

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

#### **Tank 16 Shotcrete Demolition and Repair**

#### By Scott Tait

In late fall of 2022, about 2,000 sq. ft. of exterior shotcrete placement on the wall of Tank 16 was demolished due to cracking from environmental water penetration. The shotcrete had been placed in 2004 as a tank wall covering. In spring 2023, the shotcrete was replaced with formed concrete containing rebar and anchors to the existing tank wall. Castle Rock Water and the Department of Innovation and Technology rerouted fiber, communication and electrical conduits that were attached to the shotcrete. Hazen and Sawyer Engineers accomplished the design for the repair. Lillard & Clark Construction Company performed the demolition and concrete repair. Painting and final grading was completed in mid-July 2023 at total project cost of around \$130,000. Given that a new tank is estimated at \$5.5 million, this rehabilitation is extending the life of the tank for an estimated 50 years, providing exceptional savings for other capital improvement projects.





Demolition





Forming

#### **Prestwick Water Rehab Project**

By Roy Gallea

The W. Prestwick Water Line Rehab Project is located west of Plum Creek Blvd., near the intersection of Plum Creek Blvd. and Mt. Royal Dr. This project replaced the aging potable water distribution piping in W. Prestwick Way. The water main in W. Prestwick Way has had a significant number of main breaks in recent years. The water main was constructed in the early 1980s with ductile iron pipe. The existing pipe does not appear to have been wrapped in plastic when it was installed. The breaks that have occurred appear to have been caused by corrosion.

The project was awarded to Elite Surface Infrastructure. The project replaced approximately 2,200 feet of 8-inch cast iron pipe with an 8inch PVC pipe. The project also replaced all of the water services within the roads. The sanitary collection and storm sewer system was evaluated during design and it was determined that it was in good condition.

The total project cost was \$1,095,135 and was completed within the approved budget. The project was completed ahead of schedule.







## **Good job!**





Jennifer Pomplun Customer Billing and Support Supervisor



Frank Main Stormwater Project Manager



Shamus Brady Water Treatment Operator I



Alexandra Daws Water Plant Operator— Summer Seasonal



Taylor Voss Water Treatment Operator I



Logan Snell Landscape and Irrigation Plan Reviewer



Mark Ball Wastewater Collections Operator I



David Bradley Wastewater Collections Operator II

## **Good job!**

Certified!



Mike Murphree Colorado Distribution I Operator



## High Five!

Joey Woolfolk Michelle Strang Steven Tamariz

These folks were part of the process that was necessary in order to get a valve repaired and operational that had previous not been effective. The team was able to troubleshoot and do individual research in order to get the valve operational.



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



Julia Wells, Office Assistant II, was awarded the Star Award from Melinda Pastore. "I chose Julia because she works in support of the Town values, as well as the CRW mission and vision. Some of the Town values that come to mind when I think of Julia are Teamwork and public service to internal and external customers. Julia is a big help to me, as she often covers Stormwater customer service when I am out of the office. I like being able to leave and

know that our customers are in good hands, as Julia is a customer service champion! I also appreciate that she responds to my emails and phone calls quickly, which enables me to be more efficient in my job. She is always a pleasure to work with and takes the time to offer help to others and improve our processes."

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# 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.



#### Max Daily Demand:

- 18.3 million gallons/day (MGD)
- 5-year average: 17.4 MGD
- 5% higher than the 5-year average

#### Water Demand Total:

- The water demand total for July was 443.70 million gallons (MG) [1,361.7 acre-feet (AF)]
- 63% higher than the June 2023 total of 271.9 MG
- 10.4% Decrease from the previous year's July 2022 demand of 495.2 MG

#### **Renewable supplies**

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

In total, renewable supplies accounted for 22.4% of the total water supply for the month (86 MG of 385 MG) and 34.1% of the annual water supply (517 MG of 1,515 MG)

- The CR-1 diversion produced an average of 0.58 MGD.
- The PC diversion produced an average of 1.75 MGD.
- The 14 alluvial wells produced an average of 0.61 MGD.
- The renewable water production average was 2.78 MGD.

Note: Because of the high surface stream flows in East Plum/Plum Creek, CR-1 and the PC Diversions experienced some damage and sedimentation issues which limited the amount of water production that otherwise could have occurred during the continued "Free River" conditions.



Our goal is to reach 75% renewable water by 2050 and 100% by 2065.

# Water Resources

#### **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. This number changes every month.

• The average reusable supplies used by Castle Rock for July 2023 is 44.3%.

### Local Plum Creek supplies

## East Plum CR Abv Haskins Gulch NR Castle Rock, CO - 06708800 July 1, 2023 - July 31, 2023 Streamflow, ft<sup>3</sup>/s • 6.83 ft3/s - Jul 18, 2023 06:30:00 AM MDT

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

- Flows ranged from 4.41 to 1,560.0 cubic feet per second (cfs).
- The monthly average streamflow was 19.3 cfs.
- The 24-year mean is 8.3 cfs.

## Drought

U.S. Drought Monitor Colorado

July 25, 2023 (Released Thursday, Jul. 27, 2023) Valid 8 a.m. EDT

According to the most recent U.S. Drought Monitor maintained by the United States Department of Agriculture (USDA), Douglas County is not experiencing any drought conditions, however, 24.43 % of Colorado is Abnormally Dry and 1.81 % is in the Moderate Drought classification.





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

<u>Author:</u> Brian Fuchs National Drought Mitigation Center



droughtmonitor.unl.edu

### Storage

#### Current reservoir storage

- Chatfield Reservoir: 1,996.25 AF
- Rueter-Hess Reservoir: 102 AF
- Castle Rock Reservoir No. 1 (CRR1): 134.08 AF

## Water Resources

#### Water supply index

The Town of Castle Rock's 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 July was 1.7.

#### **ColoradoScape Guidelines for new construction**

With the new 2023 ColoradoScape regulation of no Lot 1 - Concept B turf in the front yard of new homes and a limit of 500 square feet in the back, along with no turf in non-functional areas on commercial spaces, Castle Rock Water developed a ColoradoScape Guidelines document for design reference. (Commercial installation should refer to the Town of Castle Rock Landscape and Irrigation Criteria Manual for specific design criteria and submittal requirements.) The goal is to reduce daily water consumption while using landscaping that will enhance the streetscapes and provide unique character to each home. With that in mind, the designs incorporate a balance of hardscape and plant coverage.

This document can be found on CRgov.com in the Landscape Forms section.

Conceptual ColoradoScape designs (PDF)



Conservation is considered a water supply source as the less that is used now, the less water that is required to be purchased in the future. Along with being mindful of limited resources, this saves rate payers millions of dollars in the long-term.

## **Business Solutions**

### **Customer Service & Billing**



CRgov.com/MyWaterBill

The percentage of customers with online accounts before the conversion was 72%. Online accounts provide additional account and water department information as well as additional ways to pay.







istomer utreach & Transfers of Water Service





	Social media outreach		Date	Impressions
	FB	Smart Irrigation: programming	7/5	2,079
	FB	Water line break restoration	7/10	2,414
	FB	Smart Irrigation: Cycle & Soak	7/12	786
<b>c</b>	FB	Smart Irrigation: water waste	7/19	1,796
0	FB	Poop Fairy: Winnie Ruth	7/21	1,920
P	FB	Small ripples-conserve	7/26	2,464
g	FB	Barbie Dreamhouse: ColoradoScape	7/27	1,828
<b>B</b>	Insta	Plant of the month: Ice Plant	7/7	1,970
D	Email	What the rain means for supply	7/14	12,918 (67% open rate)
4	Email	HOA: Xeriscape bill	7/14	103 (57% open rate)

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## Meters

### **Meters Read**

Meters are read the first two 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 23: 0.94%

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: 31%

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**

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.



2021 2022 2023

(includes all re-inspections)





■ 2020 ■ 2021 **■** 2022 **■** 2023

#### 28,000 27,500 27,000 26,500 26.000 25,000 25,000 24,500 24,000 23.000 22 500 20,000 2021 24.120 24 203 24 297 2/ 391 24 478 24 553 24 646 24 709 24.815 24 946 25.020 2022 25,122 25,290 25,447 25,495 25,579 25,650 25,702 25,817 25,926 26,027 26,205 26,372

27,339 27,430 27,513 27,620 27,627

**Meters** Read



2023 27,045

27,259

#### 2023/Q2

# 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
- Landscape and
- Sanitary sewer
- Irrigation
- Water rights •
- Drainage
- Temporary erosion and
- Flood Control
- erosion and sediment 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: 188	APR: 279
FEB: 244	MAY: 355
MAR: 355	JUNE: 382

### **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.





## **Operations & Maintenance**

## **LEVELS OF SERVICE**

**July 2023** 

		-
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.	One hundred routine samples were completed and no issues discovered.
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 July.
Sewer System Effectiveness	<1% of our customers will experience a sewer backup caused by the utility's sewer system per year.	There were no sanitary sewer issues in July. Sanitary Sewer Overflow Rate Events/100 mi 5.0 4.0 5.0 4.0 5.0 4.0 5.0 4.0 5.0 4.0 5.0 4.0 5.0 4.0 5.0 4.0 5.0 4.0 5.0 4.0 5.0 5.0 4.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5
Water Quality Complaints	Castle Rock Water remains in the Top Quartile for water quality complaints based on the AWWA benchmarking.	There were no water quality complaints for July. We conducted 4 educational visits.

### **Utility locates**



Water locates conducted July: 1,521 locate tickets

Locating public water, wastewater and stormwater lines



## **Operations & Maintenance**

## July 2023

#### Drinking Water Supply Outages

**LEVELS OF SERVICE** 

<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 was a leak on the 16" fiberglass Ravenna raw water pipeline, that was repaired by our on-call line repair contractor.

There were no water system integrity issues in July.





The Distribution team has placed several i2O PRV monitors in Bell Mountain Ranch in order to identify problems and assist with system maintenance.



The Distribution team conducted a complicated hydrant repair which necessitated them pulling the hydrant