

MONTHLY REPORT

JULY 2021



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

Hangmans Gulch Channel Improvements – Phase IV

By: Barbara Horton, P.E., Project Manager

The Hangmans Gulch Channel Improvements project is located within undeveloped property owned by Douglas County School District south of the Castle Rock Community Recreation Center and west of Woodlands Boulevard. Channel improvements included three grouted boulder drop structures and one vertical sheetpile cutoff wall to restore the degraded stream and preserve existing native vegetation.



times due to excessive sediment being transported from the Phase IV reach and accumulating in these areas during flood events.

Phase IV provides additional stabilization as outlined in the Master Plan to mitigate for development impacts and reestablish a healthy and sustainable stream system by restoring the channel invert immediately west of Woodlands Boulevard and further reducing sedimentation concerns downstream and improving water quality.

Additionally, the vertical channel banks were graded to allow for revegetation and minimize safety concerns in this area.

Meridian Partners, LLC was awarded the construction contract. Construction began in April and was substantially completed in July. The total construction cost for the project is approximately \$566,000. This project was completed on time and on budget.

In accordance with the Stormwater Master Plan, the Phase I, II and III Hangmans Gulch Channel Improvements were completed in 2011, 2012 and 2018 to provide stabilization between East Plum Creek and Douglas County High School. Soils along the channel bottom and banks of Hangmans Gulch are highly erosive. The Hangmans Gulch trail under the Union Pacific Railroad and the East Plum Creek trail at Hangmans Gulch have been impacted several



Good Job!

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.



Joe Compton
Water Treatment
Operator C Certification



Jonathon Weikle
CDOT CDL License

CONGRATULATIONS ON YOUR PROMOTION!



Jared Poyner
Senior Collections
System Operator



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

Harvey was very humble in his acknowledgement of the Water Star award and felt it was the team, all of the employees that support him, and those that serve Castle Rock Water and the community, that are so deserving of this award. So, Harvey smashed the glass award and presented a piece to every Castle Rock Water employee.



Theatrics aside, Harvey presented the award to **Tim Friday,**
Assistant Director

for being an incredible leader and showing his support with every one, every day. Tim can always be found at every meeting, in every part of the organization's operations, and managing things wherever needed. Tim leads by example and it is appreciated and respected.

Good Job!

Welcome to the team



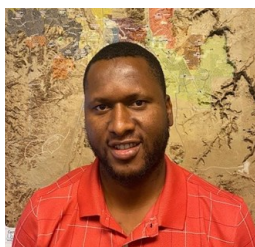
Lori Bentley
GIS Intern



Cameron Mitchem
Meter Services
Technician



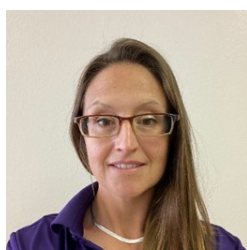
Jeff Brennan
GIS Intern



Alpha Camara
Water Treatment
Operator 1



April Greer
Customer Service
Representative



Courtney Stoddard
Water Treatment
Operator 1

Saying Good-bye...



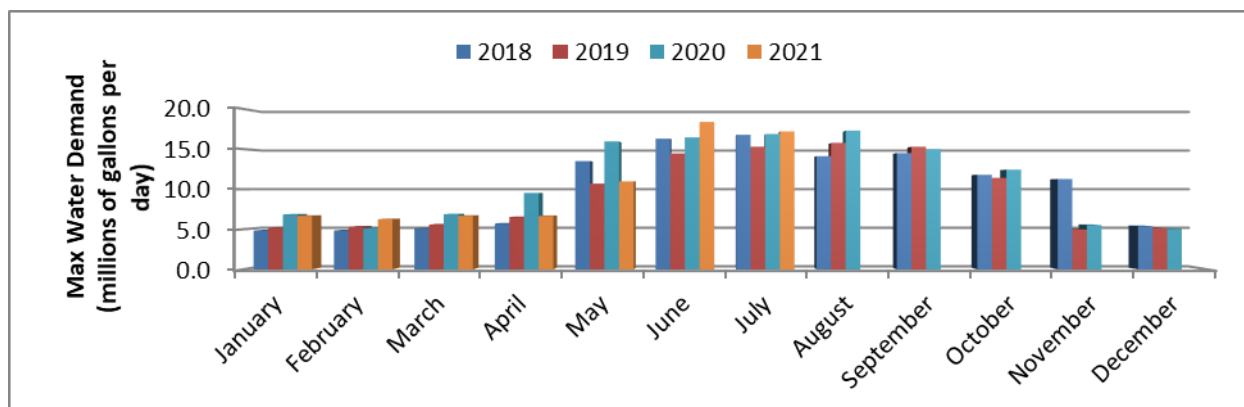
Anne Glassman
10 years at CR Water



Denise Lannan
25 years at CR Water



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.

July 2021 **17.2 million gallons/day**
 July 5 yr. avg. 16.5 million gallons/day
4% higher than average

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

Water demand total

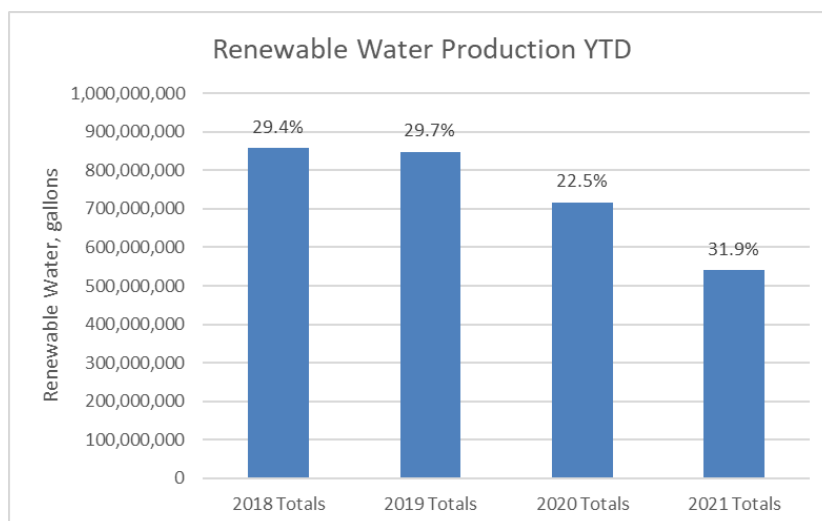
Water demand total is how much water was used over the entire month. Population and weather changes can significantly affect usage.

July 2021 **453.6 million gallons**
 July 2020 447.7 million gallons
1.3% increase from last year

Water demand total for 2020
 3,251.7 MG

Renewable water supply

- The CR-1 diversion produced an average of 1.02 MGD for the month of July.
- The Town's thirteen alluvial wells, CR-1, and the Plum Creek Raw Water Return Line (PCRWRL) produced a total of 103.78 MG of renewable water (and an average of 1.78 MGD).
- In total, renewable supplies accounted for 30.6% of the total water supply for the month and 31.9% of the annual water supply (1,692 MG or 5,193 AF) to date.



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

Note: In 2020, renewable water production was down due to the construction of Advanced Treatment processes to the Plum Creek Water Purification Facility.

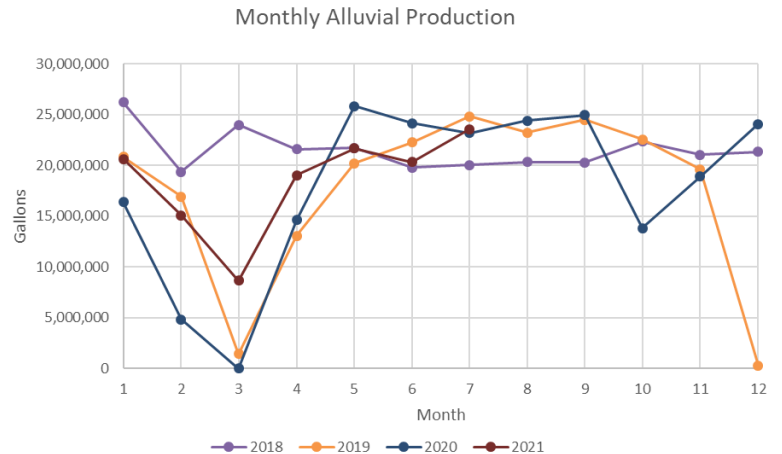
Water Demand

Renewable supplies are those water sources that are replenished by precipitation (think of our alluvial wells, CR-1, PCRWRL, and WISE), whereas reusable supplies are those waters that are either from the Denver Basin (deep wells) or imported supplies (such as WISE, RHR, PCRWRL) that can be used over and over, to extinction. The average reusable supplies used by Castle Rock for 2021 through July is 38.5%.

Alluvial supply

July 2021 production: 23.6 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 July was 23.6 MG
- We had three alluvial well rehabilitations completed this year.



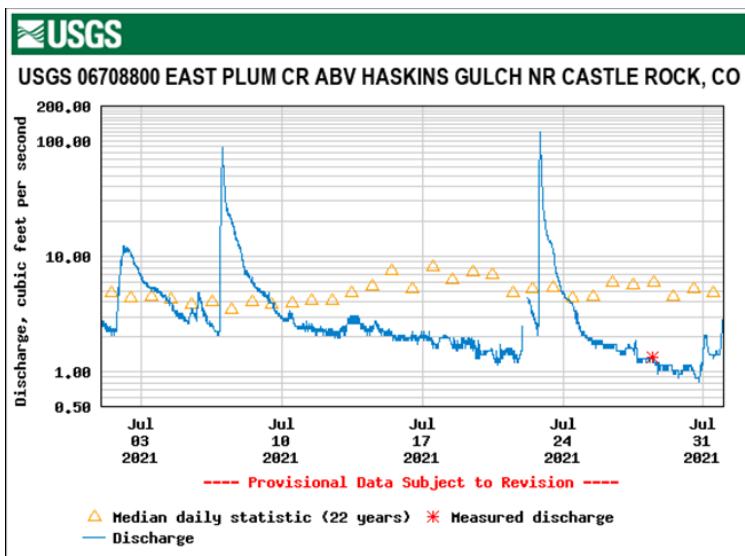
East Plum Creek Flows

Average July streamflow: 4.2 cfs

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 0.8 and 121 cubic feet per second (cfs) during the month of July, with an

average streamflow of 4.2 cfs. This month's average streamflow of 4.2 cfs is below the 20-year median of 10 cfs.

There were active calls on the South Platte River in July. 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, 2020 and as of the end of July, we have 1,671 AF of water stored in Chatfield.



Water Demand

Drought Monitor

The average WSI for July was 1.5, well 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 44% of Colorado is experiencing Moderate Drought (D1) to Exceptional Drought (D4) conditions, with no drought conditions in Douglas County or much of eastern Colorado. 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

July 31, 2021

South Platte River Basin:

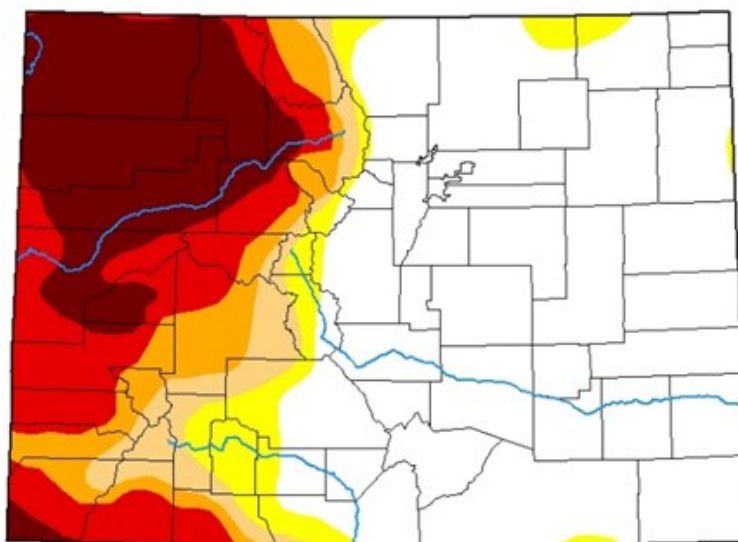
- YTD precipitation is at 99% of average
- YTD snowpack is completely melted for the season

U.S. Drought Monitor Colorado

July 27, 2021

(Released Thursday, Jul. 29, 2021)

Valid 8 a.m. EDT



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>.

Author:

Brad Rippey
U.S. Department of Agriculture



droughtmonitor.unl.edu

Water Demand

Conservation

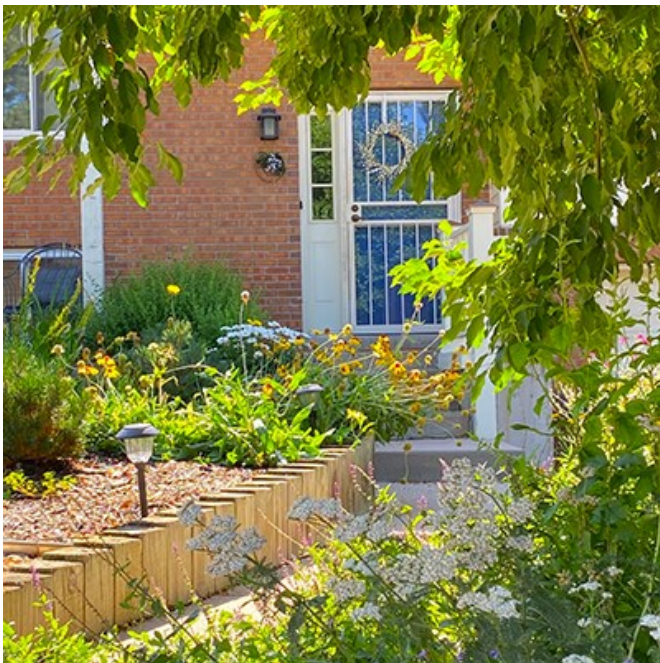


Conservation is ColoradoScape

Each year, Castle Rock Water gives away an \$8,000 front yard landscape in an effort to educate customers on the value and beauty of a low-water landscape. Residents who want to include less turf and more water-wise plants into their landscape are encouraged to enter to win.

To enter, from July 15 to Aug. 15, 2021, participants post a 15 to 30 second video on social media (Facebook, Instagram or Twitter) and tag @CRgov.com. Participants can simply use their mobile device to film and provide a message as to why their yard sucks (water, that is!) Five finalists will be chosen, and then Castle Rock residents will vote for their favorite on the Town's social media. Contest details and past winners can be found at CRconserve.com/Contest.

With more than 1.5 billion gallons of water being poured onto our yards each summer, reducing turf and introducing more water-wise plants, is the recommended conservation measure to help add to long-term sustainability. Removing just 100 square-feet of turf and replacing it with ColoradoScape can save 1,000 gallons of water per season!



2019 Winner



2020 Winner

The Conservation Team has other tools to help residents design and install their own ColoradoScape. These can be found at the Castle Rock-specific conservation website, CRconserve.com, and include design templates, plant finder for low-water plants, rebates for turf removal, and how-to videos.

Plan Review

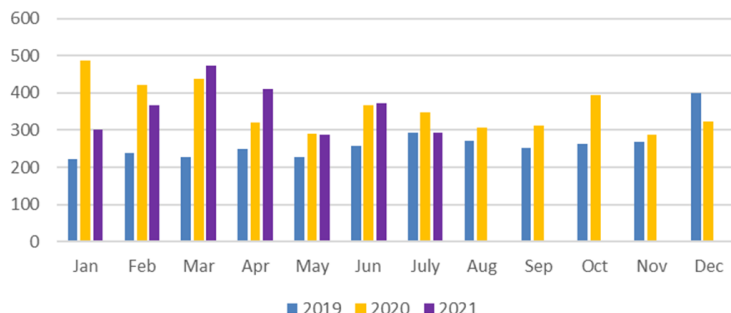
For each commercial and residential project submitted for development review, Castle Rock Water provides plan review, as appropriate, for:

- 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.



CRWater Plan Review
DS projects reviews + BLDG permit reviews



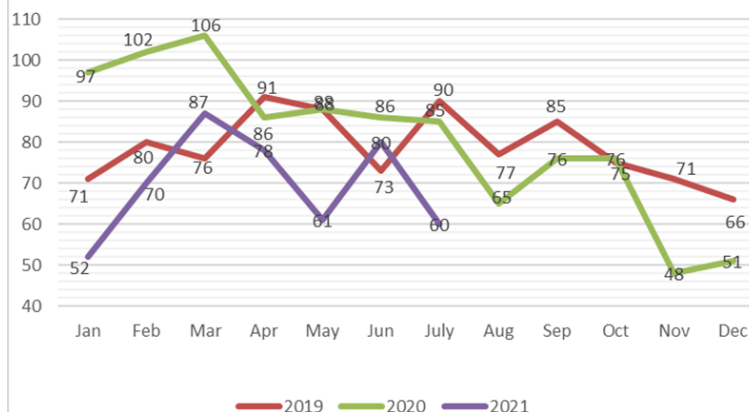
Reviews

156 Development Services PROJECT plan reviews
137 Building PERMIT reviews for
60 separate projects

Total Distinct Projects	2020: 85	2021: 60	Decreased 29%
Total Dev Review project reviews	2020: 165	2021: 156	Decreased 5%
Total Bldg permit reviews	2020: 191	2021: 137	Decreased 28%

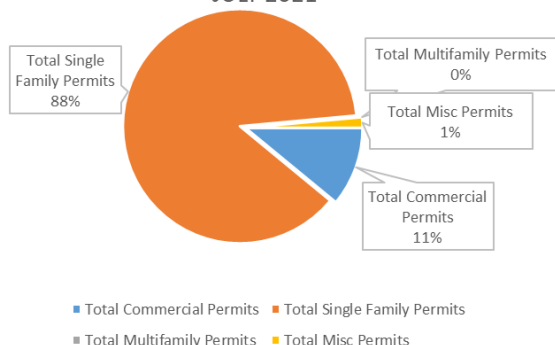
Building permits are reviewed to calculate the system development fees for each lot, as determined by the number of fixtures, irrigated area, meter size, etc. This is necessary for proper billing.

Monthly Development Project Applications Reviewed



July 2021 total reviews: 293

Castle Rock Water Building Permit Reviews
JULY 2021



Service levels

The average number of days assigned to review: 14.7 days
The average days to complete assigned reviews: 15.1 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

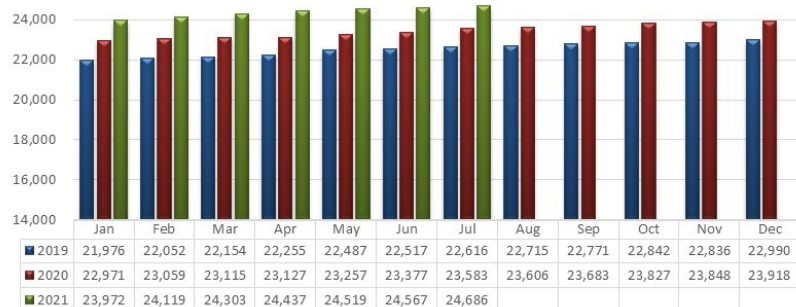


Customers benefit from having an online H2Oaccess account with 24/7 access to statement information, 12 months of statement history, helpful email account reminders and safe and secure online payment options.

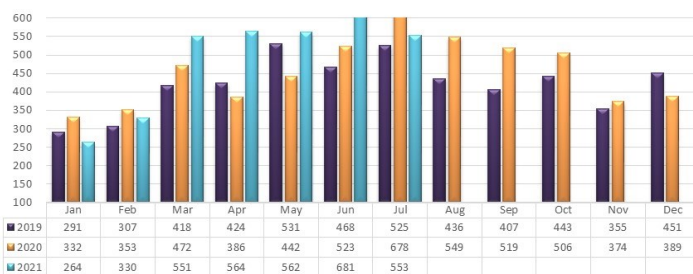
2021/Q2 statistics

- 16,323 or 66% of our total customers have enrolled in an online account
- 10,350 or 63% of the customers with an online account have chosen to go to paperless billing

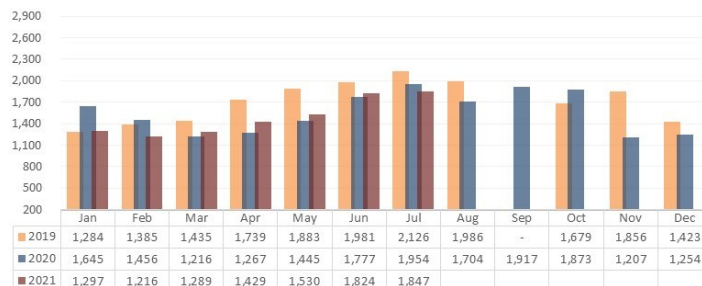
of Accounts Billed



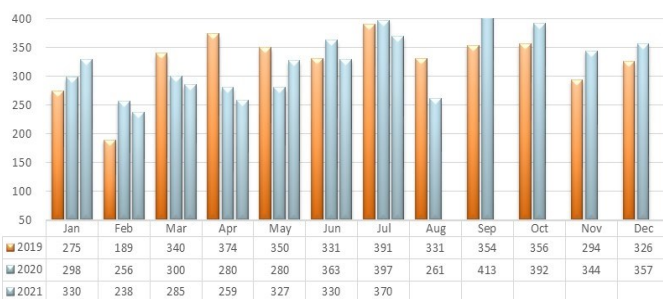
Transfers of Water Service



Customer Phone Calls



Mywaterbill Email Inquiries



Walk-In Customers



Customer Outreach

Water Outreach Social Media Stats	REACH
Ask the Expert—7/7	1,959 people
ColoradoScapes Overview video—7/14	1,995 people
Water Reuse Video #2 Rerelease—7/21	1,207 people 354 views
ColoradoScape Contest—7/28	2,815 people
Poop Fairy: Hank—7/13	4,991 people
ColoradoScape Contest News Release-7/15	1,639 people

Keeping customers informed about the value of water.

To better educate customers on the beauty and value of a low-water landscape, the ColoradoScape Contest, a front yard makeover, was created. This year will be the third year for the program which runs July 15– Aug. 15. To enter, participants submit a 15 to 30 second video on social media which is voted on by the public.

ColoradoScape Contest Call for entries Video—7/26	3,235 people 1,861 views
EMAIL: Win a new front yard in 15 seconds	7,518 opened (36% open rate)
EMAIL: It's not rocket science, but it is smart irrigation	7,122 opened (34% open rate)

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.

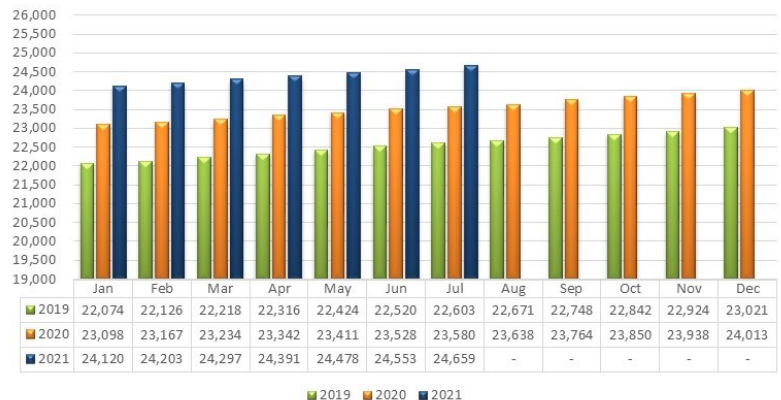
Skipped Reads

July 2021: 0.42%

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.

Meters Read



Meter Set Inspections

Re-inspections: 59%

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.

All Meter Set Inspections
(includes all re-inspections)



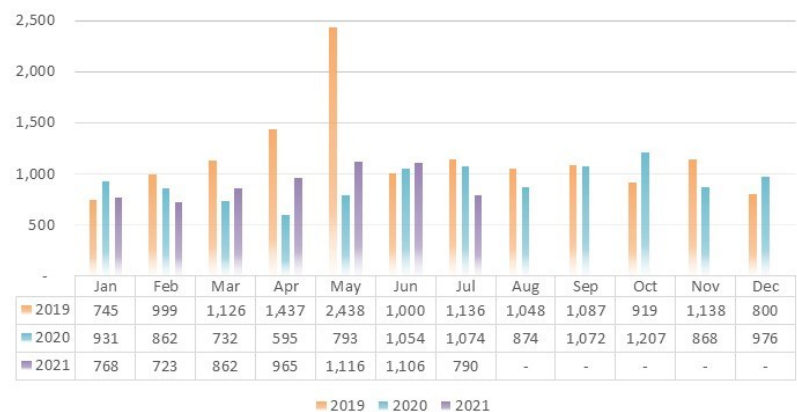
Meter services is currently working with builders to educate and train them on how to pass inspections the first time.

Work Orders

July 2021: 790

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 transfers of service, disconnection and reconnections, meter set inspections, etc.

ALL SERVICE WORK ORDERS



Operations & Maintenance

LEVELS OF SERVICE		July 2021
Drinking Water Compliance	Castle Rock Water will deliver water that meets or surpasses the requirements of both Primary Drinking Water Regulations and Secondary Maximum Contaminant Levels 100% of the time.	<i>Ninety routine samples were completed. All samples were within the parameters set forth by the Safe Drinking Water Act and Colorado Drinking Water Standards.</i>
Pressure Adequacy	< 1% of our customers will experience less than 43 pounds per square inch (psi) of pressure at the meter during normal operations.	<i>There were no water pressure issues this month.</i>
Sewer System Effectiveness	<p><1% of our customers will experience a sewer backup caused by the utility's sewer system per year.</p> <p><i>Castle Rock Water remains in the Top Quartile for least number of sewer backups based on the American Water Works Association benchmarking.</i></p>	<i>There were no sewer system issues this month.</i>
Drinking Water Supply Outages	<p><5% of our customers will experience water outages for one or more events totaling more than 30 hours/year.</p> <p>Castle Rock Water remains in the Top Quartile for water system integrity based on the American Water Works Association benchmarking.</p>	<i>There were no water system integrity issues in July.</i>
Water Quality Complaints	Castle Rock Water remains in the Top Quartile for water quality complaints based on the American Water Works Association benchmarking.	<i>There were no water quality issues in July.</i>

Operations & Maintenance

Locate Report



Know what's below.
Call before you dig.

Castle Rock Water's locate requests from 811 have continued to rise, year over year.

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.

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	1,803
February	521	485	538	1,094	1,093	1,383	1,334	1,378	1,293	1,404	1,443	1,958
March	660	552	818	1,437	1,349	1,906	1,625	1,851	1,514	1,560	1,626	2,253
April	838	681	1,025	1,482	1,552	1,784	1,631	1,760	1,856	1,984	2,600	2,524
May	853	863	985	1,541	1,531	1,809	1,809	2,002	1,801	2,122	2,288	2,524
June	969	844	982	1,314	1,399	1,854	2,075	1,872	1,854	1,716	1,931	2,278
July	680	582	859	1,350	1,392	1,477	1,675	1,582	1,556	1,937	1,894	2,311
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	1,859	
Totals	8,545	7,539	11,097	15,702	15,731	17,323	18,469	20,411	19,875	20,440	23,022	15,651

Collections

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.

YTD

Lines Cleaned 54.77 miles
Lines Inspected 21.84 miles
SSO Rate 0.0 SSO/100 mi

July: No sanitary sewer issues.

Distribution



MISSION ACCOMPLISHED!

The Distribution Repair Team installed the sixth and last of their planned hydrant replacements.



The Distribution Repair Team installed a sample station on the raw waterline that feeds the Ray Waterman Regional Water Treatment Plant

Operations & Maintenance

Facility Maintenance

Security fencing was installed at the Enderud Well House. A privacy fence helps screen the building from nearby residents. The post and rail fence will help keep trail users and their pets on the pedestrian trail.



Stormwater Maintenance



The Stormwater Team built a settling pond for the Sedalia Pump Station, to pump water and sediment from the clear well, to assist with filling CCR1.



In response to a customer request the Stormwater Team mowed and regraded a storm channel along Prairie Hawk Dr. to ensure proper drainage.