2015 City of Elyria Water Plant

Consumer Confidence Report

Dear Fellow Elyrians and Other Water Customers,

As you will see from reading Elyria's 2015 Water Quality Report, the City takes the quality of your drinking water very seriously. You have undoubtedly seen and heard news coverage about other municipalities' problems with their drinking water – but I am happy to report to you that the water disseminated to Elyrians and the additional 75,000 neighboring consumers served by Elyria in surrounding communities, meets ALL standards for safe drinking water under the strictest criteria of the Ohio EPA and all other testing authorities.

You can rest assured that our state-licensed personnel vigilantly monitor all aspects of our water's quality and keep all chemical feeds and testing protocols in place and active 24 hours per day, 365 days per year. Elyria's Regional Water Plant facility on Lake Erie in Lorain constantly improves processes, technology and safety. New pumps and screens have been installed and other improvements are forthcoming. Built in the 1920s, this constantly updated facility treats over 4 billion gallons of water annually through Elyria's water distribution system. We review and update our contingency and emergency operations plans on an annual basis and work with other water authorities on redundancy planning to provide water in the event of a water emergency.

Moreover, Elyria's water plant has been ahead of the curve with Lake Erie's harmful algae bloom situation. We applied for and received, a grant for $30,000 to install additional detectors on the pipes bringing water into the treatment process. If you have questions or would like additional information, please feel free to contact the Mayor's Office at (440) 326-1402 or the Elyria Regional Water Plant at (440) 324-7669. Best wishes for a safe, healthy and pleasant 2016.

Sincerely,

Holly C. Brinda, MPA
Mayor

City of Elyria

2015 Water Quality Report

The City of Elyria is proud to present our 2015 Water quality report that covers all testing from January 1, 2015 to December 31, 2015. The City of Elyria Water Pumping Plant has been making clean drinking water for customers since 1901, over 115 years. We work 24 hours a day, seven days a week to ensure that you, our customer, has a ready, unlimited source of drinking water that exceeds all of the EPA's standards. We operate and maintain a state of the art conventional surface water plant, located in Lorain, on the shore of Lake Erie. We have five water towers and two remote pump stations located in the City of Elyria. Over 4.4 billion gallons of water was pumped in 2015. We serve over 120,000 people in a number of communities. We are truly a Regional Water plant serving the needs of our customers.

Where does your water come from?

The United States has one of the safest water supplies in the world. Elyria's water comes from Lake Erie. However, national statistics don't tell you specifically about the quality and safety of the water coming out of your tap. That's because drinking water quality varies from place to place, depending on the condition of the source water from which it is drawn and the treatment it receives. Therefore we are providing to you, as per the Safe Drinking Water Act, this water quality report which includes information obtained from evaluating the results of our water tests performed last year.

How to Participate in Decisions Concerning Your Drinking Water

Elyria City Council meets the first and third Mondays, January through December, except for June, July and August, when they meet only on the first Monday. The meetings take place at 7:00 PM at Elyria City Hall. Please visit http://www.cityofelyria.org/ for access to city Council meeting information.

History of Elyria's Water Treatment Plant

Elyria, founded in 1817 (incorporated as a city in 1833) was in need of a water source by 1879 with a growing population. The original water plant was built in 1879 and was run by a private company – the water tower structure still remains intact on Mussey Avenue. The plant got its water from the West Branch of the Black River and was pumped directly to the distribution system, without treatment.

(Elyria's first Water Plant)

By 1898 Elyria's leaders realized that the river water was not a safe and suitable source for domestic use and took over the operations from the private firm that had been running the operations. In 1903, land was purchased in the City of Lorain, on the shores of Lake Erie for the purposes of building a water plant with a fresh water source that could be purified. The project began soon after the land purchase and but the current system of river water continued.

With an ever increasing water demand-- a water meter system was installed in 1909 to monitor water use. By 1916, the need for a more modern plant was fully developed and was planned for the land purchased 13 years prior.

On July 1, 1919, the City issued bonds, after approval of the electorate, to raise the necessary dollars to build a modern treatment water plant. The city entered into a contract with Morris and Knowles Inc. to draw up the plans and supervise the construction and improvements of the plant. An eight (8) million gallon a day plant was built to supply the City of Elyria's growing water demands. The first filters were built along with the water plant.

In May of 1921, the coagulation basin was put into service, new low service pumps (pumping water from the Lake into the plant) were put into service in October of 1922, new high Service pumps that pumped water from the plant to the city of Elyria's Distribution system were put into operation in November of 1922.

Land (6.4 acres) was purchased for the Lake plant in 1903 for at a cost of $407 per acre. In 1921, additional land was purchased, 4.878 acres for $3300 per acre, giving the City a parcel 633ft by 777ft long, approximately 11 acres.

Today's water plant is still located at the original 11 acres spot in Lorain. The Elyria Water Pumping Plant is a conventional surface water plant (with 9 building structures), rated by the EPA at 22 million gallons a day (22MGD).

The plant has two intakes, a 24" cast iron intake and a 42" intake. Both are located on the

lake bottom approximately 1500' into the lake. Potassium Permanganate is pumped to the intake crib for zebra mussel control seasonally.

Water flows into the plant by gravity and the Low Service pumps pump the raw water into the mixing chambers. In the mixing chambers, Aluminum chlorohydrate(ACH, a coagulant) is added, along with NaOH (for pH adjustment when needed), Powdered Activated Carbon, (seasonally for taste and odor control) and Fluoride for dental protection.

The chemicals are than mixed and the water flows by gravity to the Flocculators where the water is gently mixed to promote formation of floc. The water flows by gravity to the sedimentation basins where the floc is settled out. The settled floc is called sludge and accumulates at the bottom of the settling basins. The sludge is drawn off the basins daily and pumped to sludge dewatering tanks, and trucked to the Elyria's Wastewater plant located on the north side of Elyria.

The water then flows to the ten anthracite carbon filters where it is filtered and goes to the clearwells to be pumped to the distribution system.

The following is a list of chemicals fed throughout the treatment process:

- Aluminum Chlorohydrate is a chemical that forms floc, (it combines with all the dirt particles in the water).
- NaOH is added to the water to raise the pH to 7.3 , when needed
- Fluoride is added for dental protection. There is some naturally occurring fluoride in the Lake water, we add additional fluoride to bring the level to approximately 1.0 mg/L
- Powdered Activated Carbon is fed for taste and odor control.
- Potassium Permanganate is added at the intake crib as a oxidant, and for zebra mussel control
- Chlorine is added after the settling basins and before the filters and post filters prior to entering the Clearwells.
- Orthophosphate is fed prior to the filters for corrosion control.

Water from the Clearwells is pumped to the consumers through three force mains, 20, 30, and 48 inches in diameter at a pressure leaving the water plant of approximately 110- 118psi. The Water Works operates 24 hours per day, 365 days a year following the rules and regulations of the Ohio Environmental Protection Agency and the Ohio Administrative Code. We currently have two State of Ohio Class IV license holders, three Class III holders and several Class II and Class I personnel.

Chemical lab tests are run hourly 24 hours a day and bacteria tests are run daily on water from the plant, lake and distribution system. We have three (3) Ohio EPA licensed lab personnel.

Our three (3) clearwells have a total capacity of approximately three million gallons of water. The finished water is stored in the clearwells until it is pumped into the distribution system.

The SCADA (supervisory control and data acquisition) system is located throughout the plant and controls the entire purification process. Our distribution pump stations and our five (5) water towers are monitored and controlled by the SCADA system.

A number of major renovations and improvements have taken plant in the past 15 years:

- Generators to run the plant at 100% capacity: 2013/2014
- New High Service Pump station: 2014
- New traveling screen and Low service pumps: 2013/2014
- New operator office and Lab 2014
- New filter media all ten filters: 2010
- New Low service MCC: 2006

Elyria's Water Plant supplies water to the Cities of Elyria, North Ridgeville, and Amherst;

Sheffield, Carlisle and Elyria townships; and to Northern Ohio Rural Water Authority (who serves multiple jurisdictions) these entities serve a total of approximately 120,000 citizens.

With the population growth across the region, water demand in our service area is steadily increasing. The Elyria Water Pumping Plant is here to meet that demand and supply water to our customers.

More about Your Drinking Water

The EPA requires regular sampling to ensure drinking water safety. In 2014, we conducted sampling for bacteria, inorganic, synthetic organic, and volatile organic contaminants. Samples were collected for a total of 83 different contaminants, most of which were not in our water supply. The OEPA requires us to monitor for some contaminants less than once per year because their concentrations do not change frequently. Some of our data, though accurate, is more than one year old.

Our water system uses surface water drawn from two intakes in Lake Erie. For the purpose of source water assessments, in Ohio all surface waters are considered to be susceptible to contamination. By their nature, surface waters are accessible and can be readily contaminated by chemicals and pathogens, with relatively short travel time from source to intake.

Although the City of Elyria's surface water intakes are located offshore in Lake Erie, the proximity of Beaver Creek and Martin's Run increases the susceptibility of the source water to contamination. The City of Elyria's drinking water source protection area is susceptible to contamination from municipal wastewater treatment discharges, air contamination deposition, runoff from residential, agricultural and urban areas, oil and gas production and transportation, leaking underground storage tanks and accidental releases and spills from rail and vehicular traffic as well as from commercial shipping and recreational boating.

The City of Elyria's public water system treats the water to meet drinking water quality standards, but no single treatment technique can address all potential contaminants. The potential for water quality impacts can be further decreased by implementing measures to protect Lake Erie, Beaver Creek, and Martin's Run. More detailed information is provided in the City of Elyria's Drinking Water Source Assessment report, which can be obtained by calling Elyria Water Works, 440-324-7669.

How can I learn more or what if I have any questions? You can contact Samuel F. Jacob, Water Plant Superintendent who has prepared this report. Mr. Jacob has over 39 years of experience in Water Treatment, and Class IV Water Plants. He currently holds an Ohio EPA Class IV Water Certificate. If you have any questions, concerns or would like additional information, please contact him at 440-324-7669 or 440-244-4310 extension 201.

License to Operate Status Information

The City of Elyria Water Plant has a current unconditional license to operate our water system

Important Health Information

The City of Elyria's Drinking water meets or exceeds all federal and state laws. The following is mandatory language provided by the EPA:

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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 from their health care providers, regarding their drinking water. 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 (800-426-4791).

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 Environmental Protection Agency'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, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that maybe in the water source:

- **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 storm 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, storm water runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water 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, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration, (FDA) establishes limits for contaminants in bottled water which must provide the same protection for public health

Lead Educational Information

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 Elyria Water Works is responsible for providing high quality drinking water; it is not responsible for your home plumbing materials or faucet fixtures.

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 water, you may wish to have your water tested. A list of laboratories in the State of Ohio to test for lead may be found at: www.epa.ohio.gov/ddagw or by calling 614-644-2752. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at the Safe Drinking Water Hotline at http://www.epa.gov/safewater/lead.

Compliance with Applicable Laws

As a condition for receiving utility services, water and sanitary sewer, from the City of Elyria, the owner and occupants of the ***property*** agree to comply with any applicable City, State and Federal laws, rules and regulations.

Installation and service of taps, service laterals or lines, curb stops, meters, meter pits and any plumbing fixtures or devices shall comply with City, State and Federal laws, rules and regulations. The work is to be completed by a licensed contractor in the City of Elyria. The owner/occupant shall provide access for City employees or representatives to inspect the completed work. Failure to comply with these regulations is grounds for turn off or denial of services to the service address.

Water Quality Table 2015

Contaminant	Date	Unit	MCL	MCLG	Detected	Detected	Violation	Typical Source of contaminants
Inorganic Contaminantes								
Barium	2015	ppm	2	2	0.019	0.019	no	Discharge of drilling wastes. Discharge from metal refineries, erosion of natural deposits
Fluoride	2015	ppm	4	4	1.48	0.77-1.48	no	Erosion of natural resources, additive which promotes strong teeth
Nitrates	2015	ppm	10	10	0.63	<0.1-0.63	no	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits
Microbiological								
Turbidity	2015	NTU	100% <0.3 NTU	NA	0.27	0.04-0.27	no	soil runoff
Total Organic Carbon (TOC)	2015	none	N/A	TT removal > 1.0	2	0.7-2.0	no	normally present in environment
Residual Disenfectant								
Total Chlorine	2015	ppm	4.0 (MRDL)	4.0 (MRDLG)	2.87	1.94-2.87	no	water additive used to control microbes
Volatile Organic Contaminants								
Total Trihalomethanes	2015	ppb	80	N/A	57.13	15.7-81.1	no	byproduct of drinking water chlorination
Haloacetic Acids	2015	ppb	60	N/A	32	11.0-35.8	no	byproduct of drinking water chlorination
Other Water Quality Parameters of interest								
pH	2015		7.0-10.5	no goal set	7.69	7.47-7.69	no	Treatment Process
Hardness	2015	ppm	No level	No level set	134	113-114	no	Naturally occurring

Maximum Contaminant Level or MCL: 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.

Lead and Copper								
Lead	2015	ppb	AL=15	0	90th = ND	<2.0-3.4	no	Corrosion of household plumbing fixtures, erosion of natural deposits
Copper	2015	ppm	AL=1.3	1.3	0.092	<0.01-0.300	no	Corrosion of household plumbing fixtures, erosion of natural deposits
Radioactive Contaminants								
Gross Alpha (pCi/L)	2015	pCi/L	15	0	ND	N/A	no	Erosion of natural Deposits
Radium 228	2015	pCi/L	5	0	ND	N/A	no	Erosion of natural Deposits

Water Quality Terminology

Maximum Contaminant Level Goal (MCLG): 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.

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

Parts per Million (ppm) or Milligrams per Liter (mg/L): are units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.

Parts per Billion (ppb) or Micrograms per Liter (µg/L): are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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

The "<"symbol: A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.

Picocuries per liter (pCi/L): A common measure of radioactivity.

NTU = Nephelometric Turbidity Units A measurement of the clarity of the water.

N/D= Non-Detects: Laboratory analysis indicates the contaminant is not present

TOC (Total Organic Carbon): The monthly TOC removal ratio is calculated as the ratio between the actual TOC removal and the TOC rule removal requirements. The ratio shown is the average of the ratios for 12 months

Water Plant break wall to Lake Erie

Original filter building built in 1903

Come on man, put it in the can!

The careless and casual handling of waste creates litter. Knowing more about the causes of liter and where it comes from is a good place to start in addressing litter prevention. One person, one business, one organization can positively affect the behavior of other in the community.

YOU can make a difference!

No matter where litter starts, it moves. From streets and highways to parks and waterways, wind and weather moves litter around a community.

What can YOU do?

Each person must accept responsibility for their actions and influence the actions of others around them in their home, school, and community. By modeling proper trash and waste disposal, you will cause others to consider their actions, too.

Help prevent litter:

Set an example for others by always using receptacles and NOT littering.

Carry a litter bag in your vehicle and use it!

Newer throw anything from your vehicle windows!

Please don't litter!

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Only Rain in the Drain

By practicing healthy household habits, residents can decrease the amount of common storm water pollutants from entering our storm sewers and eventually the Black River.

Pick up pet waste and dispose of properly.

Use pesticides and fertilizers sparingly. Avoid application if the forecast calls for rain.
Sweep up grass clippings and other yard debris and compost or dispose of properly.
Vegetate bare spots in your yard to prevent soil erosion.

Elyria Public Utilities

The office of Public Utilities is responsible for the billing and collection of Water, Sewer, and Sanitation Services. The office records meter reads and processes all transactions relative to each individual account.

The Public Utilities department and the Water Distribution department provide emergency response to main breaks and other water problems 24 hours a day, 7 days a week.

The Elyria Public Utilities office has an active "BACKFLOW" program. The focus of this program is to ensure that the proper safeguards are in place to protect our drinking water system from possible contamination through cross connections. Our Commercial Backflow program has completed over 5,000 surveys to commercial and industrial sites; resulting in the installation of over 3,105 new devices and annual testing of nearly 5,000 devices.

As an Elyria Public Utilities customer you may appreciate the convenience of our Automatic Bill Payment System. Visit our website for details or call our office for additional information. We would be glad to answer any questions you may have.

The Elyria Public Utilities Office is located at 131 Court Street - Suite 102, Elyria, OH 44035

Phone (440) 326-1570 Fax (440) 326-1588 Website: www.cityofelyria.org

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Water Distribution

Water Service Contact Numbers

Water billing: 440-326-1570 Sewer Problems: 440-366-2211 Option 0

Water Main Breaks (daytime) 440-326-1570

After Hour Water Emergencies: Elyria Police 440-323-3302

Starting at the City of Elyria Waterworks on the shore of Lake Erie, the City of Elyria Water Distribution Dept. maintains over 230 miles of water mains ranging from 4" to 48" diameters. Features include 2600 fire hydrants and 5043 valves.

For more information on the functions of Water Distribution and related topics see us on the web at www.cityofelyria.org under the Department tab.

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Did You Know?

Many sewer backups in homes each year can be prevented by not disposing of cooking grease down the drain. For information about easy ways to dispose of cooking grease call:

Wastewater Pollution Control at: (440) 366-2211 Ext. 13

Pollution Prevention Tip

Grass clippings, leaves, plastic bags, beverage cans, food wrappers and other forms of litter in the roadway cause plugging of the storm drains along the sides of the road, resulting in the flooding of streets when it rains. A lot of these materials wash into the storm sewers with the rain and end up in the Black River, increasing the amount of solid materials in the river and detracting from its inherent natural beauty. As these solids break down, they use up oxygen in the river, leaving less oxygen for the fish and other aquatic life. Do your part to protect our environment and our neighborhoods. The City of Elyria instituted a new waste and recycling program to allow for convenient, safe, and responsible disposal of recyclable goods from home, and recently initiated a partnership with Barnes Nursery to establish the Elyria Regional Compost Facility, located at 45 Chestnut Street, where glass clippings, leaves, and other yard waste can be taken for easy disposal. Visit www.sort4elyria.com for more information. Please don't litter.

City of Elyria Wastewater Pollution

Control (440)366-2211

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Looking at the Low Service pump room from the Lake

Citizens have two resources that can be utilized for receiving important messages from the City of Elyria and other local government agencies:

Nixle:

The Nixle Community Information Service allows us to create and publish messages to be delivered to subscribed residents instantly via secure text message and/or email. Notifications can also be accessed online at Nixle's web site at: http://local.nixle.com/city-of-elyria-ohio/

Nixle keeps you up-to-date with relevant information from many public safety agencies and is a free service.

Sign up to receive alerts from your local agencies at http://local.nixle.com/register/
...or text your **ZIP CODE** to **888777** for mobile alerts.

Lorain County Emergency Alert Registration

Sign up for **Lorain County Alerts!** By signing up, you will receive Lorain County emergency alerts and public service announcements. In the event of an emergency, an alert may be sent to the phone number(s) you provide and/or your email address.

This is a free service provided by Lorain County and your local jurisdiction; however normal messaging fees may apply. To receive text messages to your cell phone, your cell phone must have text messaging capabilities. Notifications are dependent upon external providers (phone carrier, cell phone, email). Lorain County cannot guarantee notifications will be received by the intended recipient. By registering below, you will not receive unsolicited calls, and neither Lorain County, your local jurisdiction, nor the system vendor sells the contact number database.

Sign up for Lorain County Emergency Alerts at https://entry.inspironlogistics.com/lorain_oh/wens.cfm