

# MONTHLY REPORT

MAR. 2022



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

## Grey water system pilot project begins in Castle Rock

Toilets account for roughly 25% of all the water used indoors, and that water comes directly from the potable water supply. Greyter Water Systems (Greyter) asked why use potable water in the toilet? Their system takes water from showers and baths, filters it and supplies it to the toilet for flushing. Greyter claims that a family of four could save 20,000 gallons or more every year with their gray water system. A primary builder in Colorado, Lennar Homes has several pilot projects with Greyter to test its effectiveness, one of which is in Castle Rock. A total of 29 homes will have this grey water system installed in a Lennar subdivision in Castle Rock. Lennar Homes gets the benefit of an added component to their Water Efficiency Plan which impacts the system development fees. The partnership is also presumed to overcome the consumer cost of the product of around \$5000. Castle Rock Water is monitoring the homes to determine how effective the Greyter system is.

Only a couple of municipalities in Colorado allow grey water systems that use non-drinking water for use within and around the home. Castle Rock became one of those cities in 2019 with changes to the local plumbing code. With water conservation a top priority for Colorado, using grey water has received high interest.

The Greyter system channels water from the tub and shower and passes it

through several filters. One takes out large debris like hair and the second, currently a carbon filter, takes out soaps. Chlorine (in the form of bleach) is added to the water that is sent back to the toilet each time it is flushed. Should the household shower water supply not be sufficient, the system will pull from the municipal potable supply. Likewise, if there is excess water supply, it will automatically drain into the sewer system. The system requires annual changing of the carbon filters and



the periodic addition of bleach. Upgrades are already underway to reduce this maintenance and create a monitoring app.

In addition to monitoring how effective the system is for water conservation, Castle Rock Water is looking at other parameters, such as water quality. The Greyter system guarantees the water in the toilets is safe and to NSF standards. With the inevitable dog

and children playing in and around toilets, water quality could be a customer concern. Castle Rock Water likes the idea that this system provides an easy way to save indoor water without having to change customer behavior. The first Greyter system was installed in March 2022 and all 29 should be operational in the newly built and owner-occupied homes within two years.

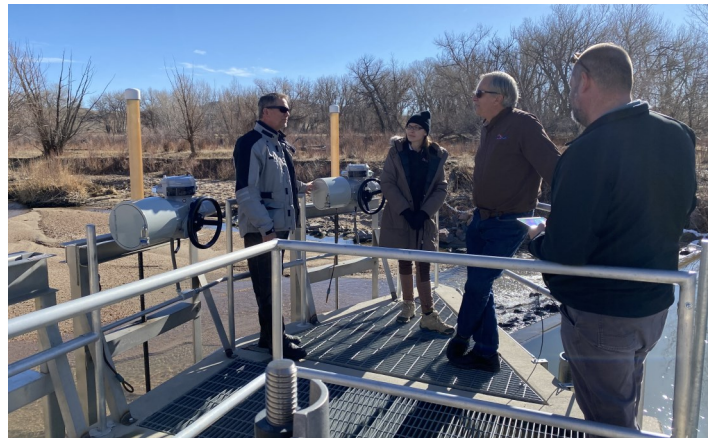
## CRW attends career fairs



Castle Rock Water attended career fairs at Castle View High School in Castle Rock and Ponderosa High School in Parker presenting career opportunities to the students. John Chrestensen, David Montgomery, Ryan Livingston, Kristen Reaves and Sandi Aguilar provided insight into the different disciplines needed to run an efficient water system. To provide hands-on engagement with the students, the booth showcased a meter tree, SCADA electronic board, and sewer CCTV. Castle Rock Water also sponsored the Ponderosa High Showcase breakfast.

## Sourcewater Protection Plan tour

The Sourcewater Protection Plan, originally created in 2017, was updated in March and is set to go to Town Council for approval in May. Tim Friday and Roy Gallea hosted the Colorado Rural Water Association who were the primary contributors to this document. A major change incorporated into the plan was inclusion of and considerations for Plum Creek Diversion #2 located near Sedalia.



## Operations—keeping it running!



*A Sewer Service Overflow (SSO) occurred on Wolfensberger Rd. just west of the Coachline roundabout. The Collections team investigated and found that a contractor's plug had been left in the main, causing the backup.*



*There was a line break in Glovers on a 6-inch cast iron pipe main. The line was repaired with a clamp and did not affect nearby residents.*

# Good job!

## Welcome NEW HIRES



**Diane Maki**  
CRW Plan Reviewer



**Jeremy Clark**  
Water Plant  
Operator III



**Ben Powell**  
Stormwater  
Maintenance -  
Operator I



**Mitch Horner**  
Water Plant  
Operator I



**Chad Francis**  
Stormwater  
Maintenance -  
Operator II



## Promoted



**Courtney Stoddard**  
Water Plant Operator II,  
Water Treatment C Certification

## Transitioned



**Kristen Reaves**  
SCADA Team/  
Instrumentation Technician

## NEW CERTIFICATIONS



**Michelle Strang**  
Backflow Tester Certification

## Water Star Award

**Scott Berndt**, though his title is Plant Maintenance Supervisor, he is really the “Go-To Guy To Get Things Done” Supervisor! Scott is everywhere, all the time, doing all of the things that need to be done—and things that the rest of us don’t necessarily have the answer for. For instance, Mark Billman was researching a safety instrument and even before Mark could finish the research, Scott placed the correct, research-backed, security-insured, already-paid-for, instrument on his desk. It is hard to catch Scott as he is always on the go, helping staff with those I don’t know how to fix/build/develop tasks. His role is hard to define, but amazing is what he is!

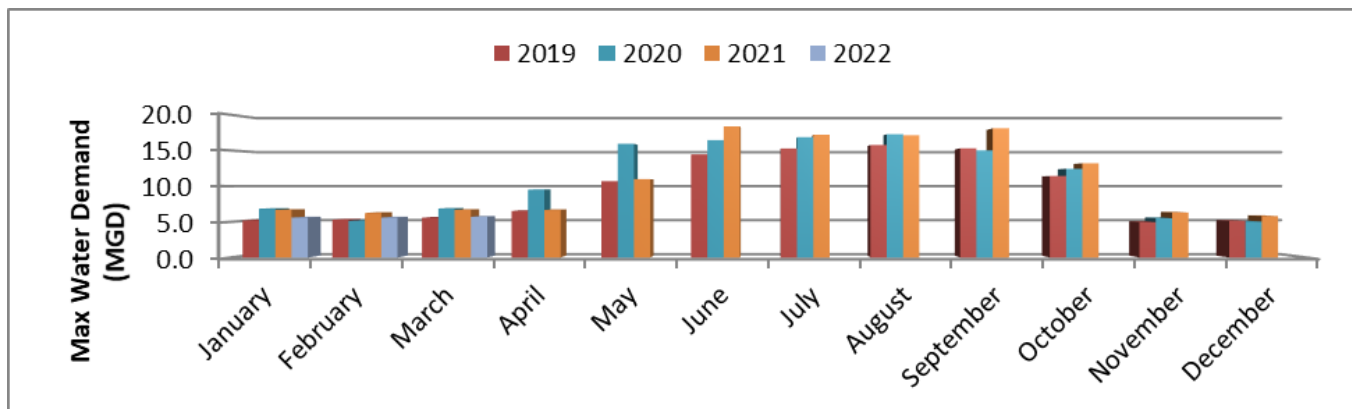


*The Water Star Award recognizes a coworker within Castle Rock Water for doing an excellent job in fulfilling the Department’s Vision and Mission.*

# Water Resources

## 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.



### March Max Daily Demand:

- 5.7 million gallons/day
- 5-year average, 6.0 million gallons/day
- 5% lower than the 5-year average

### Water Demand Total:

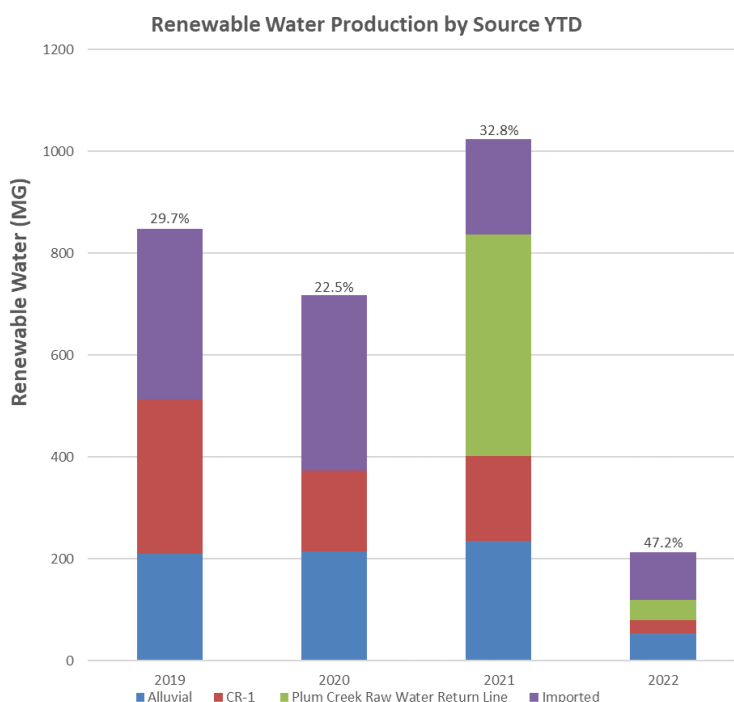
- The water demand total for March was 157.1 million gallons (MG) [482.1 acre-feet (AF)]
- 12% higher from the February 2022 total of 140.7 MG
- 4.1% increase from the previous year's March 2021 demand of 151.0 MG.

## Renewable supplies

Renewable supplies are those water sources that are replenished by precipitation.

In total, renewable supplies accounted for 58.9% of the total water supply for the month and 47.2% of the annual water supply (449.6 MG or 1,379.8 AF) to date.

- The CR-1 diversion produced an average of 0.5 MGD.
- The 14 alluvial wells produced an average of 0.74 MGD.
- The renewable water production average was 2.9 MGD.
- The renewable water total production was 89.8 MG (275.6 AF).



**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

## Reusable supplies

Reusable supplies are waters that are either from the non-tributary Denver Basin (deep wells) or imported supplies (such as WISE) that can be used over and over, to extinction.

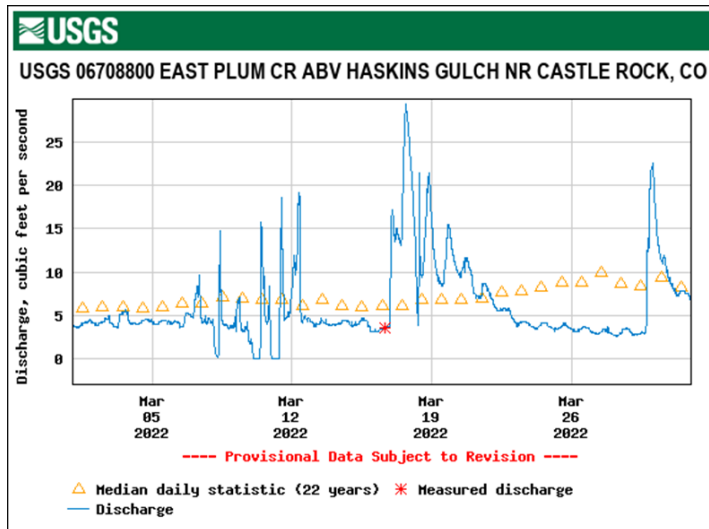
- The average reusable supplies used by Castle Rock for 2022 through March is 27.3%.

## Storage

### Current reservoir storage

- Chatfield: 1,484.04 AF
- Rueter-Hess: 116 AF
- CRR1: 177.23 AF

## Local Plum Creek supplies



The hydrograph shows the estimated flows in the East Plum Creek basin.

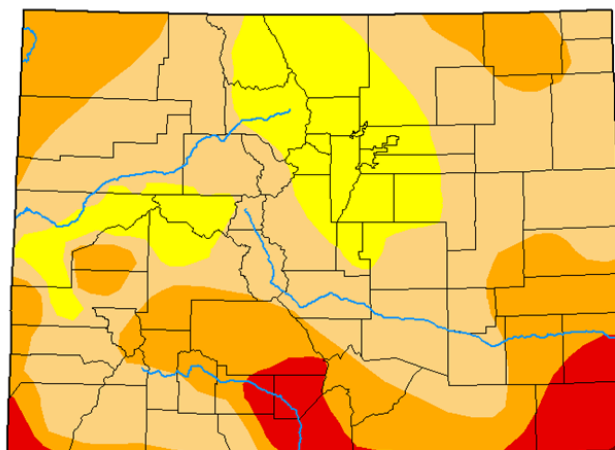
- Flows ranged from 0 – 29.4 cfs.
- The monthly average streamflow was 6.1 cfs.
- The 22-year median is 7.5 cfs.

## Drought

According to the U.S. Drought Monitor maintained by the United States Department of Agriculture (USDA), **Castle Rock is experiencing Abnormally Dry (D0) conditions.**

### U.S. Drought Monitor Colorado

**March 29, 2022**  
(Released Thursday, Mar. 31, 2022)  
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:

Deborah Bathke  
National Drought Mitigation Center



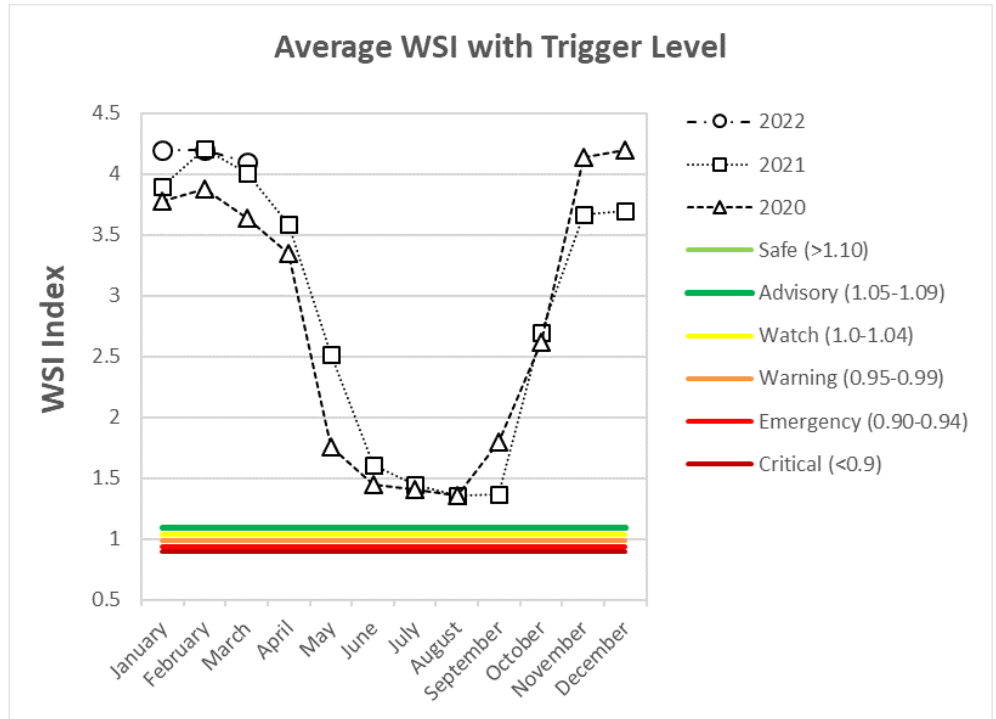
[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

# Water Demand

## Water supply index

The Town of Castle Rock Drought Management Plan uses a Water Supply Index (WSI) for the Town that accounts for local conditions relative to the Town's capability to address our water resources and daily water demands. Anything below a 1.1 will trigger a drought stage relative to its severity.

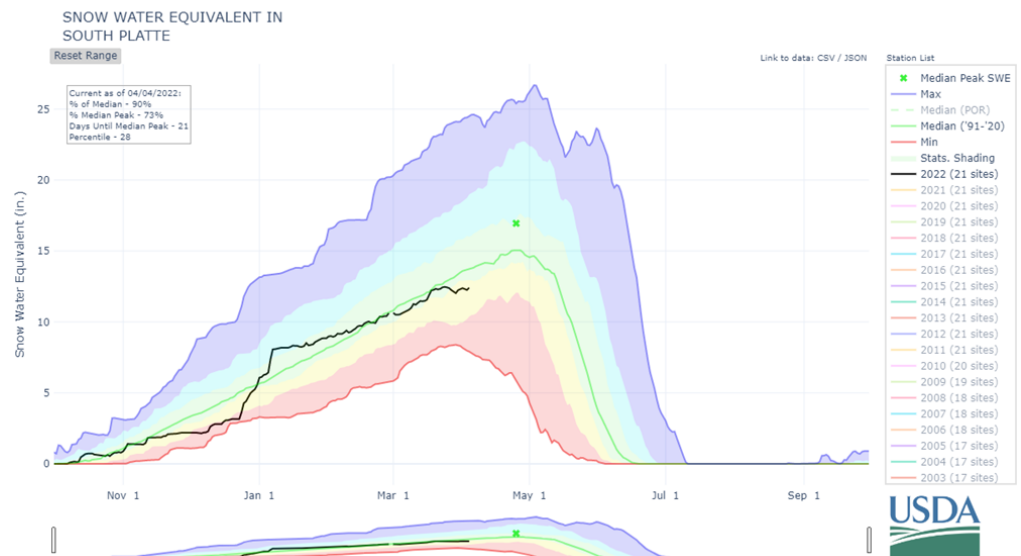
- The average WSI for March was 4.1



## South Platte River Basin

### South Platte River Basin Snow Pack

- Year-to-date precipitation at 94% of average.
- Snow Water Equivalent (SWE) at 91% of average.

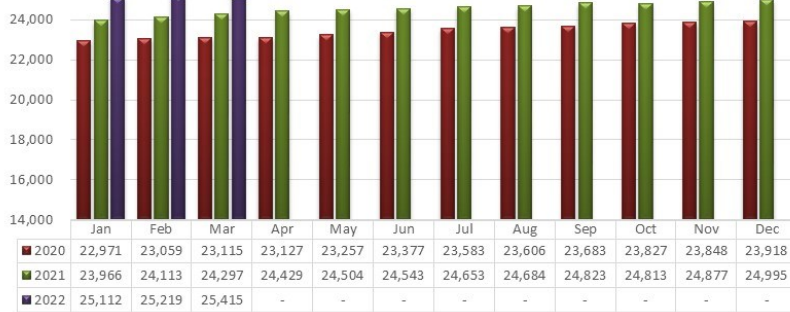


# Business Solutions

## Customer Service & Billing



# of Accounts Billed

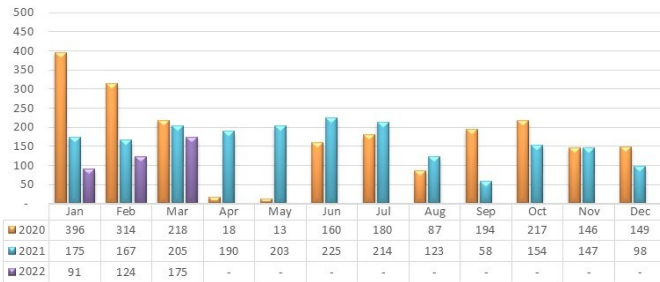


### 2022/Q1 statistics

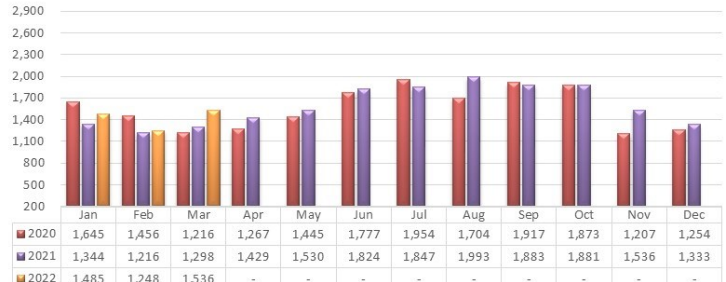
- 17,991 (71%) have an online account
- 11,575 (64%) are paperless

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. Customers are encouraged to use paperless billing to reduce clutter, be environmentally friendly and save mailing costs.

Walk-In Customers



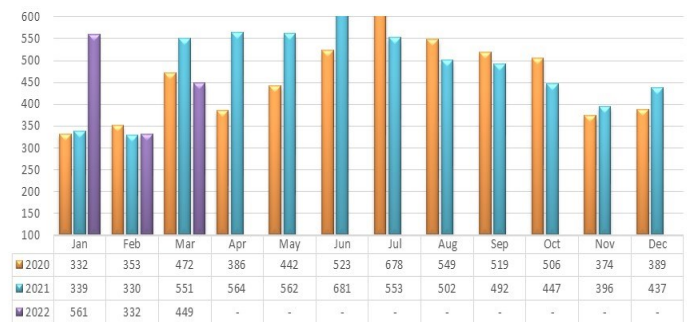
Customer Phone Calls



Mywaterbill Email Inquiries



Transfers of Water Service



## Customer Outreach

Keeping customers informed about the value of water.

Water Outreach Social Media Stats	REACH
Garden in a Box — Mar. 2	5,783 people
Conservation/Value — Mar. 9	1,567 people
DIY Ice Melt recipe — Mar. 10	4,046 people
DIY Ice Melt recipe (Instagram) — Mar. 10	3,063 people
Poop Fairy/Maisy — Mar. 14	3,696 people

Fix a Leak Week Twitter Party—Mar. 14	853 reach
Fix a Leak Week — March 16	3,103 people
World Water Day — Mar. 22	1,533 people
Join the Flow/Water'22 — Mar. 23	1,641 people
Did You Know/Water Quality — Mar. 25	2,249 people
Did You Know/Water Quality (Nextdoor)	1,599 people
EMAIL: If there's a water emergency...	16,084 opened (55% open rate)
HOA Email: How will eliminating front yard turf impact HOAs?	121 opened (53% 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

**Mar. 2022: 0.41%**

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: 46%**

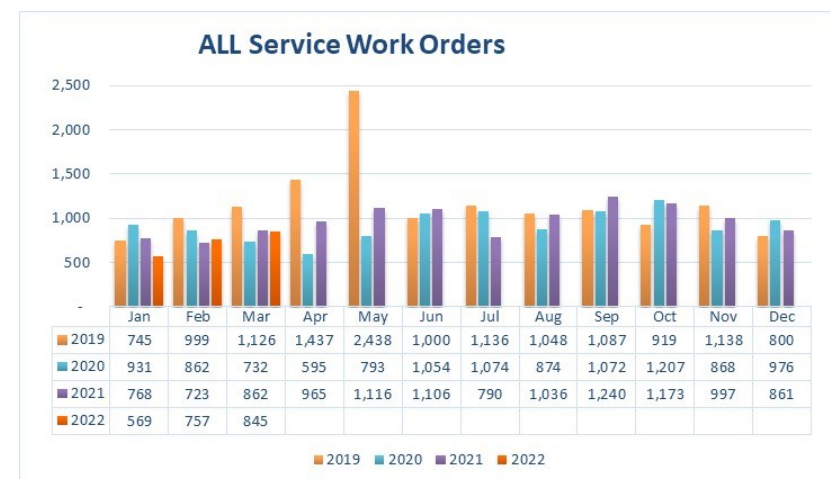
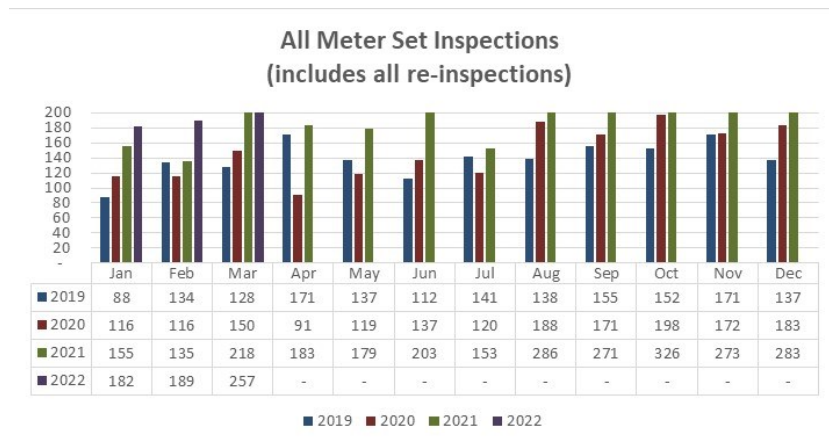
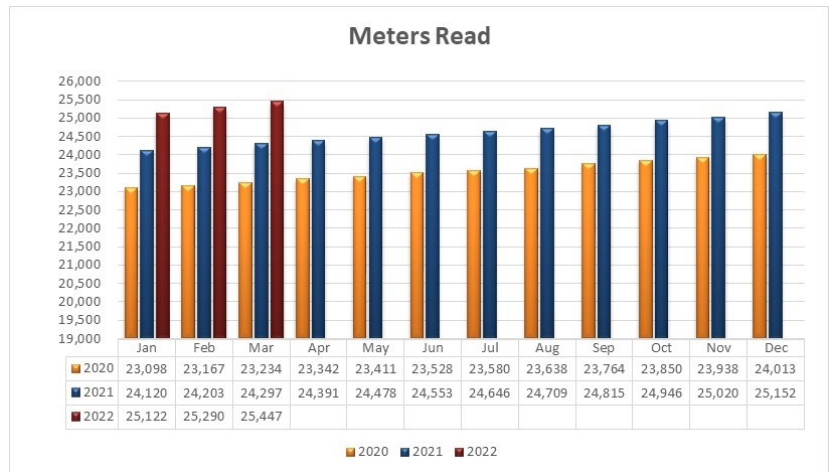
Meter set inspections are required on all new meters installed. This ensures that the meters are installed per specifications and according to Town code. At the time of the inspection, the curb stop is tested for operability and the MXU is installed which provides reading capability for our drive by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

## Work Orders

**Mar. 2022: 845**

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, and more.

*Note: Correction to February numbers*





# Operations & Maintenance

## LEVELS OF SERVICE

Mar. 2022

### 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.

**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

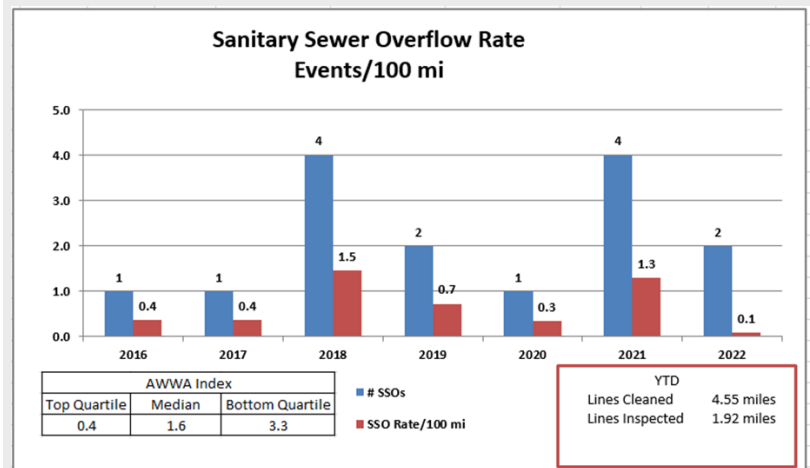
< 1% of our customers will experience less than 43 pounds per square inch (psi) of pressure at the meter during normal operations.

**There were no water pressure issues in March.**

### 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 AWWA benchmarking.

**There was one sanitary sewer issue in March.**



### Water Quality Complaints

Castle Rock Water remains in the Top Quartile for water quality complaints based on the AWWA benchmarking.

**We had zero water quality issues and 1 customer education visit.**

# Operations & Maintenance

## LEVELS OF SERVICE

Mar. 2022

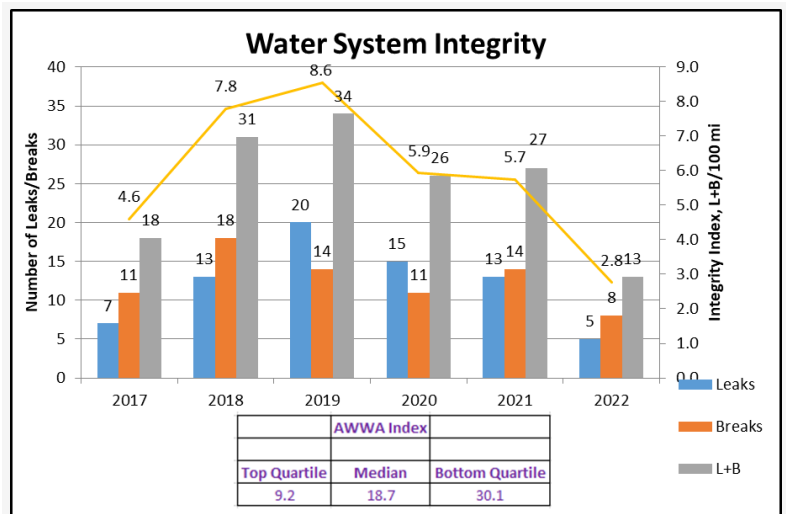
### Drinking Water Supply Outages

<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 and one planned main shutdown in March:**

- A curb stop was damaged by a contractor in the Sandy Vista subdivision. The Distribution team shut down the line for approximately 20 minutes while the contractor conducted the repair.
- There was a main break in Glovers on a 6-inch diameter line. The Distribution team was able to conduct the repair without shutting off water to area residents.
- The CIP contractor working in the Craig & Gould neighborhood damaged a service line. Eight residents were affected with reduced pressure while the contractor conducted the repair.



## Utility locates

### Water locates conducted

- March — 2,702 tickets



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.

# Stormwater Compliance

As an integral part of the Town’s vision of providing residents the highest quality services at the best value, the Stormwater Division manages stormwater runoff to minimize flooding hazards and to protect water quality in our watersheds.

Services the Stormwater Division provides include:

- Construction site inspections
- Spill reporting
- Public education and outreach
- Pond maintenance oversight
- Floodplain management



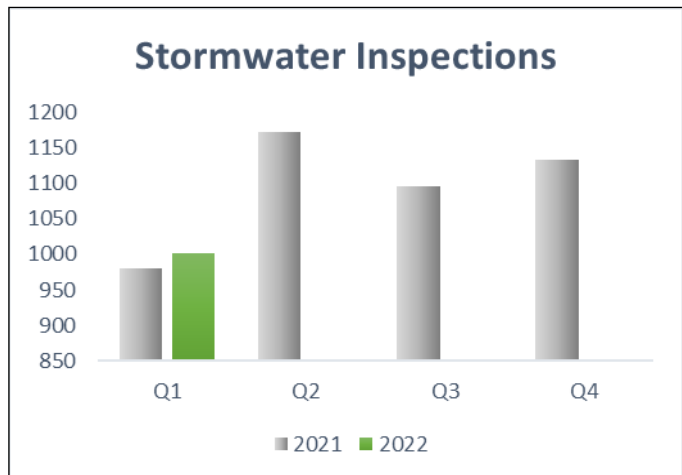
*Dust from grading operations on an active construction site. This developer voluntarily shut down on several occasions when conditions were severe.*

## Inspections

*The inspection team regulates permitted residential and commercial properties.*

Total inspections are tracking similar to 2021 so far.

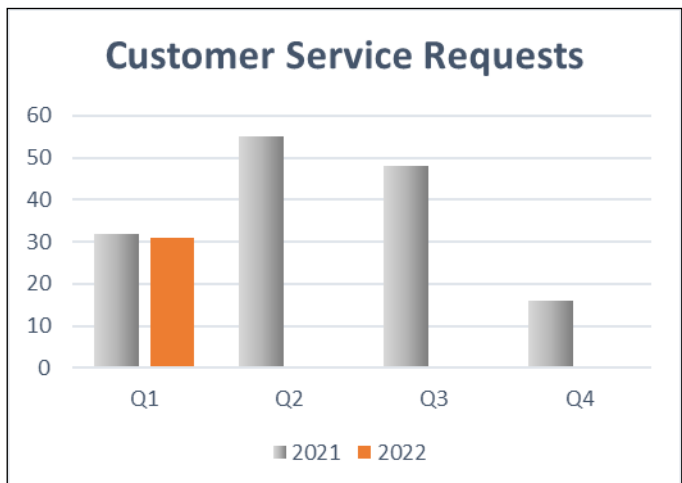
Fun fact: The Lanterns subdivision, on the south side of Castle Rock, has about 300 acres permitted and more on the way. That’s about 17% of the total permitted acreage for active construction sites in Castle Rock.



## Customer Service

*The Stormwater Division receives various customer concerns from nuisance groundwater and illicit discharges to dust to maintenance of infrastructure. Complaints often rise and fall with weather patterns.*

Spring has sprung in Castle Rock and that means plenty of wind! Rising temperatures and wind are a recipe for dusty conditions on active construction sites. Developers are required to reduce impacts from their construction activities by dampening disturbed soil and minimizing dusty activities, such as grading or rock-crushing, on the worst days. Stormwater and Public Works Construction inspectors work together to send out reminders, notices and violations, including stop work orders.



# Plan Review

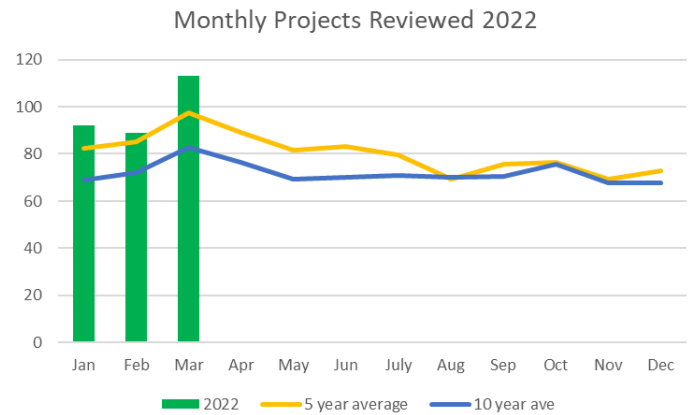
Castle Rock Water Plan Review team reviews planned development plans, site plans, construction drawings, water efficiency plans and technical reports for each project to ensure the public infrastructure built by the developer is following the criteria set by the Town, with respect to:



- Water
- Sanitary sewer
- Stormwater
- Drainage
- Flood Control
- Landscape and Irrigation
- Temporary erosion and sedimentary control

## Project Reviews

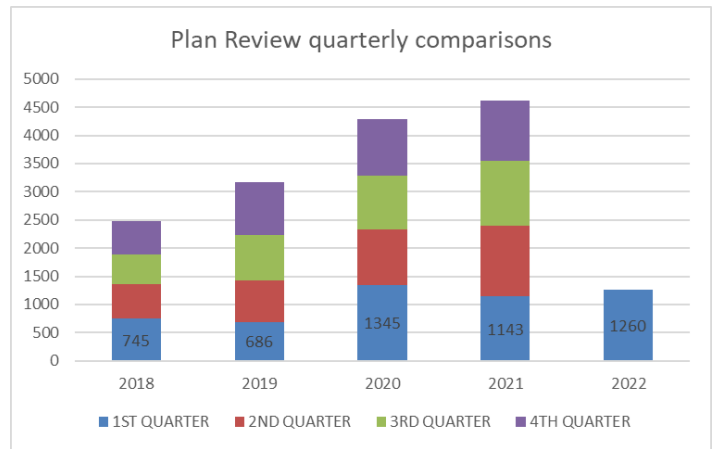
A project can be as large as a master planned development area or subdivision, or as small as a commercial building or building addition.



## Plan Reviews

Each project may have several plans related to it. This graph identifies the total number of different plan reviews for all projects and permits.

JAN: 434  
 FEB: 359  
 MAR: 467



## Plan Permits

The plan review team reviews building permits to verify proposed water demand to size meters and assess system development fees. The team reviews permits for each single family home, multi-family building, commercial building, commercial tenant improvement, irrigation meter, and temporary trailers.

