City of Southgate

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

The Southgate Water Department is proud of our long history of providing quality drinking water to our customers and is honored to provide this report to you. The 2020 Consumers Annual Report on Water Quality shows the sources of our water, lists the results of our tests, and contains important information about water and health. The Southgate Water Department will notify you immediately if there is ever any reason for concern about our water. We are pleased to show you that the water we purchase from the Great Lakes Water Authority (GLWA), has surpassed water quality standards as mandated by the United States Environmental Protection Agency (EPA) and the State of Michigan Department of Environmental Quality (MDEQ). Drinking water quality is important to our community and the region. The Southgate Water Department and the 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. This year's Water Quality Report highlights the performance of GLWA and the Southgate Water Department 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.

ABOUT OUR SYSTEM

The Southgate Water Department provides water to approximately 30,000 residents, 10,000 homes, and over 2,000 businesses, schools, churches, apartment complexes and numerous guests and visitors. The Southgate Water Department also maintains over 100 miles of water main and approximately 1,300 fire hydrants. The Southwest Water Treatment Plant, owned and operated by the Great Lakes Water Authority (GLWA), is Southgate's major supplier of water. The Southwest Water Treatment Plant receives water from the Detroit River where underground pipes carry the water for treatment. The many miles of deep raw water tunnels are periodically inspected either by hard-hat divers or with cameras for structural integrity and zebra mussel infestation. The City of Southgate and the Great Lakes Water Authority (GLWA) are committed to safeguarding our water supply and delivering the highest quality drinking water to protect public health. If you would like to know more about this report or have any questions or concerns about your water, please contact the Southgate Water Department at (734) 258-3074.

Safe drinking water is a shared responsibility. The water that Great Lakes Water Authority (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 you 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 Southgate 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.

NATIONAL PRIMARY DRINKING WATER REGULATIONS COMPLIANCE

In 2020, the Southgate Water Department had zero (0) monitoring and zero (0) maximum contaminant level violations and did not exceed any health standards.

In 2020, the Southgate Water Department had zero (0) monitoring violations of fecal coliform. The regulation requires confirmation of any positive result and that location and all points surrounding to be re-sampled within 24 hours of notification or the next business day.

The Environmental Protection Agency (EPA) required the City of Southgate to sample water for Unregulated Contaminant Monitoring Rule (UCMR) between the years of 2017-2020. The City of Southgate had no detectable contaminants during this period.

"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 Environmental Protection Agency's Safe Drinking Water Hotline at (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 can dissolve naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemical, which are by-products of industrial processes and petroleum production, and can also come from gas stations, 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 that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in the water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health."

"Some people may be more vulnerable to contaminants in drinking water than 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)."

Infants and children who drink water containing lead in excess of the AL 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. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

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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 Southgate is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you have a lead service line it is recommended that you run you water for 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 or at http://www.epa.gov/safewater/lead.

The City of Southgate has a total of 10,876 water service lines. Of these water service lines, 39 are lead, 3,145 are other materials (copper, plastic, cast iron or galvanized) and 7,692 are of unknown material at this time. The City of Southgate is actively inspecting the water service lines of unknown material and will begin replacing known lead lines in the summer of 2021. This information was not included in the 2019 Consumer Confidence Report, as required by The Michigan Department of Environment, Great Lakes, and Energy (EGLE).

Your watersheds source water comes from the Detroit River, situated within the Lake St. Clair, Clinton River, Detroit River, Rouge River, Ecorse River, watersheds in the U.S. and parts of the Thames River, Little River, Turkey Creek and Sydenham watersheds in Canada. The Michigan Department of Environmental Quality in partnership with the U.S. Geological Survey, the Detroit Water and Sewerage Department and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the susceptibility of the 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 described GLWA's Detroit River intakes as highly susceptible to potential contamination. However, all four GLWA water treatment plants that service the City of Detroit and draw water from Detroit River have historically provided satisfactory treatment and meet 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. In 2016, the Michigan Department of Environmental, Great Lakes and Energy approved GLWA's Fighting Island Surface Water Intake Protection plan. The plan has seven elements that include: roles and duties of government units and water supply agencies, delineation of a source water protection areas, identification of potential sources of contamination, management approaches for protection, contingency plans, siting of new sources, public participation and public education activities. GLWA is in the process of updating the plans which should be completed by September 2021. If you would like to know more information about the Source Water Assessment report, please contact GLWA at (313) 926-8102.

2020 Southwest Mineral Analysis

Parameter	Units	Max.	Min.	Avg.
Turbidity	NTU	0.50	0.04	.017
Total Solids	ppm	167	46	142
Total Dissolved Solids	ppm	162	89	127
Aluminum	ppm	0.172	0.022	0.072
Iron	Ppm	0.183	ND	0.114
Copper	Ppm	ND	ND	ND
Magnesium	Ppm	8.36	6.88	7.54
Calcium	Ppm	34.8	24.6	28.4
Sodium	Ppm	7.78	4.51	5.35
Potassium	Ppm	1.31	0.93	1.04
Manganese	Ppm	ND	ND	ND
Lead	Ppm	ND	ND	ND
Zinc	Ppm	ND	ND	ND
Silica	Ppm	2.7	1.6	2.0
Sufate	Ppm	37.5	19.7	26.1

Parameter	Units	Max.	Min.	Avg.
Chloride	Ppm	13.9	8.3	9.6
Phosphorus	Ppm	1.24	.012	0.48
Free Carbon Dioxide	Ppm	16.7	6.0	8.6
Total Hardness	Ppm	118	95	104
Total Alkalinity	Ppm	78	66	73
Carbonate Alkalinity	Ppm	ND	ND	ND
Bi-Carbonate Alkalinity	Ppm	78	66	73
Non-Carbonate Hardness	Ppm	40	25	31
Chemical Oxygen	Ppm	6.0	ND	2.7
Dissolved Oxygen	Ppm	12.6	7.8	10.3
Nitrite Nitrogen	Ppm	ND	ND	ND
Fluoride	Ppm	0.76	0.56	0.68
pH		7.39	6.97	7.25
Specific Conductance @25 °C	µohms			
Temperature	°C	24.1	1.8	12.6

Southwest Water Treatment Plant
2020 Regulated Detected Contaminants Tables

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Inorganic Chemicals – Monitoring at Plant Finished Water Tap								
Fluoride	03/10/2020	ppm	4	4	0.71	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	03/10/2020	ppm	10	10	0.61	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	05/16/2017	ppm	2	2	0.01	n/a	no	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits

Disinfection By-Products – Monitoring in Distribution System Stage 2 Disinfection By-Products								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest LRAA	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Trihalomethanes (TTHM)	2020	ppb	n/a	80	15.37	9.8 - 18	no	By-product of drinking water chlorination.
Haloacetic Acids (HAA5)	2020	ppb	n/a	60	13.95	9.5 - 22	no	By-product of drinking water disinfection.

Disinfection – Monitoring in Distribution System								
Regulated Contaminant	Test Date	Unit	Health Goal MRDGL	Allowed Level MRDL	Highest RAA	Quarterly Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Chlorine Residual	2020	ppm	4	4	0.62	0.49-0.72	no	Water additive used to control microbes.

2020 Turbidity – Monitored every 4 hours at Plant Finished Water Tap			
Highest Single Measurement Cannot exceed 1 NTU	Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)	Violation yes/no	Major Sources in Drinking Water
0.13 NTU	100%	no	Soil Runoff
Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.			

2020 Lead and Copper Monitoring at Customer's Tap in 2020									
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Action Level AL	90th Percentile Value*	Number of Samples Over AL	Violation yes/no	Range of Individual Samples Results	Major Sources in Drinking Water
Lead	2020	ppb	0	15	5.0	0	no	0.0 – 11.0	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2020	ppm	1.3	1.3	0.5	0	no	0.0 – 0.2	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.
*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.									

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

2020 Special Monitoring							
Regulated Contaminant	Test Date	Unit	MCLG	MCL	Highest Level Detected	Violation yes/no	Source of Contaminent
Sodium	3/10/20	ppm	n/a	n/a	6.81	no	Erosion of natural deposits

Radionuclides – Monitored at the Plant Finished Tap in 2014							
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Level Detected	Violation yes/no	Major Sources in Drinking Water
Combined Radium Radium 226 and 228	5/13/2014	pCi/L	0	5	0.65 + or - 0.54	no	Erosion of natural deposits

Collection and sampling result information in the table provided by Detroit Water and Sewerage Department (DWSD) Water Quality Division, ML Semegen.

2020 Key to the Detected Contaminant Tables		
Symbol	**Abbreviation for**	**Definition/Explanation**
>	Greater than	
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, di-bromoacetic, dichoroacetic, and trichloroacetic acids. Compliance is based on the total.
Level 1	Level 1 Assessment	A study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our system.
Level 2	Level 2 Assessment	A very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
LRAA	Locational Running Annual Average	The average of analytical results for samples at a particular monitoring location during the previous four quarters.
MCL	Maximum Contaminant Level	The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow a margin of safety.
MRDL	Maximum Residual Disinfectant Level	The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG	Maximum Residual Disinfectant Level Goal	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRLDG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
n/a	not applicable	
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	
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, dibromoochloromethane and bromoform. Compliance is based on the total.
µmhos	Micromhos	Measure of electrical conductance of water
°C	Celsius	A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.
ND	Not Detected	

The Southgate Water Board conducts meetings on a quarterly basis that are open to the public. For more information, call (734) 258-3074.

Odd / Even Outdoor Watering Schedule – 2021

There is a mandatory Odd/Even Watering Schedule in effect from: May 24 – September 10, 2020
Residents with an address ending in an even number would be permitted to water their lawns on even-numbered calendar dates.

If your address ends with:	You may use water outdoors on calendar dates ending in:
0 or 2 or 4 or 6 or 8	0, 2, 4, 6, 8

Residents with an address ending in an odd number would be permitted to water their lawns on odd-numbered calendar dates.

If your address ends with:	You may use water outdoors on calendar dates ending in:
1 or 3 or 5 or 7 or 9	1, 3, 5, 7, 9

Compliance with this watering schedule will be enforced.