

JUNE 2025

The purpose of this report is to provide you with information about the quality of the drinking water produced by the Benton Charter Township Water Treatment Plant during the 2024 calendar year. Included are details about where your water comes from, what it contains, and how it compares to standards set forth by the United States Environmental Protection Agency (U.S. EPA) and Michigan Department of Environment, Great Lakes and Energy (EGLE).

We welcome this opportunity to provide you with the information about your water in this report which is prepared and distributed annually. Questions regarding this report can be directed to the Benton Charter Township Water Plant.

Water source

Your water comes from Lake Michigan, an excellent raw water source. Lake Michigan water flows through an off shore intake structure and pipeline to a shore well pump station where the water is screened to remove the largest particles. Pumps at the shore well station transfer the untreated raw water to the treatment plant. At the treatment plant the raw water is filtered through



Benton Charter Township Raw Water Pump Station

membrane microfiltration units and sodium hypochlorite, which contains chlorine, is applied for disinfection. Chlorine is the most commonly used disinfectant because of its effectiveness, cost, and availability. Fluoride is also added for dental protection. After filtration, the treated water enters the storage reservoir from which another set of pumps transmits the finished tap water through the distribution system to the community.



Benton Charter Township Water Treatment Plant

WATER TREATMENT PLANT AND SYSTEM MAINTENANCE

Water treatment

The Township's Water Treatment Plant uses micro-filtration to filter the water and sodium hypochlorite (bleach) as a disinfectant. The filter modules are capable of removing particles larger than 0.04 microns which includes Cryptosporidium, Giardia Cysts, bacteria, and many other microorganisms. In comparison, a human hair ranges in size from 17 – 181 microns. The sodium hypochlorite deactivates microorganisms that are small enough to pass through the filter pores.

Maintenance at the water plant is a continuous exercise. There are many parts, and pieces of equipment that make up the different processes. Individual parts and processes include things like: valves, valve actuators, chemical feed pumps, neutralization pumps, air compressors, and monitoring instruments like gauges and level indicators. All this equipment has an expected useful life which we try to prolong with preventive maintenance. Our Capital Improvement Plan guides us on when to repair/replace more expensive items and how to budget for them.

Distribution system

The Township has over 80 miles of water mains ranging in size from 4" to 20". There are 1,100 valves throughout the system and 704 fire hydrants. BCT serves over 2300 residential households and over 500 commercial customers with meter sizes ranging from ¾" to 8".

\$20 MILLION GRANT RECEIVED FOR WATER PLANT AND SYSTEM IMPROVEMENTS

Benton Charter Township was awarded a \$20,000,000 grant from the State of Michigan to upgrade our water plant and water system. This grant will allow for an additional water filtration unit similar to those pictured below, increasing the plant's capacity from three million to four million gallons per day. The Township will also add a new 500,000 gallon storage tank on Zoschke Road and a one million gallon storage tank on Euclid Avenue. The new Euclid tank will be replacing the four million gallon tank that is currently in service.



Filters at the BCT Water Treatment Plant

Details of the improvement projects included in the grant are outlined below:

Elevated Tanks

- Construction of two new elevated tanks in the distribution system, including a 500,000 gallon tank at Zoschke Road in the High Pressure District and a 1,000,000 gallon tank at Euclid Ave in the Low pressure district. Also includes demolition of the existing Euclid Standpipe and Paw Paw Reservoir.

Water Plant Capacity Improvements

- Installation of one additional membrane filter skid to increase the Firm Capacity from 3.0 MGD to 4.0 MGD.

Nickerson and North Fair Water Main Loops

- New water main loops on Nickerson Ave and Nickerson Court between M-139 and Plaza Drive, and on North Fair from Territorial Edgecombe. These projects will complete new loops in the distribution system for improved distribution system reliability.

Lead Service Lines

- Project to verify and replace lead services lines throughout the Township.

LEAD IN DRINKING WATER

Information about lead

Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. The Benton Charter Township Water Treatment Plant is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for at least 5 minutes to flush water from both your home plumbing and the lead service line. If you are concerned about lead in your water and wish to have your water tested, contact the Safe Drinking Water Hotline (800-426-4791) for available resources. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <https://www.epa.gov/safewater/lead>.

There is no safe level of lead in drinking water. Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of persons who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney, or nervous system problems.

How lead gets into drinking water

Lead is not present in the BCT Water Plant treated water when the water is pumped from the plant into the distribution system. Lead can enter drinking water, when

plumbing materials that contain lead corrode, releasing the lead into the water. The most common source of lead in drinking water are lead pipes, brass or chrome-plated brass faucets and fixtures, and plumbing with lead solder. In homes with lead pipes that connect the home to the water main, also known as lead service lines, these pipes are typically the most significant source of lead in the water. Lead pipes are more likely to be found in older communities. Among homes without lead service lines, the most common problem is with brass or chrome-plated brass faucets and plumbing with lead solder. Homes built before 1986 to 1988 are more likely to have pipes, plumbing fixtures, and solder containing lead than newer homes and homes with updated plumbing fixtures and piping.

In 2019 Benton Charter Township conducted a preliminary Distribution System Materials Inventory (DSMI) study based on available info to ensure that distribution system components and service lines are properly identified and inventoried.

Benton Charter Township is pleased to report that work has begun to verify the remaining unknown service lines, replace all remaining 28 lead service lines, and verify other randomly selected homes to ensure existing records are accurate in the township. The contract was awarded to B&Z Company of Benton Harbor, and this work is on schedule to be completed by the end of October of this year. If you are contacted by the township water staff or B&Z for inspection or replacement work, please respond promptly.

Monitoring and reporting to EGLE requirements

The State and EPA require us to test our water on a regular basis to ensure its safety. We will update this report annually and will keep you informed of any problems that may occur throughout the year, as they happen. Copies of this report are available at the Benton Charter Township Hall.

We invite public participation in decisions that affect drinking water quality. Benton Charter Township Board Meetings are held the 1st and 3rd Tuesday of each month at 5:30 pm. For more information about your water, or the contents of this report, contact the Benton Charter Township Water Treatment Plant at 269-925-4057.

For more information about safe drinking water, visit the U.S. Environmental Protection Agency website at www.epa.gov/safewater or the Michigan Department of Environment, Great Lakes, and Energy (EGLE) website at www.michigan.gov/egle.

PFAS IN DRINKING WATER

PFAS, or 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 United States Environmental Protection Agency (U.S. EPA) as an emerging contaminant on the national landscape. For decades, they have been used in many industrial applications and consumer products such as carpeting, waterproof clothing, upholstery, food paper wrappings, fire-fighting foams, and metal plating. They are still used today. PFAS have been found at low levels both in the environment and in blood samples from the general U.S. population. These chemicals are persistent, which means they do not break down in the environment.

Michigan Department of Environment, Great Lakes, and

Energy (EGLE) has coordinated a statewide initiative to test drinking water from all schools that use well water and community water supplies for PFAS. EGLE is taking this precautionary step to determine if public health actions are needed.



PFOS, or perfluorooctane sulfonate, is a synthetic chemical belonging to the broader group of PFAS (Per- and Polyfluoroalkyl Substances). It's known for its persistent nature in the environment and has been linked to various health concerns. PFOS is commonly found in firefighting

foam, non-stick cookware, and food packaging, among other products. It has been detected in drinking water sources and has been associated with potential health risks, including developmental, reproductive, and immune system effects.

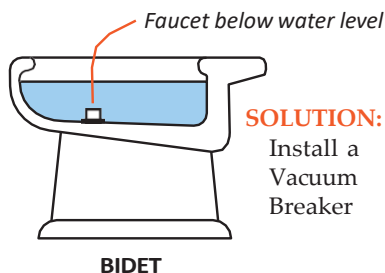
For 2024, PFOS was not detected and PFOA was detected at 2ng/L. The 2ng/L of PFOA is well below the limit of 8ng/L. (1ng/L is equal to 1 part per trillion.)

If any resident has additional questions regarding this issue, the State of Michigan Environmental Assistance Center can be contacted at 800-662-9278. Representatives may be reached to assist with your questions Monday through Friday, 8:00 AM to 4:30 PM. Also available is the Michigan PFAS Action Response Team (MPART) website: www.michigan.gov/pfasresponse

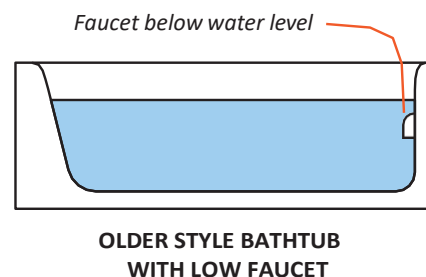
CROSS CONNECTIONS AND BACKFLOWS

- A cross connection can be described as a connection or arrangement of piping through which backflow of non-potable water could enter directly into the public drinking water supply.
- Backflow is a reversal of flow in a public supply that allows water of questionable quality, contaminants, and wastes to enter the distribution system.
- There are two types of backflows: backsiphonage and backpressure.
Backsiphonage can occur during water main breaks or during firefighting/hydrant flushing activities.
Backpressure can occur if a pump starts and creates a higher pressure area than the downstream pressure.
- Both types of backflows are real concerns for water operators and can occur in commercial and residential plumbing.

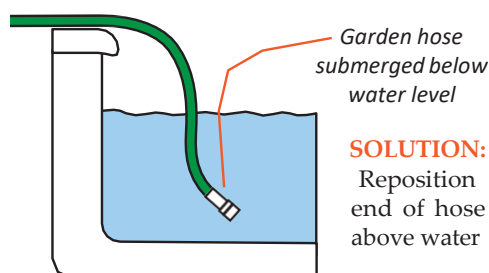
Common cross connections resulting in backflow:



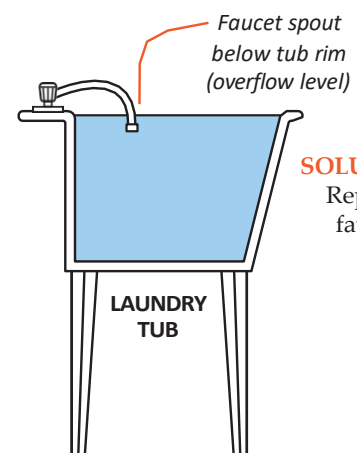
SOLUTION:
Install a Vacuum Breaker



SOLUTION:
Replace bathtub



SOLUTION:
Reposition end of hose above water



SOLUTION:
Replace faucet

GENERAL INFORMATION

Sources of drinking water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water comes from Lake Michigan, a surface water. 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 and their presence in water

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 Hotline (800-426-4791).

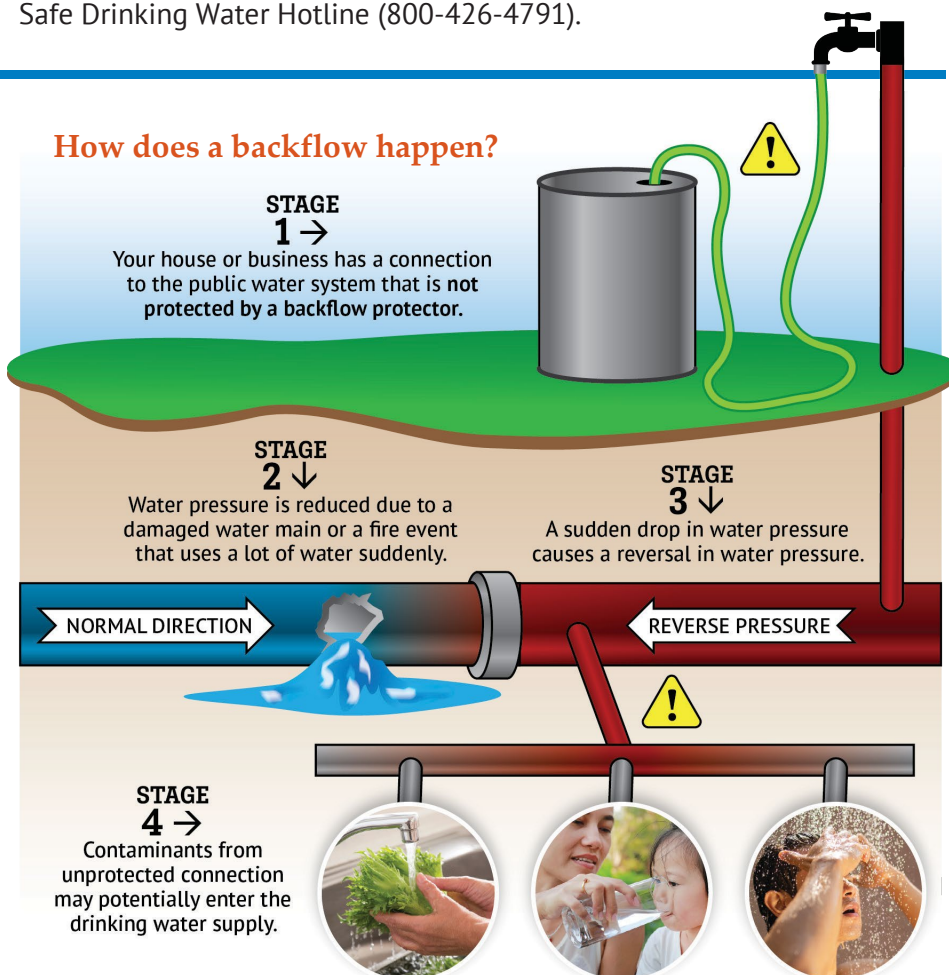
Vulnerability of sub-populations

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 systems 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).

Contaminants that may be present in source water

- 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 and residential uses.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.
- 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 storm water runoff, and septic systems.

In order to ensure that tap water is safe to drink, 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.





FLUORIDE IN DRINKING WATER

According to the U.S. Center for Disease Control and Prevention (CDC), water fluoridation is one of the best investments that a community can make in maintaining oral health of its citizens. It is equally as effective in preventing cavities in children and adults. Fluoridation is also highly cost effective. Studies continue to show that for every dollar communities invest in water fluoridation, twenty dollars are saved in dental treatment cost.

TYPES OF WATER PIPES

GALVANIZED



Galvanized steel pipes are a dull, silver-gray color.

- Magnet test: a strong magnet will typically cling to galvanized pipes.
- Scratch test: scratching the surface with coin will not show a discernible change of color.

COPPER



Copper pipes are the color of a copper penny.

- Magnet test: a strong magnet will not cling to copper.
- Scratch test: scratching the surface will reveal a bright copper color, like a new penny.

PLASTIC



Plastic pipes are typically a white, rigid plastic.

- Plastic pipes are joined to water supply piping with a clamp.

LEAD



A dull, silver-gray color that is easily scratched with a coin.

- Magnet test: a strong magnet will not cling to lead pipes.
- Scratch test: scratching the surface will reveal a shiny silver color.

WATER QUALITY DATA

The table on the facing page lists all the drinking water contaminants that were detected during the 2024 calendar year. The presence of these 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 January 1 – December 31, 2024. The State allows the monitoring of certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. All of the data is representative of the water quality, but some are more than one year old. Chlorine is a monthly average. TTHM and HAA5 are sampled quarterly with the results reported as “Running Annual Averages” (RAA).

TERMS AND ABBREVIATIONS USED ON THE FACING PAGE

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 a contaminant that is allowed in drinking water.

MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

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.

Maximum Residual Disinfectant Level Goal (MRDLG):

The level of a 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.

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

N/A: Not applicable.

ND: Not detectable at testing limit.

ppm: Parts per million or milligrams per liter.

ppb: Parts per billion or micrograms per liter.

ppt: Parts per trillion or nanograms per liter.

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

BENTON CHARTER TOWNSHIP WATER DATA

Regulated Contaminant	MCL, TT, or MRDL	MCLG ⁵ or MRDLG	Your Water	Range	Year Sampled	Violation Yes/No	Typical Source of Contaminant
INORGANIC CONTAMINANTS:							
Barium (ppm)	2	2	0.03	N/A	2024	No	Discharge of drilling wastes; Discharge of metal refineries; Erosion of natural deposits
Nitrate (ppm)	10	10	0.07	N/A	2024	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Fluoride (ppm)	4	4	0.61	N/A	2024	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Sodium ¹ (ppm)	N/A	N/A	12	N/A	2024	No	Erosion of natural deposits.
PFOA (ppt)	8	N/A	2	N/A	2024	No	Industrial discharge and/or pollution, firefighting foams, landfills, and chemical spills.
DISINFECTANTS & DISINFECTION BY-PRODUCTS:							
TTHM - Total Trihalomethanes (ppb)	80	N/A	70.3	23 - 90	2024	No	Byproduct of drinking water disinfection.
HAA5 Haloacetic Acids (ppb)	60	N/A	39.6	14.3 - 61	2024	No	Byproduct of drinking water disinfection.
Chlorine ² (ppm)	4	4	1.08	0.86 - 1.21	2024	No	Water additive used to control microbes.
Inorganic Contaminant Subject to AL	Action Level	MCLG ⁵	Your Water	Range of Results	Year Sampled	# of Sites Above AL	Typical Source of Contaminant
Lead ³ (ppb)	15 ppb	0 ppb	16 ppb	ND - 85 ppb	2024	3	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	1.3 ppm	1.3 ppm	0.1 ppm	ND - 0.2 ppm	2024	0	Corrosion of household plumbing systems; Erosion of natural deposits

The Benton Charter Township community water supply's 90th percentile value exceeded the Action Level (AL) for lead during the most recent round of lead and copper monitoring of drinking water taps from June 1 to September 30, 2024, as summarized above. The township collected 22 samples from 22 unique sites. Samples from 20 sites were used to calculate the 90th percentile values.

Regulated Contaminant	MCL	MCLG ⁵	Your Water	Range	Year Sampled	Typical Source of Contaminant
MICROBIOLOGICAL CONTAMINANT SUBJECT TO TREATMENT TECHNIQUE:						
Turbidity (NTU)	TT= 1 NTU ⁴ TT=percentage of samples less than 0.3 NTU		0	0.05 NTU 100%	0.02 - 0.08 NA	2024 Soil Runoff

NOTES

1. Sodium is not a regulated contaminant.
2. The chlorine level detected, "Your Water", was calculated using a running annual average. The RAA is calculated quarterly using monthly averages for the last 12 months.
3. 90 percent of the samples collected were at or below the level reported for your water.
4. 1 Nephelometric Turbidity Unit (NTU), and samples for turbidity must be less than or equal to 0.3 NTUs in at least 95 percent of the samples in any month. 100% of the samples were below the TT value of 1. A value less than 95% constitutes a TT violation. The highest single measurement was 0.07. Any measurement in excess of 5 is a violation.
5. Maximum Contaminant Level Goal (MCLG) means the of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin or safety.

PPM AND PPB COMPARISONS

Parts per million and parts per billion are units used to measure the concentration of a substance in water. One part per million equals 1000 parts per billion. Following are some examples that illustrate how small a ppm and ppb actually are.

One part per million (ppm)
is the same as:

- 1 inch in 16 miles
- One penny in \$10,000
- 32 seconds out of a year
- 1 drop of water in a washing machine

One part per billion (ppb)
is the same as:

- 1 inch in 16,000 miles
- One penny in \$10,000,000
- 3.2 seconds out of 100 years
- 1 drop of water in a swimming pool



1725 Territorial Road
Benton Harbor, MI 49022

CONTACT INFORMATION

Benton Charter Township Water Plant

waterplant@bentonchartertownship-mi.gov
(269) 925-4057

Benton Charter Township Hall

General Water Service and Billing Information:

1725 Territorial Road | Benton Harbor, MI 49022
(269) 925-0616

Water Plant Operators:

NAME & CERTIFICATION

Loren Johnson, F-2 • Paulvin Junqu, F-4P
Calvin White • Mark Motton

Distribution System Operators:

NAME & CERTIFICATION

Mike Baldwin, S-1 • Chuck Wutzke, S-3
Brennan Bittner, S-4 • Beau Wutzke