



Annual Water Quality Report 2024

Prepared and presented by:

The City of Battle Creek
PWS ID# 0000450



excellent water service from the city

The **City of Battle Creek** is pleased to present our annual water quality report, covering testing between Jan. 1 and Dec. 31, 2024.

We remain dedicated to producing drinking water (DW) that meets all state and federal standards. We continually seek and implement new methods to deliver the best quality DW to you, our customers.



Steve Skalski, Director,
Department of Public Works

In 2024, we worked on the following projects to meet your needs:

Bedford Township Water Supply

We have substantially completed the effort to provide publicly supplied water to Bedford Township neighbors along River Road. Concerns arose due to elevated levels of Per- and polyfluoroalkyl substances (PFAS) discovered in area wells by the county.

Civil Engineers Inc. designed and installed a river crossing where a 12-inch high-density polyethylene water main was directionally bored under the Kalamazoo River near Stringham Road. Water customers are now connected, and no PFAS has been detected above the DW criterion.

Ford Blue Oval Campus

We completed a cooperative effort with Emmett Township and the City of Marshall to develop plans and install infrastructure for water system extensions through Emmett and into Marshall to serve the Ford Blue Oval campus. While the city will not supply water to Blue Oval during construction, the infrastructure is ready to go online when the plant becomes operational.

Lead Service Line Replacement

We secured funding for replacing lead service lines through a **State of Michigan DW State Revolving Fund** award. This project proposes to replace **850 service lines** in the Post Addition and Piper Park neighborhoods, beginning in 2026 and continuing through 2028.

We chose the Piper Park area for replacement, due to the condition of the streets and the number of lead service lines in the area. This allows us to complete both street and water projects efficiently.

TTHM Exceedance Investigation

Quarterly water testing revealed an exceedance in the total trihalomethanes (TTHM) water quality standard in part of the water distribution system in Emmett Township. The City of Battle Creek and the State of Michigan are investigating this issue to identify corrective measures. The exceedance is presumed to be an unintended result of developing new wells at the Verona Wellfield.

Additional information will be delivered through residential mailings.

For more information about this report, or if you have questions about your DW, contact:



Battle Creek (city limits)

Perry Hart,
utility administrator
269-966-3481
plhart@battlecreekmi.gov

City of Springfield

269-965-2354



Emmett Township

269-968-0241



Water System Notifications

battlecreekmi.gov/notifyme

After Hours

269-965-2354

For help in another language, please call the Department of Public Works at **269-966-3343**. The city will provide interpretation at no cost.

Por consultas o asistencia en español, por favor comuníquese con el Departamento de Obras Públicas al **269-966-3343**. Se le conseguirá un intérprete de forma gratuita.

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The Battle Creek City Commission invites neighbors to give public comment during regular meetings, typically at 7 p.m. the first and third Tuesday of each month at City Hall.

important health information

Some people may be more vulnerable to contaminants in DW than the general population.

Immunocompromised people, such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about DW from their health care providers.

Infants and children who drink water containing lead could experience delays in their physical or mental development.



TREATING OUR WATER

Our DW treatment process includes a series of steps at our Verona facility on Brigden Drive.

First, we draw water from the groundwater aquifer, and send it to our Radon, Iron, and Manganese removal plant, or RIM plant.

Once there, we add air through an aeration process to remove radon and oxidize iron and manganese. This process helps by making iron and manganese form larger particles, which are easier to remove later in the treatment process.

Next, we filter the water to remove iron and manganese using dual-media, rapid sand filters. After filtration, we add a small amount of phosphate to prevent corrosion in our system's pipes and plumbing, which helps control lead and copper.

Finally, we send the water to an underground reservoir, where we add low doses of fluoride (for dental health) and chlorine (for disinfection). Then, we pump the water to our water towers and into your homes and businesses.

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.

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

The U.S. Environmental Protection Agency and Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, and other microbial contaminants, are available from the Safe DW Hotline at **800-426-4791** or water.epa.gov/drink/hotline.

SOURCE WATER ASSESSMENT

The state assessed our Verona well field source water in 2003 to determine the relative potential for contamination.

The susceptibility rating is on a seven-tier scale, from very low to very high, based primarily on geologic sensitivity, well construction, water chemistry, and contaminant sources.

The susceptibility rating for Verona is "high." It's important to understand that these ratings don't imply poor water quality, only the system's potential to become contaminated in assessment areas. There are remedies in place for known contaminant sources for Verona to prevent municipal well contamination.

To further protect our DW source at Verona, we developed a wellhead protection plan overseen by a team that meets quarterly.

For more information, call Perry Hart, utility administrator, at **269-966-3481**, or visit battlecreekmi.gov/publicworks and click Environmental Services.



where does my water come from?

The City of Battle Creek uses **groundwater** from the **Marshall Sandstone Aquifer**, drawn from the **Verona Well Field** in the northeast section of the city. This is our sole source of DW.

We constructed wells in the sandstone formation to collect the water stored there.

When enough water accumulates to supply a well, it's considered an aquifer. The city gets its water from a bedrock aquifer. We currently pump the water from **22 wells**, with depths ranging from **100-150 feet**.

Groundwater is water beneath the surface of the earth that fills openings, known as pore spaces, in sand, gravel, or fractured rock. Groundwater begins as precipitation from snow or rain, which passes through the soil and accumulates in the pore spaces.



A crew member oversees test well drilling at the Verona Well Field in October 2024.

CONTAMINANTS THAT COULD BE IN THE WATER

To ensure tap water is safe to drink, the EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. One can reasonably expect DW, including bottled water, to contain at least small amounts of contaminants. The presence of these contaminants does not necessarily indicate the water poses a health risk.

The sources of DW - both tap 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 - in some cases, radioactive material, and can pick up contaminants resulting from the presence of animals or from human activity.

Contaminants that may be 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.
- **Pesticides/herbicides**, which may come from a variety of sources such as agriculture and residential uses.
- **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.
- **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 stormwater runoff, and septic systems.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe DW Hotline at **800-426-4791**.

verona well field update

Work continues on replacing wells at the City of Battle Creek's Verona Well Field.

This project is the **largest well field rehabilitation in Michigan's history**, offering industry professionals, including young staffers from the Michigan Department of Environment, Great Lakes, and Energy (EGLE), a unique opportunity to observe the process firsthand.

■ NEW WATER MAINS FOR POST ADDITION

As part of our DWSRF program, we received funding for lead service line replacements (LSLRs) and water main (WM) replacements in the Post Addition Neighborhood.

We've also awarded a contract to replace lead services in the Piper Park area, specifically the Addington Hills, Fremont Heights, Merritt's Addition, Riverview Addition, and Maplewood Park Neighborhoods. Both of these projects will begin later this construction season and continue for the next three years.

■ HELP US GET THE LEAD OUT OF OUR WATER SYSTEM



Help us remove lead pipes from our water system by clicking [this link](#) or scanning the QR code to the left and reporting your pipe material. This helps us prioritize and schedule lead pipe replacements efficiently, meeting state and federal requirements.

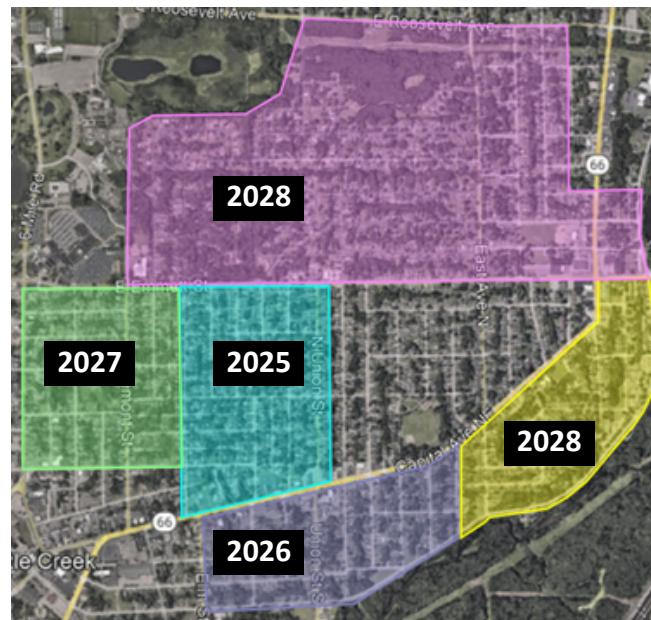
Lead service lines can increase the risk of lead exposure, but we test our DW daily and treat it with an anti-corrosion product to prevent lead from leaching into the pipes. For more information about lead, see [page 8](#).

To date, all **21 new wells** have been drilled to replace the existing wells which were aging and showing signs of deterioration. As of mid-February 2025, we have developed and tested all but two wells.

During the drilling process, each well is "developed" and then tested for aquifer productivity. This involves pumping water from each well for eight hours to remove clay, silt, and other materials introduced during drilling. This process ensures high-quality water for our community and extends the service life of the equipment.

The existing wells will continue to supply water to the Battle Creek community until we secure the necessary permits. These wells are tested daily for water quality.

The city is collaborating with contracted engineering firms to provide all required information to the State of Michigan. This is to receive financial support from the DWSRF and to acquire permits from EGLE. Once all required permits are secured later this year, the new wells can be connected to the existing water distribution system, ensuring continued quality water supply for our customers.



- Post Addition LSLRs and WM replacements
- Arlington Hills LSLRs
- Fremont Heights LSLRs
- Merritt's Addition LSLRs
- Riverview Addition LSLRs
- Maplewood Park LSLRs

water testing results

The tables below list all the DW contaminants detected during the 2024 calendar year. The presence of these contaminants in the water does not necessarily indicate a health risk. Unless otherwise noted, the data presented in these tables is from testing conducted between Jan. 1 and Dec. 31, 2024. The state allows us to monitor certain contaminants less than once per year because their concentrations are not expected to vary significantly from year to year. All the data is representative of the water quality, but some are more than one year old.

REGULATED CONTAMINANTS *Year sampled: 2024			CITY OF BATTLE CREEK			EMMETT TOWNSHIP			CITY OF SPRINGFIELD		
Contaminant (unit of measure) Typical Source	MCL [MRDL]	MCLG [MRDL]	Amount detected	Range low-high	Violation?	Amount detected	Range low-high	Violation?	Amount detected	Range low-high	Violation?
Chlorine (ppm) Water additive used to control microbes.	[4]	[4]	0.88	.25 - 1.65	No	0.96	.13 - 1.72	No	0.66	.21 - 1.12	No
Fluoride (ppm) Erosion of natural deposits; water additive to promote strong teeth; discharge from fertilizer/aluminum factories.	4	4	0.7	.46 - .92	No	0.72	.63 - .89	No	0.69	.63 - .81	No
TTHMs (ppb) By-product of DW disinfection.	80	0	Highest LRAA 73	50 - 120	No	88	56 - 130	Yes	66.8	46 - 90	No
HAA5 (ppb) By-product of DW disinfection.	60	0	Highest LRAA 17.6	8.5 - 33.7	No	16.8	13.1 - 21.0	No	16.6	8.9 - 28.1	No
Total coliform bacteria (Treatment Technique) Naturally present in the environment.	TT	0	0	NA	No	0	NA	No	0	NA	No

Tap water samples were collected for lead and copper analyses from sample sites throughout all three water systems in 2024.

Contaminant (unit of measure) Typical Source	AL	MCLG [MRDL]	90th % value	Range low-high	Sites above AL/ Violation?	90th % value	Range low-high	Sites above AL/ Violation?	90th % value	Range low-high	Sites above AL/ Violation?
Lead (ppb) Lead service lines, corrosion of household plumbing including fittings, fixtures; Erosion of natural deposits.	15	0	1	0 - 6	0/No	0	0 - 0	0/No	0	0 - 1	0/No
Copper (ppm) Corrosion of household plumbing systems; Erosion of natural deposits.	1.3	1.3	0.5	0 - 0.7	0/No	0.4	0.0 - 0.5	0/No	0.4	0.0 - 0.6	0/No

On Jan. 1, 2025, the action level for lead in Michigan dropped from 15 ppb to 12 ppb. All monitoring conducted on or after Jan. 1, 2025, will be evaluated against the 12 ppb action level for lead.

A 24-hour Tier 1 Public Notice is now required for lead action level exceedances (ALE)s.

DEFINITIONS

- 90th % value:** The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. It's equal to or greater than 90% of our lead and copper detections.
- AL:** Action Level. The concentration of a contaminant that, if exceeded, triggers treatment or other system requirements.
- DW:** Drinking water.
- HAA5:** Haloacetic Acids.
- LRAA:** Locational Running Annual Average.
- MCL:** Maximum Contaminant Level. The highest level of a contaminant allowed in DW. They are set as close as possible to MCLGs, using the best available treatment technology.
- MCLG:** Maximum Contaminant Level Goal. The level of a contaminant in DW below which there is no known or expected health risk. Allows for a margin of safety.
- MRDL:** Maximum Residual Disinfectant Level. The highest level of a disinfectant allowed in DW. Evidence shows adding a disinfectant is necessary to control microbial contaminants.
- NA:** Not applicable.
- pCi/L:** Picocuries per liter. Measure of radioactivity.
- ppb:** Parts per billion. One part substance per billion parts water, or micrograms per liter.
- ppm:** Parts per million. One part substance per million parts water, or milligrams per liter.
- ppt:** Parts per trillion. One part substance per trillion parts water, or nanograms per liter.
- SMCL:** Secondary Maximum Contaminant Level. Standards developed to protect aesthetic qualities of DW, which are not health-based.
- TT:** Treatment Technique.
- TTHMs:** Total trihalomethanes.

SECONDARY CONTAMINANTS					BATTLE CREEK		
Contaminant (unit of measure) Typical Source	Sample year	AL	MCLG [MRDL]	Amount detected	Range low-high	Violation?	
Sodium Naturally in the environment; road salting; septic systems.	2024	NA	NA	25	23-27	No	
Sulfate Runoff/leaching from natural deposits; industrial wastes.	2024	NA	NA	87	50-70	No	
Chloride Runoff/leaching from natural deposits.	2024	NA	NA	67	55-70	No	
Gross Alpha (pCi/L) Erosion of natural deposits.	2021	15	NA	1.2	.5-1.9	No	
Radium 226 (pCi/L) Erosion of natural deposits.	2021	NA	NA	0.6	.4-.8	No	
Radium 228 (pCi/L) Erosion of natural deposits.	2021	NA	NA	1.1	.4-1.8	No	
Combined Radium (pCi/L) Natural deposit erosion.	2021	5	0	1.7	1.0-2.4	No	

ADDITIONAL SECONDARY CONTAMINANTS

*Date sampled: May 2024

Contaminant (unit of measure) Typical Source	AL	Amount Detected	MCLG [MRDL]
HFPO-DA (ppt) Discharge, waste from industrial facilities using the Gen X chemical process.	370	Non Detect	None
PFBS (ppt) Discharge, waste from industrial facilities; stain-resistant treatments.	420	Non Detect	None
PFHxA (ppt) Firefighting foam; discharge, waste from industrial facilities.	400000	Non Detect	None
PFHxS (ppt) Firefighting foam; discharge, waste from industrial facilities.	51	Non Detect	None
PFNA (ppt) Discharge, waste from industrial facilities; breakdown of precursor compounds.	6	Non Detect	None
PFOA (ppt) Discharge, waste from industrial facilities; stain-resistant treatments.	8	Non Detect	None
PFOS (ppt) Firefighting foam; discharge from electroplating facilities; discharge and waste from industrial facilities.	16	Non Detect	None

painting hydrants



The city selected Olsen Contracting to paint fire hydrants within the city limits and Emmett Township.

Olsen Contracting started painting hydrants on major city streets in late August 2024. Favorable weather conditions allowed them to paint over **1,100** hydrants by early November!

Maintaining fire hydrants enhances public safety in multiple ways. Most fire hydrants are made of cast iron, which corrodes easily.

A fresh coat of paint helps slow down this process.

The city uses chrome yellow paint to identify public fire hydrants. Keeping the hydrants painted bright yellow helps the fire department locate them quickly during emergencies and distinguish between public and private hydrants.

As the contractor paints hydrants, they ensure a five-foot clearance around each hydrant. If you have a hydrant in front of your home or business, please make sure there are no landscaping, bushes, or trees within a five-foot radius.

If you see city contractors painting hydrants in your neighborhood, please be cautious and slow down.

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 DW is primarily from materials and parts used in service lines and in home plumbing.

The City of Battle Creek is responsible for providing high-quality DW and removing lead pipes but cannot control the variety of materials used in the plumbing in your home.

Water system by the numbers	Battle Creek	Emmett Township	Springfield
Total water services	18,783	937	1,704
Known lead services	3,360	0	3
Unknown material	5,783	0	0
Unknown material, unlikely to contain lead	7,066	0	0

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 a galvanized line requiring replacement service line, you may need to flush your pipes for at least five 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 City of Battle Creek utility administrator Perry Hart at **269-966-3481** for available resources.

Information on lead in DW, testing methods, and steps you can take to minimize exposure is available at <https://www.epa.gov/safewater/lead>.