2017 CONSUMER CONFIDENCE REPORT

ATTENTION CITY OF SWARTZ CREEK WATER CUSTOMERS

As part of the regulations from the Department of Environmental Quality, a water quality Consumer Confidence Report (CCR) advising customers of the quality of public drinking water must be submitted to the DEQ each year.

City of Swartz Creek water is currently supplied by the Karegnondi Water Authority (as of November 2017) and was formerly supplied by the Great Lakes Water Authority (prior to November 2017). Water is tested at the State Laboratory and Paragon Laboratories for Coliforms/E Coli, Lead and Copper, Water Quality Parameters, Total Trihalomethanes, and Haloacetic Acids at sites around the city, following the DEQ's schedule. These results are kept at the Paul D. Bueche Municipal Building.

A copy of the annual report will be mailed to each recorded City of Swartz Creek water customer and will be posted on the Bulletin Board at the Paul D. Bueche Municipal Building, 8083 Civic Dr., and at the Swartz Creek Senior Center, 8095 Civic Dr. and at the Swartz Creek Post Office, 8055 Paul Fortino Dr.

If you have any questions on this report, you may contact me at the Paul D. Bueche Municipal Building at 810-635-4464.

Thank you,

Thomas R Svrcek

Thomas Svrcek
Director of Public Works

2017 Water Quality Report for the City of Swartz Creek

This report covers the drinking water quality for City of Swartz Creek for the 2017 calendar year. This information is a snapshot of the quality of the water that we provided to you in 2017. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards.

The residents of the City of Swartz Creek received water from the Great Lakes Water Authority (GLWA) from January 2017 through November 2017. Karegnondi Water Authority supplied water to our customers for the months of November and December 2017.

Jan. – Nov. 2017 Water Source - GLWA
Your source water comes from the Detroit River, situated within the Lake St. Clair, Clinton River, Detroit River, Rouge River, Ecorse River, in the U.S. and parts of the Thames River, Little River, Turkey Creek and Sydenham watersheds in Canada. The MDEQ 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 potential contamination. The susceptibility rating is on a seven-tiered scaled from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contaminant sources. The susceptibility of our Detroit River source water intakes were determined to be highly susceptible to potential contamination. However, all four Detroit water treatment plants that use source water from Detroit River have historically provided satisfactory treatment of this source water to 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 2015, GLWA received a grant from The Michigan Department of Environmental Quality to develop a source water protection program for the Detroit River intakes. The programs includes seven elements that include the following: roles and duties of government units and water supply agencies, delineation of a source water protection area, identification of potential of source water protection area, management approaches for protection, contingency plans, siting of new sources and public participation and education. If you would like to know more information about the Source Water Assessment report please, contact your water department (810) 635-4464.

Nov. – Dec. 2017 Water Source - Karegnondi
Your source water comes from the lower Lake Huron watershed. The watershed includes numerous short, seasonal streams that drain to Lake Huron. 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 potential contamination. The susceptibility rating is a seven-tiered scale ranging from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contaminant sources. The Lake Huron source water intake is categorized as having a moderately low susceptibility to potential contaminant sources. The Lake Huron water treatment plant has historically provided satisfactory treatment of this source water to meet drinking water standards.

In 2015, GLWA received a grant from the Michigan Department of Environmental Quality to develop a source water protection program for the Lake Huron water treatment plant intake. The program includes seven elements that include the following: roles and duties of government units and water supply agencies, delineation of a source water protection area, identification of potential of source water protection area, management approaches for protection, contingency plans, siting of new sources and public participation and education. If you would like to know more information about the Source Water Assessment report please, contact your water department (810) 635-4464.

- **Contaminants and their presence in water:** Drinking Water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the **Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).**

- **Vulnerability of some populations:** Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune systems disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

- **Sources of drinking water:** 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 and residential uses.
  - **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
  - **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which provide the same protection for public health.

The table below lists all the drinking water contaminants that were detected during the 2017 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 - December 31, 2017. 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. All of the data is representative of the water quality, but some are more than one year old.

Information about 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 Swartz Creek 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 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.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. 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. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Water Hotline (800-426-4791).

Monitoring and Reporting to the DEQ Requirements: The State and EPA require us to test our water on a regular basis to ensure its safety. We met all the monitoring and reporting requirements for 2017.

We will update this report annually and will keep you informed of any problems that may occur throughout the year, as they happen. Copies are available at the Paul D. Bueche Municipal Building, 8083 Civic Dr., Swartz Creek, MI 48473. This report may not be sent to you.

GLWA voluntarily developed and received approval in 2017 for a source water protection program (SWIPP) for the Lake Huron Water Treatment Plant intake. The program includes seven elements that include the following: roles and duties of government units and water supply agencies, delineation of a source water protection area, identification of potential of source water protection area, management approaches for protection, contingency plans, siting of new sources and public participation and education. If you would like to know more information about the Source Water Assessment or the SWIPP please, contact your water department at 810-635-4464.

We invite public participation in decisions that affect drinking water quality. City Council meetings are the second and fourth Mondays of each month. For more information about your water, or the contents of this report, contact Thomas Svrcek at (810)635-4464. (www.cityofswartzcreek.org)]. For more information about safe drinking water, visit the U.S. Environmental Protection Agency at www.epa.gov/safewater/.

2017 Consumer Confidence Report is available at the Paul D. Bueche Municipal Building or the City website www.cityofswartzcreek.org.

2017 Regulated Detected Contaminants Tables – GLWA (Jan. –Nov. 2017)

2017 Inorganic Chemicals – Monitoring at the Plant Finished Water Tap

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
Fluoride	5-16-2017	ppm	4	4	0.72	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	5-16-2017	ppm	10	10	0.34	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

2017 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)	2017	ppb	n/a	80	66	N/A	no	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	2017	ppb	n/a	60	2.0	N/A	no	By-product of drinking water disinfection

Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest RAA	Quarterly Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Chlorine Residual	Jan-Dec 2017	ppm	4	4	0.75	0.65-0.80	no	Water additive used to control microbes

2017 Turbidity – Monitored every 4 hours at Plant Finished Water

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
0.29 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.			

2017 Lead and Copper Monitoring at Customers' Tap

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Action Level AL	90th Percentile Value*	Number of Samples over AL	Violation yes/no	Major Sources in Drinking Water
Lead	Sept 2017	ppb	0	15	0	0	no	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	Sept 2017	ppm	1.3	1.3	0.13	0	no	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.

2017 Microbiological Contaminants – Monthly Monitoring in Distribution Systems

Regulated Contaminant	MCLG	MCL	Highest Number Detected	Violation yes/no	Major Sources in Drinking Water
Total Coliform Bacteria	0	Presence of Coliform bacteria >5% of monthly samples	Not Detected	no	Naturally present in the environment

E. coli Bacteria	0	A routine sample and a report sample are total coliform positive and one is also fecal or E. coli positive	Not Detected	no	Human and animal fecal waste

Regulated Contaminant	Treatment Technique 2017	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 TOC removal requirement	Erosion of natural deposits

Radionuclides 2014							
Regulated contaminant	Test date	Unit	Health Goal MCLG	Allowed Level	Level detected	Violation Yes/no	Major Sources in Drinking water
Combined Radium 226 and 228	5-13-14	pCi/L	0	5	0.86 + or - 0.55	no	Erosion of natural deposits

Contaminant	MCLG	MCL	Level Detected 2017	Source of Contamination
Sodium (ppm)	n/a	n/a	4.46	Erosion of natural deposits

2017 Regulated Detected Contaminants Tables – NEW – Karegnondi (Nov, -Dec. 2017)

2017 Inorganic Chemicals – Monitoring at the Plant Finished Water Tap								
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
Fluoride	12-7-2017	ppm	4	4	0.85	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	12-7-2017	ppm	10	10	ND	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	12-11-2017	ppm	2	2	0.01	n/a	no	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits

Disinfectant Residual – Monitoring in Distribution								
Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest RAA	Quarterly Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Chlorine Residual	Dec 2017	ppm	4	4	0.64	0.4-0.9	no	Water additive used to control microbes

2017 Turbidity – Monitored every 4 hours at Plant Finished Water			
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
0.56 NTU	99 %	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.			

Key to the Detected Contaminants Table

Symbol	Abbreviation	Definition/Explaination
>	Greater than	
*C	Celsius	A scale of temperature in which water freezes at 0* and boils at 100* under standard conditions.
AL	Action Level	The concentration of a contaminant, which, if excedded, triggers treatment or other requirements which a water system must follow.
HAA5	Haloacetic	HAA5 is the totalof bromoacetic, chloroacetic, dibromaocetic,dichloroacetic and trichloroacetic acids. Compliance is based on the total.
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 feasable 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.
MRLD	Maximum Residual Disinfectant Level	The highest level of disinfect allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for contriol of microbial contaminants.
MRDLG	Maximum Residual Disinfectant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health. MRLDGs do not reflect the benefits of the use of disinfectants to control microbial.
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 wquivalent to milligrams per liter. A milligram = 1/1000 gram.
RAA	Running Annual Average	The avergae of analytical results for all samples during the previous four quarters.
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.
umhos	Micromhos	Measure of electrical conductance of water

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE

CONSUMER CONFIDENCE REPORT FOR COMMUNITY WATER SUPPLY CERTIFICATE OF DISTRIBUTION

Issued under authority of 1976 PA 399 and Administrative Rules, as amended.
Failure to submit certification is a violation of the Act and may subject the water supply to enforcement penalties.

Supply Name:	City of Swartz Creek	County:	Genesee	WSSN:	6505
Population:	☐ 500 or fewer people	☒ 501 – 9,999 people		☐ 10,000 or more people	

Community water supplies must confirm that the Consumer Confidence Report (CCR) and any enclosed Public Notices (PN) or notices of CCR availability, have been distributed to customers by July 1 as required under administrative rules R 325.10415 and R 325.10404(4)(c). Supplies must also certify that the information contained in the CCR is correct and consistent with the compliance monitoring data previously submitted to the Michigan Department of Environmental Quality (DEQ). **Return the certification to the appropriate DEQ district office by October 1**. For addresses, visit www.michigan.gov/deq, click on Locations.

Method of delivery to DEQ

☐ Mail ☒ Email ☐ Hand Delivery ☐ Other _____ Date delivered: 6-6-2018

Method of delivery to Local Health Department

☒ Mail ☐ Email ☐ Hand Delivery ☐ Other _____ Date delivered: 6-6-2018

Method or combination of methods to directly deliver CCR to each bill paying customer. Check all that apply.

☐ Mail or hand deliver a paper copy of CCR. Date(s) mailed or hand delivered: _____
☐ Mail or hand deliver notification that the CCR is available at a direct URL. Date(s) delivered to customers: _____
☐ Email notification that CCR is available at direct URL: Date(s) emailed: _____
☐ Email notification that CCR is attached to the email. Date(s) emailed: _____
☐ Email notification that CCR is embedded in the email. Date(s) emailed: _____

If using notification of CCR availability:

1. Mail a paper CCR to customers who request it and to customers known to be incapable of receiving electronically.
2. Include a copy of the notification to the DEQ district office with this certification form.
3. Explain the nature of the notification, prominently display the direct URL, include statement how to request a paper copy.

> Example of Notification of CCR Availability Subject Line: 2012 Drinking Water Quality Report Available.
> Message: Your annual report on the source and quality of your drinking water is available on the Web at **www.anytown.gov/waterqualityreport**. To have a copy mailed to you, contact Anytown at 555-111-1111 or water@anytown.gov.

☒ **Option for supplies serving fewer than 10,000 persons**: Publish entire report in newspaper, and notify customers via newspaper(s) in which CCR published, mail, email or hand delivery that individual copies will not be mailed, and include statement how to request a paper copy.
Date(s) of publication: 6-14-2018

☐ **Option for supplies serving 500 or fewer persons**: Notify customers via mail, email, hand delivery or, with DEQ approval, posting in public places, that a copy of the report is available from the water supply on request.
Date(s) of notification: _____

Post on Internet (required for supplies serving ≥100,000, optional for others)

☒ Internet address: www.cityofswartzcreek.org Date accessible: 6-11-2018

"Good Faith" efforts to reach non-bill-paying consumers (in addition to the method(s) above). Check all that apply.

☐ Mail the report to all postal patrons. Zip codes and dates mailed: _____
☐ Mail to each service connection physical address. Date(s) mailed: _____
☐ Advertise the availability of the report in the newspapers, on TV, and on the radio.
☒ Publish the report in a local newspaper.
☒ Post the report in public places such as cafeterias in public buildings, libraries, churches, and schools.
☐ Deliver multiple copies for distribution by single-bill customers, e.g., apartments or private employers.
☐ Deliver the report to community organizations.
☐ Other: _____

Send to the DEQ a copy of the news articles, a list of channels broadcast and dates, and a list of locations/organizations reports delivered to and dates.

A Tier 3 Public Notice is Distributed with this CCR

☐ This CCR is being used to deliver a Tier 3 Public Notice for one or more violations. To use this Tier 3 delivery option, the CCR must be directly delivered to each bill paying customer or, with DEQ approval, continuously posted, and must be issued within 12 months of learning of the violation. A copy of this form must be delivered to the DEQ within 10 days of delivering the CCR to customers to meet the public notification requirements.

Name/Title: Thomas R Svrcek - Director of Public Services

Signature: Thomas R Svrcek Date: 6-6-18

See reverse side for U.S. EPA Expectations for Electronic Delivery of CCR