Water Capital Improvement Program

The City has an ongoing program to improve its drinking water plants and system called the Water Capital Improvement Program (CIP). Water CIP projects are investments in City water infrastructure and often mean improved water quality for our customers.

**Drinking Water Plant Improvements**
- 1. Canal Water Treatment Plant high service and raw water pumps
- 2. Canal Water Treatment Plant raw water, dredging and sedimentation basin
- 3. Canal Water Treatment Plant clearwell and high service pumps
- 4. Lake Murray Water Treatment Plant disinfection and pumps

**Water System Improvements**
- 5. Broad River Road water main
- 6. Chapin water main
- 7. Hardscrabble Road water main
- 8. Longstown Road West water main

**Neighborhood Improvements**
- 12. Booker Washington Heights
- 13. Covenant Road and Harrison Road
- 14. Earlewood
- 15. Lake Katherine
- 16. Lincolnshire
- 17. North Main streetscaping
- 18. Rosewood
- 19. Satchel Ford
- 20. Shop Road extension
- 21. Sumter Street/ Cottontown
- 22. Washington Park

Looking Forward: Water CIP Projects Planned For Fiscal Year 2017/2018

Projects that are part of this year’s proposed budget include:

**Advanced Metering Infrastructure**
The City plans to replace all analog water meters with digital meters over the next 3-5 years. These digital meters will let customers track their water use in real time and receive usage alerts to identify problems with home plumbing right away.

**Neighborhood Improvements**
Many older areas of the City are served by water lines made from cast iron or galvanized steel. Over time these pipes can corrode, causing a build-up of rust. Water flowing through these pipes can be discolored by that rust. The City has an on-going program to upgrade these older water mains as we find them. The City uses water quality complaints to help identify project areas. **If you ever experience discolored water, call (803) 545-3300 to report it.**
What is in Columbia’s Drinking Water?
The City of Columbia’s drinking water met all state and federal requirements during 2016 and is considered safe to drink. The City’s SC DHEC-certified laboratory performs more than 200,000 analyses each year to ensure that the water the City supplies to its customers meets all US EPA and SC DHEC standards. Additional analyses are performed by SC DHEC, the state agency that regulates and oversees public water systems. Samples are tested at every stage of the treatment process and at hundreds of points throughout more than 2,400 miles of pipeline that make up the City’s distribution system. The City also conducts voluntary testing for microbial contaminants. Since 2004, the City has been participating in the Partnership for Safe Water. The Partnership’s mission is to improve the quality of water delivered to customers by improving water system operations. The substances listed below were detected in the City’s water supply during 2016.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Highest Level Allowed (MCL)</th>
<th>Detected Level</th>
<th>Range of Detection</th>
<th>Goal (MCLG)</th>
<th>Violated Year Sampled</th>
<th>Source of Contaminant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INORGANIC COMPOUNDS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td>15 ppb (Action Level)</td>
<td>0.0 ppb (90th%)</td>
<td>0-7 ppb (range)</td>
<td>None of the 50 sites sampled exceeded the action level</td>
<td>0</td>
<td>None</td>
</tr>
<tr>
<td>Copper</td>
<td>1.3 ppm (Action Level)</td>
<td>0.059 ppm (90th%)</td>
<td>0-0.089 ppm (range)</td>
<td>No sites exceeded the action level</td>
<td>0</td>
<td>None</td>
</tr>
<tr>
<td>Fluoride</td>
<td>4 ppm</td>
<td>0.55 ppm</td>
<td>0.54-0.55 ppm</td>
<td>4 ppm</td>
<td>None</td>
<td>2016</td>
</tr>
<tr>
<td>Nitrate/Nitrite (as Nitrogen)</td>
<td>10 ppm</td>
<td>0.345 ppm</td>
<td>0.22-0.47 ppm</td>
<td>10 ppm</td>
<td>None</td>
<td>2016</td>
</tr>
<tr>
<td>Chlorite (Lake Plant)</td>
<td>1 ppm</td>
<td>0.528 ppm</td>
<td>0.280-0.528 ppm</td>
<td>0.8 ppm</td>
<td>None</td>
<td>2016</td>
</tr>
<tr>
<td>Chlorite (Canal Plant)</td>
<td>1 ppm</td>
<td>0.656 ppm</td>
<td>0.357-0.656 ppm</td>
<td>0.8 ppm</td>
<td>None</td>
<td>2016</td>
</tr>
<tr>
<td><strong>ORGANIC COMPOUNDS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Trihalomethanes (THMs) (Chloroform, Bromodichloromethane, Dibromochloromethane, Bromoform)</td>
<td>80 ppb (LRAA - Locational Running Annual Average)</td>
<td>44 ppb (LRAA)</td>
<td>8-61 ppb</td>
<td>0</td>
<td>None</td>
<td>2016</td>
</tr>
<tr>
<td>Haloacetic Acids (HAAs) (Monochloroacetic Acid, Monobromoacetic Acid, Dichloroacetic Acid, Trichloroacetic Acid, Dibromoacetic Acid)</td>
<td>60 ppb (LRAA)</td>
<td>45 ppb (LRAA)</td>
<td>14-69 ppb</td>
<td>0</td>
<td>None</td>
<td>2016</td>
</tr>
<tr>
<td>Total Organic Carbon (Lake Plant)</td>
<td>TT</td>
<td>50.71% removal (42.08% removal required)</td>
<td>36.6-56.5% removal</td>
<td>None</td>
<td>None</td>
<td>2016</td>
</tr>
<tr>
<td>Total Organic Carbon (Canal Plant)</td>
<td>TT</td>
<td>44.14% removal (36.67% removal required)</td>
<td>34.20-59.90% removal</td>
<td>None</td>
<td>None</td>
<td>2016</td>
</tr>
<tr>
<td><strong>MICROORGANISMS</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turbidity (Lake Plant)</td>
<td>&lt;0.3 NTU TT</td>
<td>0.11 NTU-Highest single measurement</td>
<td>N/A</td>
<td>None</td>
<td>2016</td>
<td></td>
</tr>
<tr>
<td>Turbidity (Canal Plant)</td>
<td>&lt;0.3 NTU TT</td>
<td>0.26 NTU-Highest single measurement</td>
<td>N/A</td>
<td>None</td>
<td>2016</td>
<td></td>
</tr>
<tr>
<td>Total Coliform Bacteria</td>
<td>Presence of coliform bacteria in &lt;5% of monthly samples</td>
<td>2.63% (Highest monthly percentage positive)</td>
<td>N/A</td>
<td>0</td>
<td>None</td>
<td>2016</td>
</tr>
<tr>
<td><strong>DISINFECTANTS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Chloramine</td>
<td>4 ppm</td>
<td>2.5 ppm (Highest quarterly average)</td>
<td>2.0-2.5 ppm</td>
<td>4 ppm</td>
<td>None</td>
<td>2016</td>
</tr>
<tr>
<td>Chlorine Dioxide (Lake Plant)</td>
<td>800 ppb</td>
<td>143 ppb</td>
<td>0-143 ppb</td>
<td>800 ppb</td>
<td>None</td>
<td>2016</td>
</tr>
<tr>
<td>Chlorine Dioxide (Canal Plant)</td>
<td>800 ppb</td>
<td>250 ppb</td>
<td>0-250 ppb</td>
<td>800 ppb</td>
<td>None</td>
<td>2016</td>
</tr>
</tbody>
</table>
NOTIFICATIONS

(1) If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Columbia is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting in your pipes for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or online at http://www.epa.gov/safewater/lead. City of Columbia water customers can call (803) 545-3300 to find out about free lead testing.

Action Level — A limit, that is not a MCL, that applies to contaminants such as lead and copper that enter the water after treatment. Action levels may trigger special monitoring, public education or treatment techniques.

Detected Level — The concentration of a substance detected in a water sample. The detected levels specified in the table to the left are the highest levels detected if multiple samples were collected, except for Total Organic Carbon (TOC) or unless specified otherwise. For TOC, the specified removal rate is the rate required by SC DHEC based on data reported by the City.

HRL (Health Reference Level) — A US EPA-defined benchmark for evaluating contaminant occurrence based on health effects information.

LRAA (Locational Running Annual Average) — An average at each sample point for four quarters in the calendar year.

MCL (Maximum Contaminant Level) — US EPA’s regulation limit for the highest allowable amount of a substance in drinking water.

MCLG (Maximum Contaminant Level Goal) — The US EPA’s target level for a contaminant below which there are no known or suspected health effects. The MCLG is not necessarily a level achievable with currently available treatment techniques.

N/A (Not Applicable) — Does not apply.

NTU (Nephelometric Turbidity Unit) — Units of measure to indicate water clarity.

ppb (parts per billion) — One part in a billion parts (equivalent to one penny in $10,000,000).

ppm (parts per million) — One part in a million parts (equivalent to one penny in $10,000).

TT (Treatment Technique) — A required process intended to reduce the level of a contaminant in drinking water.

90th% (90th Percentile) — The Action Level for lead and copper for a water system that serves more than 100,000 people.

< Less than.

> Greater than.

What Do These Terms and Symbols Mean?

US EPA requires that all annual water quality reports contain the following:

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the US EPA’s Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

SC DHEC has completed a comprehensive water assessment report on the Broad River Diversion Canal (also referred to as the Columbia Canal) and Lake Murray. These Source Water Assessment reports are available and can be reviewed at 1136 Washington Street or by contacting 803-545-3300.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the US EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants, can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline (800-426-4791). Testing since 1994 has revealed no signs of Cryptosporidium in Columbia’s treated water.
Who Owns The Water Meters & Service Lines On Your Property?

Many homeowners do not realize that, just like their internal plumbing, they also own a portion of the water and sewer service lines running to their house. Knowing which lines are yours can be especially important if the line needs maintenance since the City cannot repair private lines. The image below shows which portions of a customer’s water and sewer service are the responsibility of the City and which are the responsibility of the property owner.

The City of Columbia owns and maintains:
- The water main
- The water service line running to the meter
- The meter box
- The meter
- The sewer service line from the property line to the sewer main
- The sewer main

The property owner owns and is responsible for maintaining:
- The water service line running between the meter and the building
- All plumbing attached to the water service line
- The sewer service line from the building to the property line

Have a service line problem and not sure who owns the line? Contact the City at 803-545-3300. If the problem is in a City-owned line, we will address it. If it is in your line, we will let you know. You may even qualify for a bill adjustment if you find and correct a plumbing problem on your side of the line.