# CHARTER TOWNSHIP OF BROWNSTOWN
## Department of Public Works

# 2023 Drinking Water Quality Report

## March 2024 – WQR No. 26

ATTENTION: THIS IS AN IMPORTANT REPORT ON WATER QUALITY AND SAFETY

**The Great Lakes Water Authority (GLWA) and the Brownstown Township Department of Public Works want you to know your tap water is safe to drink and that it meets or surpasses all federal and state standards for quality and safety.**

Drinking water quality is important to our community and the region. The Charter Township of Brownstown and the Great Lakes Water Authority (GLWA) are committed to meeting state and federal water quality standards including the Lead and Copper Rule. With the Great Lakes as our water source and proven treatment technologies, the GLWA consistently delivers safe drinking water to our community. Brownstown Township operates the system of water mains that carry this water to your home's service line. This year's Water Quality Report highlights the performance of GLWA and Brownstown Township water professionals in delivering some of the nation's best drinking water. Together, we remain committed to protecting public health and maintaining open communication with the public about our drinking water.

### How Do We Know The Water Is Safe To Drink?

GLWA treatment facilities operate 24 hours a day, seven days a week. The treatment process begins with disinfecting the source water with chlorine to kill harmful microorganisms that can cause illness. Next, a chemical called Alum is mixed with the water to remove fine particles that make the water cloudy or turbid. Alum causes the particles to clump together and settle to the bottom. Fluoride is also added to protect our teeth from cavities and decay.

The water then flows through fine sand filters called beds. These filters remove even more particles and certain microorganisms that are resistant to chlorine. Finally, small amounts of phosphoric acid and chlorine are added to the treated water just before it leaves the treatment plant. The phosphoric acid helps control the lead that may dissolve in water from household plumbing systems. The chlorine keeps the water disinfected as it travels through water mains to reach your home.

In addition to a carefully controlled and monitored treatment process, the water is tested for a variety of substances before treatment, during various stages of treatment, and throughout the distribution system. Highly qualified trained staff test hundreds of samples each week in GLWA-certified laboratories. GLWA water not only meets safety and health standards, but also ranks among the top 10 in the country for quality and value.

### Detroit River Intakes

Your source water comes from the Detroit River, situated within the Lake St. Clair, Clinton River, Detroit River, Rouge River, Ecorse River, watersheds in the U.S. and parts of the Thames River, Little River, Turkey Creek, and Sydenham watersheds in Canada. The Michigan Department of Environmental Quality in partnership with the U.S. Geological Survey, the Detroit Water and Sewerage Department, and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the susceptibility of GLWA's Detroit River source water for potential contamination. The susceptibility rating is based on a seven-tiered scale and ranges from very low to very high determined primarily using geologic sensitivity, water chemistry, and potential contaminant sources. The report described GLWA's Detroit River intakes as highly susceptible to potential contamination. GLWA's Southwest water treatment plant that draw water from the Detroit River has historically provided satisfactory treatment and meets drinking water standards.

GLWA has initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. GLWA participates in a National Pollutant Discharge Elimination System permit discharge program and has an emergency response management plan. GLWA has an updated Surface Water Intake Protection plan for the Fighting Island Intake. The plan has seven elements that include: roles and duties of government units and water supply agencies, delineation of a source water protection areas, identification of potential sources of contamination, management approaches for protection, contingency plans, siting of new water sources, public participation, and public education activities. If you would like to know more information about the Source Water Assessment Report, please contact GLWA at (313 926-8127).

The Charter Township of Brownstown and the Great Lakes Water Authority are committed to safeguarding our water supply and delivering the highest quality drinking water to protect public health. Please contact us with any questions or concerns about your water.

# Key to the Detected Contaminants Table

| Symbol | Abbreviation | Definition/Explanation |
|---|---|---|
| **AL** | **Action Level** | The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. |
| °C | **Celsius** | **A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.** |
| **>** | **Greater than** | |
| **HAA5** | **Haloacetic Acids** | **HAA5 is the total of bromoacetic, chloroacetic, di-bromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.** |
| **Level 1** | **Level 1 Assessment** | **A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our system.** |
| **LRAA** | **Locational Running Annual Average** | **The average of analytical results for samples at a particular monitoring location during the previous four quarters.** |
| **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 contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow a margin of safety.** |
| **MRDL** | **Maximum Residual Disinfectant Level** | **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.** |
| **MRDLG** | **Maximum Residual Disinfectant Level Goal** | **The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.** |
| **n/a** | **not applicable** | |
| **ND** | **Not Detected** | |
| **NTU** | **Nephelometric Turbidity Units** | **Measures the cloudiness of water.** |
| **pCi/L** | **Picocuries Per Liter** | **A measure of radioactivity** |
| **ppb** | **Parts Per Billion (one in one billion)** | **The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.** |
| **ppm** | **Parts Per Million (one in one million)** | **The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.** |
| **RAA** | **Running Annual Average** | **The average of all analytical results for all samples during the previous four quarters.** |
| **SMCL** | **Secondary Maximum Contaminant Level** | |
| **TT** | **Treatment Technique** | **A required process intended to reduce the level of a contaminant in drinking water.** |
| **TTHM** | **Total Trihalomethanes** | **Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Compliance is based on the total.** |
| µohms | **Microohms** | **Measure of electrical conductance of water** |

# WATER QUALITY DATA TABLE

The tables below list all of the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA and/or the State require us to monitor for certain contaminants less than once a year because the concentrations of these contaminants do not change frequently.

## Southwest Water Treatment Plant
## 2023 Regulated Detected Contaminants Table

**2023 Inorganic Chemicals - Annual Monitoring at Plant Finished Tap**

| Regulated Contaminant | Test Date | Unit | Health Goal MCLG | Allowed Level MCL | Highest Level Detected | Range of Detection | Violation | Major Sources in Drinking Water |
|---|---|---|---|---|---|---|---|---|
| **Fluoride** | 4-11-2023 | ppm | 4 | 4 | **0.46** | **n/a** | **no** | Erosion of natural deposit; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories. |
| **Nitrate** | 4-11-2023 | ppm | 10 | 10 | **0.63** | **n/a** | **no** | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits. |

**Lead and Copper Monitoring at the Customer's Tap in 2023**

| Regulated Contaminant | Unit | Year Sampled | Health Goal MCLG | Action Level AL | 90th Percentile Value* | Range of Individual Samples Results | Number of Samples Over AL | Major Sources in Drinking Water |
|---|---|---|---|---|---|---|---|---|
| Lead | ppb | 2023 | 0 | 15 | **0** | **0 ppb – 2ppb** | **0** | Lead services lines, corrosion of household plumbing including fittings and fixtures; erosion of natural deposits. |
| Copper | ppm | 2023 | 1.3 | 1.3 | **0.09 ppm** | **0.0 ppm – 0.11 ppm** | **0** | Corrosion of household plumbing systems; Erosion of natural deposits. |

* The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.

**2023 Disinfection Residual - Monitoring in the Distribution System**

| Regulated Contaminant | Test Date | Unit | Health Goal MRDLG | Allowed Level MRDL | Highest Level RAA | Range of Quarterly Results | Violation | Major Sources in Drinking Water |
|---|---|---|---|---|---|---|---|---|
| **Total Chlorine Residual** | 2023 | ppm | 4 | 4 | **0.69** | **0.55-0.77** | **no** | Water additive used to control microbes |

# Southwest Water Treatment Plant
# 2023 Regulated Detected Contaminants Table

| 2023 Disinfection By-Products - Stage 2 Disinfection By-Products Monitoring in the Distribution System | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| REGULATED CONTAMINANT | Test Date | Unit | Health Goal MCLG | Allowed Level MCL | Highest Level LRAA | Range of Quarterly Results | Violation | Major Sources in Drinking Water |
| **Total Trihalomethanes (TTHM)** | 2023 | ppb | n/a | 80 | **53** | **10 ppb – 53 ppb** | **no** | By-product of drinking water chlorination |
| **Haloacetic Acids (HAA5)** | 2023 | ppb | n/a | 60 | **17** | **4.6 ppb – 17 ppb** | **no** | By-product of drinking water chlorination |

| 2023 Turbidity - Monitored Every 4 Hours at the Plant Finished Water Tap | | | |
|---|---|---|---|
| Highest Single Measurement Cannot Exceed 1 NTU | Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%) | Violation | Major Sources in Drinking Water |
| **0.09 NTU** | **100%** | **no** | Soil Runoff |
| Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system | | | |

| Regulated Contaminant | Treatment Technique | Typical Source of Contaminant |
|---|---|---|
| **Total Organic Carbon ppm** | The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC is measured each quarter and because the level is low, there is no requirement for TOC removal. | Erosion of natural deposits |

| 2023 Special Monitoring | | | | | | |
|---|---|---|---|---|---|---|
| Contaminant | Test Date | Unit | MCLG | MCL | Highest Level Detected | Source of Contaminant |
| **Sodium** | 4-11-2023 | ppm | n/a | n/a | **6.3** | Erosion of natural deposits |

| Radionuclides - Monitored at the Plant Finished Tap in 2014 | | | | | | | |
|---|---|---|---|---|---|---|---|
| Regulated Contaminant | Test Date | Unit | MCLG | MCL | Level Detected | Violation | Major Sources in Drinking Water |
| **Combined Radium Radium 226 and 228** | 5-13-14 | PCi/L | 0 | 5 | **0.65 ± 0.54** | NO | Erosion of natural deposits |

*These tables are based on tests conducted by GLWA in the year 2023 or the most recent testing done within the last five calendar years. GLWA conducts tests throughout the year only tests that show the presence of a substance or require special monitoring are presented in these tables. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. The data is representative of the water quality, but some are more than one year old.*

**Additional Information**

In order to ensure that tap water is safe to drink, the 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 provide the same protection for public health. 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 EPA's Safe Drinking Water hot line (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 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 storm water 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, urban storm water runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic, which are by-products of industrial processes and petroleum production, can also come from gas stations, urban storm water runoff, and septic systems.
- **Radioactive contaminants**, which are naturally occurring or may 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) 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 is 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 and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

## Information about 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. Brownstown Township 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 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 http://www.epa.gov/safewater/lead.Infants. 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.

## Service Lines

Brownstown Township has 10,252 service lines. No lines are known to be lead and 3,970 are not known.

## Other Monitoring

In addition to testing we are required to perform, our water system voluntarily tests for hundreds of additional substances and microscopic organisms to make certain our water is safe and of the highest quality. For a more detailed report, contact the GLWA Water Quality Division at (313) 926-8102.

## HELPFUL HINTS ON PREVENTION OF WATER WASTE

- **Toilet Leaks**: This is the most common water waster but tends to be less noticeable than faucet leaks. To determine if your toilet is leaking, look at the toilet bowl after the tank has stopped filling. If water is still running, your toilet is leaking. Most leaks occur at the overflow pipe or at the plunger ball inside the tank. To locate a leak, take the tank lid off and flush. The water level should come up to about a half inch or so below the overflow pipe. Adjust the float level control screw, if necessary, so the valve shuts off the water at that level. If the valve itself is leaking you may need a plumber to fix it. Although you may not hear or see water running, your toilet could have a silent leak. To test for a silent leak, drop a little food coloring into the tank. DO NOT FLUSH. Wait for about 10 – 30 minutes. If food coloring appears in the bowl, you have a silent leak.
- **Lawn Watering**: If you have an automatic sprinkler system, check the heads periodically. Be sure they haven't shifted direction, causing water to be sprayed everywhere except on the lawn. Do your lawn sprinkling early in the morning, between 12:00 am and 5:00 am, when water demand is low. After about 10:00 a.m., both heat and evaporation go up, robbing the lawn of moisture. Don't water your lawn too much.
- **Running Water**: When brushing your teeth, washing your hair, shaving, rinsing vegetables, washing dishes etc., don't let the water run. You are probably using at least one (1) gallon a minute, most of it wasted.
- **Kitchen**: Use the automatic dishwasher for full loads only. Keep a bottle of drinking water in the refrigerator. Running tap water to cool it off for drinking water is wasteful. Check faucets and pipes for leaks. Leaks waste water 24 hours a day, seven days a week and often can be repaired with only an inexpensive washer.
- **Outside**: Many beautiful trees and plants thrive with far less watering than other species. Use a broom, not a hose, to clean driveways and sidewalks. Don't run the hose while washing your car. Clean the car with a pail of soapy water. Use the hose just to rinse it off. Check for leaks in pipes, hoses, faucets, and couplings. Leaks outside the house may not seem as bad since they're not as visible, but they can be just as wasteful as leaks inside. Check frequently and keep them drip-free.

Think about water. It's yours for the taking, 24 hours a day. All you have to do is turn on a faucet. But where does it come from? The water you use doesn't appear magically. It's a carefully manufactured product clean, safe and piped directly into your home. It is a valuable resource that shouldn't be wasted. Water will recycle itself eventually. But the high-quality water that we need and expect in our homes is not an infinite resource. Besides, you're paying for every drop whether it's used or wasted. So conservation can benefit your pocketbook, too.

# Help Save Water – Avoid 6 to 10

The Charter Township of Brownstown is seeking resident's cooperation to keep the increase in our Water Rates to a minimum. The major factor that contributes to the rate increase from our supplier, the Great Lakes Water Authority is our "Peak Demand" requirements. Demand for beautiful, lush green lawns has increased. For some unknown reason, sprinkler installers and residents have selected their lawn irrigation systems to automatically 'water' during the periods of highest water usage!

How can you assist? The greatest demand for water is between the hours of 6 and 10 in the morning, and then again from 6 to 10 in the evening! Drive down the street and you'll be amazed to see that this is also the most popular time to 'water' the lawn! It is suggested that you voluntarily water either on the 'odd' or 'even' days that correspond with your street address! Even more important-Totally **avoid** lawn irrigation between the heavy demand periods of 6 to 10 in the morning and again at 6 to 10 in the evening!

## SEVEN SIMPLE STEPS TO CLEAN WATER

1. **Help keep pollution out of storm drains.** Storm drains lead to our lakes and streams. Any oil, pet waste, leaves, or dirty water from washing your car that enters a storm drain gets into our lakes and streams. With almost 5 million people living in Southeast Michigan, we all need to be aware of what goes in our storm drains. **REMEMBER, ONLY RAIN IN THE DRAIN!**
2. **Fertilize sparingly and caringly.** Storm drains in our streets and yards empty into our lakes and streams. When we fertilize our lawn, we could also be fertilizing our lakes and streams. While fertilizer is good for our lawn, it's bad for our water. Fertilizer in our lakes and streams causes algae to grow. Algae can form large blooms and use oxygen that fish need to survive. With 1.5 million homes in southeast Michigan, all of us need to be aware of the cumulative effects of our lawn care practices.
What can you do? Simple. **USE FERTILIZER LOW IN PHOSPHORUS,** select a slow-release fertilizer where at least half of the nitrogen is "water insoluble" (check the ingredients on the label), keep fertilizer away from lakes, streams, and storm drains, and **SWEEP EXCESS FERTILIZER** back into your lawn.
3. **Carefully store and dispose of household cleaner, chemicals, and oil.** Antifreeze, household cleaners, gasoline, pesticides, oil paints, solvents, and motor oil are just some of the common household products that enter our storm drains. You can help keep these out of our lakes and streams. Instead of putting these items in the trash, down the storm drain, or on the ground, **TAKE THEM TO A LOCAL HAZARDOUS WASTE CENTER OR COLLECTION DAY.**
4. **Clean up after your pet.** Most of us pick up after our pets to be a good neighbor and keep our yard clean. But there's another important reason. Pet waste contains bacteria that are harmful to us and our water. Leaving it on the sidewalk or lawn means harmful bacteria will be transported into the storm drains and then into our lakes and streams. So what can you do to help? Simple. Whether on a walk or in your yard, **DISPOSE OF YOUR PET'S WASTE PROMPTLY IN THE TOILET OR TRASH.**
5. **Practice good car care.** Did you know that just four quarts of oil from your car's engine, can form an eight-acre oil slick if spilled or dumped down a storm drain? There are over 4 million cars in southeast Michigan, so even small leaks matter**. KEEP YOUR CAR TUNED, AND FIX LEAKS PROMPTLY.** Not only will this make your car run better and last longer, it will be good for our lakes, streams, and air. When washing your car, keep the polluted water from going into the street and storm drain. **CONSIDER TAKING YOUR CAR TO THE CAR WASH OR WASHING YOUR CAR ON THE GRASS.** Your lawn will gladly soak up the excess water.
6. **Choose earth-friendly landscaping.** When landscaping your yard you can protect your kids, pets, and the environment from harm. **USE PESTICIDES SPARINGLY.** Put mulch around trees and plants. Water your lawn only when it needs it (one to two times a week is usually sufficient) and **CHOOSE PLANTS NATIVE TO MICHIGAN.** Once established, these plants tolerate dry weather and resist disease.
7. **Save water.** Did you know that individually we use about 77 gallons of water each day? When we over-water our lawns, it can easily carry pollution to the storm drains and to our lakes and streams. **CONSIDER USING A BROOM INSTEAD OF A HOSE** to clean sidewalks and driveways. Direct hoses and sprinklers on the lawn, not the driveway. Water when necessary instead of on a fixed schedule. Remember - saving water also saves you money.

**Our Water – Our Future – Ours to Protect**

**THE CHARTER TOWNSHIP OF BROWNSTOWN**
**DEPARTMENT OF PUBLIC WORKS**
**21313 TELEGRAPH ROAD**
**BROWNSTOWN, MI 48183-1399**

**Phone: 734-675-4000**
**Fax: 734-675-2921**

**Brownstown Water Customer**

# 2023 Consumer Confidence Water Quality Report

## Water Department Updates

**PAPERLESS BILLING**: If you wish to receive your water bill by email, please email us at dpw@brownstown-mi.org Requests must be received from the email address you want your bill sent to. Please include your name, address, and phone number.
**FINAL READS**: Final water read is required if selling, buying and/or renting a home. Reads are done by appointment only. Final read billings are mailed to the Title Company/Realtors etc. holding escrow accounts. Access using **LOCK BOXES** is not permitted.

**RADIO READ DEVICES:** The Township has installed radio read devices on the exterior of homes replacing existing touch pads. Per Water Ordinance home owners are responsible for the safe keeping of these devices as well as the water meter. If damaged, removed, etc. a replacement fee will be charged. A two (2) foot diameter area around the device must be kept free of debris, vegetation to assure accurate reads.

**IRRIGATION SYSTEMS:** All residents with an irrigation system installed will be required to have the back flow device tested every three (3) years. Testing must be performed by a Michigan State certified plumber with an ASSE 5110 cross connection certification. Test report must be filed and Company/Person needs to be registered with the DPW.

**SENIOR CITIZEN AFFIDAVITS:** Property owners occupying the residence aged 62 or older should contact the DPW regarding information on water usage savings.

**SHUT-OFF PAYMENT REQUIREMENTS:** Payments must be made by **CASH, MONEY ORDER, CERTIFIED CHECK, or Credit/Debit Card** for any account which is 60 days in arrears and/or receives a Shut-off notification. **NO PERSONAL CHECKS once in shut-off status.** Checks will be returned through the mail if received when in shut-off status.

**AUTOMATIC DEDUCTIONS**: Automatic deduction from your checking and/or saving account is available **at no charge**. Form available on line at www.brownstown-mi.org or contact DPW. Call 734-675-4000 for more information.
**CREDIT/DEBIT CARDS ACEPTED:** The Township accepts Visa, MasterCard, Discover, and American Express debit or credit cards for a fee. Payments can be made online at www.brownstown-mi.org or at the treasury department. The fee schedule for water bills only are as follows: If the bill is between:

$1-$50 = $1.50 fee  $51-$100 = $3.00 fee  $100 or more = $3.00 per $100