CITY OF WARREN

2022 ANNUAL WATER QUALITY REPORT

JAMES R. FOUTS, MAYOR

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Mayor

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City Clerk

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Councilman

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2022 WATER QUALITY REPORT

Attention: Important Information on Water Quality and Safety

Drinking water quality is important to our community and the region. The City of Warren 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. City of Warren 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 City of Warren 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.

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (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 organics, which are by-products of industrial processes, petroleum production, and can also come from gas stations, and urban storm water runoff and septic systems.*
- *Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.*

In order to ensure tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Our water is treated according to EPA's regulations. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for human health.

"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 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)."

Your source water comes from the Detroit River, situated within Lake St. Clair, Clinton River, Detroit River, Rouge River, Ecorse River, in the US 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 US 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 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 describes GLWA's Detroit River intakes were are highly susceptible to potential contamination. GLWA's Northeast water treatment plant that draws water from the Detroit River However, all four Detroit water treatment plants that use source water from 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 a Surface Water Intake plan for the Belle Isle Intake. The plan has seven elements that include: roles and duties of government units and water supply agencies, delineation of a source water protection area, identification of potential sources of contamination, management approaches for protection, contingency plans, siting of new 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).

WATER QUALITY INFORMATION

Information about lead City of Warren (PLEASE REVIEW FOLLOWING PAGES FOR IMPORTANT LEAD SERVICE INDENTIFICATION)

Safe drinking water is a shared responsibility. The water that GLWA delivers to our community does not contain lead. Lead can leach into drinking water through home plumbing fixtures, and in some cases, customer service lines. Corrosion control reduces the risk of lead and copper from leaching into your water. Orthophosphates are added during the treatment process as a corrosion control method to create a protective coating in service pipes throughout the system, including in your home or business. The City of Warren performs required lead and copper sampling and testing in our community. Water consumers also have a responsibility to maintain the plumbing in their homes and businesses, and can take steps to limit their exposure to lead.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Warren 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 tap water for drinking or cooking. If you have a service line that is lead, it is recommended that you run your water 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, 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 (800) 426-4719 or at: http://www.epa.gov/safewater/lead.

“Infants and children who drink water containing lead could experience delays in their physical and 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.”

Detected Contaminant Tables:

The following tables list all the drinking water contaminants that were detected during the 2022 calendar year. The presence of these contaminants in the water does not necessarily indicate the water poses a health risk. Unless otherwise noted, the data presented in these tables are from testing conducted in 2022.

Lead and Copper Monitoring at the Customer's Tap in 2022

Regulated Contaminant	Unit	Year Sampled	Health Goal MCLG	Action Level AL	90th Percentile Value	Range of Individual Results	Number of Samples Over AL	Major Sources in Drinking Water
Lead	(ppb)	2022	0	15	11	0 ppb—24 ppb	2	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits.
Copper	(ppm)	2022	1.3	1.3	0.1	0.0 ppm—0.2 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.

2022 Northeast Tap Water Mineral Analysis

Parameter	Units	Max.	Min.	Avg.	Parameter	Units	Max.	Min.	Avg.
Turbidity	NTU	.09	0.03	0.04	Chloride	ppm	14.4	8.3	10.7
Total Solids	ppm	163	110	138	Phosphorus	ppm	0.50	0.24	0.42
Total Dissolved Solids	ppm	169	98	135	Free Carbon Dioxide	ppm	12.6	6.9	8.9
Aluminum	ppm	0.111	0.016	0.047	Total Hardness	ppm	104	76	92
Iron	ppm	0.5	0.2	0.3	Total Alkalinity	ppm	100	70	79
Copper	ppm	0.003	0.001	0.003	Carbonate Alkalinity	ppm	ND	ND	ND
Magnesium	ppm	8.5	7.2	7.7	Bi-Carbonate Alkalinity	ppm	100	70	78
Calcium	ppm	28.0	24.8	26.0	Non-Carbonate Hardness	ppm	34	ND	14
Sodium	ppm	7.1	4.8	5.4	Chemical Oxygen Demand	ppm	10.2	ND	3.3
Potassium	ppm	1.1	0.9	1.0	Dissolved Oxygen	ppm	14.1	7.6	11.1
Manganese	ppm	ND	ND	ND	Nitrite Nitrogen	ppm	ND	ND	ND
Lead	ppm	ND	ND	ND	Nitrate Nitrogen	ppm	0.97	0.25	0.39
Zinc	ppm	0.010	ND	0.001	Fluoride	ppm	0.80	0.50	0.58
Silica	ppm	2.5	1.6	2.1	pH		7.34	7.08	7.25
Sulfate	ppm	31.3	19.9	26.7	Specific Conductance @ 25 °C	µohms	283	167	218
					Temperature	°C	23.1	6.0	14.5

The City of Warren is currently investigating water service line identification and replacement in the water distribution system. As of March 1, 2023, the City has the following information:

- 493 lead service lines identified in total
- 238 lead service lines have been replaced
- 10,000 unknown service line materials
- 50,000 water services in the Cities water distribution system

Key to Detected Contaminants Tables		
Symbol	Abbreviation for	Definition/Explanation
>	Greater than	
°C	Celsius	A scale of temperature in which water freezes at °0 and boils at °100 under standard conitions.
AL	Action Level	The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.
HAA5	Haloacetic acids	HAA5 is the total of bromoacetic, chloroacetic, dibromoacetic, 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 the water 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. MCLG's allow for a margin of safety.
MRDL	Maximum Residual Disinfectant Level	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.
MRDLG	Maximum Residual Disinfectant Level Goal	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.
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 analytical results for all samples during the previous four quarters.
SMCL	Secondary Maximum Contaminant Level	An MCL which involves a biological, chemical or physical characteristic of water that may adversely affect the taste, odor, color or appearance (aesthetics), which may thereby affect public confidence or acceptance of the drinking water.
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.
µmhos	Micromhos	Measure of electrical conductance of water

Northeast Water Treatment Plant

2022 Regulated Detected Contaminants Tables

REGULATED DETECTED CONTAMINANTS TABLE

Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation Yes / No	Major Sources in Drinking Water
2022 Inorganic Chemicals – Annual Monitoring at Plant Finished Tap								
Fluoride	7/12/2022	ppm	4	4	0.59	n/a	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	7/12/2022	ppm	10	10	0.97	n/a	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	5/16/2017	ppm	2	2	0.01	n/a	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.

Regulated Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Highest Level LRAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
2022 Disinfectant By-Products – Stage 2 Disinfection By-Products Monitoring in Distribution System								
Total Trihalomethane (TTHM)	2022	ppb	n/a	80	54	14 to 54	No	By-product of drinking water chlorination.
Haloacetic Acids (HAA5)	2022	ppb	n/a	60	16	9.2 to 16	No	By-product of drinking water chlorination.

Regulated Contaminant	Test Date	Units	Health Goal MRDLG	Allowed Level MRDL	Highest Level RAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
2022 Disinfection Residual—Monitoring in the Distribution System								
Total Chlorine Residual	2022	ppm	4	4	0.69	0.55 - 0.76	No	Water additive used to control microbes.

Highest Single Measurement Cannot Exceed 1 NTU	Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)	Violation Yes/No	Major Sources in Drinking Water
2022 Turbidity – Monitored every 4 hours at Plant Finished Water Tap			
0.10 NTU	100%	No	Soil Runoff.
Turbidity is a measure of the cloudiness of the water. We monitor is 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 was measured each quarter and because the level was low, there is no requirement for TOC removal.	Erosion of natural deposits.

Special Monitoring 2022					
Contaminant	**Test Date**	**MCLG**	**MCL**	**Highest Level Detected**	**Source of Contamination**
Sodium (ppm)	7-12-2022	n/a	n/a	5.6	Erosion of natural deposits.

These tables are based on tests conducted by GLWA in the year 2022 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.

Unregulated contaminants are those which the EPA has not established drinking water standards. Monitoring helps EPA to determine where certain contaminants occur and whether they need to regulate those contaminants.

Contaminant	Test Date	Units	Health Goal	Range of Detection	Average Results	Major Sources of Drinking Water
2020 Unregulated Contaminant Monitoring Rule - UCMR 4						
HAA5	Dec 2019 & Mar, Jun, Sept 2020	ppb	NA	9.8—24.18	15.97	By-product of drinking water disinfection
HAA6Br	Dec 2019 & Mar, Jun, Sept 2020	ppb	NA	3.93—10.42	7.41	By-product of drinking water disinfection
HAA9	Dec 2019 & Mar, Jun, Sept 2020	ppb	NA	14.68—34.02	23.01	By-product of drinking water disinfection
More information about contaminants and potential health effects can be obtained by visiting the EPA's website at http://www.epa.gov/dwucmr/third-unregulated-contaminant-monitoring-rule or by calling the **Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).**						

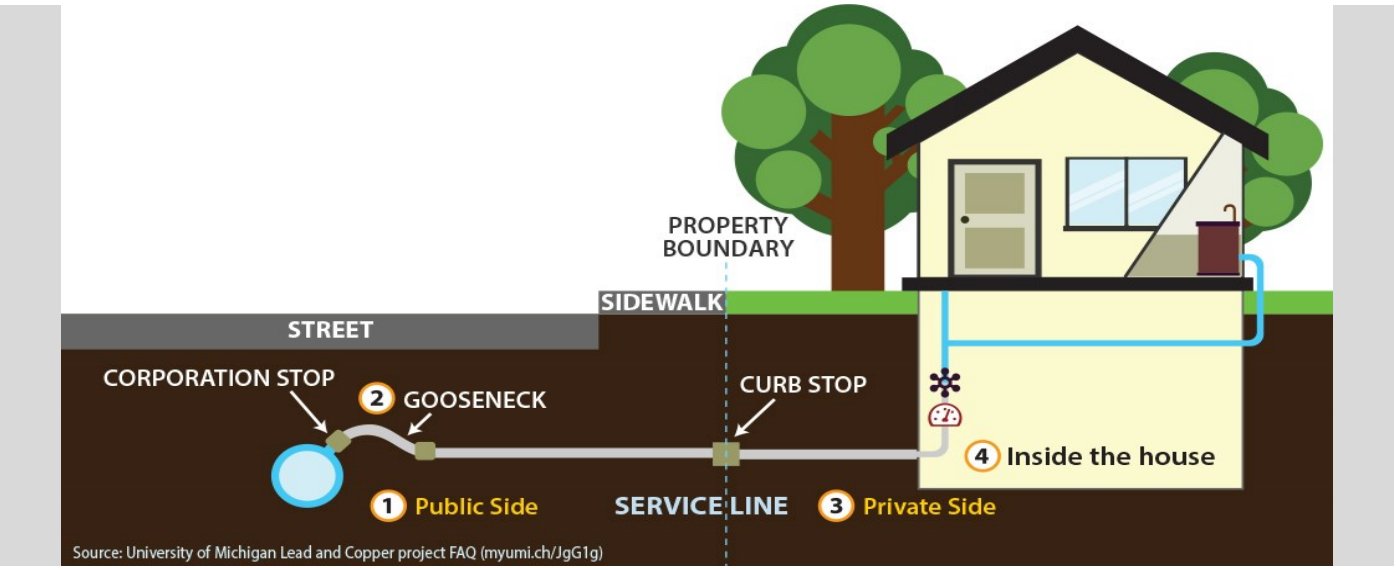
Some commonly asked questions on water service lines and lead services.

Q. What is a water service line?

A. A service line connects the water main in the street to your house. City of Warren owns and maintains service lines from the water main in the street to the curb stop, usually located near your property boundary. Property Owners are responsible for service lines from the curb stop into the home at the water meter.

Q. What is a lead service line?

A. **LEAD SERVICE LINE (LSL):** If any portion of your service line, the underground pipe that delivers water from the water main to your home, is made of lead, then you have a lead service line. The service line continues to the first shutoff valve inside your home, or 18" inside your home, whichever is shortest. LSL replacement permanently removes this lead source from drinking water supplies. Studies show that partial lead service line replacement can release lead particles into water, increase pipe corrosion, and can allow more lead to reach a homeowners faucet.



Q. What homes typically have lead service lines?

A. If your Warren home was built prior to 1960, your service line may be made of lead and need to be replaced.

Q. Will the City restore my property?

A. Yes, property disturbed during construction will be replaced including seeding of grass, sidewalk and driveway repair, and restoring interior portions of the house. GLWA requires its contractors to maintain adequate insurance in the event damage occurs. GLWA will not be responsible for any damage to trees, flowers and shrubs resulting from the replacement of the service line.

Q. Do you have to come into my home?

A. Yes, if the contractor confirms a lead service line serves your home or if a lead service line is expected, a contractor will schedule a time to inspect your water service material and meter. Someone 18 years or older must be home the entire time the water service line replacement is taking place.

Q. Will this cost me anything?

A. The work is being done at the expense of City of Warren including clean up.

Q. How long will the replacement take? How long will my water service be interrupted?

A. It takes about 4 to 6 hours for the replacement of the service line unless some unforeseen issues occur. Your water will be interrupted for approximately 2 hours on the day the service line is being connected to the water main. The contractor is not allowed to leave a customer without water overnight.

Let us help you identify your water service pipe, please follow instructions continued on page 6 & 7

IMPORTANT NOTICE— PLEASE READ IMMEDIATELY

City of Warren Water Division

Do I have a Lead Service Line?

How to Identify a Lead Service Line In Your Home

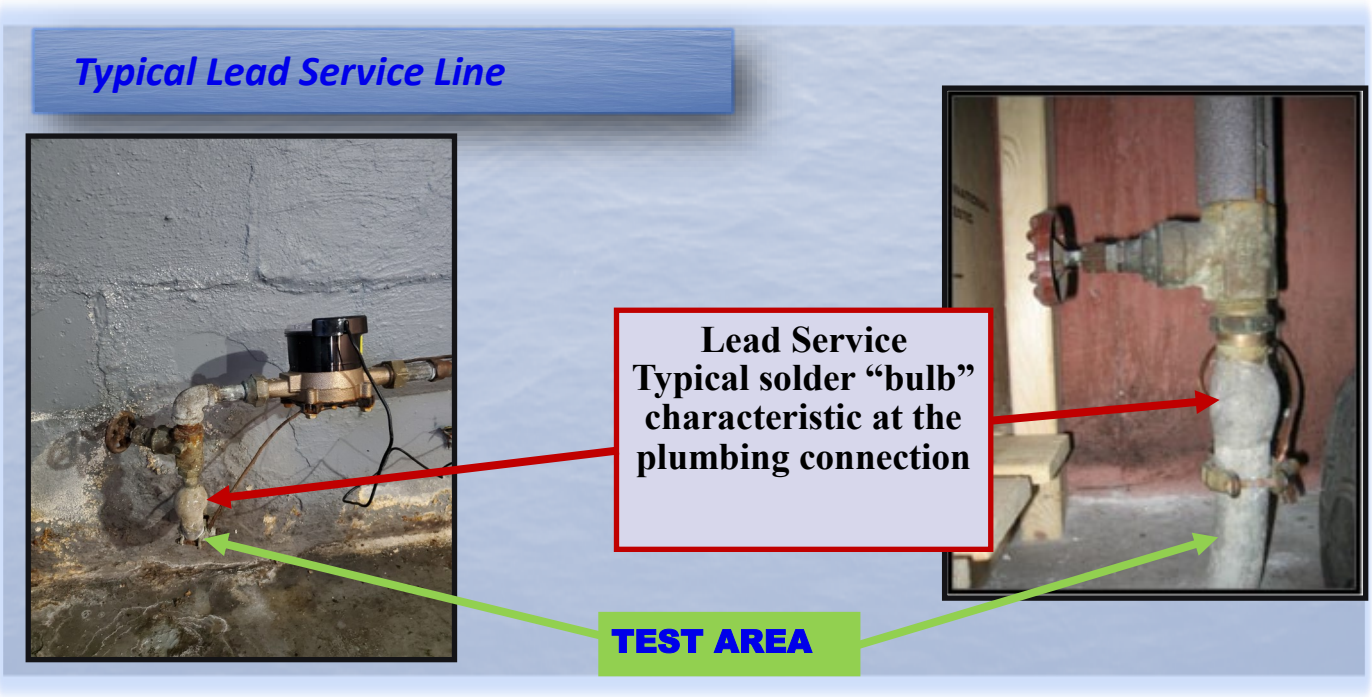
The City of Warren needs your help in identifying the type of water service lines in the City's Distribution System that service your home and/or business. There are generally three (3) types of water service lines to your home. Galvanized steel, lead, and copper. In newer homes, there may be PVC or plastic water services which do not pose a problem. Services that contain lead materials pose a potential health risk. The City of Warren Water Division is currently undergoing a survey for each home and/or business that may have a lead service.

To help confirm the type of service to your home, there are 6 simple steps below which will help you determine the type of piping. Helpful tools you will need are a **house key,** a **penny**, **screwdriver** and a **magnet**:

Steps to Identify Types of Water Service Lines:

1. Find the water meter on your property. This could be in a basement, crawl space or on the ground level floor for slab homes.
2. Look for the pipe that comes through the basement wall or floor or in the crawl space.
3. Use a penny to gently scratch the pipe. Make sure the pipe is clean of debri and or paint.
4. Place a magnet on the pipe to see if it sticks to the pipe.
5. Determine the pipe material and email a picture of your service pipe and meter to: **leadout@cityofwarren.org**
6. Use the instructions below and on back of page to assist with determining your type of plumbing in the

How to Identify the Test Area:



City of Warren Water Division — Water Service Identification

Now that you identified the test area, test the service line to determine the type of pipe material.

Lead Pipe

If the scraped area is shiny and silver, your service line is lead. A magnet will not stick to a lead pipe.

Copper Pipe

If the scraped area is copper in color, like a penny, your service line is copper. A magnet will not stick to a copper pipe.

Galvanize Steel Pipe

If the scraped area remains a dull gray, and a magnet sticks to the surface, your service line is galvanized steel.

CITY OF WARREN WATER DIVISION

A Message from the City of Warren

WARREN
JAMES R. FOUTS, MAYOR

Delinquent Water Bills

The City of Warren has stepped up collections of unpaid water and sewer bills. **Delinquent water bills not paid within thirty (30) days after they become due may result in water and sewer services being shut-off at the property for non-payment.** If your water and /or sewer service is discontinued for non-payment, you will be charged a $70.00 service fee in addition to any other unpaid fees including penalties per city ordinance, section 41-182. –Late payment; penalty. ***Please pay your water bills on time.***

Minimize Water Usage During Summer Months Between the Hours of 5 am and 11 PM

As warmer weather approaches, watering demands increase, what you may not know is that the time of day you use this water has a direct impact on our City water rates. The City of Warren purchases wholesale water from the GLWA.

> ***The cost of buying water is based on peak rate demand which occurs during the hours of 5 am to 11 pm. The more water we use during this time period from May 15 through October 15 has significant impact on what GLWA charges Warren for its water.***

Minimize your outdoor water usage between (5 am to 11 pm) for your irrigation systems and outdoor usage. Lawn irrigation systems are the main contributor to our peak hour demand. If we can shift when we water our lawns into the non-peak hours (11 pm to 5 am), we will be able to reduce rate increases. **Reduce our peak rate water usage by shifting your irrigation and other outdoor water consumption to the hours of 11 pm to 5 am.**

Easy Ways to Pay Your Water Bill

The City of Warren offers three (3) options to pay your water bill

- Direct Payment
- Point n pay (PNP) Credit/Debit Card and E-check Payment (3rd party fees apply)
- By US Mail

Charges may apply to some of the payment options. Find the right payment method that meets your needs. Prompt payment will keep water account free of late charges. Any questions, call Customer Service at 586-759-9200.

WRAP - Water Residential Assistance Program

The Water Residential Assistance Program (WRAP) is a two year program that provides funding to eligible, low-income homeowners to assist with water bills, water conservation, and self-sufficiency initiatives. Any questions, call 586-469-6464.

COMMUNITY ACTION ALLIANCE WRAP Water Residential Assistance Program

LIHWAP - Low Income Household Water Assistance Program

Provides funds to assist low-income households with water and sewer bills. Funds are administered through local MDHHS offices to Community Action Agencies. Please call 586-427-0600.

MIHAF - Michigan Homeowner Assistance Fund:

Michigan Homeowner Assistance Fund (MIHAF) was established under section 3206 of the American Rescue Plan Act of 2021 (the ARP) program and is designed to keep Michigan residents in their homes by providing financial assistance to eliminate or reduce past due mortgage payments associated with homeownership, including property tax, condominium association dues, and/or housing utility payments.
Customer Service Phone #: 844-75-MIHAF (844-756-4423) MIHAF Fax #: 517-763-0475
MIHAF Program Email: MSHDA-HO-HAF-Program@michigan.gov

City of Warren Water Division
Water Service Identification
Door Tag

NOTICE

Calling for all Lead Services!

Lead Service Line
Typical solder "bulb" characteristic at the plumbing connection

City of Warren Water Division needs your help to find all lead services in your area. Email us a picture of your water meter connection and street address to:

leadout@cityofwarren.org

or Contact us for a free in-home inspection at

Call (586) 759-9200

Lead service line identification and reporting forms can be found at www.cityofwarren.org.

To have your Lead Service replaced free of charge, please call us for further information.

Water personnel are going door to door inspecting homes for lead services. If your home is tagged, please call for inspection as soon as possible at 586-759-9200 or email us at:
leadout@cityofwarren.org

How to Prevent Water and Sanitary Sewer Back-ups

A water and sanitary sewer back-up can be a stressful and costly problem. Luckily, many water and sewer back-ups and overflows can be avoided through preventative maintenance. Property owners in the City of Warren are responsible for the maintenance of sanitary service lines and connections from their home or business to the main sewer line. The main sewer lines are usually located within the street's public right-of-way. In some areas, public sewer mains may be located within utility easements located along the rear of the property. The City is responsible for maintenance of flows in the main sewer line and routine maintenance and repairs of the sewer main pipes. For more information, please visit our website at www.cityofwarren.org/wp-content/uploads/2019/05/City-of-Warren-Homeowners-Prevent-Back-ups.pdf

Public Participation

The City of Warren 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 to the Warren Water Division at (586) 759-9200.