Our Vision: We will be a national leader among water utilities, focused on customer satisfaction and delivering outstanding quality and value.

McMurdo Gulch Stream Stabilization

By David Van Dellen

Castle Rock Water completed two additional phases of stream stabilization along McMurdo Gulch in 2020. McMurdo Gulch is a western tributary within the Cherry Creek drainage basin, located on the east side of Town. Evidence of erosion was observed in various locations along the length of the channel. The 2020 projects are the latest in an ongoing effort to stabilize the channel since 2011. The Town has forged a partnership with the Cherry Creek Basin Water Quality Authority (Authority) to stabilize the channel in isolated locations where it has unraveled. These improvements protect water quality and maintain a healthy stream system in response to impacts from urbanization.

Contractor: 53 Corporation, LLC
Cost: $1,513,524 (under budget)

Stream stabilization occurred in four locations with a combined length of approximately 2,700 lineal feet, using a bio-engineering approach to environmentally fit the project into the natural surroundings. Work included grading the incised channel banks, reconstructing the channel bed, installing riffle drops and cascading boulder structures, and planting native grass and willows. Stream stabilization efforts such as these support the mission to preserve and protect water quality within the Town's open space and the watershed.

Construction kicked off in March 2020 and is complete with the exception of wetland plantings, willow stakes and shrubs, which will be completed in Spring 2021. The project is funded through the Stormwater Enterprise Fund, with contributions from the Authority and the local developer.

Good Job!

Water Star Award

The Water Star Award recognizes a coworker within Castle Rock Water for doing an excellent job in fulfilling the Department's Vision and Mission.

Safety
Demonstrated outstanding safety conscious behavior in performing a job or task.

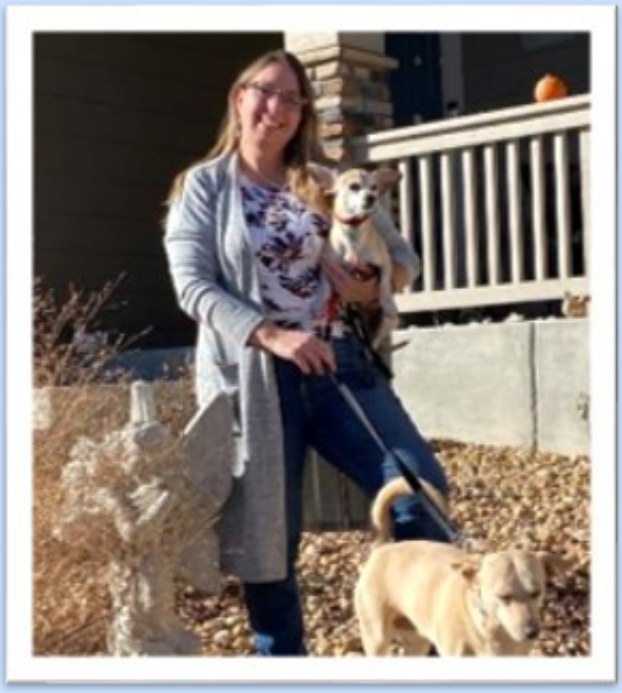
Exceptional Service
Provided exceptional service to either an internal or an external customer

Quality
Delivered excellent quality service or product

Value
Provided remarkable value for our customers

Environmental:
Demonstrated extraordinary environmental responsibility

Fiscal
Demonstrated superb fiscal responsibility



Heather Justus, Water Resources Project Manager, received the Water Star award from Maryjo, specifically for being so helpful, patient and knowledgeable. Maryjo was so appreciative of Heather's kindness. When Maryjo first started working at Castle Rock Water, Heather stopped by her office and checked on her repeatedly. Heather was always available for the millions of questions and took the time to answer each one. Heather's care for the environment shows in her work and how her projects that improve the water infrastructure are also good for the environment. Heather is currently working on downhole power generation for aquifer storage and recovery which is just one of the many ground-breaking projects she has put together.

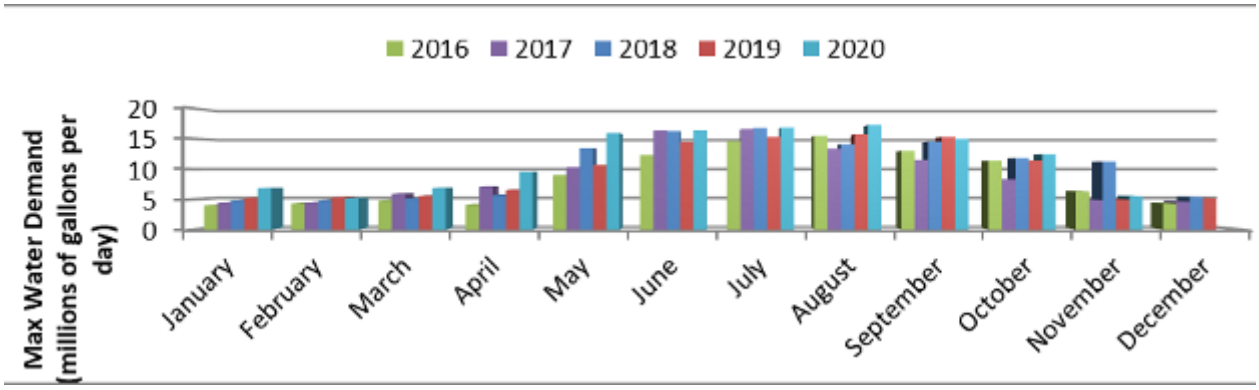
NEW CERTIFICATIONS

The water, wastewater and stormwater utility business is highly technical and regulated. As such, Castle Rock Water has to maintain an extensive staff of professionally licensed individuals. Most of these licenses require specialized education and the passing of state testing, as well as proof of continuing education.

Ryan Livingston
Distribution 4 Operator Certification

Mark Billman
Backflow Certification

Water Demand



Max daily water demand

Maximum demands inform us of the size of the infrastructure necessary to provide water service over short periods of time and help us to plan future water resources needs.

Nov. 2020	**5.5 million gallons/day**
Nov. 5 yr. avg	6.6 million gallons/day

16% lower than average

Max daily water demand in 2020
17.3 MGD in August (record breaking)

Water demand total

Water demand total is how much water was used over the entire month. Population and weather changes can significantly affect usage.

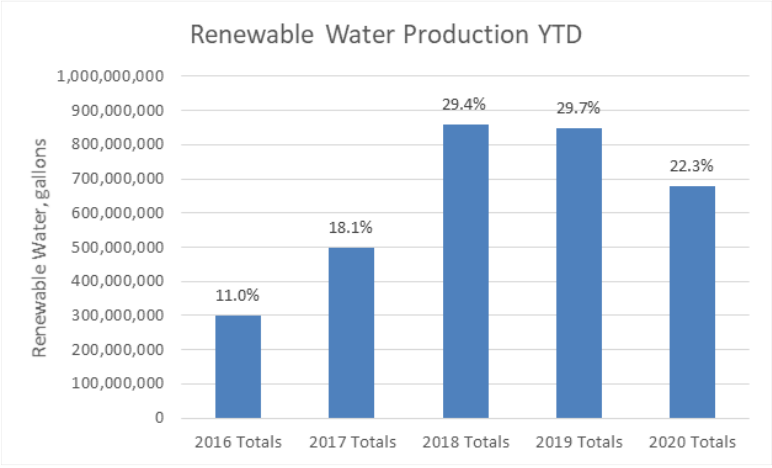
Nov. 2020	**144.6 million gallons**
Nov. 2019	135.9 million gallons

6.4% decrease from last year

Water demand total for 2019
2,838.5 MG

Renewable water supply

- The CR-1 diversion produced an average of 0.39 MGD for the month of November.
- The Town's thirteen alluvial wells and CR-1 produced a total of 30.54 MG of renewable water (and an average of 1.02 MGD).
- Imported (WISE and RHR) water supplied an additional 4.4 MG of renewable water.
- In total, renewable supplies accounted for 26% of the total water supply for the month and 22.3% of the annual water supply (3,041 MG or 9,333 AF) to date.



Our goal is to reach 75% renewable water by 2050.

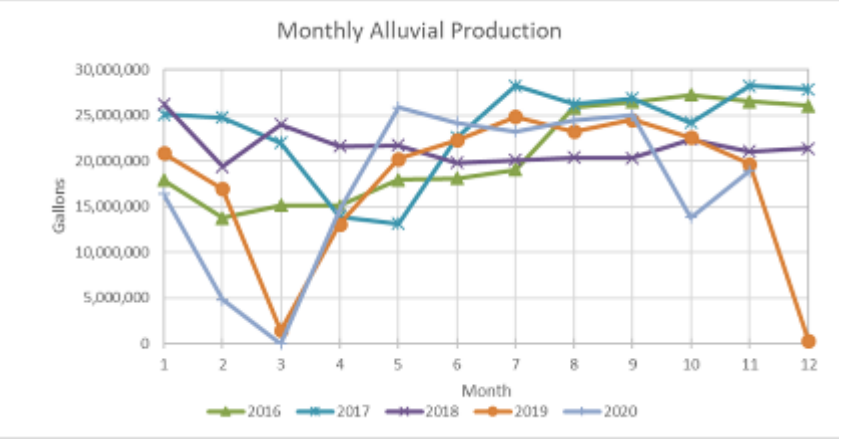
Water Demand

Renewable supplies are those water sources that are replenished by precipitation (think of our alluvial wells, CR-1, and WISE), whereas reusable supplies are those waters that are either from the Denver Basin (deep wells) or imported supplies (such as WISE and RHR) that can be used over and over, to extinction. The average reusable supplies used by Castle Rock for 2020 through November is 38.1% with 94.2% of available reusable supplies used in the month of November.

Alluvial supply

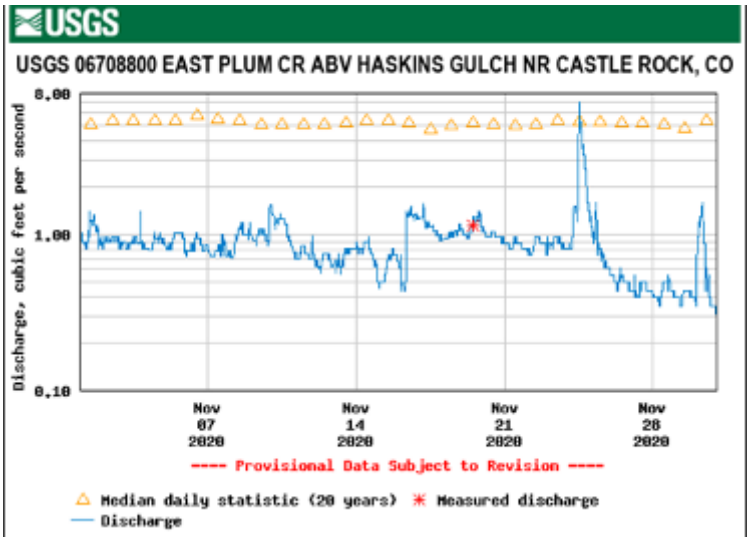
Nov. 2020 production: 18.9 MG

The graph shows the monthly production of the Town's alluvial well system, which helps to supply PCWPF. The production from the alluvial wells in November was 18.9 MG. We completed nine well rehabilitation projects this year. The production from the alluvial wells was down this month and last due to the shutdown of PCWPF in preparation to bring on the Advanced Treatment processes.



East Plum Creek Flows

The flow hydrograph represents stream flows in East Plum Creek (EPC) taken from the stream gauge located above Haskins Gulch. The hydrograph shows that estimated flows in the East Plum Creek basin ranged between 0.31 and 7.06 cubic feet per second (cfs) during the month of November, with an average streamflow of 0.89 cfs. This month's average streamflow of 0.89 cfs is below the 20-year median of 5.2 cfs.



There were active calls on the South Platte River in November. Some of the active calls have had a more senior water right than some of the Town's water rights. This means that those diversions are out-of-priority, so the stream depletions will be replenished by non-tributary return flows. This also means that the Town will have slightly less reusable water going down Plum Creek during an active call. The priority date on a river call may change each day depending on the stream flow available and the seniority of the diversions that need water on that day. As a participant in the Chatfield Storage Reallocation Project, the Town is able to store up to 2,000 AF of water in Chatfield Reservoir. This means that our reusable water that flows down Plum Creek and past CRR1 can be captured and stored at Chatfield for later use. First storage started on May 15 and to date we have 525 AF of water stored in Chatfield.

Water Demand

Drought Monitor

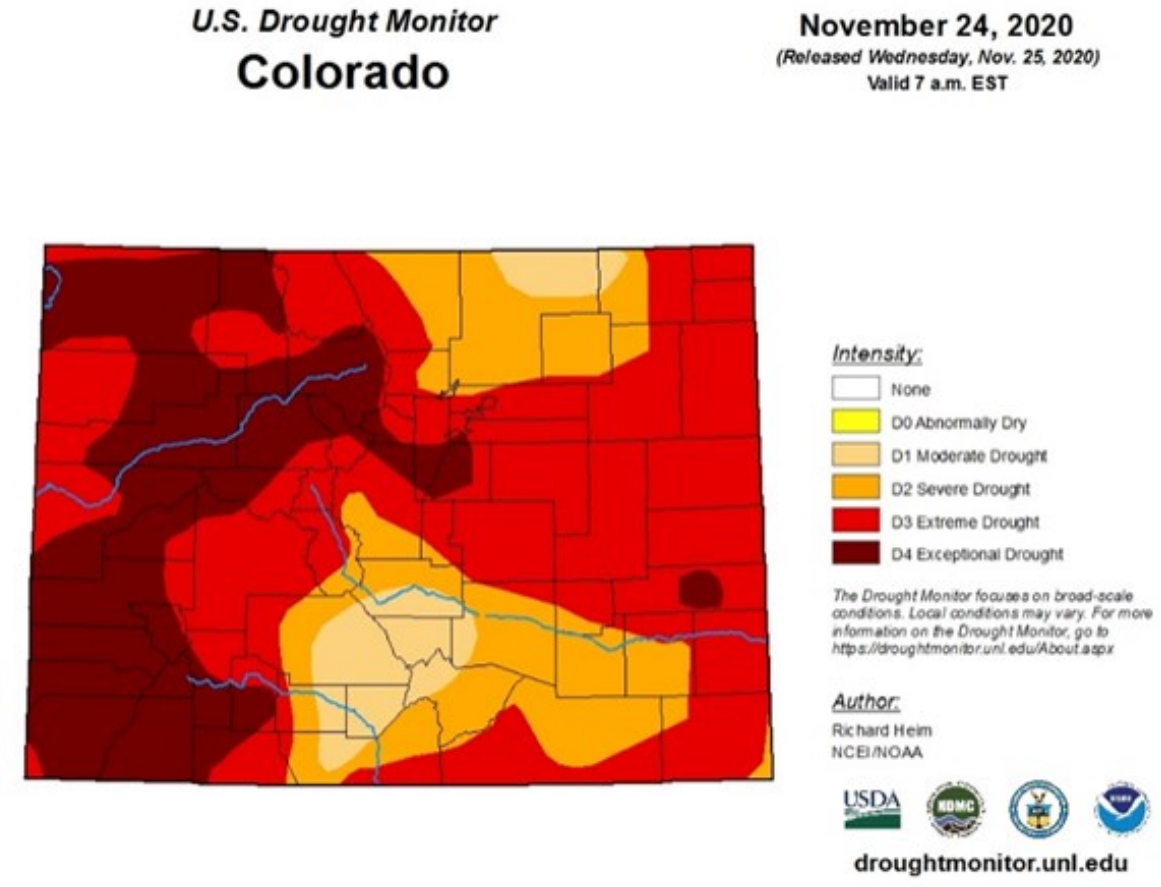
The average WSI for November was 4.138, above the 1.1 trigger level, which is considered "good."

According to the U.S. Drought Monitor maintained by the United States Department of Agriculture (USDA), approximately 100% of Colorado is experiencing Moderate Drought (D1) to Exceptional Drought (D4) conditions. Due to the sustained 100% drought conditions, Governor Polis directed a shift from Phase 2 to Phase 3 of the Colorado Drought Plan, which will hopefully better prepare the State for continued severe conditions in 2021. The Town of Castle Rock Drought Management Plan uses a Water Supply Index (WSI) for the Town that is similar to the U.S. Drought Monitor in that it provides us an indicator to drought level; however, the WSI accounts for local conditions relative to the Town's capability to address our water resources and daily water demands. The WSI is calculated by taking the sum of our supply (deep groundwater, alluvial wells, surface water, and WISE) and dividing that by our maximum daily demand. We generally want to see a WSI above 1.1, which means that we have enough resources to meet our demands. Anything below a 1.1 will trigger a drought stage relative to its severity.

The NRCS Colorado Precipitation Report
Nov. 24, 2020

South Platte River Basin:

- YTD precipitation is at 73% of average
- YTD snowpack is at 79% of average



Water Demand

Conservation

Conservation is getting results...

Xeric design (also known as "xeriscape") is a nice alternative to the boring every day grass lawn. It uses much less water than traditional Kentucky Bluegrass and also has benefits for our environment and wildlife habitat! Most people refer to this as "zeroscape" because they believe these landscapes require no plant material, no water, and no maintenance, which just isn't true. However, they do require A LOT LESS water and maintenance than a traditional lawn.

Castle Rock Water began offering "SmartScape" renovation rebates in 2009 for our residential customers. We refer to this landscape style as "ColoradoScape". To qualify the applicant must remove healthy high-water plant material (grass!) and replace it with something that is low or no-water. Once the project is completed, we track their water usage, comparing the consumption for two years of use before and two years of use after the rebate year. The residential program has been continuously successful with an average of 19% water savings over the past six years.

Due to the success of the residential program, Castle Rock Water began to offer the same rebate to our non-residential customers in 2018. Since most of these customers are irrigation only accounts, we began to see a fair amount of water savings. Our efforts are paying off! After calculating the numbers for our 2018 non-residential SmartScape renovation rebates, we're showing an average of 33% reduction in water usage among these accounts. This reduction will continue to benefit us all, not only with resources but also with the additional costs it takes to treat and supply water to our customers.

Non-residential SmartScape renovations

Plan Review

For each commercial and residential project submitted for development review, Castle Rock Water provides plan review, as appropriate, for:

- Water
- Sanitary sewer
- Stormwater
- Landscape/irrigation
- Temporary erosion and sedimentary control

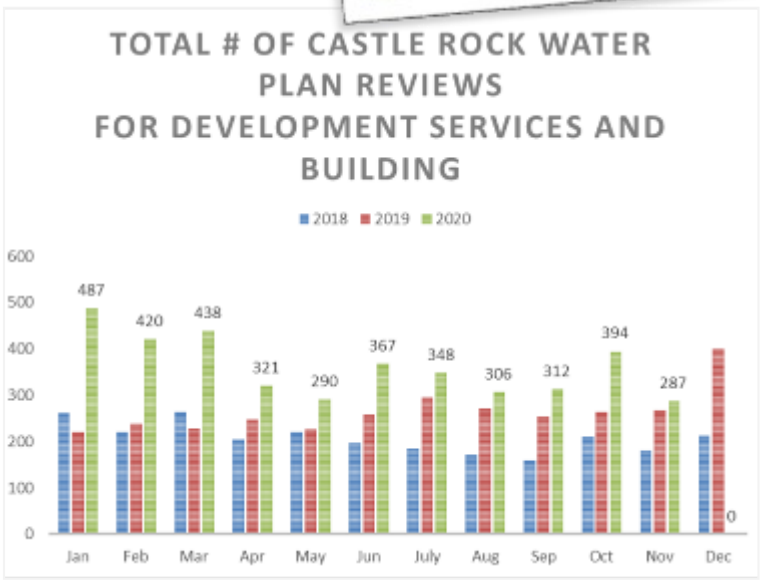
Castle Rock Water reviews site plans, construction drawings and technical reports for each project to ensure the public infrastructure built by the developer is following the criteria set by the Town.

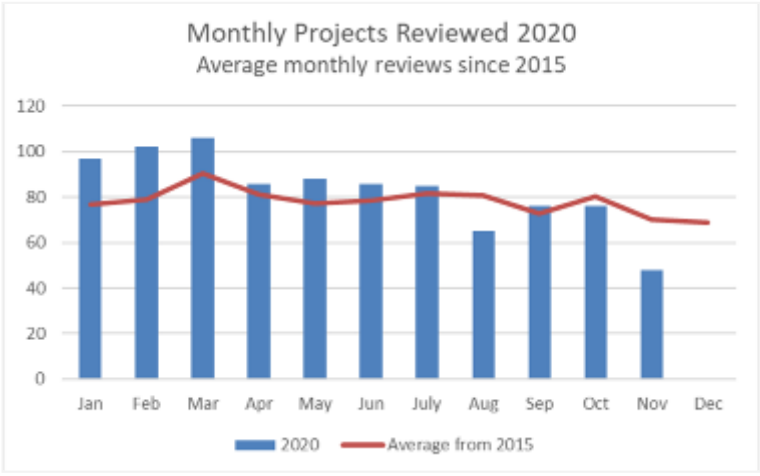
Reviews

115 Development Services PROJECT plan reviews
172 Building PERMIT reviews for
48 separate projects

- Number of Distinct Projects decreased by 32% from November 2019.
- The TOTAL number of development project reviews decreased by 32% from Nov. 2019.
- Total number per building permits increased by 76% from November 2019.

Building permits are reviewed to calculate the system development fees for each lot, as determined by the number of fixtures, irrigated area, meter size, etc. This is necessary for proper billing.





The TOTAL number of permit reviews increased by 76% from Nov. 2019.

Service levels

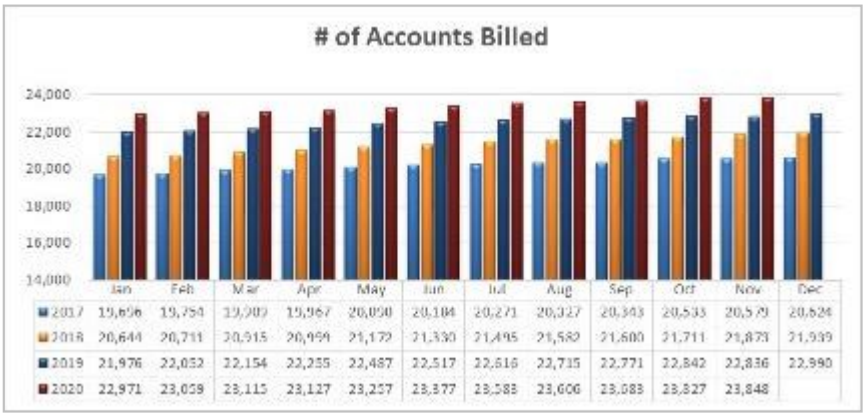
The average number of days assigned to review: 14.7 days
The average days to complete assigned reviews: 13.5 days

Plan Review: 94% of the reviews were completed on-time

Review time for each plan is 1 to 5 weeks, a permit is 3-5 days.

Business Solutions

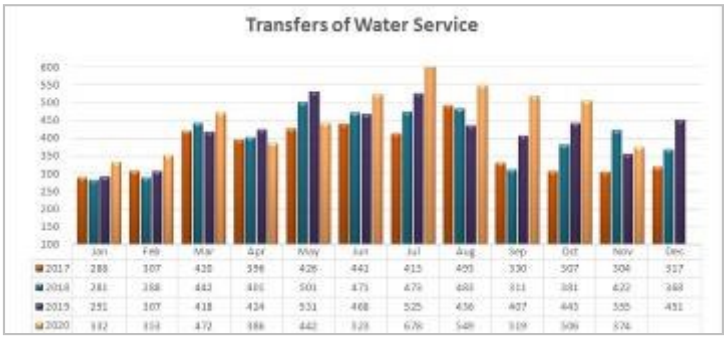
Customer Service & Billing

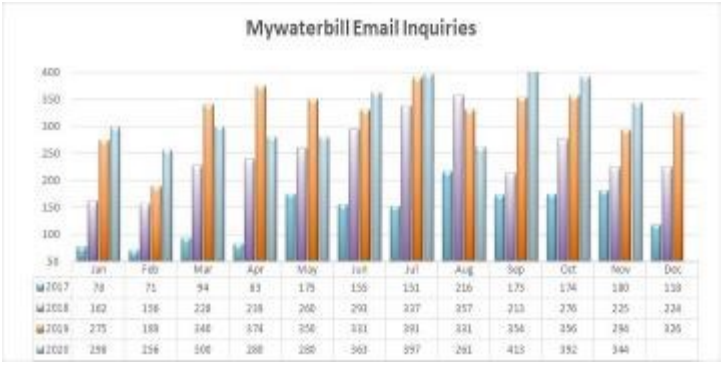


H2Oaccess

Customers benefit from having an online H20access account with 24/7 access to statement information, 12 months of statement history, helpful emailer account reminders and safe and secure online payment options.

- 63% of our total customers have enrolled in an online account
- 63% of the customers with an online account have chosen to go paperless





Customer Outreach

Keeping customers aware of activities within the department, the benefits of conservation and the value of water is accomplished through social media, email, newsletters and billing messaging, along with periodic events and campaigns.

November starts the reminders about indoor water conservation and winterization benefits. The billing department also encouraged customers to go to paperless billing and will randomly choose 10 paperless customers to receive a $50 water credit on their Dec. bill. Paperless billing not only provides better organization for the customer, but a huge savings in mailing and printing costs for the department.

Social media reach: **4 posts with 3,685 average reach**
Email reach: **7,340 accounts (39% open rate)**

Water Social Media Stats	REACH
Water Tower—Nov. 4	7,262 people
Wastewater team — Nov. 10	3,090 people
World Toilet Day—Nov. 18	3,672 people
Live Like You Love It — Nov. 25	716 people

Meters

Meters Read

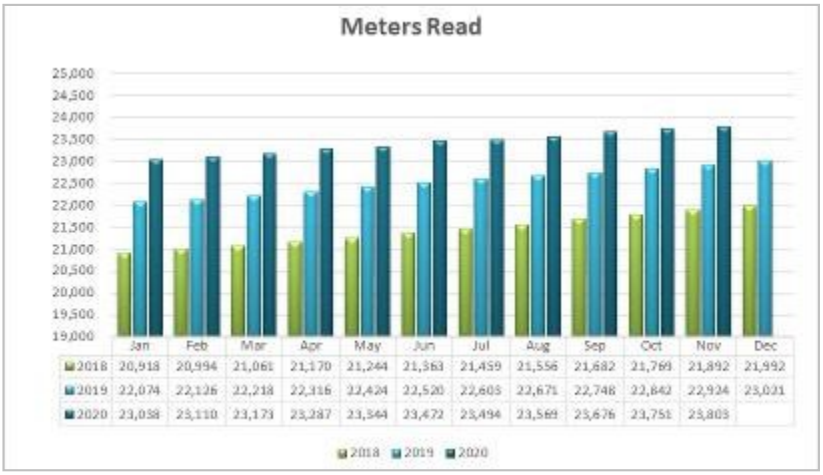
Meters are read the first three days of every month. The number of meters read continues to increase month to month and is a significant increase over last year.

Skipped Reads

Nov. 2020: 0.56%

Measuring skipped reads is a strong indication of the level of preventative maintenance being done by our team. A skipped read is indicative of a problem with the metering infrastructure (i.e. battery, wiring, etc.). Fewer skipped reads means more properly working meters, which is good for all our customers.

The AWWA standard is 2%, so we still continue to stay well below the industry average.



Meter Set Inspections

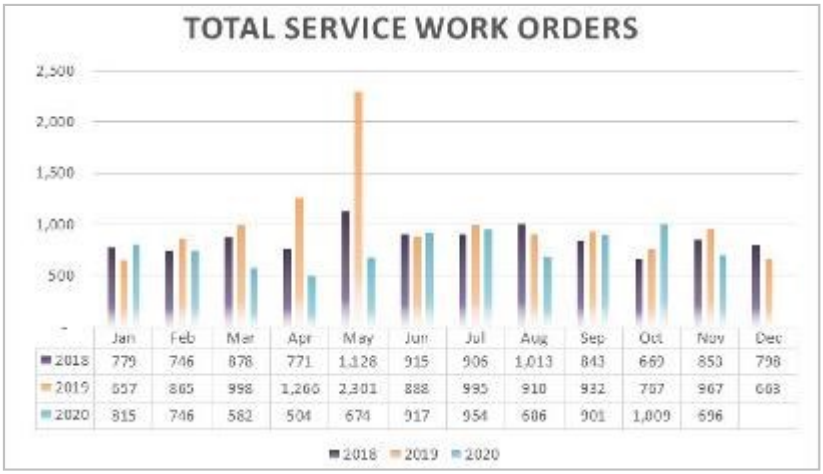
Re-inspections 56%

Meter set inspections are required on all new meters installed. This ensures that the meters are installed per specifications and according to Town code. At the time of the inspection, the curb stop is tested for operability and the MXU is installed which provides reading capability for our drive by technology. Re-inspections are needed to ensure installation meets code when original inspections are failed.

Work Orders

Nov. 2020 696

Meter services performs a variety of service work orders every month beyond meter reading. These include curb stop maintenance, meter replacement and repair, final reads for transfer of service, disconnection and reconnections, meter set inspections, etc.



Operations & Maintenance

LEVELS OF SERVICE		NOV. 2020
Drinking Water Compliance	Castle Rock Water will deliver water that meets or exceeds the requirements of both Primary Drinking Water Regulations and Secondary Maximum Contaminant Levels 100% of the time.	***Ninety routine samples were completed.*** *All samples were within the parameters set forth by the Safe Drinking Water Act and Colorado Drinking Water Standards.*
Pressure Adequacy	< 1% of our customers will experience less than 43 pounds per square inch (psi) of pressure at the meter during normal operations.	***There were no water pressure issues this month.***
Sewer System Effectiveness	<1% of our customers will experience a sewer backup caused by the utility's sewer system per year. *Castle Rock Water remains in the Top Quartile for least number of sewer backups based on the American Water Works Association benchmarking.*	***There were no sewer system issues this month.***
Drinking Water Supply Outages	<5% of our customers will experience water outages for one or more events totaling more than 30 hours/year. *Castle Rock Water remains in the Top Quartile for water system integrity based on the American Water Works Association benchmarking.*	***There were three water system integrity issues in November.*** *There was a large pipeline rupture on the 16" PVC' raw water line that feeds PCWPF. Twenty-five feet of pipeline had to be replaced to make this repair and no customers were affected.* *There was a line break in Plum Creek caused by a large corrosion hole on the bottom side of the 6" ductile iron pipe. The repair took less than four hours and six homes had little to no pressure during this time.* *There was a main break in the North Craig and Gould area on 4" CIP. A five-foot section of pipe was replaced and one water service line was re-tapped, seven homes were affected with reduced pressure for less than four hours.*
Water Quality Complaints	*Castle Rock Water remains in the Top Quartile for water quality complaints based on the American Water Works Association benchmarking.*	***There were no water quality issues in November. There were two water quality education visits in November.***

Operations & Maintenance

Collections

The Collections team worked closely with a CIP contractor on the Woodlands Manhole Rehabilitation project. The sewer manholes have heavy corrosion damage, caused by H2S released by high turbulence in the line. This project has required multiple lift station shutdowns and constant involvement from the Collection Team. Collections has assisted by controlling the flows at Mitchell Creek and Castle Oaks Lift Stations, while the contractor sets plugs, built benches and grouted drop structures. The projected completion date is Dec. 15, 2020.

Stormwater Maintenance

The Stormwater Team completed a job in Plum Creek, repairing and reconstructing a broken outfall.

YTD	
Lines Cleaned	68.82 miles
Lines Inspected	33.11 miles
SSO Rate	0.35 SSO/100 mi

Castle Rock Water tracks within the top quartile in the Sanitary Sewer Overflow rate, according to the American Water Works Association. Our team runs a camera through the sewer mains to look for problems. When problems are identified, they are cleared with a high pressure water jet. The goal is to clean and inspect one-fifth of the collection system or 55 miles each year.

Operations & Maintenance

Locate Report

Know what's below. Call before you dig.

Before you start a project, call 811. Whether you are planning to do it yourself, or hiring a professional, we will help you do it safely. The local 811 Call Center will contact Castle Rock Water and will schedule a time for us to come out to locate public water, wastewater and stormwater lines in the road and in your project area.

Castle Rock Water's locate requests from 811 have continued to rise, year over year. This year to date, there have been no incidences of damage to lines, as a result of incorrect locate marks.

ANNUAL UTILITY LOCATES

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
January	577	475	617	1,190	1,289	1,162	1,199	1,334	1,442	1,472	1,612	
February	521	485	538	1,094	1,093	1,383	1,334	1,378	1,293	1,404	1,443	
March	660	552	818	1,437	1,349	1,906	1,625	1,851	1,514	1,560	1,626	
April	838	681	1,025	1,482	1,552	1,784	1,631	1,760	1,856	1,984	2,600	
May	853	863	985	1,541	1,531	1,609	1,809	2,002	1,801	2,122	2,288	
June	969	844	982	1,314	1,399	1,654	2,075	1,872	1,854	1,716	1,931	
July	680	582	859	1,350	1,392	1,477	1,675	1,582	1,556	1,937	1,894	
August	901	723	1,123	1,476	1,468	1,494	1,651	2,001	1,986	1,603	2,096	
September	880	723	1,029	1,240	1,373	1,343	1,701	2,102	1,747	1,979	2,026	
October	715	688	1,155	1,501	1,376	1,314	1,579	1,792	2,064	1,839	1,913	
November	536	518	1,041	1,072	866	1,134	1,131	1,460	1,469	1,649	1,734	
December	415	405	925	1,005	1,043	1,063	1,059	1,277	1,293	1,175		
Totals	8,545	7,539	11,097	15,702	15,731	17,323	18,469	20,411	19,875	20,440	21,163	

Distribution

Way to go!

In November, the Distribution team hit a goal setting a record for Hydrant Maintenance, by inspecting, maintaining and repairing **4,112 hydrants**—the most the team has ever completed in a single year.