Water Star Award

Join us in congratulating our first recipient of the Water Star Award - *Tim Lambert*. Tim has been with Castle Rock Water since 1999 and is the Water Treatment Supervisor.

The Water Star Award recognizes a coworker within Castle Rock Water for doing an excellent job in fulfilling the Department's Vision and Mission. Similar to the Rock Star Award, the award is passed from one employee to another in a different division who demonstrated performance and/or behavior that supports our Vision and Mission. The award will be presented at each monthly staff meeting. The person presenting the award will explain why he/she chose the recipient, and the recipient will pass it along at the next staff meeting. The following criteria are the basis for awarding this coveted honor:

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.

Our Mission

We provide our community with exceptional service that protects public health and balances social, environmental and fiscal responsibilities in a sustainable manner.

Our Vision

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

Plum Creek Diversion Project

By: Matt Hayes, Project Manager

Castle Rock Water purchased the United Water and Sanitation District's infrastructure, which includes the Plum Creek Diversion in Sedalia in November of 2017. The Plum Creek Diversion has a capacity to capture up to 25.8 million gallons per day (MGD), but is only able to pump 1.15 MGD to the Castle Rock Reservoir 1. Castle Rock Water contracted with Dewberry Engineers on the design of the pump station for the existing diversion facility. The new pump station is designed to pump up to 25.8 mgd of captured water from East Plum Creek to Castle Rock Reservoir 1. The pump station is designed to pump up to 8 mgd from Castle Rock Reservoir 1 to the Plum Creek Water Purification Facility (PCWPF). These pumps are also designed to be expanded to pump up to 15 mgd back to PCWPF in the future. The design of this facility has been completed and the project is currently in the bidding process. The construction of the pump station is scheduled to begin in June of 2019 and be completed by May of 2020.

The Town has partnered with Dominion Water and Sanitation District on a joint pipeline project located between the Town of Castle Rock and the Plum Creek Diversion. The project team includes Providence Infrastructure Consultants for the design and Reynolds Construction for construction services. The project will include two 30-inch pipelines and a meter facility. Dominion's pipeline will be used to wheel their WISE waters through Castle Rock Water's infrastructure and down to Sterling Ranch. Castle Rock Water's pipeline will be used to supply raw water from the Castle Rock Reservoir 1 to the Plum Creek Water Purification Facility. The design of the project continues for the section of the project between the Town and Sedalia. Construction of the pipeline between the diversion site through Sedalia has recently begun. The pipeline project is scheduled to be completed in May of 2020.

PCWRA 3.0 MGD Expansion Update

By: Josh Hansen, Project Manager

Ground-breaking of the Plum Creek Water Reclamation Authority (PCWRA) 3.0 million gallons per day (MGD) treatment capacity expansion began in the fall of 2018. The Town of Castle Rock currently owns 71 percent of the existing treatment capacity at the plant. The expansion is needed to accommodate population growth, and has been planned since 2015.

Retrofit Construction in the UV Disinfection Channels

Design of plant began in 2017 by Burns and McDonnell Engineering. Improvements include a new headworks facility, a new tertiary filtration process, improved and expanded ultraviolet disinfection process, and a new solids handling

Continued on next page

PCWRA Expansion, continued

system. Moltz Construction is the contractor completing the project. Construction began in October 2018 is phased in multiple work packages. Current work in progress includes procurement and installation of new treatment process equipment, demolition of multiple structures and processes, excavation and shoring for new structures, site utility work, and other site improvements. The facility must continue to operate and meet all wastewater effluent quality parameters during construction. This requires significant coordination efforts in modifying, retrofitting, bypassing, and utilizing alternative treatment processes to accommodate construction of new treatment processes. The total anticipated project cost is $36.2 million. The Town's share of the project costs is $30.8 million and will be recovered primarily through system development fees from future growth. The project is within budget and on time with construction completion anticipated in September 2020.

Conversion of digester tanks to new headworks/solids handling facility

Water Demands

By: Lauren Moore, Water Resources Program Analyst

The maximum daily water demands are plotted by month from 2015 to the current month. As observed by the data, the maximum demand for the month of March was 5.6 million gallons per day (MGD) which was 8% greater than the 5-year average maximum daily demand for the month. 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. The water demand total for March was 136.5 million gallons (MG), which was about a 6% increase from the February 2019 total of 124.7 MG, and a 9% increase from the March 2018 demand of 128.6 MG.

The CR-1 diversion produced an average of 0.07 MGD for the month of March. The Town's thirteen alluvial wells and CR-1 produced a total of 3.6 MG of renewable water. The low production volumes are due to the fact that annual maintenance at Plum Creek Water Purification Facility (PCWPF) began on March 3 and is still ongoing. Thus, alluvial and surface water feeds are completely curtailed until PCWPF is brought back online. WISE water supplied an additional 23.2 MG of renewable water. In total, renewable supplies accounted for 20.2% of the total water supply for the month and 35.5% of the annual water supply (390 MG or 1,196 acre-feet) to date.

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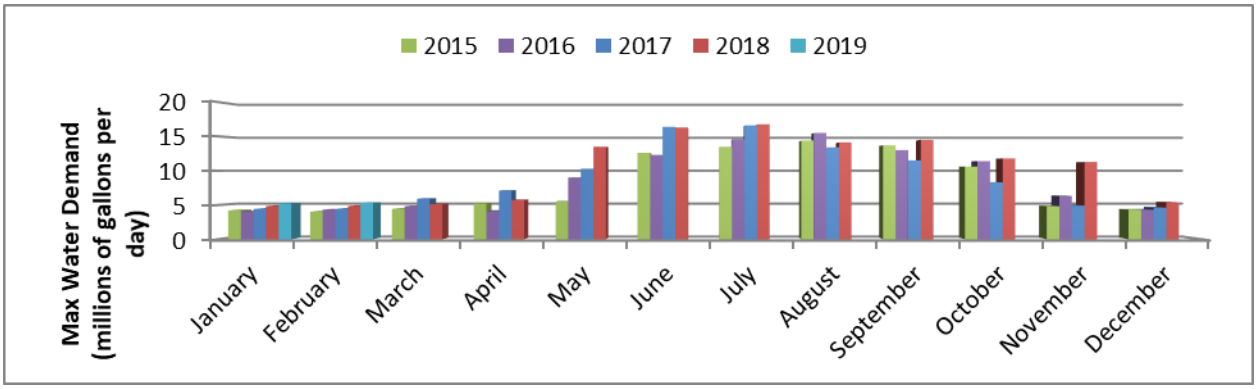
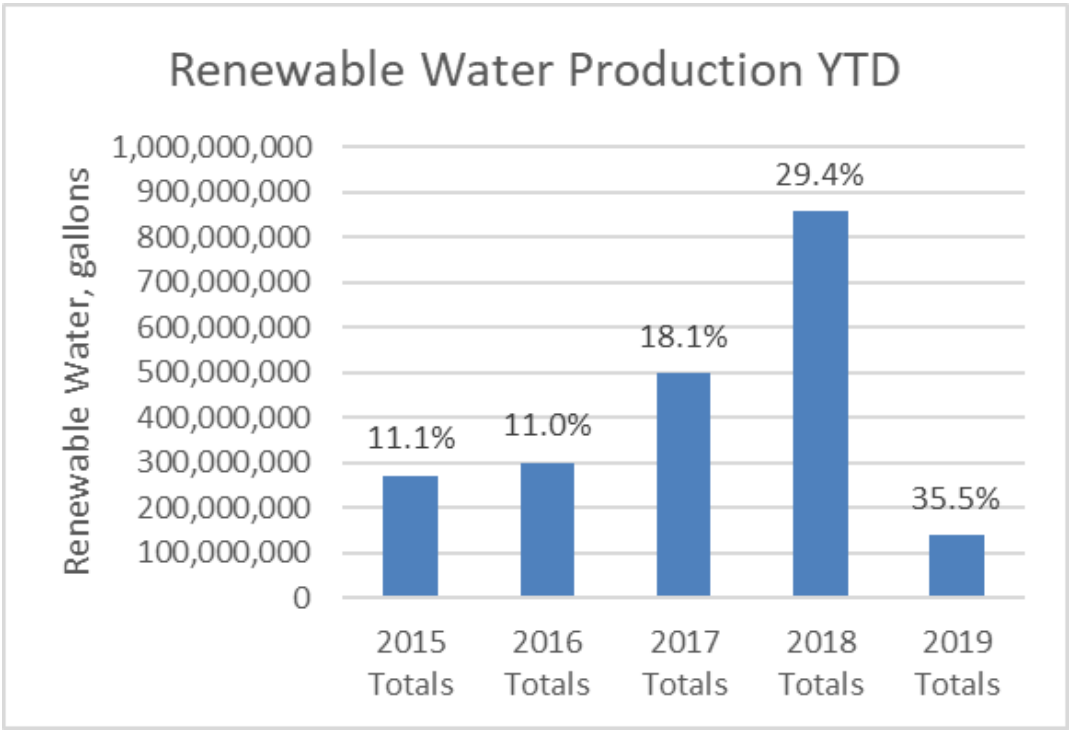
Water Demands, continued



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 2019 through March is 12.3%.



The percentage shown on top of the bars is the amount of renewable water relative to total water production.

The following graph shows the monthly production of the Town's alluvial well system. The production from the alluvial wells in March 2019 was 3.6 MG, which is less than the second half of 2017 (when the last alluvial well rehab project was completed). Alluvial wells help to supply PCWPF, which is currently shut down for annual maintenance operations and cleaning. Of the 13 alluvial wells, 6 well rehabilitations are scheduled for this spring, which began in March.

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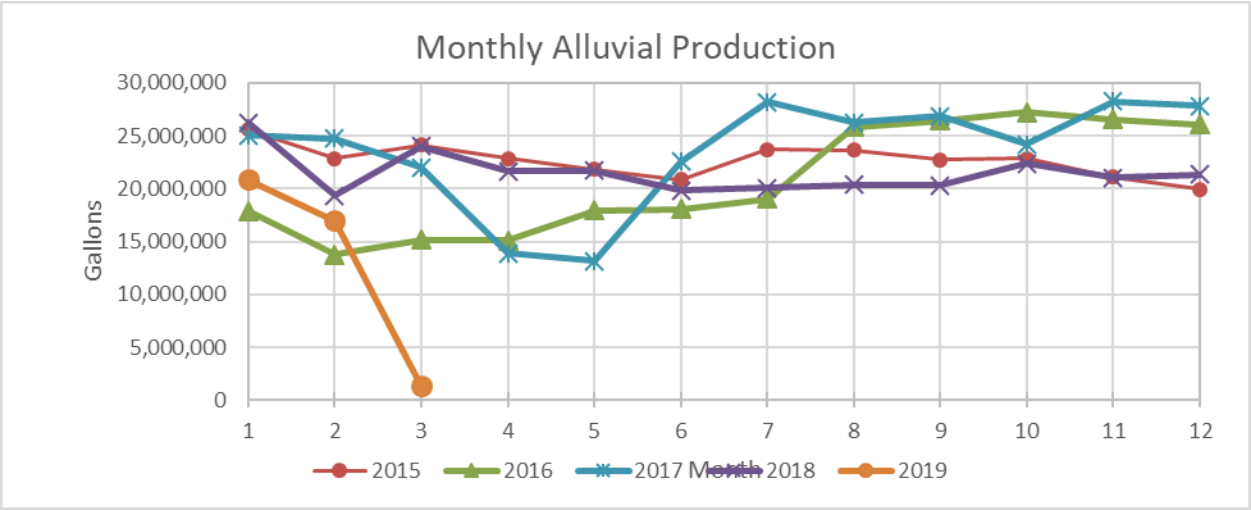
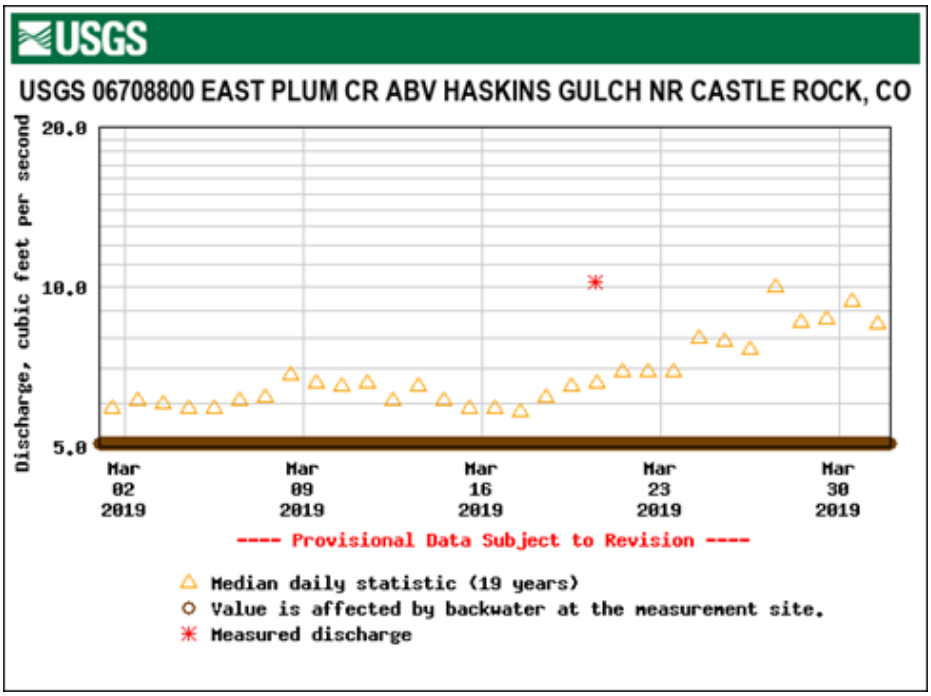
Water Demands, continued



The flow hydrograph represents stream flows in East Plum Creek taken from the stream gauge located above Haskins Gulch. As the graph illustrates, data for the month is not available due to backwater at the measurement site. The U.S.G.S. is currently working on this issue. On a positive note, the one measured discharge during the second half of the month was around 10.1 cubic feet per second (cfs), which is higher than any median daily discharge for the month, indicating the potential for a wetter than normal year.

There were active calls on the South Platte River in March, however, there were approximately 5 days of free river along the main stem of the South Platte following the large snowstorm during mid-March. 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 covered 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.



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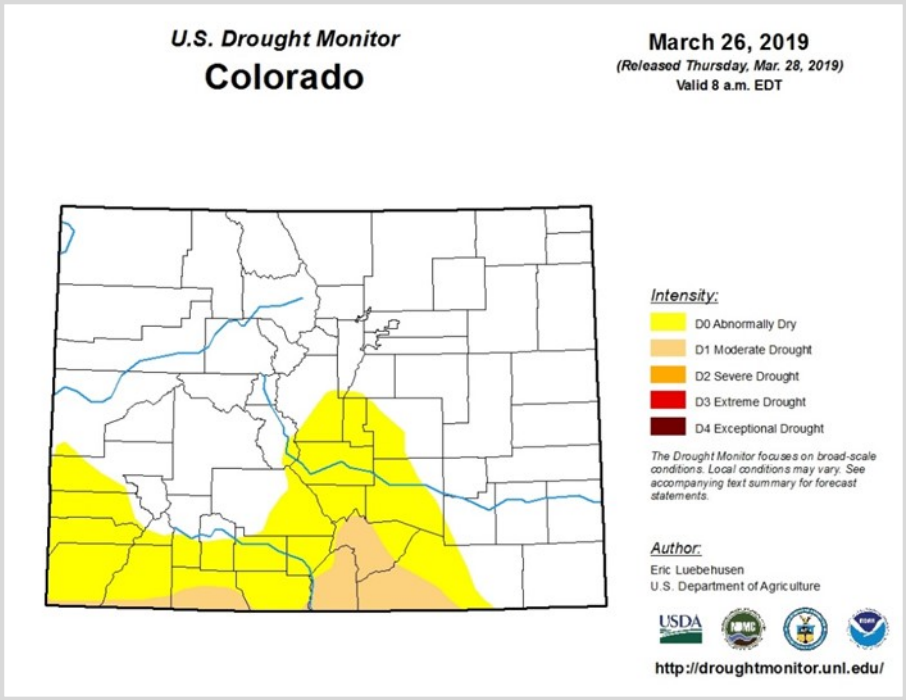
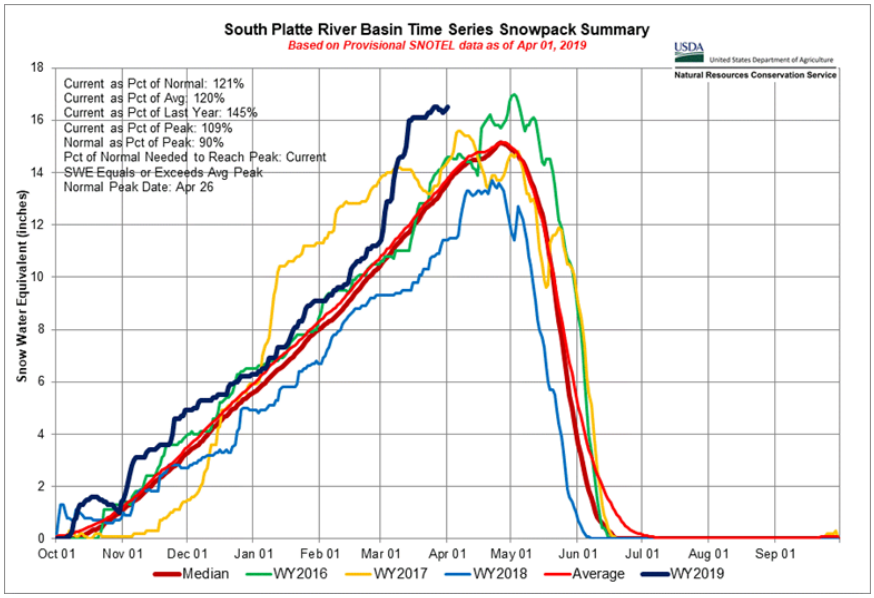
Water Demands, continued

According to the U.S. Drought Monitor from USDA, the majority of Douglas County has been removed from drought classification, with only a small percentage of the southern county limits classified as experiencing Abnormally Dry conditions. There have been major improvements and removal of drought classification for roughly 90% of Colorado, while 10% of the southern and southwestern parts of Colorado are still experiencing Abnormally Dry to Moderate Drought. 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 average WSI for March was 3.7, well above the 1.1 trigger level, which is considered "good."



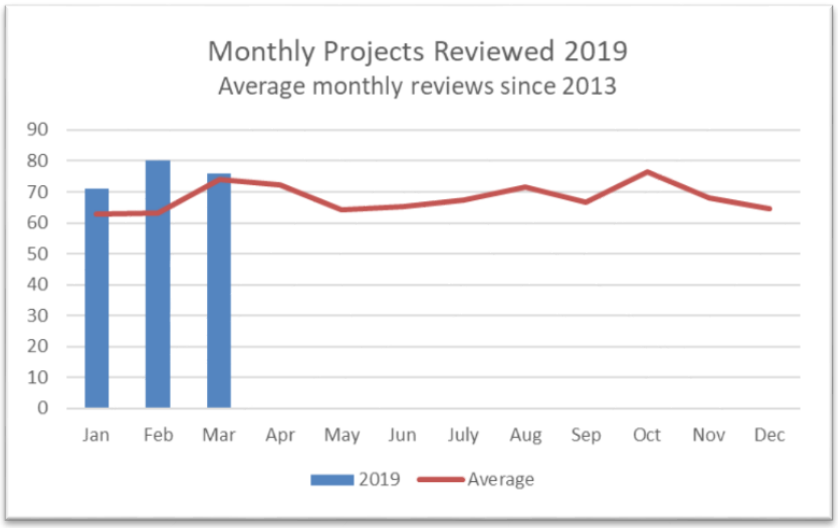
The NRCS Colorado SNOTEL report for April 1, 2019 shows the water year to date precipitation for the South Platte River Basin is at 120% of average and the snow water equivalent (SWE) is at 121% of median.

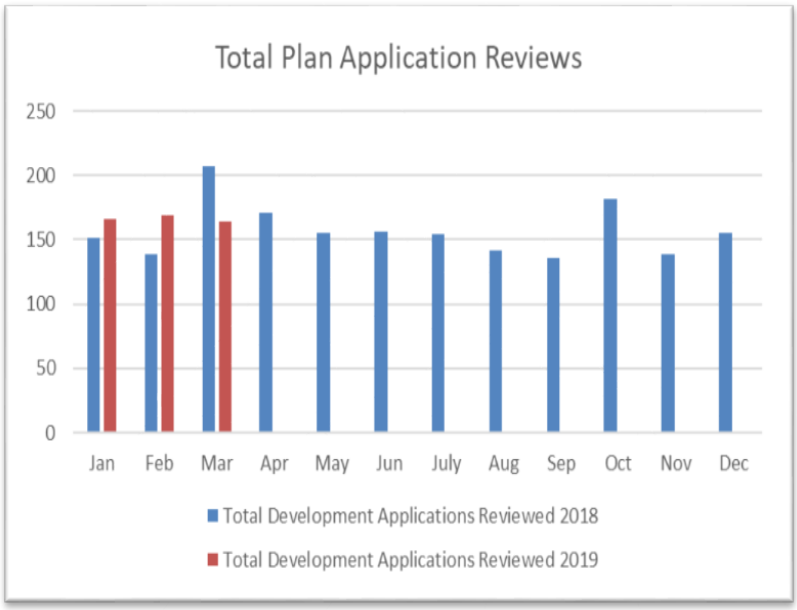


Plan Review Update

By Tina Close, Plan Review Supervisor

Castle Rock Water provides plan review for all water, wastewater and stormwater projects submitted through the development review process.

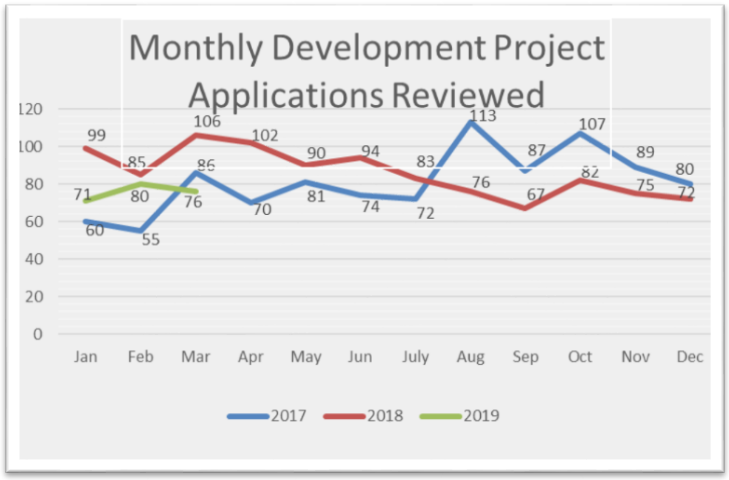




The Plan Review Team completed 164 development application reviews, encompassing 76 projects for the month of March compared to 207 development applications and 106 projects during the same month in 2018.

The average number of days assigned to review:	15.2 days
The average number of days to complete assigned reviews:	14.6 days
Reviews completed on-time	71%
Reviews completed late:	29%
Permits* reviewed on-time	94%
Permits* completed late:	6%

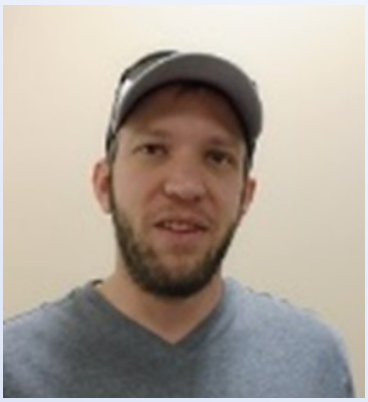
*Total number of permits reviewed were 64



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. Below is a list of those passing various certifications this month:

Jared Poynor
CDL license



Phillip Jolly
CDL license

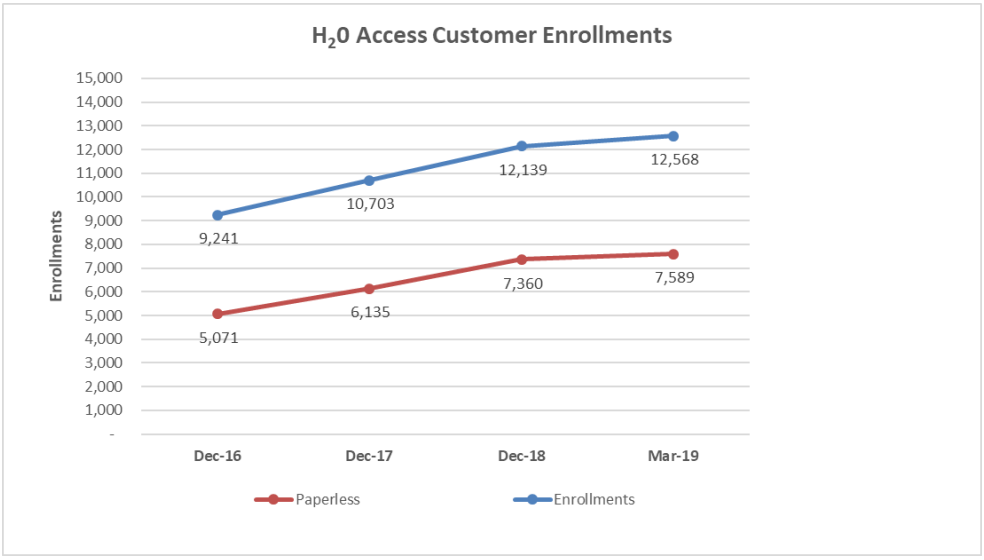
Katherine Drake
CDL license

Business Solutions

Customer Statistics

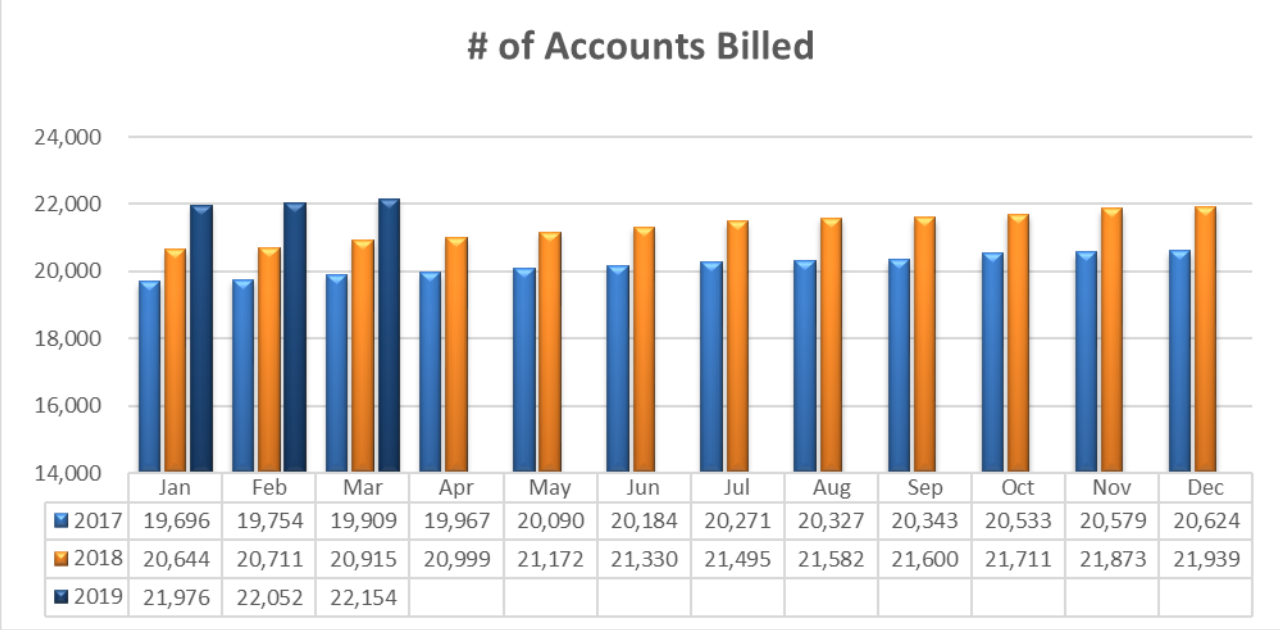
By: Anne Glassman, Business Solutions Manager

Our Business Solutions Team continues to track a host of statistics and data as we evaluate our levels of service and look for efficient ways to improve on these levels.



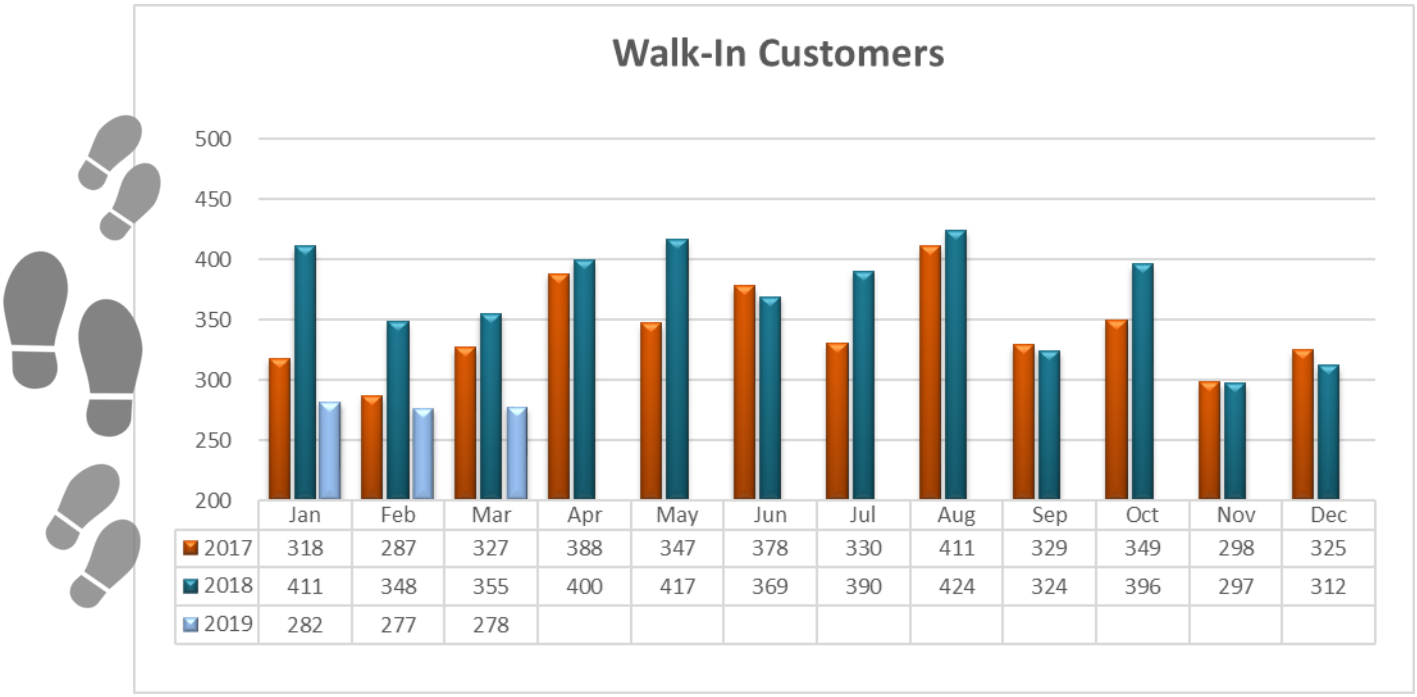
Updated quarterly - Data reported quarter ending 3/2019

The number of customers enrolled in paperless billing has increased to 60% over the last several months.



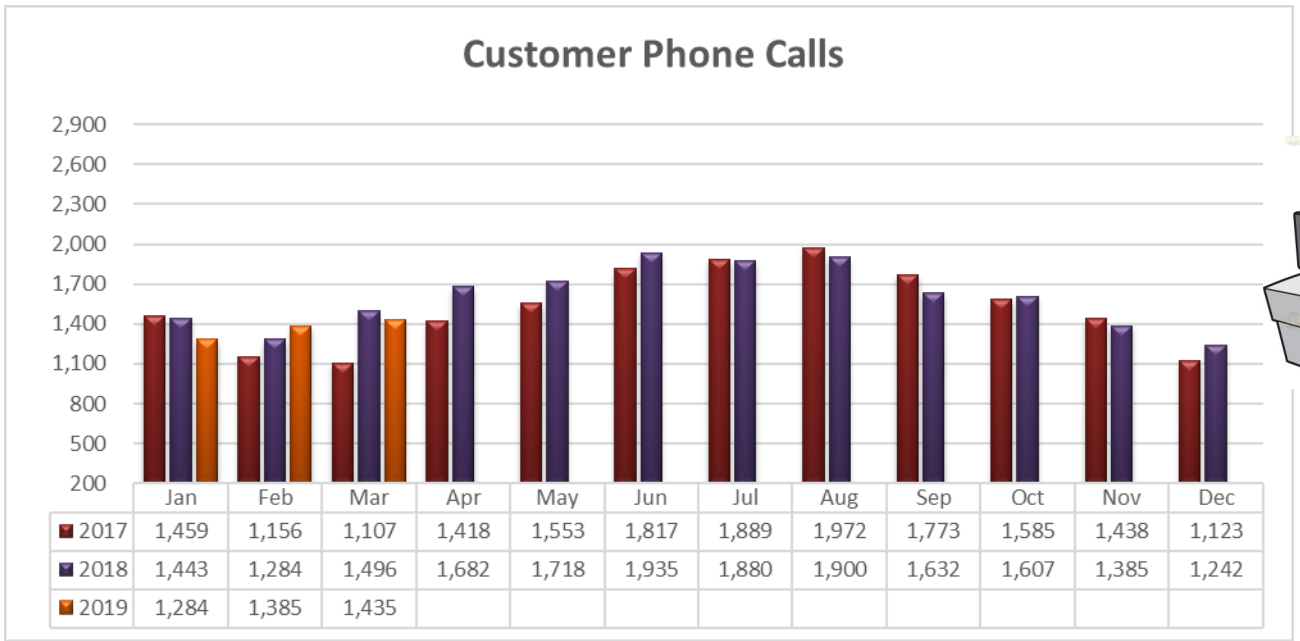
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	19,696	19,754	19,909	19,967	20,090	20,184	20,271	20,327	20,343	20,533	20,579	20,624
2018	20,644	20,711	20,915	20,999	21,172	21,330	21,495	21,582	21,600	21,711	21,873	21,939
2019	21,976	22,052	22,154									

The number of accounts billed continues to increase year over year due to new residential and commercial growth.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	318	287	327	388	347	378	330	411	329	349	298	325
2018	411	348	355	400	417	369	390	424	324	396	297	312
2019	282	277	278									

Walk-in customers have been consistent over the last few months.



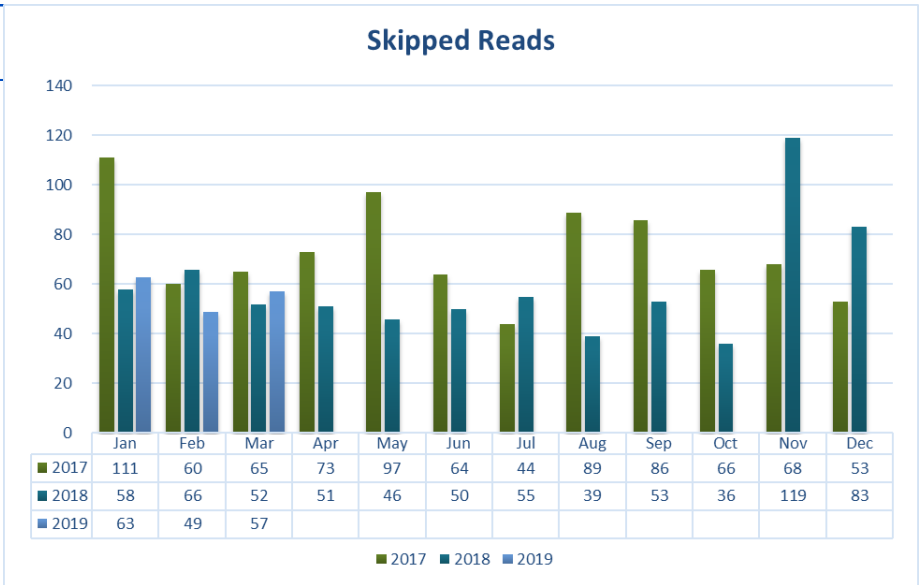
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	1,459	1,156	1,107	1,418	1,553	1,817	1,889	1,972	1,773	1,585	1,438	1,123
2018	1,443	1,284	1,496	1,682	1,718	1,935	1,880	1,900	1,632	1,607	1,385	1,242
2019	1,284	1,385	1,435									

Customer phone calls are consistent with this time of year.

METERS

Skipped Reads

The American Water Works Association (AWWA) standard for skipped reads is 2 percent, so at 0.26 percent in March, we still continue to stay well below the industry average. This is a result of continued maintenance and repair efforts on meter infrastructure.



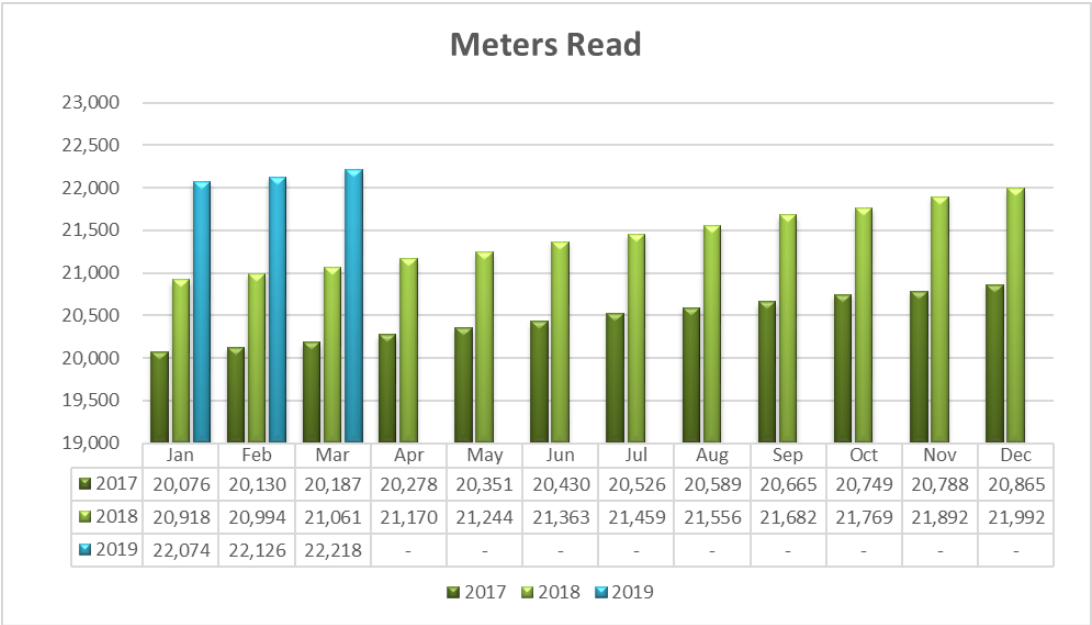
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	111	60	65	73	97	64	44	89	86	66	68	53
2018	58	66	52	51	46	50	55	39	53	36	119	83
2019	63	49	57									

Why is this important?

It 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.

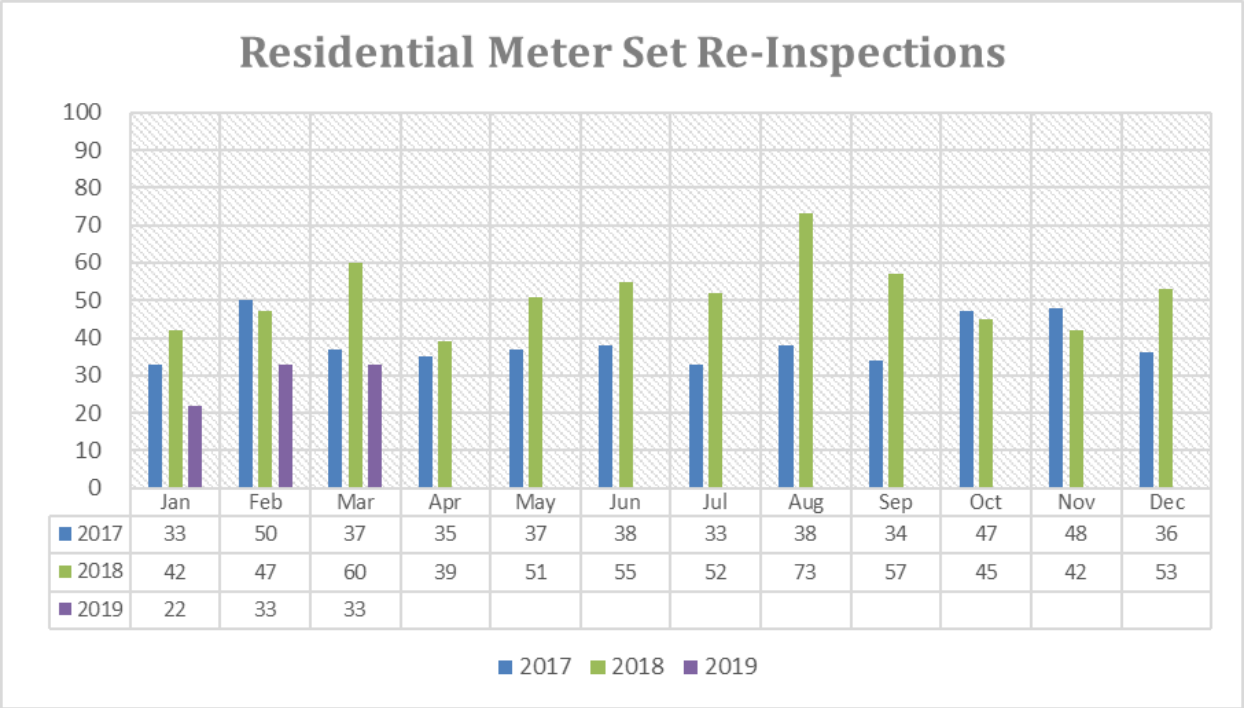
Meter Sets

Month-to-Date 92
Year-to-date 290

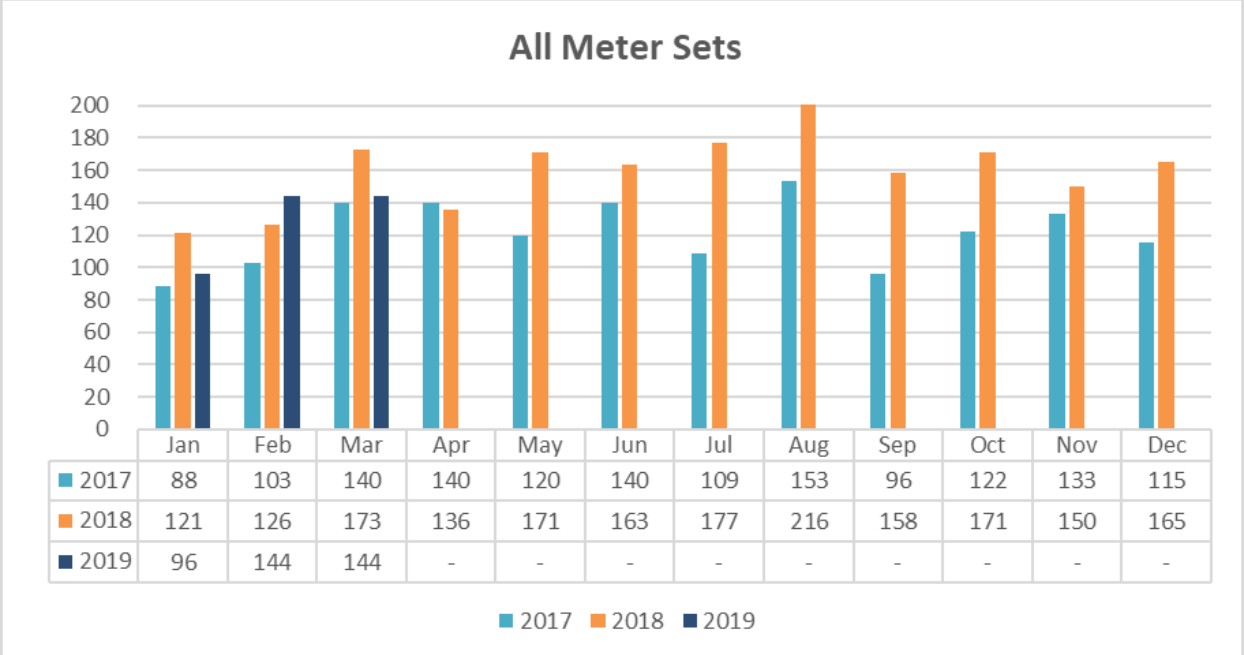


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	20,076	20,130	20,187	20,278	20,351	20,430	20,526	20,589	20,665	20,749	20,788	20,865
2018	20,918	20,994	21,061	21,170	21,244	21,363	21,459	21,556	21,682	21,769	21,892	21,992
2019	22,074	22,126	22,218	-	-	-	-	-	-	-	-	-

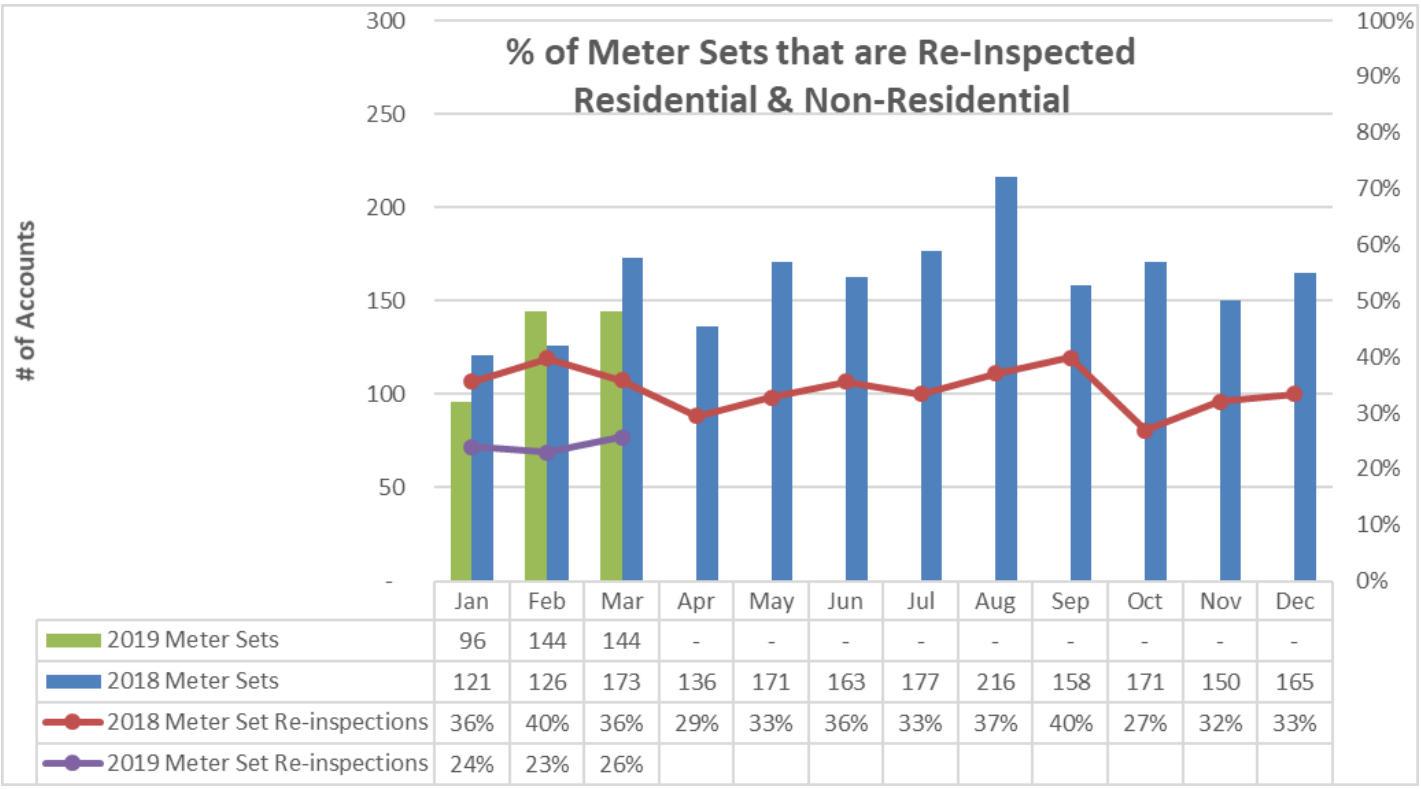
The meters read continues to increase month-to-month due to new residential and commercial accounts, with a significant increase year-over-year.



Residential meter set re-inspections are improving from last year. This indicates that more meter set inspections are passing on the original inspection and requiring less site visits.



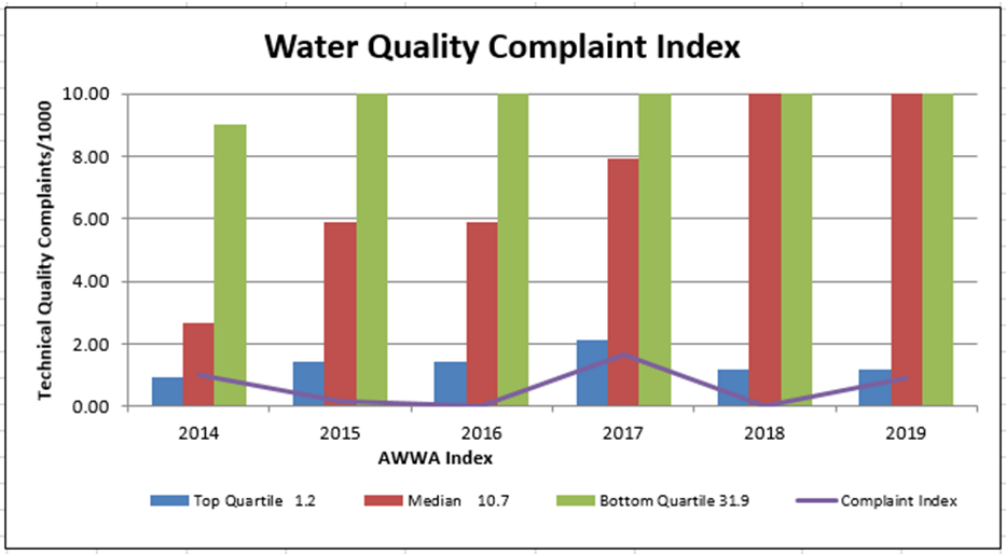
Meter sets, including residential and non-residential are consistent with this time of year. All meter sets include re-inspections too.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019 Meter Sets	96	144	144	-	-	-	-	-	-	-	-	-
2018 Meter Sets	121	126	173	136	171	163	177	216	158	171	150	165
2018 Meter Set Re-inspections	36%	40%	36%	29%	33%	36%	33%	37%	40%	27%	32%	33%
2019 Meter Set Re-inspections	24%	23%	26%									

Meter sets are consistent with this time of year. In 2018, on average, 34% of the meter sets required at least one re-inspection from the initial inspection. So far in 2019, we are seeing an average of 24% or a 10% reduction which is a good trend.

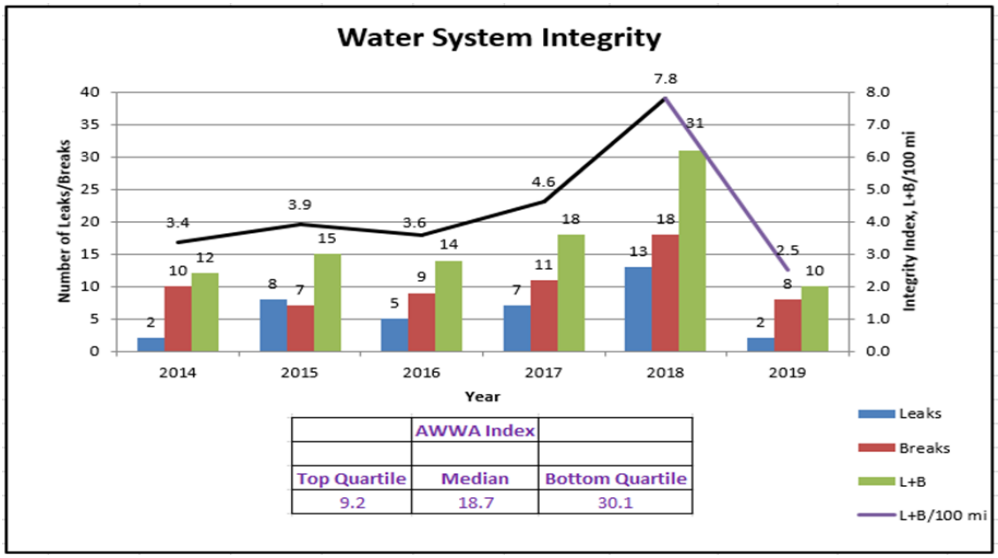
Water Quality Complaints



The Water Quality Complaint index shows that we are doing very well in this category; rating in the top quartile since 2015 according to the American Water Works Association (AWWA). There were no water quality issues in March.

*For more information, view the current water quality report at CRgov.com/**waterqualityreport**.*

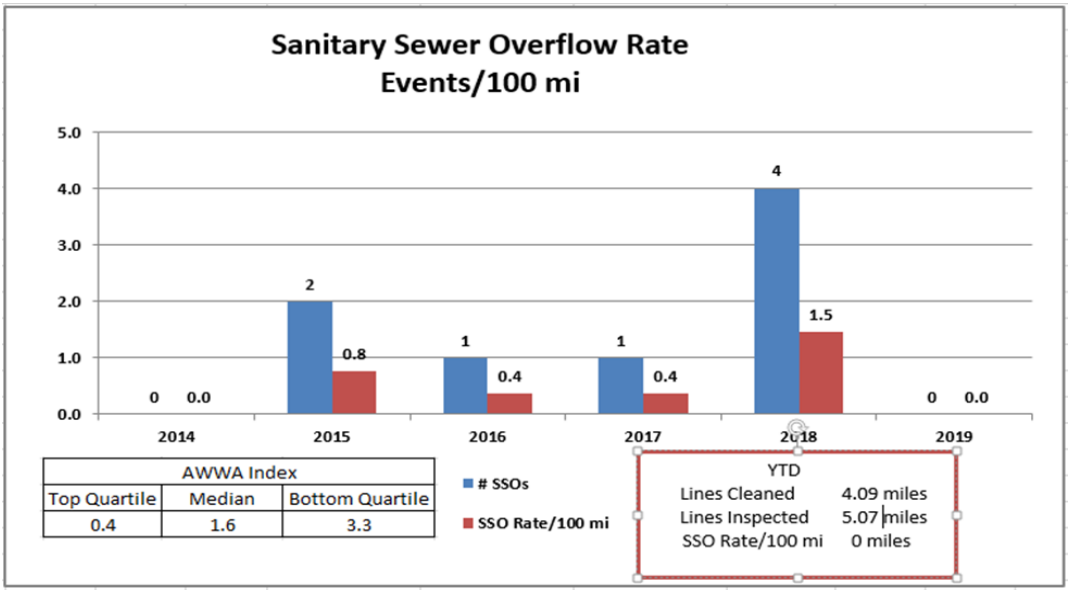
Water System Integrity



As the Water System Integrity chart indicates we have consistently remained in the top quartile for water system integrity based on American Water Works Association (AWWA) benchmarking since 2011. There were two water system integrity issues in March.

Sanitary Sewer Overflows

We are tracking in the Top Quartile in the Sanitary Sewer Overflow Rate, according to the American Water Works Association (AWWA), showing no incidents for the year. There were no sanitary sewer issues in March.



How do we avoid overflows?

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. So far, this year we have cleaned and inspected 4.09 and 5.07 miles, respectively. The goal this year is to clean and inspect approximately one-fifth (1/5) of the collection system or about 55 miles.

March Levels of Service

Drinking Water Compliance
Castle Rock Water will deliver water that meets or exceeds 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. Our annual Consumer Confidence Report is available to view at CRgov.com/waterquality.

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 was one pressure issue in March.

Sewer System Effectiveness
<1% of our customers will experience a sewer backup caused by the utility's sewer system per year.
There were no sewer system issues in March.

Drinking Water Supply Outages
<5% of our customers will experience water outages for one or more events totaling more than 30 hours/year.
There were two water main breaks in March, both due to corrosion on a six-inch ductile iron pipe. The break located in the Castle North neighborhood affected three homes for less than four hours. The other break was in the Valley Drive/ South Street area, with residents experiencing lower than normal water pressure for six hours.

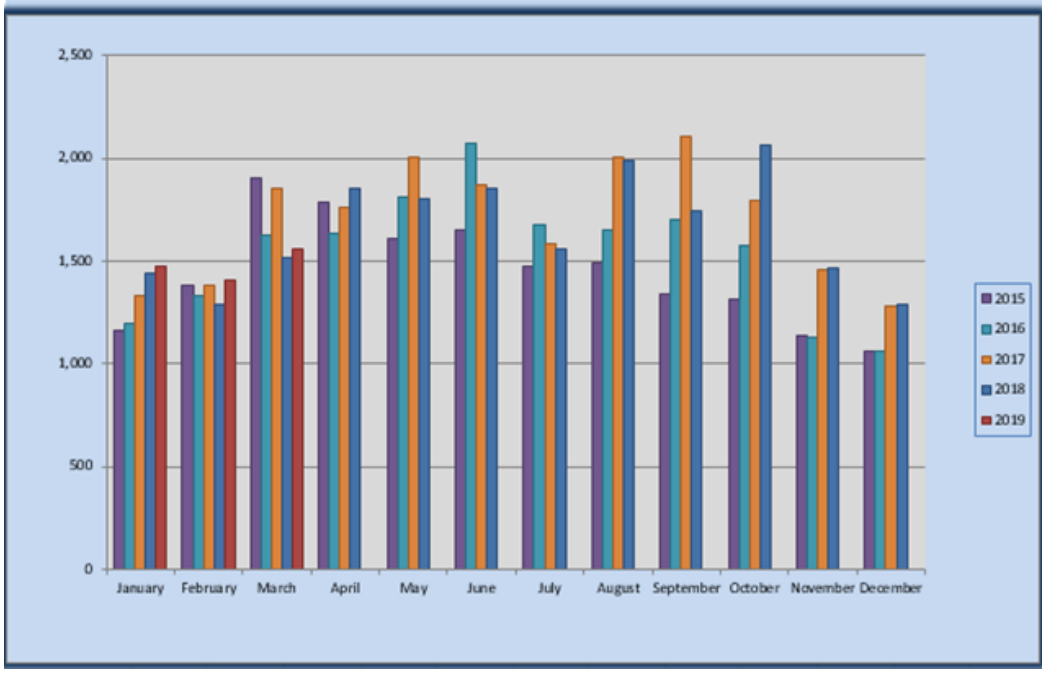
Before you start a project, call 811. Whether you are planning to do it yourself, or hiring a professional, we will help you do it safely. The local 811 Call Center will contact Castle Rock Water. We will schedule a time to come out to locate public water and wastewater lines in the road and in your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

The graphs below show our monthly utility locates and a chart showing the year-to-year comparison.

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		
February	521	485	538	1,094	1,093	1,383	1,334	1,378	1,293	1,404		
March	660	552	818	1,437	1,349	1,906	1,625	1,851	1,514	1,560		
April	838	681	1,025	1,482	1,552	1,784	1,631	1,760	1,856			
May	853	863	985	1,541	1,531	1,609	1,809	2,002	1,801			
June	969	844	982	1,314	1,399	1,654	2,075	1,872	1,854			
July	680	582	859	1,350	1,392	1,477	1,675	1,582	1,556			
August	901	723	1,123	1,476	1,468	1,494	1,651	2,001	1,986			
September	880	723	1,029	1,240	1,373	1,343	1,701	2,102	1,747			
October	715	688	1,155	1,501	1,376	1,314	1,579	1,792	2,064			
November	536	518	1,041	1,072	866	1,134	1,131	1,460	1,469			
December	415	405	925	1,005	1,043	1,063	1,059	1,277	1,293			
Totals	8,545	7,539	11,097	15,702	15,731	17,323	18,469	20,411	19,875	4,436		

4 Year Locate Trend



811 Know what's below. Call before you dig.