Charter Township of Waterford
2021 Annual Water Quality Report
Water Supply Serial Number: 6910

James E. Seeterlin Building
Department of Public Works
5240 Civic Center Drive

Multiple Award-Winning Water Treatment Plant
located at Hess-Hathaway Park on
Williams Lake Road

The elevated water storage tank on
Cass Lake Road stores
1.5 million gallons of potable water

The Waterford Township Department of Public Works (DPW) is proud to present this 23rd Drinking Water Quality Report. While the United States Environmental Protection Agency (EPA) and the Michigan Department of Environment, Great Lakes, and Energy (EGLE) require water utilities to report the quality of their drinking water, the DPW considers it a priority to inform you, our customers, about the safety of the water you drink and the importance of protecting our water supply now and for future generations. The report includes details regarding where the Township's drinking water comes from, what it contains, and how it compares to EPA and Michigan standards. The DPW is pleased to announce that there were no treatment or monitoring violations for Operational Year 2021. If you have any questions, desire more information about this report or any other subject related to your water quality, please contact Gerald Ward (Water Supply Coordinator) at 248-618-7483 or gward@waterfordmi.gov

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. The DPW utilizes wells to provide drinking water to Township water customers. As water travels over the land surface or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can collect substances resulting from the presence of animals or from human activity. 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791 or by visiting their website at www.epa.gov/safewater.

Where does Waterford Township water come from?

The Township's water supply is obtained from 19 wells located at eleven different sites throughout the Township. At ten water treatment plants, the groundwater is sent through filters for the removal of iron; chlorine is added for disinfection; and ortho-phosphate is added for corrosion control, preventing pipes from leaching lead and copper into the drinking water. In order to ensure that tap water is safe to drink, the EPA sets regulations, which limit the quantity of certain contaminants in water distributed to customers by public water systems. Federal Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which provide the same protection for public health.

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.
- Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also, come from gas stations, urban stormwater runoff, and septic systems.
- Pesticides and Herbicides which may come from a variety of sources such as agricultural and residential uses.
- Radioactive contaminants which are naturally occurring or may be the result of oil and gas production and mining activities.

What contaminants are in Waterford Township water?

The following is a list of some common contaminants and their associated health effects when the Maximum Contaminant Level (MCL) is exceeded. If a particular MCL or Action Level (AL) is exceeded, additional treatment or other action may be required. However, the Township's water falls below the MCL and AL for contaminants described, and all other parameters monitored.

Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the AL over a relatively short period of time may experience gastrointestinal distress. Some people who drink water containing copper in excess of the AL over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal physician.

Fluoride: Some people who drink water containing fluoride in excess of the MCL over many years may develop bone disease, including pain and tenderness of the bones. Children may get mottled teeth. The DPW treatment process does not add fluoride to its finished water. However, fluoride occurs naturally in ground water. Refer to the data table on page 5 of the report for the levels of fluoride observed in the most recent tests. Please consult with your health care provider for fluoride supplement recommendations.

Lead: 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 Waterford DPW 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 have a service line that is lead, galvanized previously connected to lead, or unknown but likely to be lead it is recommended that you run your water for at least 5 minutes to flush water from both your home plumbing and the lead service line. Infants and children who drink water containing lead could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. 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, steps you can take to minimize exposure, and additional information are all available from the Safe Drinking Water Hotline at 800-426-4791 or at http://www.epa.gov/safewater/lead.

Arsenic: Used in the manufacturing of pesticides, metal products, medicines, and pigments and dyes, arsenic is a naturally occurring element in the environment and can be found in groundwater. While a known carcinogen, the health effects of arsenic depend on the amount consumed. The current MCL for arsenic is 10 parts per billion (ppb), which was lowered from 50 ppb by the EPA. In operational year 2021, Township water tested below the new stringent arsenic criteria. Please visit the EPA's Website for more information about arsenic at https://nepis.epa.gov/Exe/ZyPdf.cgi?Dockey=20001XXE.txt. While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Nitrate: Nitrate is formed when oxygen, in the air or dissolved in water, combines with nitrogen. While nitrate is naturally occurring, concentrations can increase from septic tank leachate and fertilizers, which are rich in nitrogen. Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome. The MCL for nitrate is 10 parts per million (ppm). There were no nitrates detected above the MCL in Township water for samples taken in Operational Year 2021.

TTHMs and HAA5: Total Trihalomethanes (TTHMs) and Haloacetic Acid (HAA5) are a group of chemicals that are formed along with other disinfection by-products, when chlorine or other disinfectants used to control microbial contaminants in drinking water react with naturally occurring organic and inorganic material in water.

Unregulated Contaminants: Unregulated contaminants are those for which the EPA has not established drinking water standards. Monitoring helps the EPA determine where certain contaminants occur and whether regulations are needed. The Township monitors these contaminants and selected results of monitoring are included in this report and additional results are available upon request.

Per- and Polyfluoroalkyl Substances (PFAS): Per- and polyfluoroalkyl substances, sometimes called PFCs, are a group of chemicals that are resistant to heat, water, and oil. PFAS have been classified by the EPA as an emerging contaminant on the national landscape. Although the understanding of these emerging contaminants is constantly evolving, elevated levels of PFAS have the potential to cause increased cholesterol, changes in the body's hormones and immune system, decreased fertility, and increased risk of certain cancers. Links to these health effects in humans are supported by epidemiologic studies and by laboratory studies in animal models.

The EPA has not established enforceable drinking water standards for these chemicals. However, the EPA has set a lifetime health advisory (LHA) level in drinking water for two PFAS compounds: perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). The PFOA and PFOS LHA is the level, or amount, *below which no harm is expect from these chemicals*. The LHA level is 70 parts per trillion (ppt) for PFOA and 70 ppt for PFOS. If both PFOA and PFOS are present, the LHA is 70 ppt for the combined concentration.

The amount of PFOA and PFOS combined in the samples recently collected at the Township's entry points to the distribution system ranged from NOT DETECTED to 4 ppt, which is 17.5 times lower than the LHA for the combination of these two chemicals. There are many other PFAS compounds that currently do not have LHA levels. For additional information on PFOA, PFOS, and other PFAS compounds, including possible health concerns, visit the following websites: https://epa.gov/pfas; https://www.atsdr.cdc.gov/pfas; or https://www.michigan.gov/pfasresponse.

Waterford Township Wellhead Protection Program

Since Waterford Township's source water is derived from wells, it is in the community's best interest to safeguard the resource. Part of this protection included the Township's development of eleven Well Head Protection Areas (WHPA), which have been approved by the Michigan Department of Environment, Great Lakes, and Energy. These areas define the boundaries of the 10-year zone of capture for a specific wellhead. If untreated, a contaminant release or spilled at the edge of the boundary would, theoretically, take ten years to reach the wellhead. The Township wells range in susceptibility from moderately low to high as defined by the State's Source Water Assessment Report. A copy of the Source Water Assessment Report can be obtained by contacting the DPW at 248-674-2278. The DPW has also developed a Wellhead Protection Program.

Education is a major component of the Program and includes the following:

- Informational road signs placed throughout the Township. Look for signs around the community wherever roads intersect Wellhead Protection Areas.
- Informational booths at community civic events.
- Township's Wellhead Protection Program website: https://www.waterfordmi.gov/269/Wellhead-Protection-Program.

Waterford Township partners with the North Oakland Household Hazardous Wast Consortium (No Haz) that provide residents with a safe, reliable, and environmentally responsible way to dispose of household hazardous waste (HHW). Visit https://www.oakgov.com/advantageoakland/planning/wasteandrecycling/Pages/nohaz.aspx to find out when and where Upcoming Collection Events will be throughout the county

Please remember, you can do your part by disposing of contaminants properly, as well as reporting spills and dumping. For more information on this topic please contact Kristin Goetze, P.E., DPW Engineer, at 248-618-7451.

Lead Service Line Report

The Waterford Township water distribution system has a total of 29,233 service lines of which two are known to be lead service lines. Approximately 7,400 service lines are of unknown material. Of those 7,400 services lines of unknown material, based on age and location, 4,190 likely do not contain lead. Service lines are the lines that connect from the Township's water distribution main to a customer's meter to supply water to homes, businesses, and irrigation systems. The DPW is in the process of determining the material of all service lines throughout the Township.

Frequently Asked Questions

Do I need to take special precautions with my drinking water?

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 disorders, some elderly, and infants can be particularly at risk for infection. These people should seek advice about drinking water from their health care providers. The EPA and the Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791 or on the EPA website at www.epa.gov/safewater. The Water Quality Data Table on the last page of this report lists the drinking water contaminants that were detected during the calendar year of this report. Additionally, information in this report describes contaminants in your water and the methods the DPW uses to protect the water supply. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk.

Does the Township recommend a water softener?

While DPW treatment facilities significantly remove iron from the water, hardness remains, and water softeners are recommended. Water hardness experienced by property owners will vary depending on the source of groundwater at the treatment facility in a given area. The DPW suggests that customers set their water softener units at 19 or 20 grains initially and subsequently adjust the units, as necessary. In Operational Year 2021, the average grains per gallon were 20.41 based on sampling. Please feel free to call the Water Treatment Division at 248-618-7483 for individual settings for your water softener.

What should I know about hydrant flushing?

Fire hydrant flushing is conducted to improve water quality and is completed in the spring and fall of each year. The DPW conducts hydrant flushing at night to minimize service interruptions and inconveniences to customers. However, it is not uncommon to experience rusty looking water immediately following flushing. This condition should clear up shortly after flushing has been completed.

Is there an easier way to pay my water/sewer bill or access my utility account?

The DPW offers customers the convenience of paying their water and sewer bills via auto-debit from their checking or savings accounts. Please visit the DPW website for enrollment forms. The DPW also offers customers the convenience of viewing their account status, as well as the option of paying their water and sewer utility bills online with a credit card 24 hours a day. The account viewing service is free of charge. A convenience charge of $4.95 is applied by the 3rd party processing company for credit card payments. Visit the DPW web site at: http://waterfordmi.gov/264/Water-Sewer-Bill.

Did you know?

- The Township has approximately 355 miles of water main that are operated and maintained by the DPW.
- The DPW is somewhat unique in southeastern Michigan in that it is responsible for the pumping, treatment, and distribution of drinking water to its approximately 29,230 water accounts. Most of southeastern Michigan is provided drinking water by the Great Lakes Water Authority (GLWA).
- The Township water system has 3,800 fire hydrants that are serviced and maintained by the DPW.
- The DPW has deployed a radio based Fixed Network (FN) Meter Reading System. Meter readings and alerts in this system are sent to the DPW without the need to enter customers' property.
- The DPW allows a second (sprinkler) meter for outside watering. The advantage of this meter is that sewer fees are not charged for water usage through the meter. Customers do need to purchase the meter, have the plumbing installed, and an inspection completed for the second meter. The second meter can be advantageous for customers with sprinkler systems and that have high outside water usage.

Photo Credit (this page): Jodi Burchett, DPW Water Supply Operator II

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http://www.waterfordmi.gov/199/Public-Works

2021 Water Quality Data Table

Per EGLE and/or EPA monitoring requirements, contaminant-monitoring schedules vary and can exceed calendar years in collection and testing frequency.
Unless otherwise noted, the data presented in this table is from testing done in the calendar year 2020.

	Testing Violations	Testing Date(s)	MCLG	MCL	Township Water	Sample Range	Major Sources in Drinking Water
Inorganic Contaminants:							
Fluoride (ppm)	NO	2021	4	4	0.41*	None Detected to 0.64	Erosion of natural deposits and discharge from fertilizer and aluminum factories.
Arsenic (ppm)	NO	2021	N/A	0.01	0.0037*	None Detected to 0.007	Used in agricultural production and naturally found in the environment.
Barium (ppm)	NO	2021	2	2	0.19*	0.16 to 0.21	Discharge of drilling wastes and metal refineries as well as erosion of natural deposits.
Radioactive Contaminants:							
Combined Radium (pCi/L)	NO	2016	0	5	1.22	0.806 to 1.222	Erosion of natural deposits.
Gross Alpha (pCi/L)	NO	2021	0	15	2.22	-0.198 to 2.22	Erosion of natural deposits.
Organic Contaminants:							
TTHM (Total Trihalomethanes) (Distribution System) (ppb)	NO	2021	N/A	80	23.8	19.5 to 28.1	By-product of drinking water disinfection.
HAA5 (Haloacetic Acids) (Distribution System) (ppb)	NO	2021	N/A	60	6.0	6.0	By-product of drinking water disinfection.
2020 Microbial Contaminants - Monthly Monitoring in the Distribution System						**Highest no. detected**	**Major Sources in Drinking Water**
Total Coliform Bacteria	NO	2021	0	>5% of month	0	In one month = 0	Naturally Present in the Environment. No violation in 2021.
E. Coli (fecal) Coliform Bacteria	NO	2021	0		0	In one year =0	Human waste and animal fecal waste. No violation in 2021.
Special Monitoring of Contaminants			**MRDLG**	**MRDL**		**Sample Range**	
Sodium (ppm)	NO	2021	N/A	N/A	69.08*	37.0 to 130.0	Erosion of natural deposits.
Chlorine (ppm)	NO	2021	4	4	0.303*	0.221 to 0.438	Water additive used to control microbes.
Lead and Copper			**MCLG**	**AL**	**90th%**	**Sites above AL / Sample Range**	**Major Sources in Drinking Water**
Lead (ppb)	YES	2021	0	15	1.0	1 out of 34 sites 0.0 - 17.0	Lead service lines, corrosion of household plumbing including fittings and fixture; Erosion of natural deposits
Copper (ppm)	NO	2021	1.3	1.3	0.78	0 out of 34 sites 0.061 - 1.20	Corrosion of household plumbing systems; Erosion of natural deposits
Per- and Polyfluoroalkyl Substances (PFAS)			**MCLG**	**MCL**	**Township Water**	**Sample Range**	**Typical Source of Contaminant**
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) (ng/L)	NO	2021	N/A	370	<2.0	N/A	Discharge and waster from industrial facilities utilizing the Gen X chemical process
Perfluorobutane Sulfonic Acid (PFBS) (ng/L)	NO	2021	N/A	420	<2.0	N/A	Discharge and waste from industrial facilities; Stain-resistant treatments
Perfluorohexane Sulfonic Acid (PFHxS) (ng/L)	NO	2021	N/A	51	4	<2.0 - 4	Firefighting foam; Discharge and waste from industrial faculties
Perfluorohexanoic Acid (PFHxA) (ng/L)	NO	2021	N/A	4,000,000	<2.0	N/A	Firefighting foam; Discharge and waste from industrial faculties
Perfluorononanoic Acid (PFNA) (ng/L)	NO	2021	N/A	6	<2.0	N/A	Discharge and waste from industrial facilities; Breakdown of precursor compounds
Perfluorooctane Sulfonic Acid (PFOS) (ng/L)	NO	2021	N/A	16	<2.0	N/A	Firefighting foam; Discharge from electroplating facilities; Discharge and waster from industrial facilities
Perfluorooctanoic Acid (PFOA) (ng/L)	NO	2021	N/A	8	<2.0	N/A	Discharge waste from industrial facilities; Stain-resistant treatments
Unregulated Contaminants:				**RDL**		**Sample Range**	**Major Sources in Drinking Water**
Molybdenum (ug/L)	N/A	2013		1.0	6.95	5.80 to 8.20	Erosion of natural deposits.
Strontium (ug/L)	N/A	2013		0.3	359.9	337.20 to 409.40	Erosion of natural deposits.
Chromium (ug/L)	N/A	2013		0.0	0.05	0.00 to 0.20	Erosion of natural deposits.
Cobalt (ug/L)	N/A	2013		1.0	0.00	None Detected	Erosion of natural deposits.
Vanadium (ug/L)	N/A	2013		0.2	0.00	None Detected	Erosion of natural deposits.
Chromium (VI) (ug/L)	N/A	2013		0.2	0.00	None Detected	Erosion of natural deposits.
Chlorate (ug/L)	N/A	2013		20.0	0.00	None Detected	Erosion of natural deposits.

Terms and Abbreviations

*Indicates an annual average calculation

Township Water: The highest single value obtained during the reporting period unless noted with an *

Sample Range: The lowest to the highest values obtained.

MCLG: The Maximum Contaminant Level Goal is the level below which there are no known or expected health risks. MCLGs allow for a margin of safety.

MCL: The Maximum Contaminant Level is 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.

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

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

AL: The Action Level is the concentration of contaminant which, if exceeded, requires treatment.

90th Percentile: 90% of the homes tested have lead/copper levels at or below the 90th percentile value

RDL: The Reporting Detection Limit. This is the maximum detectable limit for reporting the presence of this chemical.

N/A: Not Applicable **ppb:**parts per billion **ppm:**parts per million ng/L:Nanogram/Liter **pCi/l:** picocuries per liter (a measure of radioactivity).

RAA: Running Annual Average Calculation.