Metro Water Services
2018 CONSUMER CONFIDENCE REPORT

Metro Water Services is committed to delivering clean, safe, dependable drinking water to all of our customers.

This report details our water quality testing results for 2017. We go above and beyond to meet and exceed all state and federal regulations for drinking water.

WHAT IS THE CONSUMER CONFIDENCE REPORT?

Metro Water Services is regulated by the Environmental Protection Agency (EPA) under the Safe Drinking Water Act, which requires community water systems to provide all customers an annual report. This report includes information on our source water, our compliance with drinking water regulations, water quality testing results, and other educational information.

PLEASE SHARE THIS REPORT

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, or businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

INSIDE THIS REPORT

ESTE INFORME CONTIENE INFORMACIÓN MUY IMPORTANTE SOBRE SU AGUA BEBER. TRADÚZCALO Ó HABLE CON ALGUIEN QUE LO ENTIENDA BIEN.

ABOVE AND BEYOND

GOING ABOVE AND BEYOND

Throughout your water's journey--from the river to your home and back--Metro Water Services goes above and beyond to ensure the quality and reliability of our services. Look for the Above and Beyond icon throughout this report.

A MESSAGE FROM THE DIRECTOR

COMMITTED TO DELIVERING CLEAN AND SAFE DRINKING WATER

Dear Customers,

At Metro Water Services, our top priority is to provide our customers with a clean and safe water supply. As a department of the Metropolitan Government of Nashville and Davidson County, we service over 204,000 water accounts, providing drinking water to customers in Davidson County and portions of Rutherford and Williamson counties.

We are pleased to deliver our 2018 Consumer Confidence Report, which shows your water meets or exceeds all of the United States Environmental Protection Agency (EPA) health standards and all state and federal requirements. For more information about Metro Water Services and the quality of your water, visit water.nashville.gov.

Sincerely,

Scott Potter, Director

ABOVE AND BEYOND

AWARD-WINNING TREATMENT PLANTS

COMMITMENT TO QUALITY

2017 Engineering Excellence Honor Award for Water Treatment Plant Disinfection Improvements *(See p. 4, On-Site Generation of Bleach)*

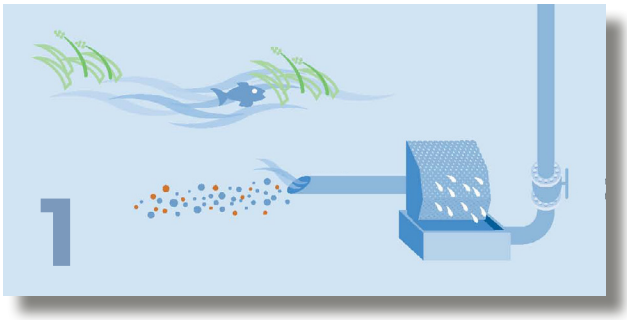
2017 Engineering Excellence Honor Award for Chemical Feed Upgrade and Miscellaneous Plant Improvements

PRESERVING OUR HISTORY

2017 Engineering Excellence Grand Award for Renovation of the Historic George Reyer Pump Station & Omohundro Boiler House

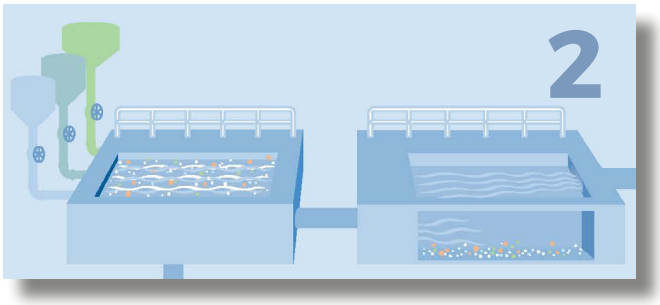
2017 Construction Award of Excellence for Restoration and Renovation of the Historic George Reyer Pump Station & Omohundro Boiler House

WATER TREATMENT PROCESS



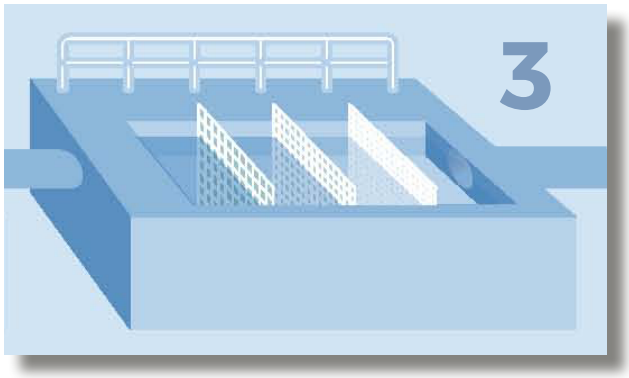
1. COLLECTING THE WATER

Water is collected from the Cumberland River and screened for twigs and other large debris before entering one of our two treatment plants, K.R. Harrington and Omohundro.



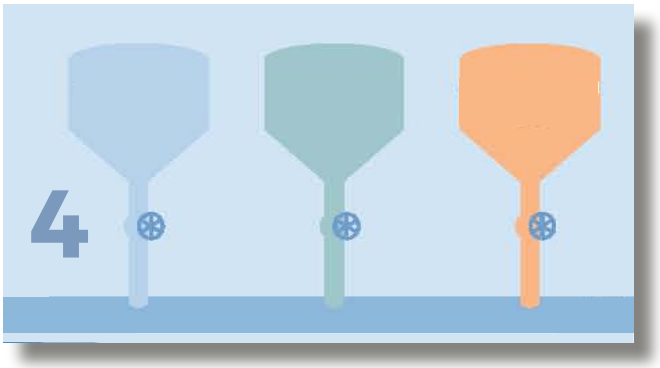
2. REMOVING MUD AND DEBRIS

In the treatment plant we add alum, a chemical that makes the small particles of mud and algae stick together. These clumps of mud get larger until they are heavy enough to sink to the bottom of the tank. This is called coagulation, flocculation, and sedimentation.



3. FILTERING THE WATER

The clear water on top of the tank is sent through our filters to remove any remaining particles, leaving the water crystal clear.



4. DISINFECTING AND FLUORIDATING

We use a small amount of bleach to kill harmful bacteria and disinfect the water. We also add a small amount of fluoride, as endorsed by the Metro Health Department, to help prevent tooth decay.

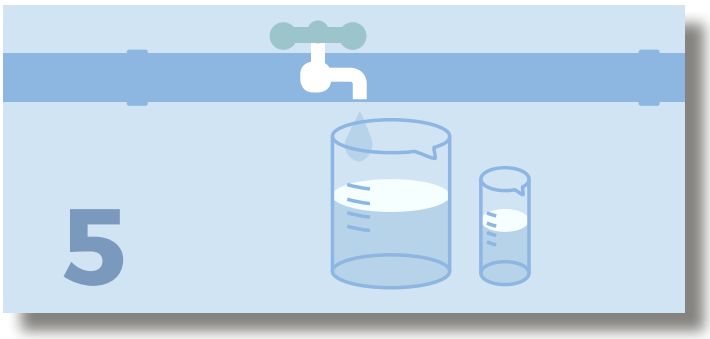
ABOVE AND BEYOND

ON-SITE GENERATION OF BLEACH

Our water treatment plants are using a new, safer, disinfection technology -- On-Site Generation of Bleach (OSG). We mix salt with water to create a brine and the brine passes through an electrical cell to produce the chlorine bleach. This new technology replaces the use, transport, and storage of chlorine gas, and makes our community and our workplaces safer.

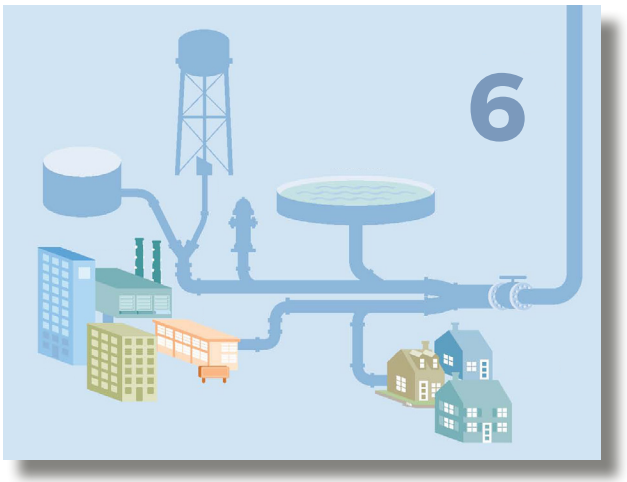
TASTE AND ODOR

We not only want our water to be safe, we also want it to taste great for our customers too. During warmer months, we use activated carbon (what you find in water pitcher filters) to absorb any naturally occurring, harmless tastes and odors produced by algae in the Cumberland River. We run state-of-the-art gas chromatography tests to identify trace amounts of these odor-causing compounds before they can be detected by our customers. We are also testing the use of ozone, which may be effective in addressing these natural, seasonal taste and odor issues. *(see p. 10, Pilot Plant)*



5. TESTING FOR QUALITY

We test our water regularly before, during and after the treatment process to ensure that our customers receive clean, safe drinking water.



6. DELIVERING TO OUR CUSTOMERS

We deliver clean, safe water to over 204,000 residential, commercial, and industrial customers throughout Metropolitan Nashville and Davidson County. We maintain over 3,000 miles of water pipes, 56 water pumping stations, and 37 reservoirs, Our crews work 24/7/365 to make sure you always have safe water at your tap.

ABOUT THE CUMBERLAND RIVER

The Tennessee Department of Environment and Conservation (TDEC) has prepared a Source Water Assessment Program (SWAP) Report for the untreated water sources serving this water system. A copy of the Water Assessment Report will be available for review at Metro Water's Administrative Library, located at 1600 Second Ave. North. A source water assessment summary is available at https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/source-water-assessment.html. The Cumberland River Source is rated highly susceptible to potential contamination. Metro Water Services has two water treatment plants and has the ability to withdraw water from more than one river level to minimize the chance of contamination.

CRYPTOSPORIDIUM » No cryptosporidium oocysts were detected in untreated river water during 2016 testing. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

ABOVE AND BEYOND

PROTECTING OUR WATER SOURCE

We protect the Cumberland River from pollution by minimizing pollutants that run off into the waterways when it rains. We do this by routinely monitoring pollutant levels in creeks and streams that feed the Cumberland River and enforcing the codes that prohibit water pollution. Typical pollutants targeted by Metro Water Services programs include sediment runoff from construction sites, spills and illegal discharges from industrial and commercial sites, and lawn chemical and dog waste runoff from residential areas.

WATER QUALITY TESTING

Metro Water Services is required by state and federal regulations to test for specified unregulated organic and inorganic chemicals. This testing has been performed and reported. All results are available for public inspection at the Metro Water Services Analytical Research Laboratory, 1450 Lebanon Pike. For more information, please contact the MWS Lab at (615) 862-4591 or visit our Web site at water.nashville.gov.

WATER SYSTEM TN0000494 RECEIVED ZERO DRINKING WATER VIOLATIONS IN 2017.

ABOVE AND BEYOND

STATE OF THE ART LABORATORY

We have recently acquired a new analytical tool that is used to test for cyanotoxins that may be present in the Cumberland River, our source water. Cyanotoxins are produced by colonies of algae in our river that grow too large. While no water agency is currently required to test for these compounds, we have made an investment in this new tool in anticipation of future regulations.

ABBREVIATIONS AND TERMS USED IN THIS REPORT

MCL (MAXIMUM CONTAMINANT LEVEL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (MAXIMUM CONTAMINANT LEVEL GOAL): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

TT (TREATMENT TECHNIQUE): A required process intended to reduce the level of a contaminant in drinking water.

(mg/L): Milligrams per Liter or parts per million.

(µg/L): Micrograms per Liter or parts per billion.

AL (ACTION LEVEL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

NTU (NEPHELOMETRIC TURBIDITY UNITS): Standard units for measurement of water clarity.

MRDL (MAXIMUM RESIDUAL DISINFECTANT LEVEL): The highest level of a disinfectant allowed in drinking water.

MRDLG (MAXIMUM RESIDUAL DISINFECTANT LEVEL GOAL): The level of a drinking water disinfectant below which there is no known or expected risk to health.

LEAD LEVELS » 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. Metro Water Services 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 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 drinking 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 or at www.epa.gov/lead.

2017 WATER QUALITY DATA

Metro Water Services tests for 105 substances that may be present in drinking water. The table below shows those substances that were detected January 1 through December 31, 2017. If you would like a complete list of all substances for which we test, please call (615) 862-4494 to request a Water Quality Letter, or visit our Web site at water.nashville.gov.

REGULATED AT THE WATER TREATMENT PLANT

Parameter and Units of Measure	Highest Average Level Detected	Range of Levels Detected in 2017	MCL	MCLG	Major Sources of the Substance
Fluoride (mg/L)	0.63	0.52 - 0.71	4	4	Water additive that promotes strong teeth
Nitrate (mg/L)	0.33	0.266 - 0.413	10	10	Runoff from fertilizer use
Sodium (mg/L)	13.5	13.3 - 13.7	N/A	N/A	Natural deposit erosion
Turbidity (NTU)	0.06	0.02 - 0.19	TT = 1 NTU	0	Natural river sediment. Turbidity is a measurement of water clarity, which aids in determining the effectiveness of our filters.
	99.9%	N/A	TT = % of samples <0.3 NTU		

REGULATED IN THE DISTRIBUTION SYSTEM

E. coli	0	N/A	0	0	Human and animal fecal waste
Total Trihalomethanes (THM) (µg/L)	53.0	12.6 - 71.0	80	N/A	Disinfection chemical (chlorine) combining with organic matter in the river water
Total Haloacetic Acids (HAA) (µg/L)	48.1	11.3 - 59.4	60	N/A	
Chlorine (mg/L)	1.82	0.7 - 3.6	MRDL - 4	MRDLG - 4	Water additive used to control microbes
Total Organic Carbon* (mg/L)	N/A	N/A	TT	N/A	Naturally present in the environment

REGULATED AT THE CUSTOMER'S TAP

Parameter	90th Percentile	Sites Exceeding AL	MCL	MCLG	Major Sources of the Substance
Copper (2016 analyses) (ppm)	0.150	0 of 71	AL = 1.3	1.3	Corrosion of household plumbing systems
Lead (2016 analyses) (ppb)	1.00	1 of 71**	AL = 15	0	

* We met the treatment technique requirement for TOC.

** Site 82 exceeded the Lead action level upon its initial sample. A resample measured below Lead Detection level.

A MESSAGE FOR VULNERABLE POPULATIONS

Drinking water, including bottled water, may reasonably be expected to contain small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

To ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain impurities in water provided by public water systems. The Food and Drug Administration regulates bottled water.

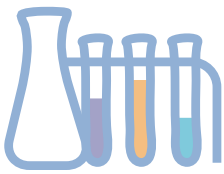
The sources of drinking water (both tap water and bottled water) include lakes, streams, ponds, reservoirs, springs, wells, and, in Nashville's case, the Cumberland River. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, and can pick up substances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

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

More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Impurities that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from septic systems, sewage treatment plants, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm run-off, 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, storm water run-off and residential uses.
- Organic chemicals, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water run-off and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.



EVERY DAY, SEVEN DAYS A WEEK, SAMPLES OF RIVER, TREATED, AND FINISHED WATER ARE TESTED IN OUR STATE OF THE ART LABORATORIES TO ENSURE THE HIGHEST QUALITY FOR OUR CUSTOMERS.

PREVENTING LEAD IN DRINKING WATER

WHERE IS LEAD FOUND IN THE HOME?

Homes built prior to 1978 often contain lead-based paint. When lead paint fails, it can chip or create dust, which can then be ingested. **This is the most common source of lead exposure in children.**

Lead pipes and service lines were common in homes until the mid-1950s. The practice was federally banned in 1986, but lead was still used as a soldering material for copper pipe until 1988. Brass fixtures may also contain trace amounts of lead.

HOW DOES LEAD ENTER MY DRINKING WATER?

Nashville's drinking water does not contain lead when it leaves the treatment plants, but tap water can accumulate trace amounts of lead through the corrosion of lead plumbing materials. MWS regularly tests for lead in the drinking water at a selected number of lead service line locations. The EPA requires tested levels be below 15 parts per billion (ppb).

CONTROLLING CORROSION

Since 1987, MWS has had an intense corrosion control program to prevent the possibility of lead leaching into your water. A blended phosphate solution is added to the finished water and reacts to inhibit corrosion of water mains; tie-up nuisance metals; and remove scale deposits in pipes by bonding to the walls and forming a protective barrier.

For more information about lead, visit our website and download our "Preventing Lead In Drinking Water" brochure at bit.ly/MWSLead

HOW DO I KNOW IF I HAVE LEAD PLUMBING?

Identify the color of your pipes, lead is generally a dull gray. Carefully scratch the pipe with a key. If the pipe is made of lead, the area you've scratched will turn a bright silver color. *Do not use a knife or other sharp instrument and take care not to cut or puncture a hole in the pipe.*

WHAT ARE THE RISKS OF LEAD EXPOSURE?

Lead exposure can cause adverse health effects including increases in blood pressure of some adults; delays in normal physical and mental development in babies and young children; and, deficits in the attention span, hearing, and learning abilities of children.

REDUCE YOUR RISK

- Boiling water will NOT reduce lead.
- Run your water for 3-5 minutes if it has not been used in several hours.
- Always use cold water for drinking, cooking, and preparing baby formula.
- Periodically remove and clean faucet screen/aerator. While removed, run water to eliminate debris.
- Identify and replace lead plumbing, including your portion of the service line that leads from the meter to your home.
- Identify and replace plumbing fixtures containing lead such as brass or bronze.
- Have a licensed electrician check for connections between your wiring and your plumbing. If a connection is electrified, it can accelerate corrosion.

ABOVE AND BEYOND

LOOKING TO THE FUTURE

AUTOMATED METER TECHNOLOGY

We are dedicated to providing excellent service. Our automated meter technology allows customers to view their daily water consumption which assists in determining if there are issues in their water usage. We have improved safety for our staff and citizens by reading meters electronically and no longer having to open meter boxes on a regular basis.

IMPROVING OUR INFRASTRUCTURE

To improve the reliability and efficiency of our water system for our customers, we are continuously upgrading the over 3,000 miles of water mains that run throughout the county. During the past year, we completed the Cumberland City Low Project, adding a major water line to provide redundant service. If one line needs repairs, customers in the area will still have water from the other line. Infrastructure is a growing concern with 64% of our water mains over 40 years old; we average 450 water main repairs each year. Crews are on hand 24/7/365 to make repairs and keep water flowing to our customers.

PILOT PLANT

We have installed a pilot plant to test advanced treatment technologies, such as the use of ozone, on our river water and filters. This set up is a scaled down version of our water treatment plant and simulates our water treatment process. With this system we are able to test the effects of operation and process enhancements on a smaller scale before dedicating resources. We will run this pilot plant for a full year, gathering samples and data that will help us make decisions on the type of technology we will use to exceed current and future water quality regulations and goals in a sustainable manner.

QUESTIONS

For questions about billing, to start or change water service, or if you have a water, sewer, or stormwater emergency, contact Metro Water Services at (615) 862-4600.

If you have questions about this report, contact Metro Water Services at (615) 862-4494.

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

HOW YOU CAN BE INVOLVED

The public may participate in decisions concerning water quality by attending the Metropolitan Council meetings held on the first and third Tuesdays of each month at the Metro Courthouse, One Public Square.

ADA INFORMATION

If you need assistance or an accommodation, please contact the Safety Office at 1600 Second Ave. North, Nashville, TN 37208 or (615) 862-4862.

METRO WATER SERVICES

@NashvilleMWS

WATER.NASHVILLE.GOV