

OUR WATER

2017 Annual Drinking Water Quality Report FORT WAYNE CITY UTILITIES



City Utilities in 2016 - Investing for the Future

Great news! City Utilities' proactive water main replacement program is showing results. Over the last four years, the average water main break rate has decreased by about 22% compared with the previous ten years. Since 2012 City Utilities has been able to increase its annual investment in proactive water main replacement thanks to a water rate increase approved that year. City Utilities now replaces an average of nine miles of public water mains each year -- water mains that have a high main break history or have a high risk for a break.

City Utilities uses data such as pipe material, year of installation and past break history to determine which neighborhood water lines are most likely to fail so those can be prioritized for replacement. Currently the water main replacement program focuses on water lines in neighborhoods because they are most likely to break. Once the high priority neighborhood mains are replaced, City Utilities will need to begin to replace transmission mains -- the large pipes that carry water to the various sectors of the service area.

Controlling Costs to Add Value

A top quality product delivered to your tap for a reasonable price makes drinking water from City Utilities a great value. City Utilities is committed to doing everything we can to keep the cost of water as low as possible. That includes increasing the number of customers we serve, controlling chemical and other treatment costs, and using technology to increase effectiveness.

In 2014 City Utilities added 12,000 water customers in southwest Fort Wayne and the surrounding area. Most of these new

customers saw their monthly water bill go down (compared to what they had been paying to their previous provider). In aggregate, these customers have saved approximately \$5 million in the past two years. City Utilities has also made it easier to do business in Fort Wayne so that new homes can be built, existing businesses can grow and new businesses can move here, stay and thrive.

The Three Rivers Filtration Plant continues to implement changes that improve drinking water quality while reducing treatment costs. In 2016 a new operations guideline was implemented to help plant staff optimize the drinking water treatment process in a variety of circumstances. This reduced chemical costs to the lowest lowest level in the past fourteen years. Since 2007, City Utilities has saved a total of almost \$2.6 million in chemical costs alone.

The revised operations guideline has also meant better control over one of the main indicators of the effectiveness of the water treatment process -- turbidity. Turbidity is a measure of the microscopic "cloudiness" of the water based on the presence of tiny particles. When more particles are present, the turbidity number is higher. When the turbidity of water going to filters in the water treatment plant is higher, the filters have to work harder and must be cleaned more frequently. By removing more turbidity in processes prior to filtration, the useful cycle time of the filters is increased, saving money for ratepayers.

City Utilities also uses technology to reduce costs. A new computer program lets operators enter data about the quality of water coming from the St. Joseph River. The program provides recommended treatment chemical dosages to be used. This technology maximizes water quality while optimizing use of chemicals and controlling by-products created.

Despite City Utilities' ongoing efforts at cost cutting, inflation, higher per unit costs for chemicals and energy, and the need to keep replacing deteriorating water mains and other equipment will require us to ask for a water rate increase in the near future.

**CITY
UTILITIES**

**SERVING YOU,
SUPPORTING
OUR REGION**

**WATER
SAFETY IS
CITY UTILITIES'
TOP PRIORITY**

Fort Wayne's Fire Protection Rating Improves

Did you know that public water systems were originally installed mainly to provide communities with water to fight fires? Making water available for drinking and other domestic uses was a secondary benefit. Today, some of the investments City Utilities makes in the capacity and reliability of the water distribution system are intended to improve fire protection for your home or business. By investing ratepayer dollars in the public fire protection system, City Utilities saves money for you in the long-term.

A national organization called the Insurance Service Office (ISO) evaluates public water systems as part of their evaluation of a city's ability to fight a fire. A community's ISO rating helps determine what property owners pay for insurance. Fort Wayne's ISO rating has been upgraded from Class 3 to Class 2 on the ISO scale of one to 10, where one is the best possible rating. As a result of this improvement, Fort Wayne residents can expect to see lower property insurance costs.



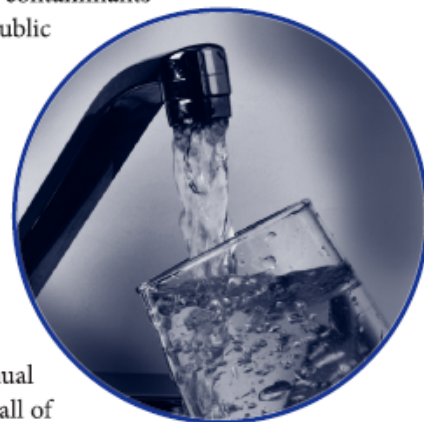
The Three Rivers Water Filtration Plant - That Beautiful Building on the Rivers

The "factory" in Fort Wayne where drinking water is produced is a Collegiate Gothic style building situated where the St. Marys and St. Joseph Rivers meet to form the Maumee. The plant began producing drinking water for Fort Wayne residents in 1933. When designers realized during the planning in 1931 that giving an architectural flourish would add no more than two-percent to the total project cost, there was unanimous agreement that the building should be designed as an architectural landmark.

Fast-forward 80+ years and the Three Rivers Filtration Plant remains the architectural flagship of City Utilities. Renovations and expansions have allowed the plant to keep up with changing regulations and meet the community's demands for more water while keeping the Collegiate Gothic style. The challenge to City Utilities in 2016 and beyond is to maintain the plant's historic elements and materials, such as Indiana limestone and red tile roofing, while investing in lighting, ventilation and heating improvements that increase energy efficiency and save money.

Keeping Your Drinking Water Safe

To ensure that tap water is safe to drink, the United States Environmental Protection Agency (US EPA) sets regulations that limit the amount of certain contaminants in water that comes from public water systems such as Fort Wayne's. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. The US EPA also requires that public water systems make an annual report, such as this one, to all of their customers. Bottled water producers don't face the same requirement to share information regularly.



The sources of drinking water (both tap and bottled) 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 water sources 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.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential land uses.
- 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.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities

A variety of methods and technologies are used at Fort Wayne's Three Rivers Water Filtration Plant to ensure that our water meets or is better than all regulatory standards. So long as water meets these standards, it is safe to drink. The water treatment process includes chemical treatment to kill germs and soften the water, filtration, and disinfection using ultraviolet light. These processes remove, deactivate or significantly reduce contaminants that may be present in water before it is treated.

Drinking Water and Your Health

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised individuals such as people with cancer who are undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people and infants, can be particularly at risk for infections. These people should seek advice about drinking water from their health care providers.

Cryptosporidium is a microbial pathogen that may be found in surface water such as rivers, lakes and streams throughout the United States. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of the infection include nausea, diarrhea and abdominal cramps. Cryptosporidium oocysts must be ingested to cause disease, and the illness may be spread through means other than drinking water. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people, infants, small children and the elderly are at greater risk for having cryptosporidiosis advance into a life-threatening illness.

Guidelines from the US EPA and Centers for Disease Control and Prevention on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.



In order to guard against any possibility that Cryptosporidium could be present in Fort Wayne's drinking water, City Utilities added a new water disinfection process in 2014 that uses ultraviolet light specifically to deactivate Cryptosporidium and other similar pathogens. To ensure your safety, City Utilities also uses a stringent monitoring program, testing both source water from the St. Joseph River and finished drinking water, to ensure that any Cryptosporidium has been removed or neutralized before the water is sent to you.

In 2016 the highest level of Cryptosporidium found in the river water coming into the water filtration plant was 0.558 oocysts per liter of water. This means that at any time during the year any liter of water that came into the plant had less than a 60% chance of containing any Cryptosporidium. Put another way, two liters of river water (think about the amount in a two-liter bottle of soda) might occasionally contain one Cryptosporidium organism. Cryptosporidium was NEVER found in the drinking water that City Utilities sent out to its customers, as is required by federal standards. That means that 100% of the time, City Utilities water treatment process was able to remove or deactivate these "germs."

How to Read the Water Quality Table

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.

Treatment Technique (TT):

A required process intended to reduce the level of a contaminant in drinking water.

Action Level (AL):

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Detected Level:

The highest level of a contaminant detected for comparison against the accepted level. The detected level could be the highest single measurement or it may be an average, depending on the peak level of a contaminant.

Range:

The lowest to highest values for all samples tested for each contaminant. If only one sample is tested, no range is listed.

HA: Health Advisory level.

NA: Not applicable.

MNR: Monitoring not required but recommended.

ppm: Parts per million or milligrams per liter (mg/L).

ppb: Parts per billion or micrograms per liter (ug/L).

NTU:

Nephelometric Turbidity Units. A measure of water's cloudiness and an indicator of the effectiveness of the water filtration process.

%: Percent of monthly samples that were positive.

Oocyst:

A fertilized gamete of a parasitic organism's sporozoans that is enclosed in a thick wall.



Water Quality Table

Contaminants	Units	MCLG	MCL	Compliance Achieved	Highest Level Detected in Your Water	Range	Typical Sources	
Disinfectants & Disinfection By-Products								
Chlorine	ppm	4	4	Yes	1.97	1.30 - 1.97	Additive used in water treatment process to control bacteria	
Chlorine Dioxide	ppb	800	800	Yes	380	38 - 380	Additive used in water treatment process to control bacteria	
Chlorite	ppm	0.8	1	Yes	0.900	0.378 - 0.900	By-product of drinking water disinfection	
Haloacetic Acids (HAA5)	ppb	NA	60	Yes	29.98 <small>Highest LRAA at site # 10</small>	7.5 - 44.4	By-product of drinking water disinfection NOTE: compliance is based on each location's running annual average (LRAA). The location running annual average for the site with 44.4 was 29.98	
Total Organic Carbon (TOC)	mg/L	NA	TT	Yes	<small>The percentage of TOC was measured each month and the system met the TOC removal requirements</small>	NA	Naturally present in the environment	
TTHMs (Total Trihalomethanes)	ppb	NA	80	Yes	36.12 <small>Highest LRAA at site # 5</small>	10.6 - 60.9	By-product of drinking water disinfection NOTE: compliance is based on each location's running annual average (LRAA). The location running annual average for the site with 60.9 was 36.12	
Inorganic Compounds								
Fluoride	ppm	4	4	Yes	0.83	0.40 - 0.83	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories	
Nitrate (measured as Nitrogen)	ppm	10	10	Yes	8.55	0.29 - 8.55	Runoff from fertilizer use; Leaching from septic systems; Sewage discharge; Erosion of natural deposits	
Nitrite (measured as Nitrogen)	ppm	1	1	Yes	0.24	0.00 - 0.24	Runoff from fertilizer use; Leaching from septic systems; Sewage discharge; Erosion of natural deposits	
Sodium	ppm	0	none	NA	29	14 - 29	Naturally present in the environment	
Barium	ppm	2	2	Yes	0.014	0.0078 - 0.014	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	
Sulfate	ppm	NA	NA	NA	47	<small>Only one test is required per year</small>	Naturally occurring compound	
Microbiological Contaminants								
Total Coliform	% of positive samples monthly	0	5	Yes	2.51	0 - 2.51	Naturally present in the environment	
Turbidity	% of samples below 0.3 NTU	100	95	Yes	100% below 0.3 NTU	NA	Soil runoff	
Turbidity	<small>Highest single measurement in NTU</small>	NA	TT	Yes	0.12	NA	Soil runoff	
Cryptosporidium	oocysts/100 L	0	TT	Yes	0	NA	Human and animal fecal waste	
Volatile Organic Compounds								
NA								
Synthetic Organic Compounds								
Atrazine	ppb	3	3	Yes	0.3	0.0 - 0.3	Runoff of herbicide used on row crops	
2,4-D	ppb	70	70	Yes	0.3	0.0 - 0.3	Runoff of herbicide used on row crops	
Metolachlor	ppb	NA	NA	NA	0.2	0.0 - 0.2	Runoff of herbicide used on row crops	
Unregulated Compounds								
NA								
Inorganic Contaminants								
Copper	<small>Last testing period was 2014</small>	ppm	1.3	90% of samples taken below AL = 1.3	Yes	0.125	Samples taken = 52 samples Exceeding AL = 0	Corrosion of household plumbing systems Erosion of natural deposits
Lead	<small>Last testing period was 2014</small>	ppb	0	90% of samples taken below AL = 15	Yes	4.5	Samples taken = 52 samples Exceeding AL = 3	Corrosion of household plumbing systems; Erosion of natural deposits

Testing Our Water — The US EPA and the State of Indiana require City Utilities to regularly test the drinking water we produce and send out to make sure that it remains safe. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants in drinking water, at a level below the limits set by regulatory agencies, does not indicate that the water poses a health risk.

The table above shows substances that are regulated by the US EPA that were detected in Fort Wayne's finished drinking water between January 1 and December 31, 2016. Results of all tests performed in 2016 met or were better than federal and state standards require. City Utilities tests for many other substances, but because they were not detected, they are not reported here. Some tests are required only once per year because the US EPA and State of Indiana have determined that the concentration of these substances does not change frequently. For tests required only once a year there is no range of results in the table.

City Utilities also tests for many substances that are not regulated. Monitoring unregulated contaminants helps the US EPA determine where certain contaminants occur and whether the agency should consider regulating those in the future.

Check the City Utilities website at www.cityoffortwayne.org/utilities for more information.

More information about drinking water contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Water Qualities that Matter to You: Softness and Taste

As a customer of City Utilities, you expect the drinking water delivered to you to be safe and to meet all federal and state water quality regulations. You also expect your water to have a certain feel and to be tasteless and odorless. In other words, you care about the aesthetics of your water. So does City Utilities.

City Utilities is committed to providing great water and to making adjustments to the water treatment process as necessary to ensure consistency in water quality.

The feel of the water is determined by the softness. The Three Rivers Water Filtration Plant softens the water sent to customers using powdered calcium hydroxide (commonly known as lime). During the water treatment process, the lime causes a chemical reaction that helps to remove calcium and magnesium – the naturally occurring minerals that cause hardness in water. Water hardness is measured in milligrams of calcium and magnesium per liter of water. Very soft water may have from 0 – 75 mg/L of hardness. Hard water has between 150 and 300 mg/L. After softening, Fort Wayne's water had an average hardness of 118.3 mg/L in 2016 and is considered moderately soft.

With moderately soft water, soaps and detergents create more suds so you can use less. Softer water has also been found to extend the life of water-using appliances such as ice makers and dishwashers by as much as 30% so they can be replaced less often, thus saving you money. Softened water also helps clothing stay brighter and last longer.

The taste and odor of Fort Wayne's water is measured at least weekly – more often when changing river conditions could cause an unusual taste or odor in the water. Taste and odor are closely linked and are measured and reported using a Flavor Profile Number (FPN). City Utilities' goal is to keep the water we send to customers at an FPN of 3 or lower on a scale of 1 to 10, where 1 indicates completely tasteless and odorless water.

The source of Fort Wayne's water is the St. Joseph River – a natural system that is affected by rain, organic matter that runs off the land, melting snow, and even air temperature. Often during the spring or fall, especially after a few days of heavy rain, the water that City Utilities draws from the river may have a musty or organic odor. Technicians at the Three Rivers Water Filtration Plant work diligently to anticipate these changes in river water quality and adjust the treatment process to remove as much of the taste and odor as possible from the water. This is done by adding powdered activated carbon to the treatment process and adjusting the balance between various types of disinfecting chemicals being used. However, despite these efforts there may be a few times each year when you notice a different taste or odor in the water.

Taste and odor in water are aesthetic qualities and do not indicate a problem with the safety of the water. If you notice an unusual taste or odor, chilling the water before you drink it can make the taste or odor less noticeable. Consider putting water in a pitcher and keeping it in the refrigerator for drinking at times when you may notice a taste or odor in the water.

City Utilities posts an indicator of current taste and odor of our water at drinkingwater.cityoffortwayne.org.

Information About Lead in Drinking Water

Lead levels in drinking water continued to receive national attention in 2016 and lowering lead levels is expected to be the subject of future federal policy-making.

In Fort Wayne, water produced and distributed from the Three Rivers Water Filtration Plant met all state and federal lead limits in 2016 – just as it always has. Lead in drinking water primarily comes from corrosion of materials and components in water service lines and interior plumbing, and lead levels in water may go up because of the kind of pipes and plumbing fixtures present in homes and businesses. City Utilities does not control the kind of plumbing materials used in private homes and businesses but could, in the future, develop programs to partner with our customers to replace their lead service lines. Please consider talking with your elected officials about the ongoing need to invest in upgrading our buried infrastructure.

Testing water samples from around the community is a good way to determine if lead water services or home plumbing fixtures are a source of exposure to lead. As required by state and federal regulatory agencies, Fort Wayne City Utilities regularly tests water from a number of homes in the community to monitor the amount of lead that may be found in drinking water. Lead test results during monitoring periods in 2012, 2013 and 2014 were below the level where any action was required. Because of this Fort Wayne is not required to test again for lead in water until 2017. However, as part of City Utilities' ongoing commitment to providing high quality safe water, City Utilities continued to collect and monitor water samples for lead in 2016 although we were not required to do so.

When your water has been sitting in your home plumbing for several hours, lead may enter the water from plumbing fixtures. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. You can minimize your potential for lead exposure by letting the water run before using it. Turn on the cold water and let it run at least until you feel the water get noticeably cooler before you use the water for drinking or cooking. If you are concerned about the level of lead in your water, you may wish to have your water tested by a private laboratory. Information on lead in drinking water, testing methods, and other steps you can take to minimize exposure to lead is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

City Utilities' Mission

To support public safety and public health and enhance regional economic development by delivering high quality, affordable water, wastewater and stormwater services in ways that protect the environment.

AVISO IMPORTANTE

Este reporte contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda. En español: 311.

FORT WAYNE CITY UTILITIES

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Fort Wayne, IN 46802

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Important Information Sources:

Three Rivers Water Filtration Plant
Vicky Zehr - Water Quality Manager
260-427-8311 or 260-427-1254
www.cityoffortwayne.org/utilities

Indiana Department of Environmental
Management (IDEM)
(888) 233-7745
in.gov/idem/cleanwater/2450.htm

EPA's Safe Drinking Water Hotline
1-800-426-4791
www.epa.gov/drink/

Where Does Fort Wayne's Water Come From?

The St. Joseph River is the source of drinking water for customers of Fort Wayne City Utilities. Water flows into the river from more than 694,000 acres in northeast Indiana, north-west Ohio and a small part of south central Michigan. The primary land use in the watershed is agricultural.

Fort Wayne draws an average of about 34 million gallons of water each day from the river. This "raw" water is treated, filtered and tested at the Three Rivers Water Filtration Plant before it is distributed to customers. Fort Wayne operates two dams on the river: the Cedarville Dam located near Leo-Cedarville and the St. Joe Dam located near the intersection of North Anthony and Coliseum Boulevards in Fort Wayne. These dams hold water behind them to ensure that City Utilities has an adequate water supply during the driest times of the year. The Hurshtown Reservoir near Grabill also provides an emergency source of 1.8 billion gallons of water for City Utilities.

The Indiana Department of Environmental Management (IDEM) has conducted a Source Water Assessment for City Utilities' water supply. The Source Water Assessment has identified potential point sources and non-point sources of contamination. The report also analyzes the hydrological conditions that may affect the susceptibility of the water supply to potential contaminants. More information concerning this Source Water Assessment may be obtained by contacting the Water Quality Manager of the Three Rivers Filtration Plant, Vicky Zehr, by calling (260) 427-8311.

Protecting Our Water Source

Fort Wayne City Utilities works with partners upstream to protect the quality of water in the St. Joseph River before it gets to Fort Wayne. The St. Joseph River Watershed Initiative is a non-profit watershed planning and protection organization that involves many watershed stakeholders in testing river water quality, developing management plans, implementing best management practices to reduce pollution going into the river and educating property owners.

Do you want to help protect Fort Wayne's drinking water at its source? Check out the St. Joe Initiative's website at www.sjrwi.org for information on ways you can volunteer.



National Recognition for City Utilities

Fort Wayne City Utilities continued to be recognized in 2016 as a utility of excellence at the national level when it received the Platinum Award for Excellence in Utility Management from the Association of Metropolitan Water Agencies – AMWA. Of the more than 150,000 water and sewer providers in the country Fort Wayne is one of only ten chosen for this prestigious honor and the only water provider in Indiana to win the Platinum Award.

"AMWA awards spotlight the impressive advances and substantial achievements of public drinking water utilities that are leading the nation in their efforts toward sustainability through innovative management practices, executive leadership and employee engagement," said AMWA President Scott Potter. "Communities count on their drinking water systems for reliable and adequate supplies of clean, safe water, and those served by AMWA's 2016 award winners can take pride in their outstanding accomplishments."

The award selection process evaluated utilities on the following attributes: strategic business planning, measurement, continual improvement, management framework, product quality, customer satisfaction, employee and leadership development, operational optimization, financial viability, infrastructure stability, operational resiliency and community sustainability, water resource adequacy and stakeholder understanding and support.

Judges cited Fort Wayne City Utilities' consistent production of top quality water, continuous organizational improvement, staff training and development, process improvements for customer account management and billing, utility growth, and financial responsibility.

The outstanding performance of Fort Wayne City Utilities continues to be recognized annually by the Partnership for Safe Water – a voluntary alliance of five national water industry organizations and the US EPA. For 16 years, City Utilities has received the Partnership's Director's Award each year for providing water that is better than national standards and operating the water utility according to Partnership guidelines.

