows:

- 1) Included in the staffing plan for 2022 are three new full time equivalents (FTEs) which include a Meter Services Technician, Water Plant Operator and a Stormwater Conveyance System Operator. There are 11 total FTEs added through 2026.
- 2) Changed timing of many capital projects consistent with water supply and demand model as well as availability of capital reserves.
- 3) Updated capital plan costs consistent with current capital project cost estimates and changes to the Engineering News Record Construction Cost Index.
- 4) Added new long term capital projects to meet needs of growth, provide for improvements to the system where necessary to meet upcoming regulatory changes, and make sure rehabilitation and replacement of existing infrastructure was covered.

Table 3 provides context for the recommended rate action by providing the history of rate action over the last five years as well as a comparison to the Consumer Price Index (CPI) and the Engineering News Record (ENR) Construction Cost Index (CCI).

Table 3: 5 Year Rate Increase History, CPI and ENR CCI

Rate Increase History					
Fund	2017	2018	2019	2020	2021
Water	3%	0%	3%	0%	0%
Water Resources	0%	0%	0%	0%	0%
Stormwater	4%	0%	0%	0%	0%
Wastewater	0%	0%	0%	(3%)	0%
Consumer Price Index (CPI) History					
	2016	2017	2018	2019	2020
CCI	2.8%	3.4%	2.7%	1.6%	1.6%
Engineering News Record Construction Cost Index (ENR CCI) History					
	2016	2017	2018	2019	2020
ENR	2.5%	3.3%	3.2%	2.8%	3.0%

Table 4 summarizes the proposed system development fees (SDFs) for 2022 per SFE.

Table 4: Summary of Recommended System Development Fees (SDFs)

	2021 Adopted SDFs	“2021 Study” Proposed 2022 SDFs	\$ Change	% Change	“2020 Study” Proposed 2022 SDFs
Water	\$4,030	\$5,700	\$1,670	41.4%	\$4,151
Water Resources	\$18,504	\$26,458	\$7,954	43.0%	\$19,059
Wastewater	\$4,023	\$4,909	\$886	22.0%	\$4,144
Stormwater, Plum Creek	\$1,425	\$2,128	\$703	49.3%	\$1,468
TOTAL Plum Creek	\$27,982	\$39,195	\$11,213	40.1%	\$28,822
Stormwater, Cherry Creek	\$911	\$1,116	\$205	22.5%	\$939
TOTAL Cherry Creek	\$27,468	\$38,183	\$10,715	39.0%	\$28,293

For SDFs related to new development, Castle Rock Water recommends an increase of \$11,213 per SFE in the Plum Creek Basin and an increase of \$10,715 per SFE in the Cherry Creek Basin, an increase of 40.1% and 39.0% respectively. This recommendation is consistent with Town Council’s policy on SDFs that growth pays for growth.

Several factors are driving the recommended increases in SDFs identified in the SDF model and financial model. First, Castle Rock continues to see strong growth in both residential and non-residential customers from existing entitlements in Town. There are also a number of extraterritorial commitments coming online and future annexations under consideration. To keep pace with this population increase, additional projects have been added to the long term plan over the last several years and the infrastructure and capital costs for these projects are now better defined. Additional infrastructure and the costs for that infrastructure have also been identified to meet the increased peak demands from a larger customer base. Next, the pace of growth has exceeded

projections as show in Chart 1. This drives the need to build projects to meet annual water supply needs sooner creating the need to generate more revenue sooner. It also requires building peak demand capacity sooner than expected. For example, recent growth has driven the need for additional water SDFs for new wells to help fill the supply needs until longer term renewable water projects can be completed. If growth was occurring more slowly, these wells might not have been needed. Project costs continue to rise year over year as shown in the ENR CCI. The future costs of water rights purchases are expected to increase drastically due to recent purchase activity values, specifically the bid on the Castle Pines North Metro District water rights in the middle South Platte River. Finally, the details and needs of some of our longer term projects are becoming more defined as implementation occurs.

The proposed SDF changes keep Castle Rock competitive with other surrounding South Metro water providers who also need to fund investments in long-term renewable water supply as shown in Table 5 below:

Table 5: Comparison of System Development Fees (SDFs) – Plum Creek Basin

Community	2021 Adopted Fees w/CRW 2022 Proposed
Denver Water	\$ 7,710.00
Colorado Springs Utilities	\$ 8,401.00
Inverness Water and Sanitation District	\$ 9,174.00
City of Loveland	\$ 9,967.00
Centennial Water and Sanitation District (5 units/acre)	\$ 14,901.00
City of Fort Lupton	\$ 17,864.00
Meridian Service Metropolitan District	\$ 18,000.00
City of Greeley	\$ 18,402.00
City of Fountain (Fountain Creek Basin area) ¹⁴	\$ 19,449.00
Centennial Water and Sanitation District (3 units/acre)	\$ 19,709.00
City of Fountain (Jimmy Camp Creek Basin area) ¹⁴	\$ 23,314.00
Cottonwood Water and Sanitation District	\$ 26,740.00
East Larimer County Water District	\$ 27,908.60
Thornton Water	\$ 30,962.00
Thornton Water (within Big Dry Creek Basin Area)	\$ 31,454.00
City of Fort Collins ^{5, 6, 7}	\$ 33,504.09
City of Brighton (Metro Wastewater Reclamation District area) ¹⁵	\$ 34,321.00
City of Brighton (South Beebe Draw Metro District area) ¹⁵	\$ 34,496.00
Parker Water and Sanitation District	\$ 35,800.00
Stonegate Village Metropolitan District	\$ 36,052.88
East Cherry Creek Valley Water and Sanitation District (West Toll Gate Creek Storm Drainage Basin)	\$ 37,280.00
Arapahoe County Water and Wastewater Authority [†]	\$ 37,618.00
East Cherry Creek Valley Water and Sanitation District (Piney Creek Storm Drainage Basin)	\$ 37,750.00
Castle Rock Water (Plum Creek Basin)	\$ 39,195.00
East Cherry Creek Valley Water and Sanitation District (No Name Creek Storm Drainage Basin)	\$ 39,330.00
Pinery Water and Sanitation District	\$ 43,685.00
Sterling Ranch CAB	\$ 45,370.00
Roxborough Water and Sanitation District	\$ 47,167.00
Castle Pines North Metropolitan District	\$ 51,242.00

Staff recommends moving forward with these proposed rates and fees, finalizing the “2021 Study” report and all of the associated data, bringing the appropriate ordinances to Town Council for approval on September 21, 2021, and December 7, 2021 and incorporating the proposed rates and fees into the 2022 proposed budget. Concurrent with the preparation of the proposed rates and fees for 2022, staff has updated the Financial Management Plan (FMP), to ensure the study is consistent with the goals of the FMP, which are:

- To minimize debt carrying costs at or below industry standards. *CRW continues to stay in the top 25% in the industry with the lowest debt.*
- To minimize risk by keeping fixed versus variable revenues and expenses equal to or matching where possible. *CRW focuses on keeping these matched to the extent possible while still sending a conservation oriented message with a variable rate. CRW’s success with balancing the revenues and expenses for fixed and variable components is shown in Chart 7 below.*
- To keep costs at or under budget for capital and operational budgets each year by fund and to continuously strive towards more efficient operations. *As shown in Table 6 below, CRW is keeping costs under budget.*
- To keep our rates and fees competitive with surrounding communities. *CRW rates and fees compare somewhere in the middle of the benchmarking as seen in the rates comparisons in Charts 2-3 and the system development fees in Chart 5.*
- To keep adequate reserves and maintain fund balances between minimums and maximums. *CRW continues to maintain adequate reserve balances in all funds for operating, catastrophic event, rate revenue stabilization and capital reserve.*
- To keep rates and fees affordable within various national affordability indices. *Last year CRW had Stantec’s help in looking at two affordability methods created by Teodoro. The first of these shown below in Figure 1 is the Affordability at the 20th Income Percentile (AR20). This method measures the affordability of the average water and wastewater bill to the 20th percentile income. This indicates that of the monthly disposable income for this group, 4.36% is spent on essential water and wastewater usage for CRW. The average for large cities is 12.4%, which puts CRW well below average, a positive result.*

The second method, shown in Figure 2 below is the Basic Household Water and Sewer Cost Expressed in Terms of Hours of Labor at Minimum Wage (HM). This metric shows the number of hours required for one to work at minimum wage to pay the monthly water bill. For CRW this has come in at 7.71 hours. The average for large cities is at 10.1, which puts CRW slightly below average, again a positive result.

Figure 1: Affordability at the 20th Income Percentile (AR20)

Affordability At The 20th Income Percentile (AR ₂₀)			
		Source	
People Per Household	4	Journal AWWA January 2018 (values from Teodoro article)	
Essential Water Volume*	50	Journal AWWA January 2018 (values from Teodoro article)	
Typical Monthly Household Essential Volume	6,000		
Water Monthly Consumption			
Tier 1	4,300		
Tier 2	1,700		
Water 3/4" Residential Base Charge	\$ 9.54		
Wastewater Monthly Consumption			
Tier 1	4,300		
Wastewater 3/4" Residential Base Charge	\$ 9.02		
Monthly Household Cost Of Essential Water Services	\$ 31.42	FY 2020 CRW Water Rates	
Monthly Household Cost Of Essential Wastewater Services**	\$ 36.51	FY 2020 CRW Wastewater Rates	
Monthly Household Cost Of Essential Renewable Water Services	\$ 17.52	FY 2020 CRW Renewal Water Rates	
Monthly Household Cost Of Essential Stormwater Services	\$ 7.12	FY 2020 CRW Stormwater Rates	
Total Cost of Essential Water and Sewer Services	\$ 92.57		
Annual Household Income (20th Percentile)***	\$ 51,953	American FactFinder, American Community Survey (Castle Rock Town)	
Annual Essential Household Expenses****	\$ 26,475	Consumer Expenditure Survey - Table 3134 West Region	
Annual Disposable Income	\$ 25,478		
Monthly Disposable Income	\$ 2,123		
AR ₂₀	4.36%	Teodoro Study average of 12.4% for 25 largest US cities.	

* Essential water volume in gallons per capita per day based upon *Water and Sewer Affordability in the United States*, M.P. Teodoro, 2019.
 ** Wastewater services charged based on average winter monthly consumption of 4,300 gallons.
 *** "This focus on the 20th percentile household aligns the analysis of water and sewer affordability with mainstream assessments of welfare economics, which typically identify the 20th percentile as the lower boundary of the middle class." - Teodoro
 **** Does not include water and sewer services. Reflects expenses at an income level between \$50,000 and \$69,999 in the western region.

Figure 2: Basic Household Water and Sewer Cost Expressed in Terms of Hours of Labor at Minimum Wage (HM).

Basic Household Water And Sewer Cost Expressed In Terms Of Hours Of Labor At Minimum Wage (HM)			
		Source	
People Per Household	4	Journal AWWA January 2018 (values from Teodoro article)	
Essential Water Volume*	50	Journal AWWA January 2018 (values from Teodoro article)	
Typical Monthly Household Essential Volume	6,000		
Monthly Household Cost Of Essential Water Services	\$ 31.42	FY 2020 CRW Water Rates	
Monthly Household Cost Of Essential Wastewater Services**	\$ 36.51	FY 2020 CRW Wastewater Rates	
Monthly Household Cost Of Essential Renewable Water Services	\$ 17.52	FY 2020 CRW Renewal Water Rates	
Monthly Household Cost Of Essential Stormwater Services	\$ 7.12	FY 2020 CRW Stormwater Rates	
Total Cost of Essential Water and Sewer Services	\$ 92.57		
Minimum Wage	\$ 12.00	https://www.colorado.gov/pacific/cdle/minimumwage	
HM	7.71	Teodoro Study average of 10.1 for 25 largest US cities.	

* Essential water volume in gallons per capita per day based upon *Water and Sewer Affordability in the United States*, M.P. Teodoro, 2019.
 ** Wastewater services charged based on average winter monthly consumption of 4,300 gallons.

- To develop regional partnerships to provide economies of scale to reduce total costs of infrastructure to our customers. *CRW has formed many partnerships with individual water providers like Dominion and Parker and regional organizations such as South Metro Water Supply Authority, WISE Authority, Plum Creek Water Reclamation Authority (PCWRA), and Cherry Creek Project Water Authority, just to name a few.*
- To be an industry leader in the application of financial management benchmarking ourselves against others locally and nationally. *Castle Rock Water has thirty different key performance objectives and indicators (KPIs) with measurable outcomes. Many of which are benchmarked against other water providers nationally, regionally and locally. More information and results for these KPIs are available in our strategic plan.*

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

Castle Rock Water (CRW) Commission reviewed at least one aspect or component of the annual rates and fees study process and the 2019-2021 rates and fees studies at each of their meetings from October 2019 to August 2021 to provide staff with input. For a complete list of topics, please see the CRW Commission agendas.

On May 26, 2021, CRW Commission reviewed the Customer Characteristics Analysis for the 2021 rates and fees study with staff.

On July 28, 2021, the results of the 2021 annual rates and fees study were presented to CRW Commission by staff for discussion and direction. CRW Commission was supportive of staff recommendations at this time.

On August 25, 2021, the staff recommendation for 2022 rates and fees was reviewed in detail with the CRW Commission. The CRW Commission unanimously recommended Council adopt the proposed 2022 rates and fees as presented by staff.

Notification and Outreach Efforts

The proposed SDFs have been sent to the Economic Development Council (EDC) for distribution to the home builders, developers and other interested parties among the development community.

Castle Rock Water presented the proposed SDFs at the Developer's Roundtable on August 18, 2021.

Castle Rock Water presented the proposed SDFs to the EDC Water Subcommittee on August 20, 2021.

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 calculated and 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 new 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 the time of permitting, Stormwater DIFs 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.

For the fifth year in a row, Castle Rock Water has engaged Stantec Consulting Services, Inc. to assist with preparation of the Study. To reduce costs, Castle Rock Water staff continued to prepare the Customer Characteristics Analysis in-house for the 2021 Study. However, to provide a variation in the review process, Stantec prepared the System Development Fees models, Financial Rate Models, and the Cost of Service Models for the 2021 Study.

The “2021 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 Updates
4. Revenue and Expenditures Forecast Updates (in conjunction with budgeting)
5. Rates & Fees Modeling
6. Cost of Service Modeling
7. Community Engagement

Growth Forecast

The growth forecast for customers in Town continues to be developed in conjunction with Development Services based on both historical performance, discussions with developers and home builders, and anticipated changes to economic conditions in the coming year. Customers that may be served through extraterritorial agreements are evaluated by Castle Rock Water and added to the totals within the Town boundaries as appropriate. Growth forecasts include all customer classes converted to single family equivalents. For the 2021 rates and fees study, the growth forecast for the next five years was estimated as follows:

2022	868 single family equivalents
2023	863 single family equivalents
2024	853 single family equivalents
2025	843 single family equivalents
2026	832 single family equivalents

For years beyond the five-year window, Castle Rock Water used an average value of 721 single family equivalents for future growth of the customer base in the financial models. Based on these growth projections build-out in the community and service to extraterritorial areas could occur by 2056, assuming current maximum estimated build-out of 155,000 people is reached.

New customers provide revenues through SDFs to fund growth-related capital projects and the monthly revenues to fund the remaining costs as an existing rate customer. Actual growth in 2020 was strong with a continuation into 2021. So far, 2021 is matching expectations with 543 (as of June 2021) new customer meter sets year to date compared to 477 as of June 2020. 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. Growth in 2022 and beyond is difficult to predict. As a result, Castle Rock Water uses a conservative approach to estimating future growth. If growth falls short of current forecasts, revenues in 2022 and beyond could fall short of requirements for the current capital plans requiring a delay on some of these projects. Similarly, if growth significantly exceeds current forecasts, capital projects will need to be moved forward. Castle Rock Water uses our water supply and demand model to evaluate the pace of growth as it relates to our capital improvement plans to ensure that we have the ability to react to changes in actual growth relative to the projected growth.

Customer Characteristics Analysis

The Customer Characteristics Analysis was reviewed with the CRW Commission in May of this year. A complete copy of the report is available from Castle Rock Water. There were no major changes to customer characteristics affecting this year's rates and fees recommendations as noted in the Executive Summary.

Capital Improvement Projects Forecast Updates

A complete discussion of the capital improvement project forecast updates was provided in the Executive Summary. As noted in this summary, significant additions were made to the long term capital plan. Costs for renewal and rehabilitation of existing infrastructure, improvements to existing infrastructure to meet upcoming regulatory requirements, infrastructure additions driven by the renewable water program and an updated growth forecast are incorporated into the study. Capital costs are escalated by 3.00% per year in future years past 2022 consistent with the latest ENRCCI in the financial model.

Revenues and Expenditures Forecast Updates

As in previous years, complete revenue and expenditure forecast updates were prepared along with the budgeting process. Table 6 outlines the comparison of the 2021 Budget and 2021 YE Estimates to the 2022 Proposed Budget.

Table 6: 2021-2022 Budget Comparison

Account Type	Category	2021 Budget	2021 YE Estimates	2022 Budget	2021 YE Estimates to 2022 Budget % Change
Revenues	Charges for Service	\$43,018,705	\$43,587,128	\$45,732,600	4.9%
	Contributions & Donations	\$31,825	\$571,825	\$426,925	(25.3%)
	Fines & Forfeitures	\$394,450	\$303,160	\$500,950	65.2%
	Intergovernmental Revenue	\$350,000	\$350,000	\$150,000	(57.1%)
	Investment Earnings	\$532,975	\$380,394	\$1,097,112	188.4%
	Licenses & Permits	\$12,000	\$10,000	\$8,000	(20%)
	Other Revenue	\$4,390,455	\$3,884,932	\$867,159	(77.7%)
	System Development Fees	\$23,660,371	\$30,119,782	\$32,109,340	6.6%
	Transfers In	\$6,323,582	\$63,999	\$64,000	0.0%
Total Revenues		\$78,714,363	\$79,271,220	\$80,956,086 ⁽¹⁾	2.1%
Expenses	Capital	\$69,532,508	\$50,141,972	\$63,538,837	26.7%
	Debt & Financing	\$6,004,265	\$6,004,420	\$6,921,200	15.3%
	Personnel	\$10,044,159	\$10,405,840	\$11,238,600	8.0%
	Services & Other	\$22,729,483	\$19,996,976	\$21,448,185	7.3%
	Supplies	\$2,800,029	\$2,702,817	\$3,442,381	27.4%
	Transfers Out	\$7,008,718	\$699,925	\$594,558	(15.1%)
Total Expenses		\$118,119,162	\$89,951,950	\$107,183,761	19.2%

⁽¹⁾ The 2022 budgeted revenues do not include revenues associated with the proposed rate increases or SDF increases as those have not yet been approved by Council. The proposed rate increases and SDF increases will bring the revenue budget for 2022 to \$92.5M if approved.

The combined 2022 revenue budget (not including rate increases) for the department is \$81 million and represents a 3% increase from the 2021 budget, and a 2% increase from the 2021 year-end estimates. The increase is primarily due to growth in the customer base and increases in system development fees.

The combined 2022 expenditure budget associated with the major functions for the various Castle Rock Water enterprises is approximately \$107 million, a decrease of 9% from the 2021 amended budget and an increase of 19% over the 2021 year-end estimate. These changes are due to large changes in proposed capital spending in 2022 relative to 2021. Capital budgeting is variable based on long-term project planning and opportunity.

With respect to the operational budgets, the total combined budget for 2022 is approximately \$43.6 million. This is a 10% decrease to the 2021 Amended Budget and a 10% increase from the 2021 year-end estimates. The big change relative to the 2021 Amended Budget is driven by large transfers which were not required in 2021 but had been budgeted. The increase over the 2021 year-end estimate is due to increases in debt costs as the new stormwater bank loan begins to be paid back, increases in personnel costs both for new full time equivalents and an 8% increase in medical costs, increases in the amount of WISE water that will be taken as WISE ramps up towards full deliveries, and increased costs for supplies. The department is requesting three new positions, a Meter Services Technician, a Stormwater Field Services Operator, and a Water Treatment Plant Operator.

The 2022 capital budget across the Castle Rock Water Enterprises is approximately \$63.5 million, a 9% decrease over the 2021 Amended Budget and a 27% increase over the 2021 year-end estimates. Revenue and expense forecasts were completed through 2026 and then escalated in the models for years past 2026.

Fund Balances

Based on the revenue and expense forecasts, fund balances are reviewed through 2026 closely and more generally through the entire modeling period out to 2060. Savings in actual costs and the timing of spending on capital costs verses budgets each year have helped to keep fund balances stable throughout the years and projections through 2026 continue this trend. Fund balances need to be built up with capital reserves ahead of large capital projects to ensure the money is available to proceed on the projects when the projects are needed to meet growth and other service goals. Fund balances are then drawn down significantly as capital reserves are spent on these projects. Keeping close tabs on the fund balances ensures that there are no negative impacts on the long term financial plan when large projects must be funded.

Fund balance for the Water Fund is projected to dip below average values of \$17M through 2025 and then recover in 2026 to above average levels. In the Water Resources Fund, values have been slowly dropping for the last five years and will drop to a low of about \$17M due to spending on large capital projects in 2022 and 2023. Fund balance then recovers to above \$50M by 2026 ahead of large expenditures planned on the Box Elder Project in the late 2020s. Current modeling indicates that debt issuance may be needed in the late 2020s to meet the full capital needs of the Box Elder Project by 2030. Stormwater Fund balance hit a high value in 2020 of around \$15M associated with the Bank Loan and then is projected to fall rapidly through 2025 as large capital investments are completed associated with that loan and other major capital projects are started. Wastewater Fund balance dropped to very low levels in 2019 as investments in the wastewater treatment plant were made. For this fund, the balance is expected to recover and grow through 2026 ahead of future wastewater plant improvements and expansions.

Rate Revenue

The combined 2022 revenue projection for the department assuming the recommended rates and fees are approved is \$92.5 million and represents a 18% increase from the 2021 budget, and a 17% increase from the 2021 year-end estimates. The increase is primarily due to growth in the customer base and increases in system development fees. Proposed increases in the Water Resources and Stormwater fixed fees are offset by proposed decreases in the Wastewater fixed fee and variable rate. While fixed revenues in the four enterprise fund models are set to generally trend up with the projected growth, variable revenues can be difficult to predict. These variable revenues are subject to two primary drivers, 1) weather and 2) national, state and local pressure to conserve water or at least use it more efficiently. For the 5-year planning period, CRW is forecasting annual increases of about 5% per year through 2026. As always, Castle Rock Water is aware of the need to be cautious when projecting rate revenues due to the unpredictability of weather, conservation efforts and sustainable growth.

Non-Rate Revenues

Non-rate revenues are generated through charges and fees for miscellaneous or ancillary services not accessed or used by the broader customer base. 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. In these cases, Castle Rock Water may set a special charge above the cost of service. Two recent examples of this include the Residential Landscape and Irrigation Inspection Fee and Meter Set Inspection Fees. Castle Rock Water is having issues with home builders failing these inspections multiple times which is creating resource issues for the department. As such, these fees have been set to escalate after each failed inspection. Other special charges include late charges, disconnection charges, service transfer charges and administrative related fees, just to name a few. Proposed special charges for 2022 are shown in Table 7 below.

Staff has found a more efficient way to process the administrative lien and recording fees electronically which has significantly reduced the proposed fee for 2022. The fee to perform a bulk hydrant meter and backflow inspection has increased due to the average time it takes to reach the various developments, who typically are the users of the bulk hydrant meters. Each bulk hydrant meter is calibrated when it is returned and before being issued to a new customer. Most of those calibrations are done in-house by staff, however there are times they are submitted to a third party to calibrate. The \$150 fee captures the in-house costs.

Table 7: Special Charges/Fees

Special Charge (Fee)	Cost of Service	Adopted 2021 Fee Amounts	Proposed 2022 Fee Amounts	Benchmark Range	Benchmark Average
Returned Payment Charge	\$27.86	\$30.00	\$30.00	\$15.00-\$75.00	\$29.37
Water Service Transfer Fee	\$37.52	\$40.00	\$40.00	\$12.00-\$100.00	\$38.00
Administrative Lien & Recording Fee	\$69.19	\$92.00	\$69.00	\$13.00-\$90.00	\$51.60
Bulk Water Read Fee – Via Phone	\$12.64	\$12.00	\$13.00	\$50.00	\$50.00
Bulk Water Read Fee – Via On Site	\$70.23	\$67.00	\$71.00	\$25.00-\$250.00	\$90.00
Bulk Hydrant Meter & Backflow Inspection	\$86.66	\$75.00	\$90.00	\$25.00-\$75.00	\$49.60
Bulk Hydrant Inspection No Show Trip Charge	\$49.70	\$43.00	\$50.00	Not Available	Not Available
Bulk Hydrant Meter Calibration	\$190.96	\$150.00	\$150.00	\$75.00-\$350.00	\$212.50
Customer Requested Meter Bench Test (Passing Meter)	\$47.00	\$47.00	\$47.00	\$0-\$165.00	\$82.33
Delinquency Disconnection/Reconnection	\$43.78	\$45.00	\$45.00	\$15.00-\$300.00	\$81.18
Customer Requested Service Disconnection/Reconnection	\$83.58	\$80.00	\$84.00	\$20.00-\$100.00	\$60.16
Canyons South Meter Lockout	\$97.23	\$95.00	\$98.00	Not Available	Not Available
Meter Set Re-inspection (1 st inspection included in meter set fees) ⁽¹⁾	\$49.06	\$50.00	\$50.00	\$25.00-\$1,500.00	\$209.18
Irrigation Permit	\$610.00	\$555.00	\$610.00	Not Available	Not Available
Landscape Contractor Registration	\$59.05	\$65.00	\$65.00	Not Available	Not Available
Residential Landscape & Irrigation Inspection ⁽²⁾	\$42.54	\$37.00	\$45.00	Not Available	Not Available
Irrigation Permit Re-inspection	\$109.82	\$105.00	\$110.00	Not Available	Not Available
Irrigation Disconnection/Reconnection (due to non-compliance)	\$83.58	\$80.00	\$84.00	Not Available	Not Available
Temporary Sod Exemption	\$8.82	\$8.00	\$9.00	Not Available	Not Available

⁽¹⁾ The proposed fee doubles after each failed inspection for the reinspection, e.g. after the second failed inspection, the reinspection fee will go to \$100, after the third it will go to \$200, and so on.

⁽²⁾ The proposed fee doubles after each failed inspection for the reinspection, e.g. the second inspection will cost \$90, the third inspection \$180, and so on.

Personnel

The 2022 budget includes three new full time equivalents (FTEs). These include a Meter Services Technician, Water Plant Operator and a Stormwater Conveyance System Operator. From 2023 to 2026, Castle Rock Water is projecting adding eleven FTEs including a stormwater inspector, conservation technician, two network and controls positions, and a field services operator in 2023; a plant mechanic, field services operator and customer service representative in 2024; a plant mechanic and lab supervisor in 2025; and a field services operator in 2026. 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 changes to the pay and benefits plans. After 2026, costs for personnel are escalated by 1.55% which is the current CPI.

Electricity

The third largest operating cost, electricity, reflects full operation of the Plum Creek Water Purification Facility and other treatment plants, alluvial and groundwater well operations and pumping associated with water and wastewater service. Castle Rock Water has implemented an energy management and system optimization plan to maximize the efficiency of electrical usage. Electricity costs for the five-year period are projected to increase by 5% per year. After 2026, electricity costs are escalated by 1.55% consistent with the current CPI.

Operations & Maintenance

Cost projections include operating and maintenance costs for CRW. These costs are mostly steady with slight increases over the five-year planning period with the exceptions of the following key items:

- Meter costs under supplies are going up significantly as we transition to advanced metering infrastructure
- Operating costs for WISE will continue to increase as the full quota of Castle Rock's WISE water is delivered with that occurring in 2026
- Stormwater is adding significant operational costs associated with a program for the inspection of aging corrugated metal stormwater pipes

This results in increases of 28% over the five-year period. To ensure only costs needed are included in the budget, line item details are reviewed. With the construction of new wells, PCWRA expansion, PCWPF expansion and other various projects being completed operating costs are still being collected to better understand the increase each year as our infrastructure and assets grow. After 2026, operations and maintenance costs in the model are increased by 1.55% consistent with the 2020 CPI.

Rates and Fees and Cost of Service Modeling

Once the first four steps are completed, the capital plan is put into the system development fee models along with the projected new single family equivalents that this capital will support. Proposed system development fees from these models are then put into time based financial models otherwise known as the rates and fees models, one for each enterprise. These models look at financial data through 2060. For purposes of this year's models, no debt issuances have been included. Castle Rock Water then works to ensure that over the modeling period (out to 2060):

- there are no large rate increases forecasted (greater than 5%) to be needed
- fund balances are maintained within reasonable limits according to upcoming capital needs through 2060
- Minimum reserves are maintained for all enterprises throughout the study period

If these conditions are not met, adjustments are made to the capital plan and operating expenses where changes can be made without impacting levels of service to balance these items. Revenue requirements for each enterprise are then determined from the models based on the change in revenue needs for each enterprise according to the forecast capital and operational expenses. Once the total revenue requirements are identified in each enterprise, cost of service models are used to spread those revenue requirements over the different customer classes. The end results are the rates and fees recommendations.

Proposed Rates and Fees for 2022 through 2026

Based on impacts of the revised capital plan and projected system growth by fund as well as the other key changes, the "2021 Study" has resulted in projected required rate revenue increases as shown in Table 8 below.

Table 8: Rate Required Revenue Increases by Enterprise – “2021 Study”

	2022	2023	2024	2025	2026
Water Fund	0.0%	3.0%	3.0%	3.0%	3.0%
Water Resources	3.0%	3.0%	3.0%	3.0%	3.0%
Stormwater	2.5%	3.5%	3.5%	3.5%	3.5%
Wastewater	(5.0%)	0.0%	0.0%	0.0%	0.0%

After careful planning and review of operating costs and capital plans in this year’s study, the overall impact will be a 3.0% increase in Water Resources, 2.5% increase in Stormwater and a 5% decrease in Wastewater. 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.

For the “2021 Study”, there is a slight decrease in the average annual bill for the typical residential customer due to the rate changes being recommended in 2022. For other customer classes, there is either a slight decrease to the annual bill or a slight increase depending on customer usage patterns. For example, irrigation only customers will see a slight increase to their annual bills since they do not use wastewater. Table 9 summarizes these impacts to typical annual utility bills for various customer classes.

Table 9: 2022 Rate Adjustment Recommendations and Total Typical Annual Utility Bills

Customer Class	2021 Actual Typical Annual Bill	“2021 Study” Proposed 2022 Typical Annual Bill	\$ Change	% Change	“2020 Study” Proposed 2022 Typical Annual Bill
Residential ¾” Meter	\$1,285.17	\$1,275.93	(\$9.24)	(0.7%)	\$1,311.28
Commercial Indoor ¾” Meter	\$2,117.35	\$2,124.44	\$7.09	0.3%	\$2,166.12
Commercial Indoor 1½ ” Meter	\$9,001.56	\$8,947.88	(\$53.68)	(0.6%)	\$9,172.10
Commercial w/Irrigation ¾” Meter	\$2,656.75	\$2,674.11	\$17.36	0.7%	\$2,721.70
Commercial w/Irrigation 2” Meter	\$16,243.81	\$16,187.73	(\$56.08)	(0.3%)	\$16,602.99
Multi-family Indoor ¾” Meter	\$1,026.10	\$1,016.67	(\$9.43)	(0.9%)	\$1,044.43
Multi-family w/Irrigation 1½” Meter	\$10,553.08	\$10,443.87	(\$109.21)	(1.0%)	\$10,747.15
Irrigation ¾” Meter	\$2,373.55	\$2,382.91	\$9.36	0.4%	\$2,444.76
Irrigation 2” Meter	\$17,078.30	\$17,191.17	\$112.87	0.7%	\$17,200.53

As a part of the presentation of the proposed rates and fees for 2022, Castle Rock Water compared the 2022 proposed rates and fees with other similar water providers in the South Metro area. Many of the water providers do not provide stormwater services, so we show these separately for accurate comparison purposes. The benchmarking comparisons include all fees related to water, water resources, and wastewater

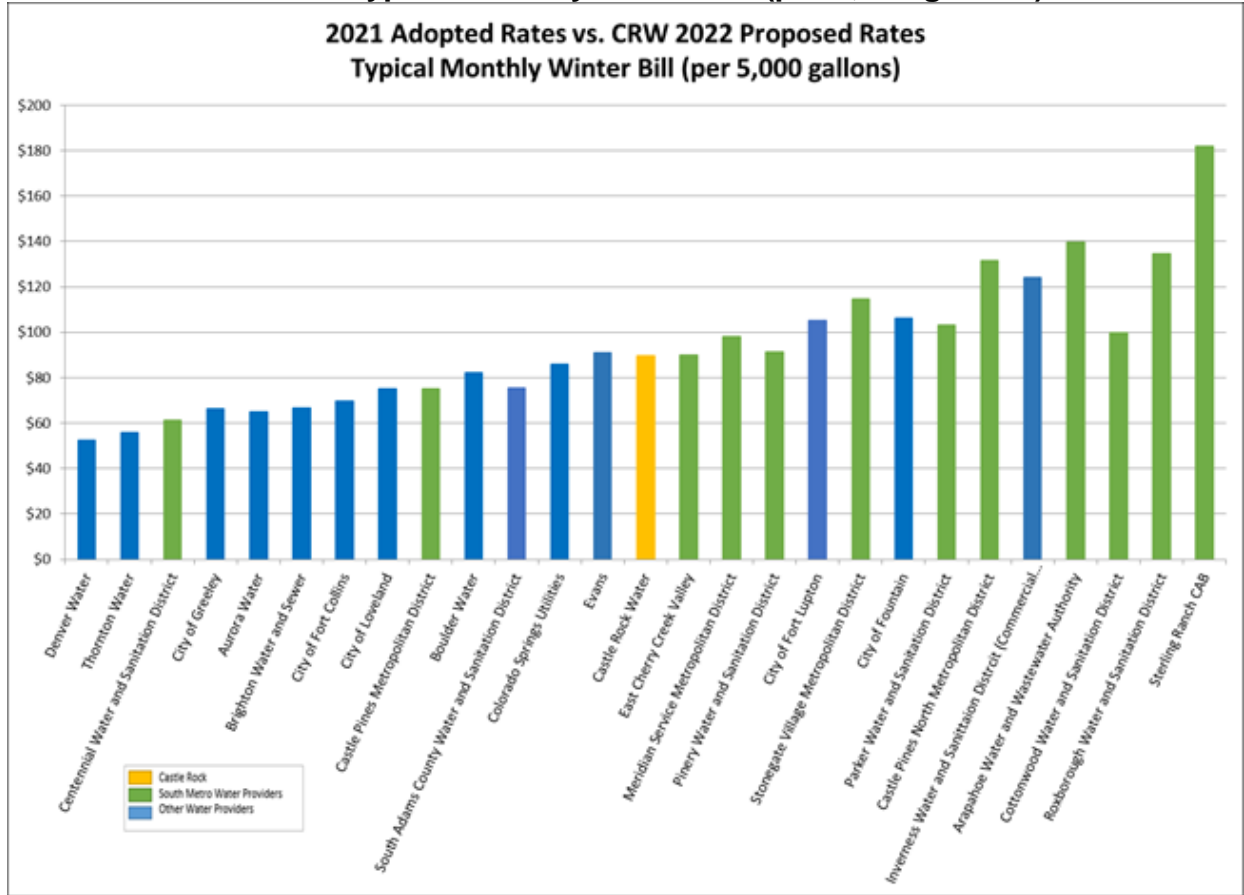
services. These fees have different names across the various water providers including for example water and sewer service fixed and volumetric fees, water resource fees, renewable water fees, capital improvement fees, sewer system replacement fund fees, and groundwater protection fees.

Staff compared rates to 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 to 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 comparison results to other South Metro water providers are shown in Charts 2 and 3 below. 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 \$542,000

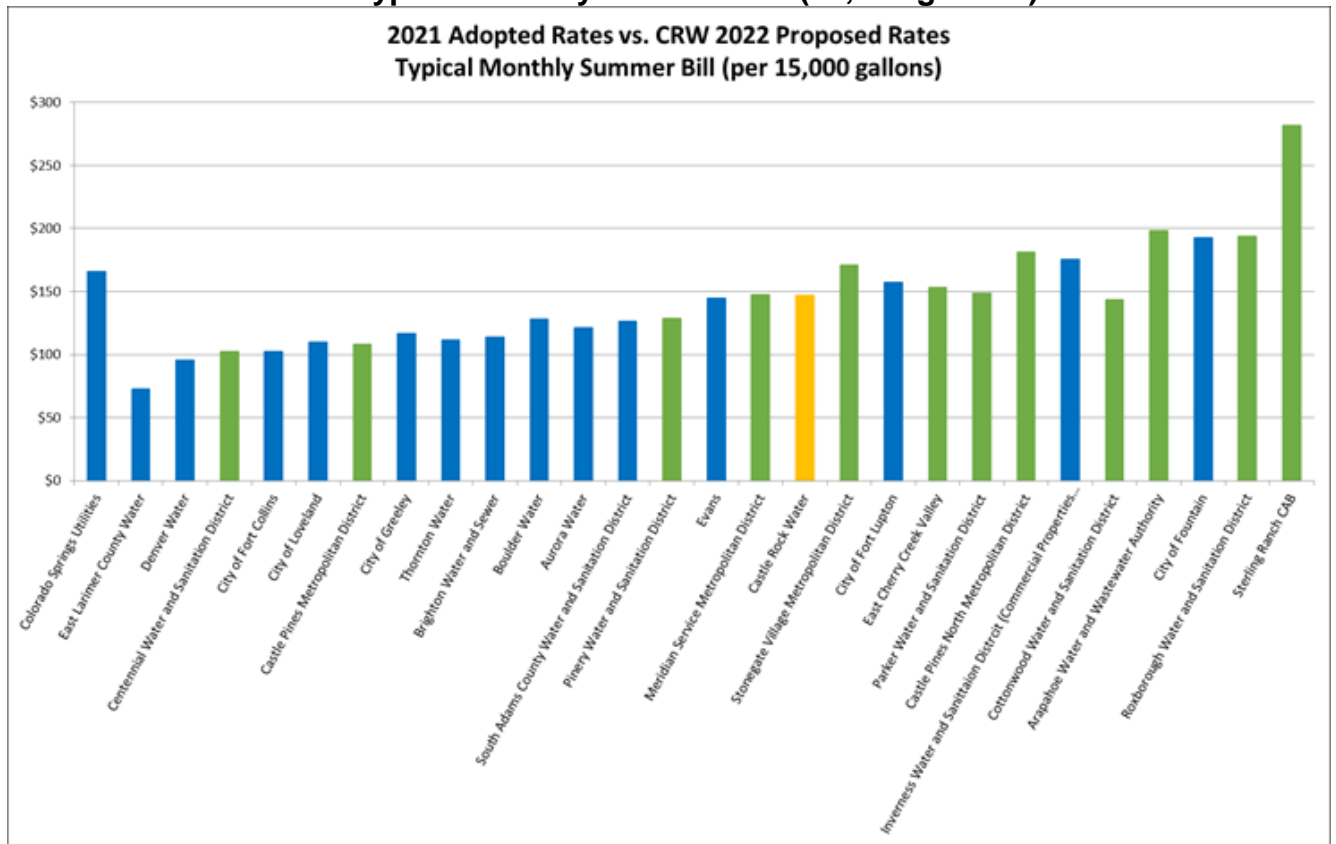
<http://www.douglas.co.us/documents/douglas-county-demographics-summary.pdf>). This mill levy was distributed across twelve equal payments for comparison sake even though this will typically be paid in fewer installments. The results of this comparison of proposed 2022 rates and fees for Castle Rock to 2021 current rates and fees for other providers indicate that Castle Rock's rates and fees are comparable to other area providers even before those providers make changes for 2022. Once 2022 rates and fees are available for the other area providers, CRW will update these charts and ensure they are available on our website.

Chart 2: Typical Monthly Winter Bill (per 5,000 gallons)



**Includes tax mill levy based on median home price distributed equally over 12 months.*

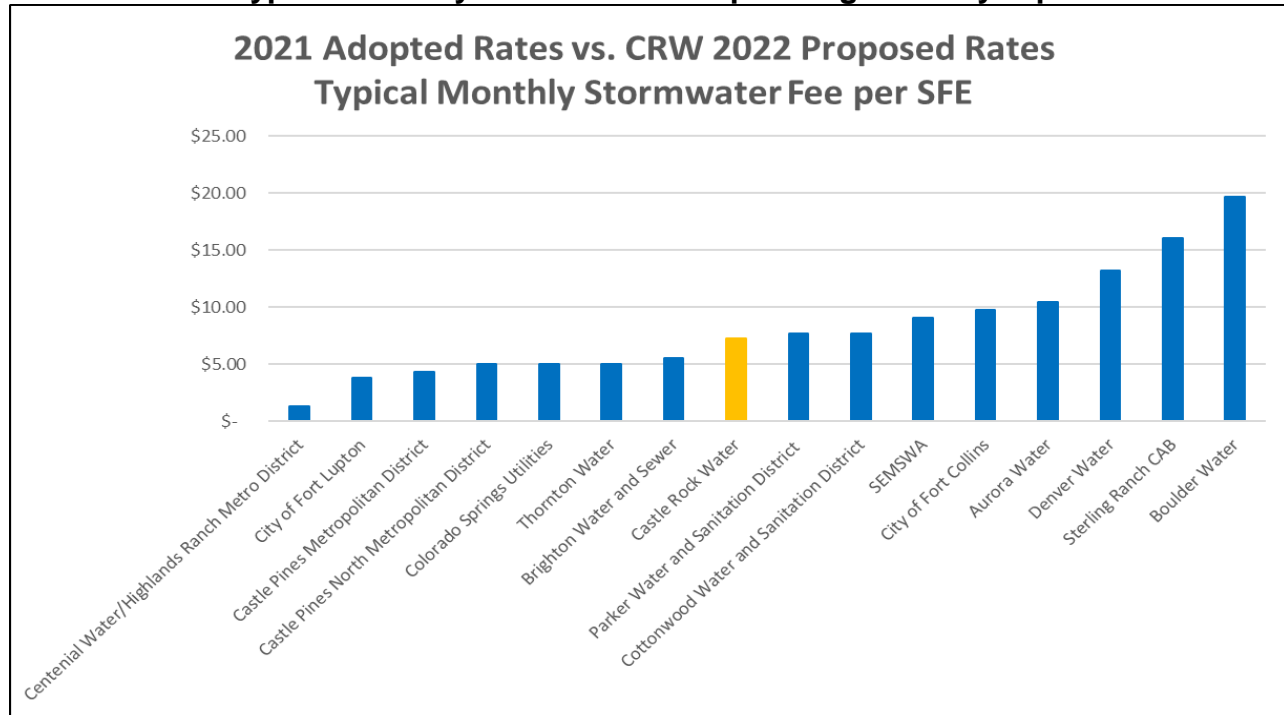
Chart 3: Typical Monthly Summer Bill (15,000 gallons)



**Includes tax mill levy based on median home price distributed equally over 12 months.*

Similar comparisons for stormwater fees are in Chart 4 below. 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 4: 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 2019 rate.

Table 10 summarizes proposed fixed charges for 2022 from this year's study.

Table 10: Single Family Residential Fixed Charges

	2021 Actual Typical Bill	"2021 Study" Proposed 2022 Typical Bill	\$ Change	% Change	"2020 Study" Proposed 2022 Typical Bill
Water	\$9.54	\$9.54	\$0.00	0.0%	\$9.83
Water Resources	\$26.15	\$26.93	\$0.78	3.0%	\$26.93
Wastewater	\$9.02	\$8.57	(\$0.45)	(5.0%)	\$9.02
Stormwater	\$7.12	\$7.30	\$0.18	2.5%	\$7.33
TOTAL	\$51.83	\$52.34	\$0.51	1.0%	\$53.11

System Development Fees

System development fees (SDFs) are a function of year-end 2020 fixed assets, 2021 year-end estimates of capital improvement project costs, 2022 through 2060 capital improvement project plans, and system capacity for water, water resources, and wastewater and developable acres for stormwater.

Growth forecasts and increases to the capital plans in the "2021 Study" indicate that total SDFs for a typical SFE will need to increase from the 2021 adopted fees. The

“2021 Study” indicates fees will need to increase in 2022. The recommended increase this year is about 40% as shown in Table 11.

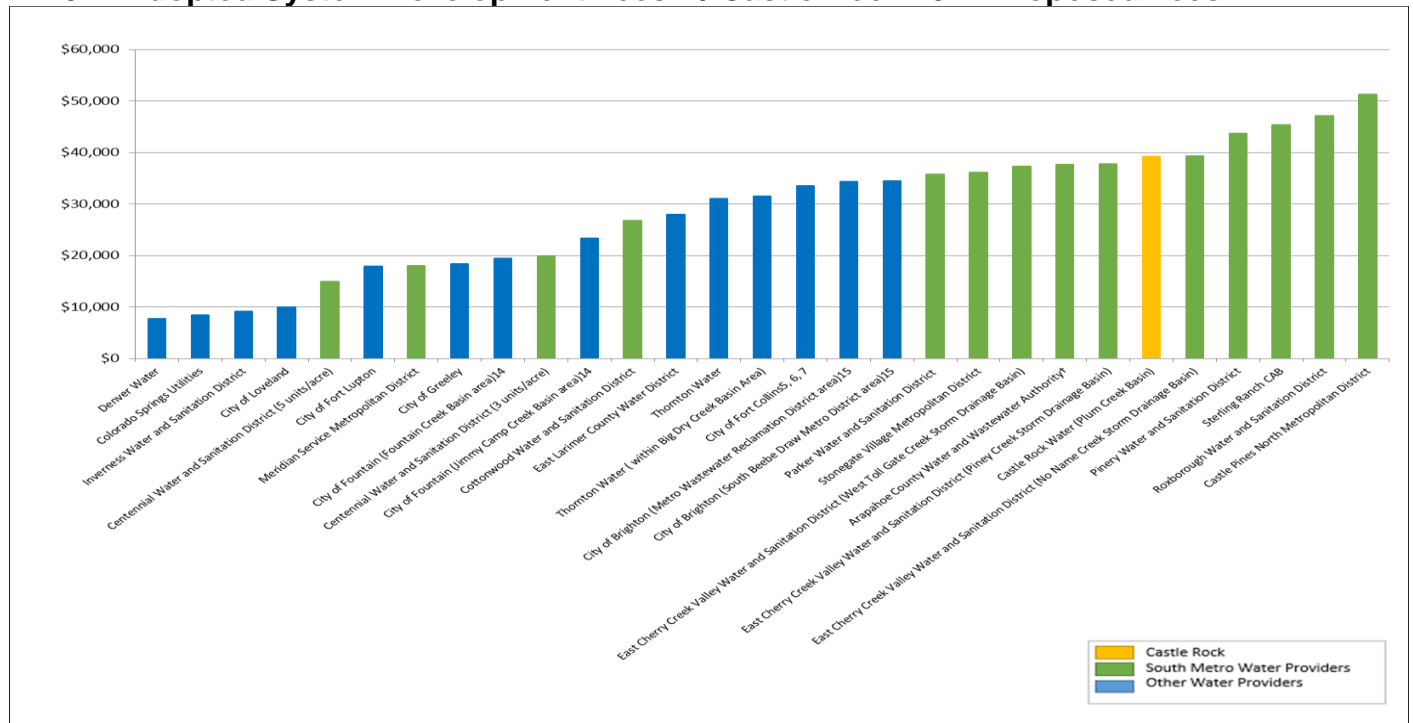
Table 11: Single Family Equivalent System Development Fee Comparison

PLUM CREEK BASIN					
	2021 Actual Fees	“2021 Study” Proposed 2022 Fees	\$ Increase (Decrease)	% Change	“2020 Study” Proposed 2022 Fees
Water	\$4,030	\$5,700	\$1,670	41.4%	\$4,151
Water Resources	\$18,504	\$26,458	\$7,954	43.0%	\$19,059
Wastewater	\$4,023	\$4,909	\$886	22.0%	\$4,144
Stormwater	\$1,425	\$2,128	\$703	49.3%	\$1,468
TOTAL	\$27,982	\$39,195	\$11,213	40.1%	\$28,822

CHERRY CREEK BASIN					
	2021 Actual Fees	“2021 Study” Proposed 2022 Fees	\$ Increase (Decrease)	% Change	“2020 Study” Proposed 2022 Fees
Water	\$4,030	\$5,700	\$1,670	41.4%	\$4,151
Water Resources	\$18,504	\$26,458	\$7,954	43.0%	\$19,059
Wastewater	\$4,023	\$4,909	\$886	22.0%	\$4,144
Stormwater	\$911	\$1,116	\$205	22.5%	\$939
TOTAL	\$27,468	\$38,183	\$10,715	39.0%	\$28,293

As part of the review of proposed fees, Castle Rock Water reviewed system development fees compared to other providers in our area and Colorado. Stormwater development impact fees were not included in the evaluation since many providers do not provide this service. System development fees 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. See results of the benchmarking comparisons for SDFs in the following chart.

**Chart 5: SDF Rate Comparison with Surrounding Communities
2021 Adopted System Development Fees w/ Castle Rock 2022 Proposed Fees**

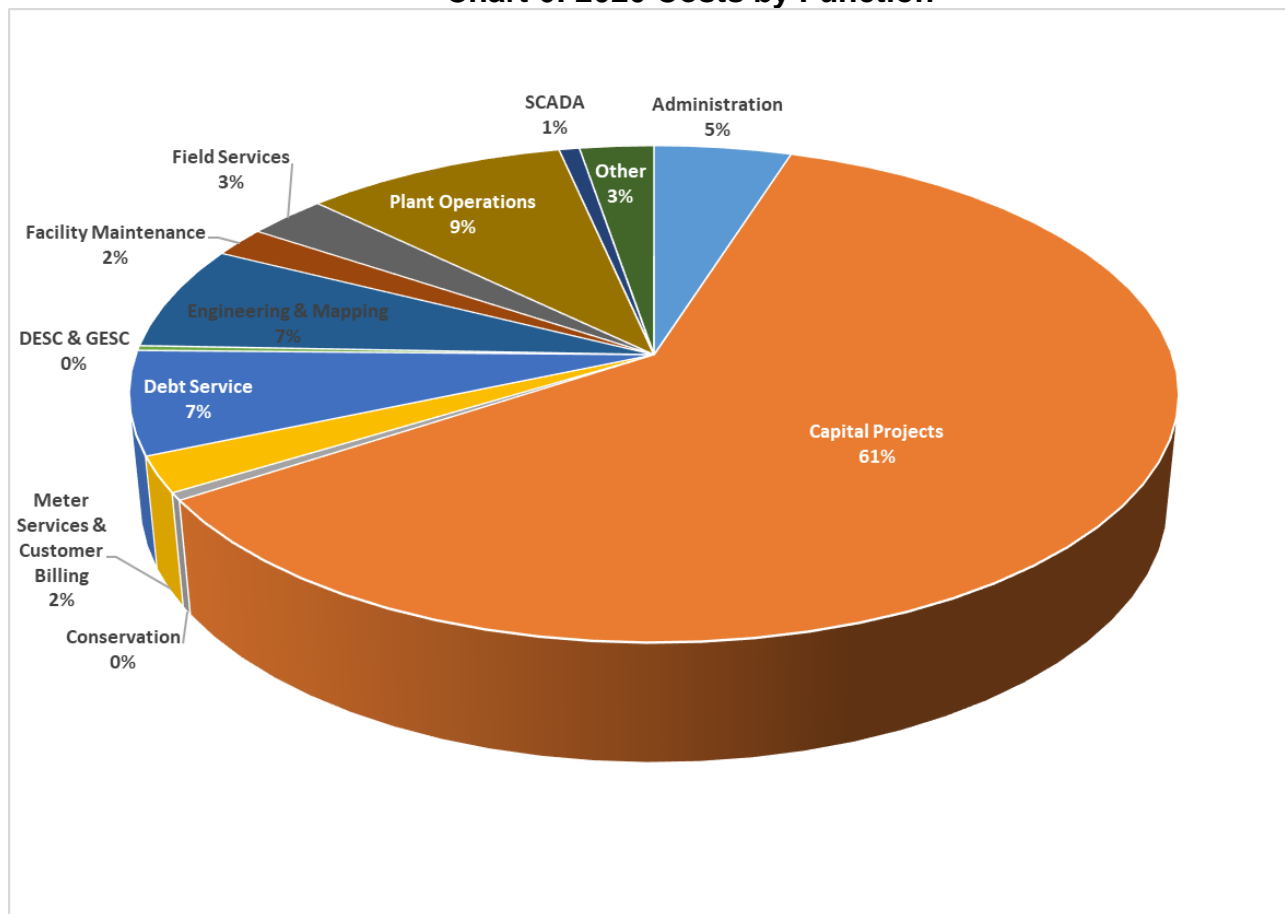


**The Parker Water SDF includes a \$5,000 Water Resource's Toll, for a ¾" meter, in the above calculation, which may not apply to all customers.*

Utilization of Rates and Fees

Chart 6 summarizes how revenues are used by Castle Rock Water.

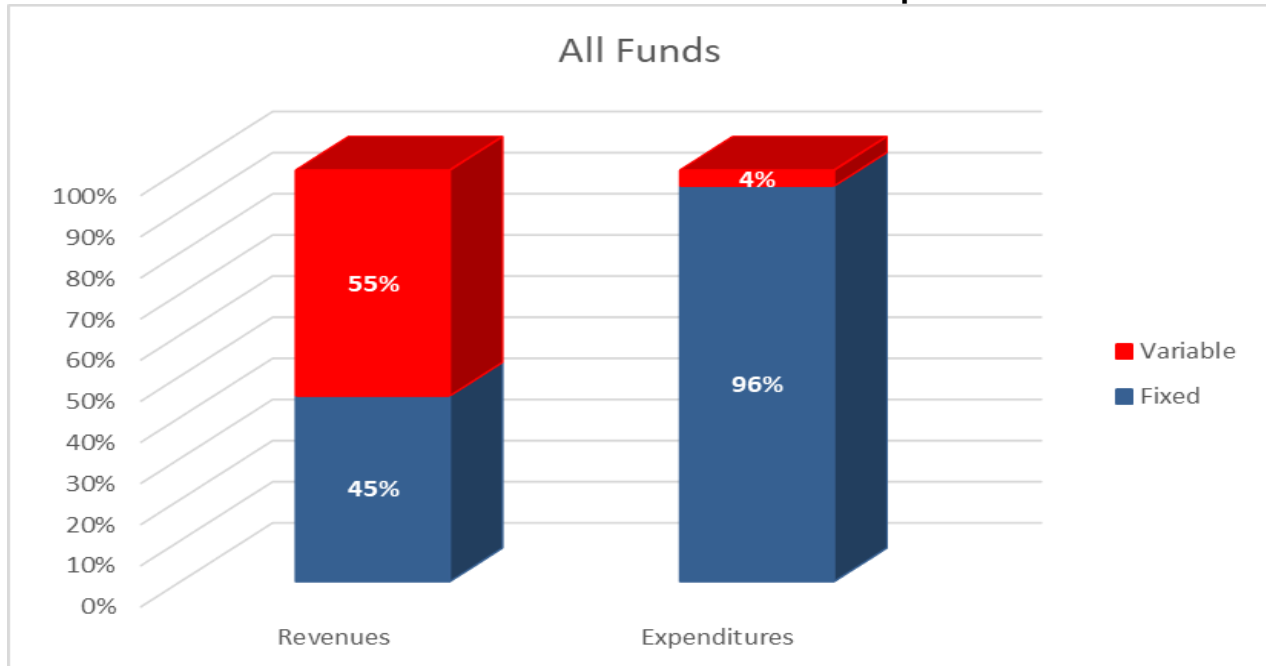
Chart 6: 2020 Costs by Function



From this chart, it is clear that the Capital Project Plan is a very significant portion of the rates and fees needed for operation of the funds. 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. This strategy also takes into account the need to incentivize water conservation and efficiency through variable rates for water use.

Chart 7 shows the breakdown between fixed and variable revenues and expenses for the fiscal year ending 2020. The split between fixed and variable revenues are fairly equal with the largest variable revenue being metered water sales. The majority of expenditures for CRW are fixed in nature with the largest operational cost being personnel costs.

Chart 7: Fixed Versus Variable Revenues & Expenditures



Bulk Water Program

Castle Rock Water provides customers with two options for bulk water. For the larger users typically (5,000+ gallons a day) a bulk water hydrant meter and permit are an option. These are typically development projects needing bulk water for dust control, grading, etc. The second option is access to the bulk water station. This is for the smaller users, typically less than 5,000 gallons a day, however there is not a minimum requirement.

Monthly consumption averages for bulk hydrant customers put a similar demand and usage on the system as a 1.5-inch meter. Therefore, the monthly service charges for water and water resources are the same for this customer class as other 1.5-inch meter customers. Table 12 shows no proposed changes to the bulk hydrant rates for 2022 except for a 3% increase in the monthly renewable water fixed service charge applicable to all customers.

Table 12: Bulk Hydrant Meter Rate Comparison

	Adopted 2021 Rates	Proposed 2022 Rates	\$ Change	Benchmark Range	Benchmark Average
Monthly Water Fixed Service Charge	\$18.78	\$18.78	\$0.00	Not Available	Not Available
Water Volumetric Rate (per 1,000 gallons)	\$7.86	\$7.86	\$0.00	Not Available	Not Available
Monthly Renewable Water Fixed Service Charge	\$187.50	\$193.13	\$5.63	Not Available	Not Available
Monthly Permit Fee	\$300.00	\$300.00	\$0.00	\$0-\$325.00	\$170.88
Refundable Deposit-Hydrant Meters	\$2,600.00	\$2,600.00	\$0.00	\$0-\$6,000	\$1,801.41

Monthly consumption averages for bulk station customers put a similar demand and usage on the system as a $\frac{3}{4}$ " meter. Therefore, the monthly service charges for water and water resources are the same for this customer class as other $\frac{3}{4}$ " customers. Even though bulk station applicants are asked where the water will be used, there is no guarantee that they are not taking the water out of Castle Rock and the basin. To account for this, bulk station customers are charged 125% of the maximum outdoor Tier 2 irrigation rate. The 125% is in line with what CRW is allowed to charge for extraterritorial agreements according to municipal code.

Table 14: Bulk Station Rate Comparison

	Adopted 2021 Rates	Proposed 2022 Rates	\$ Change	Benchmark Range	Benchmark Average
Monthly Water Fixed Service Charge	\$9.54	\$9.54	\$0.00	Not Available	Not Available
Water Volumetric Rate (per 1,000 gallons)	\$9.82	\$9.82	\$0.00	Not Available	Not Available
Monthly Renewable Water Fixed Service Charge	\$26.15	\$26.93	\$0.78	Not Available	Not Available
Bulk Station Refundable Deposit	\$225.00	\$225.00	\$0.00	Not Available	Not Available

Schedule

The current schedule for the 2021 Rates and Fees Study targets the following milestones.

- Castle Rock Water Commission Meeting 7/28/2021
- Castle Rock Water Commission Meeting 8/25/2021
- Town Council Update/Discussion 9/7/2021
- Town Council 1st Reading 9/21/2021
- Town Council 2nd Reading 12/7/2021
- Implementation 1/01/2022

Staff Recommendation

Based on the "2021 Study" staff recommends the following changes to the 2022 rates and system development fees for a single-family equivalent (SFE).

Water Fund

1. Fixed Monthly Charge – No Change
2. Volumetric Rates – No Change
3. System Development Fee – 41.4% Increase

Water Resources Fund

1. Fixed Monthly Charge – 3% Increase
2. System Development Fee – 43.0% Increase

Stormwater Fund

1. Fixed Monthly Charge – 2.5% Increase
2. Development Impact Fee – 49.3% Increase Plum Creek Basin and 22.5% Increase Cherry Creek Basin

Wastewater Fund

1. Fixed Monthly Charge – 5% Decrease
2. Volumetric Rate – 5% Decrease
3. System Development Fee – 22.0% Increase

Staff recommends moving forward with these recommended rates and fees, finalizing the “2021 Study” report and all of the associated data, and bringing the appropriate ordinances to Town Council for approval in accordance with the proposed schedule.