UTILITIES DEPARTMENT

Water - Water Resources - Wastewater - Stormwater

June 2015

New Operations & Maintenance Building Construction

By: Josh Hansen, P.E., Project Manager

Installation of concrete masonry units

Construction of the O&M Building went vertical this month with installation of concrete masonry units at the south end of the building. Masonry work will progress from the south end of the building to the north with steel erection anticipated to begin in early August.

Earlier in June the contractor finished installation of wet utility service lines to the building. There were numerous concrete pours this month as all of the exterior and interior footing foundations and stemwalls were completed. Exterior stemwalls were then insulated and dampproofed prior to backfilling. The contractor also installed rough-ins for plumbing and electrical that will run under the concrete slab on grade. Pavement was removed and replaced south of the Warehouse where the sanitary sewer service line was installed last month.

Formwork for new concrete forebay

Later in the month the contractor began construction of improvements in the stormwater detention pond. These improvements are needed to address additional stormwater runoff that will be generated from increased impervious areas associated with the project as well as update the pond to the Town's latest stormwater standards. The improvements being constructed include expansion of overall pond volume, new concrete trickle channel, new concrete forebays at the 3 pond inlets, modifications to the pond outlet structure, an emergency spillway, and a maintenance access trail. When completed, the pond will provide full spectrum stormwater detention adequate for future paving of the site as well as improved stormwater quality leaving the pond.

Utilities Operations also coordinated with Public Works this month to stockpile asphalt millings at the project site. These will be utilized for temporary paving of the areas surrounding the building. Millings were generated from the Town's annual pavement improvement program and utilization of the recycled millings helped reduce the overall project cost by more than $40,000.

OUR VISION

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

OUR MISSION

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

Rueter-Hess Reservoir

Several members of Town Council , the new Town Manager and Utilities Director took a tour of Rueter-Hess Reservoir in June. The reservoir has added a significant amount of water in 2015 and now has 20,500 acre-feet of water, or about 28% full. Castle Rock has a small amount of this water, but is adding more throughout the year. The Town owns approximately 11% of the total storage.

Castle Rock team mounts a Castle Rock challenge coin to a rock that will be underwater in the reservoir

Left to right Utilities Director Mark Marlowe; Mayor Paul Donahue; Councilmember Renee Valentine; Town Manager Dave Corliss; and Councilmember Mark Heath

A Pictorial of the Back-to-Back Storms in Early June

In June, the Town experienced heavy rainfall. East Plum Creek swelled to 2,000 cubic feet per second. For reference, the creek usually flows at less than 10 cubic feet per second this time of year. In the 1965 flood, the creek peaked at over 150,000 cubic feet per second.

While the Town's stormwater infrastructure generally performed good during the recent storms, some damage to infrastructure and property still occurred. Utilities is continuing to work on repairs and follow -up to the event. The event does highlight the importance of continuing to invest in our stormwater infrastructure.

Industrial Tributary

Meadows Parkway

E. Plum Creek and N. Meadows bridge

Heckendorf ranch regional detention

More pictures, continued from previous page

1050 Topeka Wy.

S. Frontage Rd.

Tribitary B

Retaining wall behind Sprouts

Meadows Parkway

JUNE LEVELS OF SERVICE

Drinking Water Compliance
The Utilities Department will deliver water that meets or exceeds both Primary Drinking Water Regulations and Secondary Maximum Contaminant Levels 100% of the time. *Sixty 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 pressure issues.*

Drinking Water Supply Outages
<5% of our customers will experience water outages for one or more event totaling more than 30 hours/ year. *Less than 5 percent of customer experienced an outage but Utilities did have two events (see below):*

- *Line break on an 8-inch main at Blazingstar and Wildflowers on June 8 that affected approximately 20 Customers for less than four hours. A 2-3-inch hole in the pipe likely cause by isolated corrosion.*
- *Service line break at an empty lot on Weaver Cr. that affected one customer for less than four hours.*

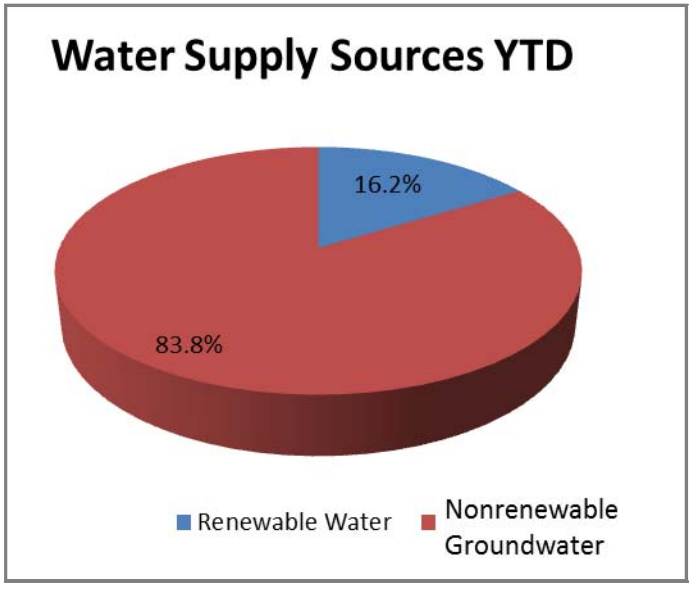
Sewer System Effectiveness
<1% of our customers will experience a sewer backup caused by the utility's sewer system per year. *There was one sewer back-up reported.*

Hydrant Meter Permits
Twenty-seven (27) open meter permits.

Backflow Prevention Devices
Mailed approximately 74 backflow test letters for devices due in June.

2015 Water Demands

By: Heather Justus, Water Resources Program Analyst



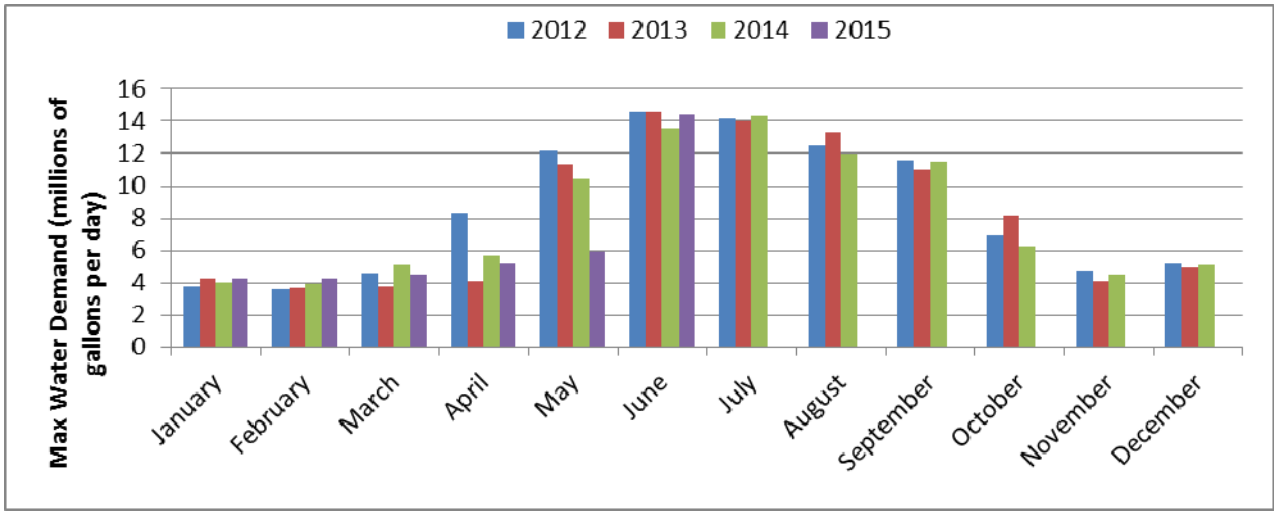
The maximum daily water demands are plotted by month from 2012 to the current month. As observed, the maximum demand of 14.4 million gallons per day (MGD) for June is 244% higher than the May maximum of 5.9 MGD. Summer time maximum demands inform us of the size of the infrastructure necessary to provide water service over short periods of time and help us to plan future water resources needs. An average of the winter month (November, December, January, and February) usages, reflect indoor or base demand. The water demand total for June was 239 million gallons (MG), which was a 73% increase from the May 2015 total of 137.9 MG, and a significant decrease (23%) from June 2014 demand of 309 MG due to a wet and cooler month.

The Town's nine alluvial wells produced a total of 20.8 MG of renewable water during June, which represents 8.9% of the total water supply for the month and 16.2% (138 MG or 424 acre-feet) of the water supply year to date. The total renewable water produced since the opening of the PCWPF has surpassed 611 MG, which represents 12.3% of the Town's total water supply since the alluvial wells began

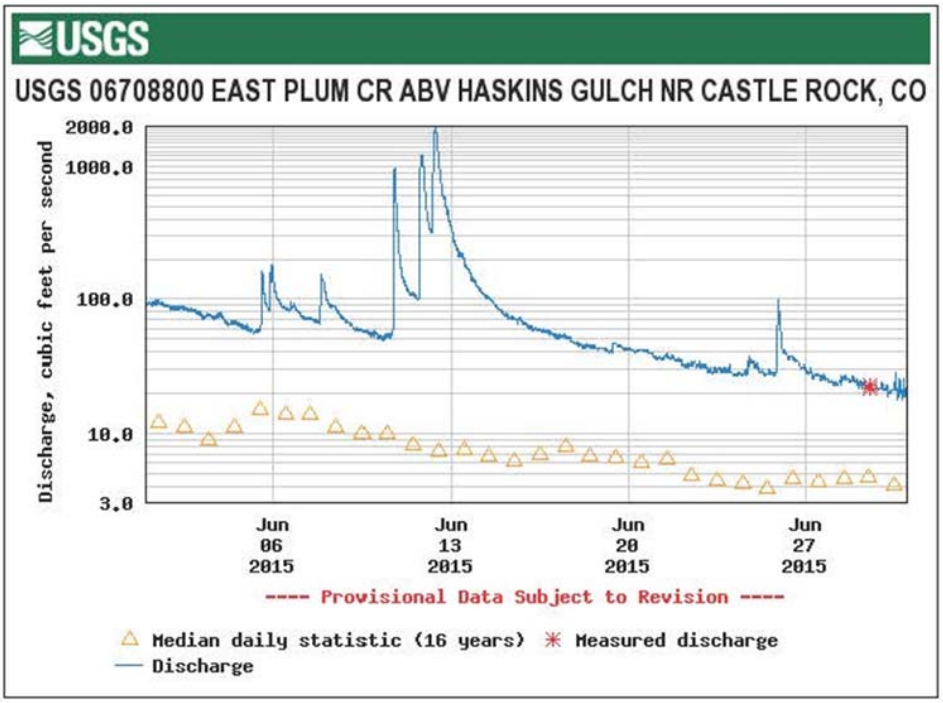
Continued on next page

2015 Water Demands, continued from previous page

pumping in May of 2013. Ideally, when flow in Plum Creek increases and water levels rise in the wells, we should take advantage of this and increase the rate of production to divert the additional water that is available. Currently, the Town's renewable water rights surpass the capacity of the alluvial wells.



The flow hydrograph represents stream flows in East Plum Creek taken from the stream gauge located at Haskins Gulch. The hydrograph shows that the Plum Creek basin, over most of the month of June, experienced stream flows between 20 to 100 cubic feet per second (cfs) with some days at or above 100 cfs and a peak at 2000 cfs. Castle Rock's new stream gage on West Plum Creek at Sedalia was installed in March and started operating April 1. Due to the numerous storms in May, the USGS was able to rate the stream much quicker than the originally estimated 3 months. Therefore, the gage on West Plum Creek at Sedalia now has volumetric discharge readings (in cubic feet per second). The precipitation for June was above average with cooler temperatures. There were no active calls on the main stem of the South Platte River that called out the Town's water rights.

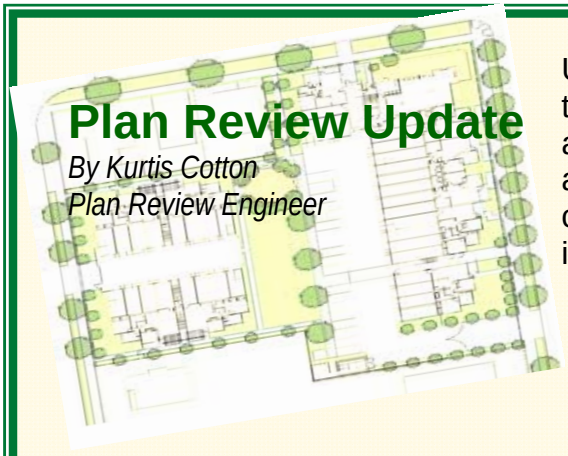


This means that the South Platte River along our stem was considered to be free-river. Free-river status means that those with senior water rights were not diverting the river/surface/tributary water and allowing it to be available to those with junior water rights and any water users who could put the water to beneficial use (including storage). 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.

Regional Infrastructure and Water Efficiency Tour

Six Smartscapes were the focus of the Colorado Foundation for Water Education tour through Castle Rock on June 11. About 50 leaders in the water industry, including seven state senators and representatives were briefed on Castle Rock's part in the regional infrastructure and were treated to a bus tour of landscapes of some of our residents who participated in the Smartscape Renovation rebate program over the last six years. This program is considered to be cutting edge in the State, and has also proven to be one of the most effective in terms of water conservation.

Below are a few pictures of how our customers are saving money and enjoying a beautiful landscape:



Plan Review Update

By Kurtis Cotton
Plan Review Engineer

Utilities reviewed 80 applications this month which compares to 40 during the same time period in 2014. The average assigned due date by Development Services was 1.6 weeks, and Utilities completed the reviews in 1.4 weeks. Utilities completed all reviews on-time as scheduled. These applications included:

- 3 Agreements
- 3 County Referrals
- 4 Preliminary Project Applications
- 1 Lot Line Adjustment
- 1 Miscellaneous
- 1 Planned Development Plan
- 3 Plats
- 20 Construction Drawings
- 14 Site Development Plans
- 6 Technical Criteria Variances
- 13 Field Change Orders
- 10 Grading, Erosion and Sediment Control (GESC) Plans
- 1 Grading, Erosion and Sediment Control (GESC) Permit

The applications reviewed consisted of:

- 36 1st Submittals
- 22 2nd Submittals
- 22 Special reviews

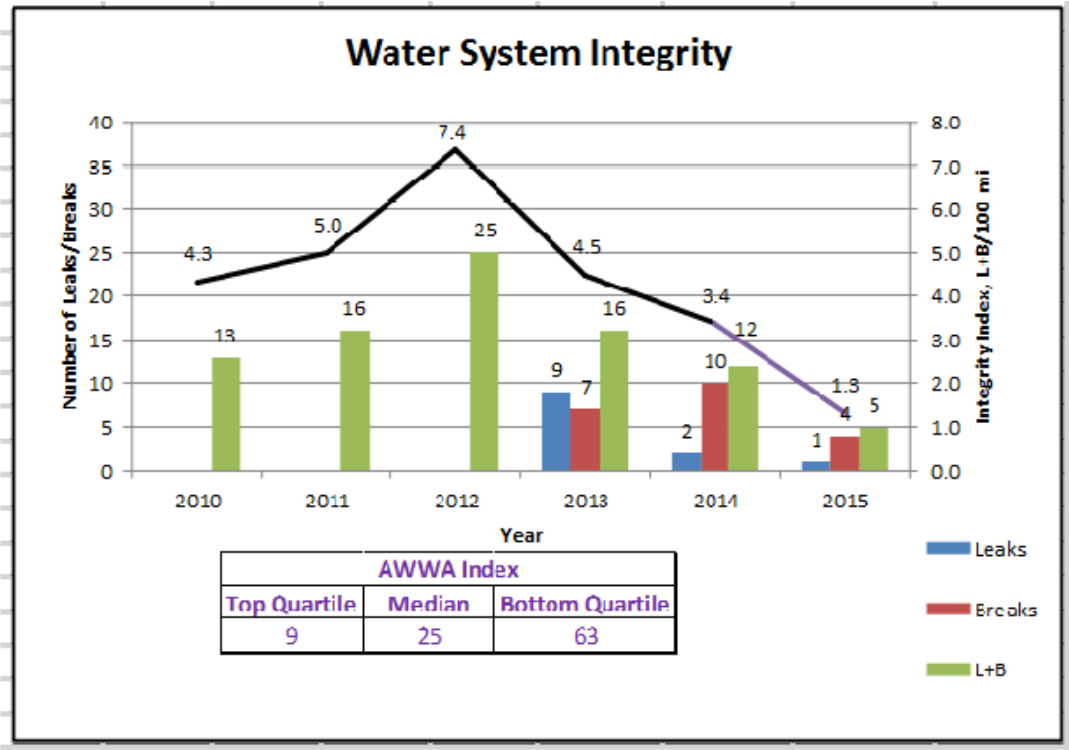
In addition to completing the above listed applications on-time, Utilities completed 104 single family utility reviews and associated system development fees.

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:

Laura Giezen
"A" Water Operator License

Water System Integrity

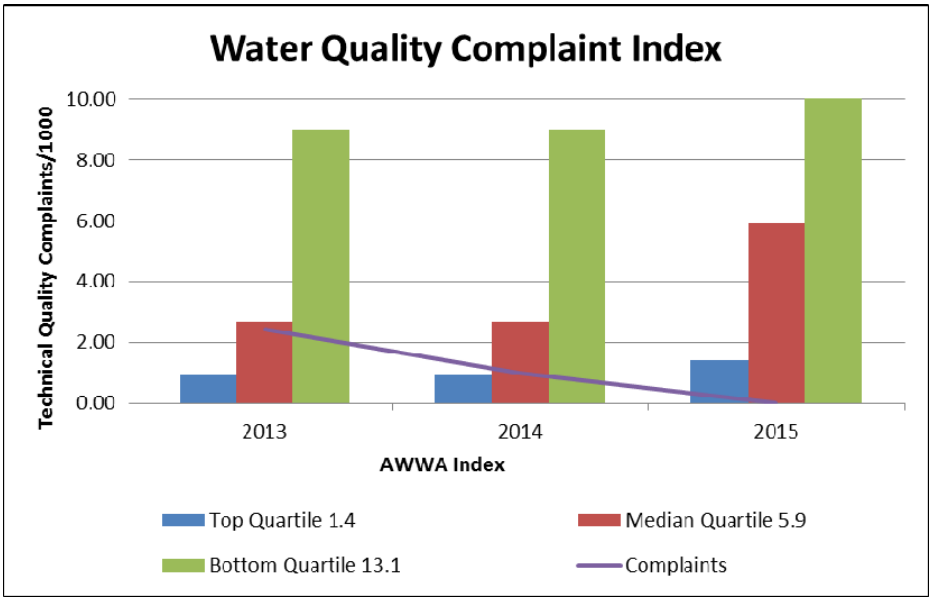


There were two leaks reported in June 2015. An overall rating of 1.3 breaks per 100 miles kept us in the top quartile as compared to national standards for 2014. We are on-track to be in the top quartile again in 2015 based on performance year-to-date.

Water Quality Complaints

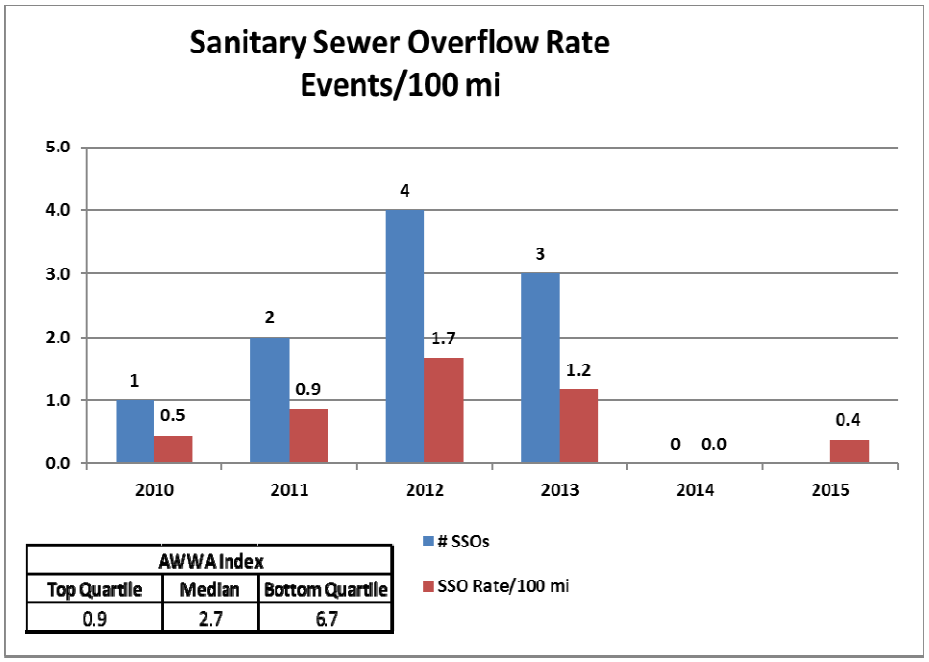
There were no water quality complaints in June 2015. Castle Rock Water compared favorably to industry standards falling just outside the top quartile (best of the best) for this metric in 2014. Year-to-date we are on-track to be in the top quartile this year.

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



Sanitary Sewer Overflows

We ended 2014 with no sewer overflows or backups which is the best performance over the last five years. There was one sanitary sewer overflow in June 2015, bringing the total for the year at one. Our 5-year average is 0.38 events per 100 miles, which is in the Top Quartile (the best) of American Water Works Association (AWWA) entities participating in the national benchmarking. *The lower the number the better the performance!*

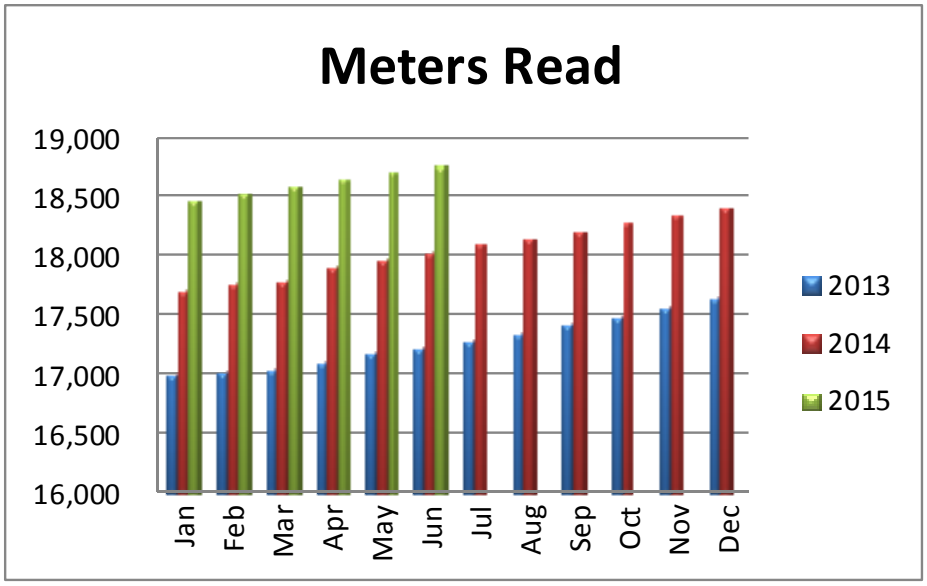


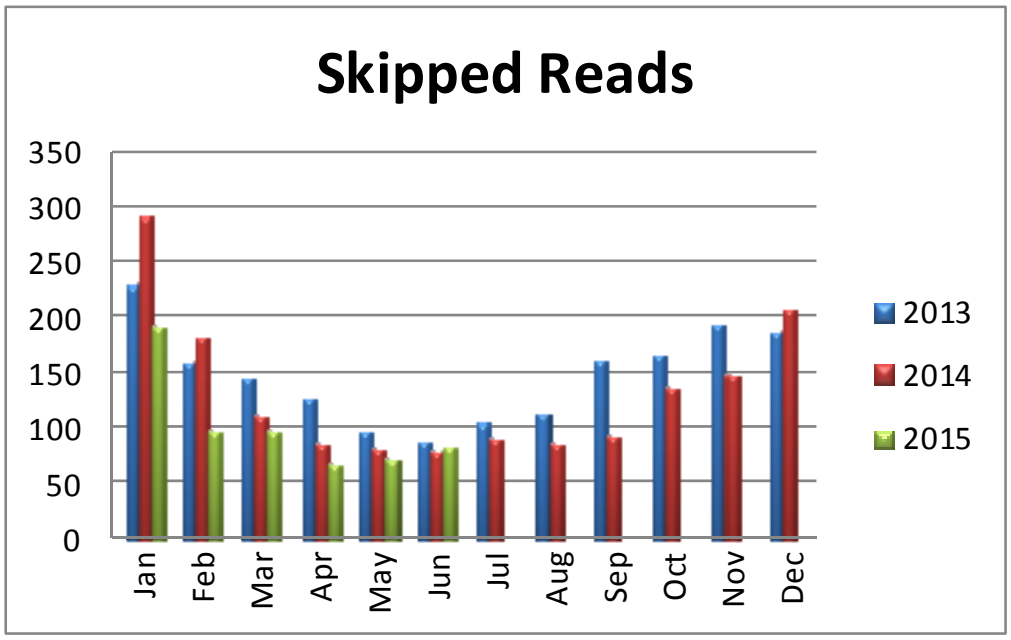
How do we avoid overflows?

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. In 2014, the camera was run through 21.4 miles of pipe, and we cleaned 18.7 miles. So far in 2015, we have inspected 18.5 miles of pipe, and cleaned 11 miles.

Meters

The meters read continues to increase month-to-month due to new residential and commercial accounts, with a significant increase from June 2014.





Skipped reads in June 2015 are consistent with the previous two years as a result of the continued maintenance and repair efforts on meter infrastructure. The American Water Works Association (AWWA) standard is 2%, so at 0.44% we still continue to stay well below the industry average.

Skipped reads in April 2015 set a record for the lowest amount of skipped reads.

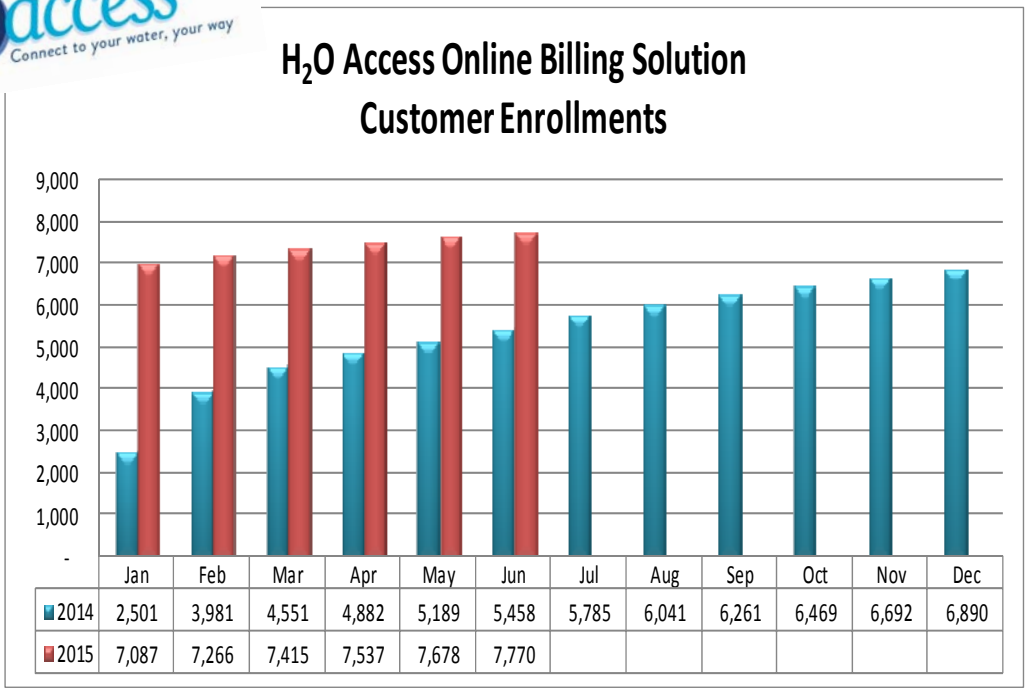
Why is this important?

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 meter. Less skipped reads means more properly working meters, which is good for all our customers.

Customer Statistics

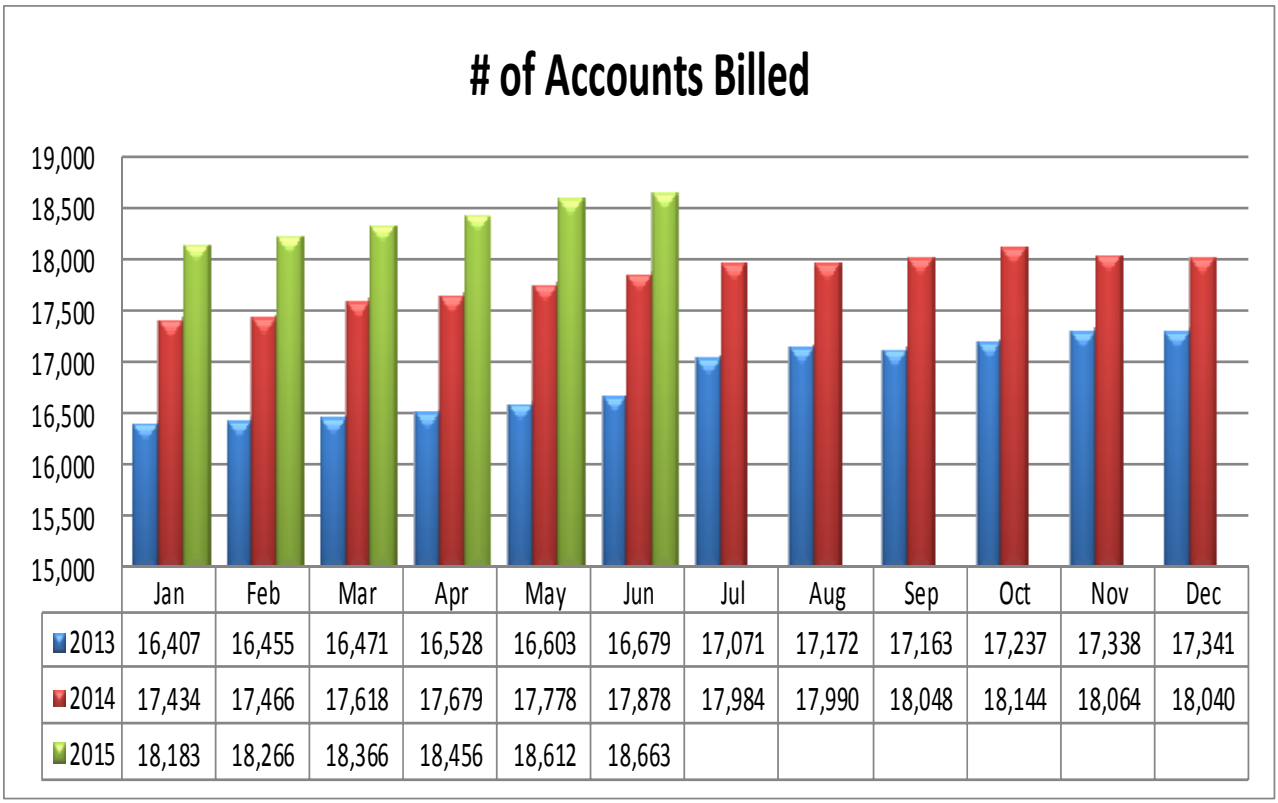
By: Anne Glassman, Business Solutions Manager

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



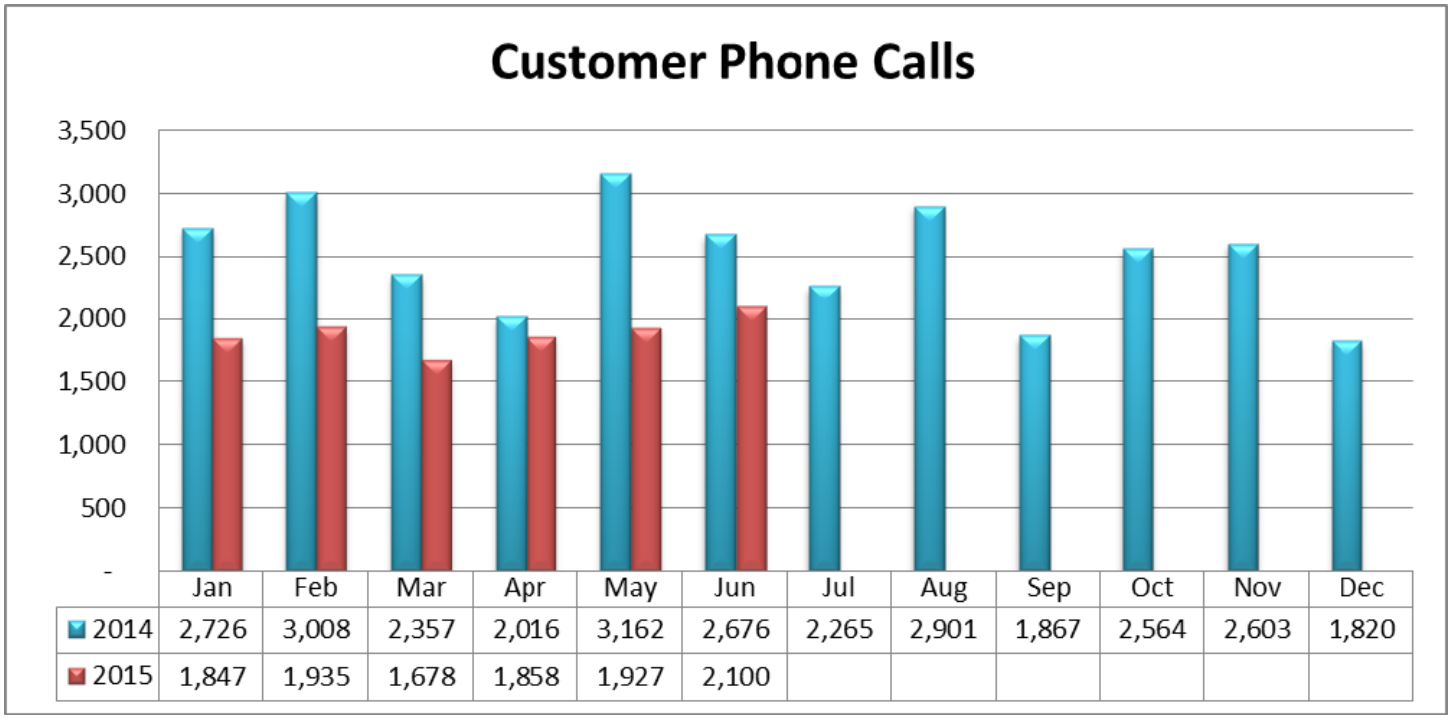
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	2,501	3,981	4,551	4,882	5,189	5,458	5,785	6,041	6,261	6,469	6,692	6,890
2015	7,087	7,266	7,415	7,537	7,678	7,770						

The H_2OAccess online billing solution was launched in January 2014. The number of customers who have enrolled in online bill pay and have also chosen to go paperless has recently increased to 53%.



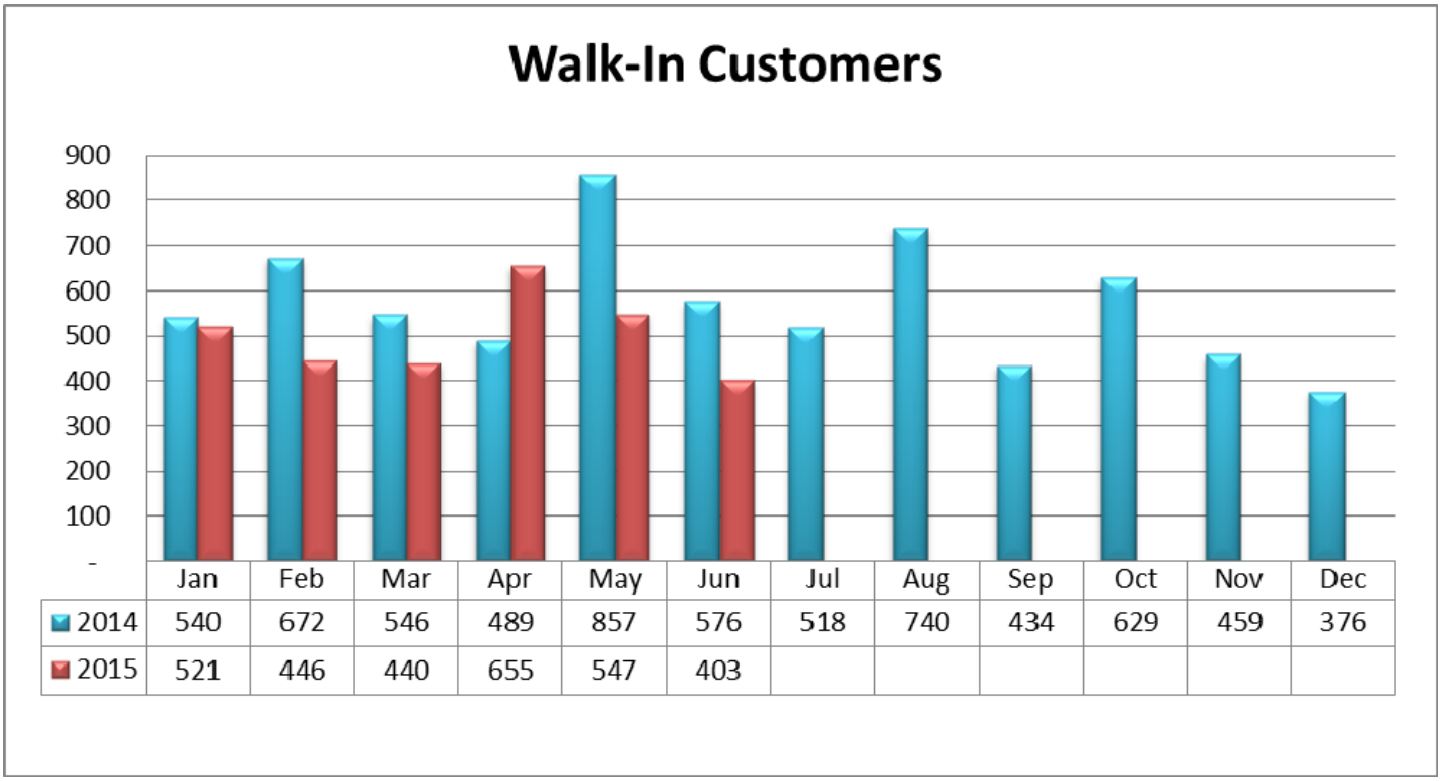
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2013	16,407	16,455	16,471	16,528	16,603	16,679	17,071	17,172	17,163	17,237	17,338	17,341
2014	17,434	17,466	17,618	17,679	17,778	17,878	17,984	17,990	18,048	18,144	18,064	18,040
2015	18,183	18,266	18,366	18,456	18,612	18,663						

The number of accounts billed continues to steadily increase month-to-month mostly due to new residential growth.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	2,726	3,008	2,357	2,016	3,162	2,676	2,265	2,901	1,867	2,564	2,603	1,820
2015	1,847	1,935	1,678	1,858	1,927	2,100						

Customer phone calls in June 2015 were fairly consistent with the month prior.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	540	672	546	489	857	576	518	740	434	629	459	376
2015	521	446	440	655	547	403						

Walk-in customers in May 2015 were higher than June 2015 due to start-up of seasonal programs.