

Ministry of the Environment,
Conservation & Parks

Ministère de l'Environnement, de la Protection de
la nature et des Parcs

Owen Sound District Office

Bureau de district d'Owen Sound

101 17th Street East, 3rd Floor
Owen Sound ON N4K 0A5

Tel.: 519-371-2901

Fax.: 519-371-2905

101 17^{ème} rue Est, 3^e étage

Owen Sound ON N4K 0A5

Tél. : 519-371-2901

Télééc. : 519-371-2905

March 29, 2021

Sent by Email: kara.vanmyall@saugeenshores.ca.

Town of Saugeen Shores
600 Tomlinson Drive,
PO Box 820
Port Elgin ON
N0H 2C0

Attention: Kara Van Myall,
CAO

Dear Ms. Van Myall,

Re: 2020/2021 Saugeen Shores Drinking Water System Inspection Report No. 1-PAZFS
Municipal Drinking Water Licence No. 093-101, Issue No. 2
Drinking Water Works Permit No. 093-201, Issue No. 3

The enclosed report documents findings of the inspection that was performed on March 2, 2021. Two sections of the report, namely "Actions Required" and "Recommended Actions", specify due dates for the submission of information or plans to my attention. Please note that "Actions Required" are linked to incidents of non-compliance with regulatory requirements contained within an Act, a Regulation, or site-specific approvals, orders or instructions; "Recommended Actions" convey information that the owner or operating authority should consider implementing in order to conform with existing and emerging industry standards.

The report includes an Inspection Summary Rating Record as an appendix. This record forms part of the ministry's comprehensive, risk-based inspection process. The rating provides a quantitative measure of the inspection results for this specific drinking water system for the reporting year. An inspection rating that is less than 100 per cent does not mean that the drinking water from the system is unsafe. The primary goals of this assessment are to encourage ongoing improvement of drinking water systems and to measure this progress from year to year.

2.

I would like to remind you that Section 19 of the Safe Drinking Water Act, 2002 (Standard of Care) creates a number of obligations for individuals who exercise decision-making authority over municipal drinking water systems, including members of municipal councils. "Taking Care of Your Drinking Water: A guide for members of municipal council", a publication found on the Drinking Water Ontario website (<https://www.ontario.ca/page/taking-care-your-drinkingwaterguidemembers-municipal-councils>), provides further information about these obligations. Should you have any questions regarding the content of the enclosed report, please do not hesitate to contact me.

Yours truly,



Bob Graham
Water Inspector
Ministry of the Environment, Conservation and Parks
Phone: 519-374-0216
e-mail: Robert.g.graham@ontario.ca

Enclosure

ec: Carl Seider, Project Manager, Source Water Protection Program
Daniel Macleod, Senior Operations Manager, OCWA
Karla Young, Process Compliance Technician, OCWA
Mark Smith, Water Compliance Supervisor, MECP
Dr. Ian Arra, Medical Officer of Health, GBHU

c: File File: SI-BR-SS 540 (2020)



Ministry of the Environment, Conservation and Parks

**SAUGEEN SHORES DRINKING WATER SYSTEM
Inspection Report**

Site Number:	210000078
Inspection Number:	1-PAZFS
Date of Inspection:	Mar 02, 2021
Inspected By:	Robert Graham

OWNER INFORMATION:

Company Name:	SAUGEEN SHORES, THE CORPORATION OF THE TOWN OF	Unit Identifier:	
Street Number:	600		
Street Name:	TOMLINSON Dr		
City:	PORT ELGIN	Postal Code:	N0H 2C0
Province:	ON		

CONTACT INFORMATION

Type:	Operating Authority	Name:	Daniel Macleod
Phone:	(519) 797-2561 x223	Fax:	(519) 797-3080
Email:	dmacleod@ocwa.com		
Title:	Senior Operations Manager		

Type:	Owner	Name:	Colin Saunders
Phone:	(519) 832-2008	Fax:	
Email:	colin.saunders@saugeenshores.ca		
Title:	Environmental Services Manager, Saugeen Shores		

Type:	Operator	Name:	Paul Shular
Phone:	(519) 797-2561	Fax:	(519) 797-3080
Email:	pshular@ocwa.com		
Title:	Senior Operator/ORO		

INSPECTION DETAILS:

Site Name:	SAUGEEN SHORES DRINKING WATER SYSTEM
Site Address:	140 ISLAND Street SOUTHAMPTON ON N0H 2L0
County/District:	SAUGEEN SHORES
MECP District/Area Office:	Owen Sound Area Office
Health Unit:	GREY BRUCE HEALTH UNIT
Conservation Authority:	Saugeen Conservation
MNR Office:	Ministry of the Environment Owen Sound Area Office
Category:	Large Municipal Residential
Site Number:	210000078
Inspection Type:	Announced
Inspection Number:	1-PAZFS
Date of Inspection:	Mar 02, 2021
Date of Previous Inspection:	Jan 16, 2020

COMPONENTS DESCRIPTION

Site (Name):	DISTRIBUTION (WATER INSPECTIONS)	
Type:	Other	Sub Type:
Comments:		

The Saugeen Shores Drinking Water System is located in Southampton, Ontario. The drinking water system is owned by the Town of Saugeen Shores, and supplies water to the communities of Port Elgin, Southampton, and parts

of the former township of Saugeen. Water is also supplied to the Saugeen Ojibway First Nation (SON). According to the drinking water system registration profile, the total serviced population within the municipal boundaries is approximately 13,200 persons. The system is considered a "large municipal residential system" under O. Regulation 170/03.

The communities of Port Elgin and Southampton are equipped with water standpipes. These allow pressure to be maintained in the distribution system in two discrete pressure zones, each fed by vertical turbine pumps located within separate high-lift wells at the Southampton treatment plant:

- Zone 1, the Southampton distribution system, supplies Southampton west of Grenville Street, and through a boundary meter, the SON. A booster station, located on Rankin St. South north of the Saugeen River, is available to increase distribution system pressure in that area but has not been used since 2012 transmission main improvements were made to supply the area.
- Zone 2, the Port Elgin distribution system, supplies Port Elgin, and areas east of Grenville Street in Southampton and parts of the former township of Saugeen south of Port Elgin, including the MacGregor Point Provincial Park. A 500 mm transmission main delivers the supply from Southampton to Port Elgin. A separate storage reservoir and booster pumping station, located adjacent to the Port Elgin standpipe, is also filled from this supply.

According to the Town's 2014 Water and Wastewater Master Plan, the existing customer split between the two zones is:

- 38% Southampton Zone 1, and
- 62% Port Elgin Zone 2.

Closed inter-connection pressure-sustaining valves between the Port Elgin transmission main and the Southampton distribution system permit the pressure zones to be operated together, but because of the difference in standpipe maximum water levels, could cause operational problems at the Southampton standpipe without restricting system pressure in the Port Elgin zone (e.g. Southampton standpipe overflows and lack of water turnover).

Site (Name): RAW WATER

Type: Source

Sub Type: Surface

Comments:

The treatment facility in Southampton receives water from Lake Huron into a low lift pumping station. Three variable speed drive low lift pumps can draw water from a low lift well via a 1600 m long gravity fed intake pipe. An intake crib is mounted above the end of the pipe. The low lift station is equipped for zebra mussel control consisting of a chlorine solution line originating from the chlorine room at the low-lift building, extending to a diffuser located within the intake crib, but is not generally used. The low lift pumping station consists of:

- An underground separate intake chamber outside the low lift building, equipped with a manually removed screen.
- A piped connection to the raw water pump well.
- A raw water pump well, equipped with float controls for low level alarming.
- Two self-cleaning strainers for pre-treatment of raw water prior to membrane filtration at the treatment plant.
- A gas chlorination system with feeds for zebra mussel control, and pre-chlorination into the raw pump well or injection into the raw pump header downstream of the strainers. Chlorine is normally injected into the raw pump header.

Site (Name): TREATED WATER

Type: Treated Water POE

Sub Type: Pumphouse

Comments:

The treatment plant is currently rated at 18,000 m³/d approved capacity. It is a suction membrane filtration system consisting of four open-tank submerged Zenon (Suez/GE) ZeeWeed membrane trains, each consisting of 24 sets of three-tiered hollow-fibre cassette modules which draw permeate into and through the hollow fibers. A suction pump is available for each train but permeate is normally drawn through under siphon. Collected permeate is then discharged into a two-chambered clearwell, each configured with internal baffles such that it provides chlorine contact CT though each section prior to the respective high-lifts. Chemical storage, metering and piping equipment is

provided for membrane maintenance clean (low strength sodium hypochlorite), membrane clean in place (high strength citric acid, high strength sodium hypochlorite soaks and recirculation) and chemical neutralization procedures. Air blowers and backpulse pumps are available for routine membrane backpulse. Backpulse rejects are collected in two backwash tanks which are pumped for treatment in an upflow clarifier after de-chlorination and dosing with polyaluminum chloride (PACL).

Primary chlorine disinfection is provided via sodium hypochlorite solution injection into the combined permeate stream ahead of the clearwell. Free chlorine is monitored at the head of the clearwell, and after the clearwell from each Zone's point of entry into the distribution system. A re-chlorination station is also available at the MacGregor Point Provincial Park, but has not been used since its installation.

INSPECTION SUMMARY:

Introduction

- The primary focus of this inspection is to confirm compliance with Ministry of the Environment, Conservation and Parks (MECP) legislation as well as evaluating conformance with ministry drinking water related policies and guidelines during the inspection period. The ministry utilizes a comprehensive, multi-barrier approach in the inspection of water systems that focuses on the source, treatment and distribution components as well as management practices.

This drinking water system is subject to the legislative requirements of the Safe Drinking Water Act, 2002 (SDWA) and regulations made therein, including Ontario Regulation 170/03, "Drinking Water Systems" (O.Reg. 170/03). This inspection has been conducted pursuant to Section 81 of the SDWA.

This report is based on a "focused" inspection of the system. Although the inspection involved fewer activities than those normally undertaken in a detailed inspection, it contained critical elements required to assess key compliance issues. This system was chosen for a focused inspection because the system's performance met the ministry's criteria, most importantly that there were no deficiencies as identified in O.Reg. 172/03 over the past 3 years. The undertaking of a focused inspection at this drinking water system does not ensure that a similar type of inspection will be conducted at any point in the future.

This inspection report does not suggest that all applicable legislation and regulations were evaluated. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

On March 2, 2021, Ministry of the Environment, Conservation and Parks (MECP) Provincial Officer Bob Graham conducted an announced focused inspection of the Saugeen Shores Drinking Water System (DWS). The Saugeen Shores DWS is owned by the Town of Saugeen Shores (Owner) and operated by the Ontario Clean Water Agency (OCWA). Assistance with the inspection was provided by OCWA Senior Operator, Paul Schular, OCWA Process & Compliance Technician Karla Young, OCWA Acting Manager of Safety and Compliance Processes, Michelle Neal and OCWA Operator in Training, Nicole Moore. During the inspection review period, from January 17, 2020, to the date of inspection, March 2, 2021, there were no Adverse Water Quality Incidents (AWQIs) reported to the MECP Spills Action Centre.

Source

- **The owner had a harmful algal bloom monitoring plan in place.**

The Owner had previously developed and implemented a Standard Operating Procedure (SOP) dated 2014-08-06 related to cyanobacterial monitoring and cyanotoxin response. OCWA is aware that, upon the renewal of the current MDWL in 2021, a revised SOP will be required that meets the revised conditions of MDWL Schedule C.

Under the existing monitoring plan, OCWA conducts visual monitoring for microcystin during the summer and early fall months (generally May through October), and visually inspects the surface water source shoreline in the vicinity of the intake on a regular basis. If a risk to the drinking water supply has been identified through visual observations, monitoring the local news and updates from the local Conservation Authority or public health unit, weekly raw and treated water microcystin samples are collected for analysis. Should raw water microcystin be detected at a level greater than 1.0 µg/L, the lab will then analyze the treated water sample(s). If the raw water results are less than 1.0 µg/L, OCWA will continue to sample once per week as per the SOP until the bloom is no longer suspected or observed in and around the water intake, or until two weekly ELISA analyses show no presence of microcystins. Should treated water microcystin be detected at a level greater than or equal to 1.5 µg/L the Lab will immediately verbally notify MECP SAC, the local Medical Officer of Health (MOH), OCWA and the

Source

Owner indicating that the result is "provisional microcystin-LR until further notice". The Lab will make arrangements to send the sample(s) to the MECPs Laboratory Services Branch (LaSB) for confirmation analysis of microcystin-LR and complete regulatory reporting notifications as per the Owners Reporting Adverse Water Quality SOP and resample treated water and send to the lab for analysis as soon as reasonably possible, including following any directions given by the MOH and MECP. Should treated water results be less than (<) 1.5 µg/L, OCWA will continue to sample at a minimum once per week as per the SOP until the bloom is no longer suspected or observed in and around the intake, or until two weekly ELISA analyses show no presence of microcystins.

Capacity Assessment

- **There was sufficient monitoring of flow as required by the Municipal Drinking Water Licence or Drinking Water Works Permit issued under Part V of the SDWA.**

Condition 2.0 of Schedule C of the MDWL requires the owner to undertake continuous flow measurement and recording for:

2.1.1 The flow rate and daily volume of treated water that flows from the treatment subsystem to the distribution system.

2.1.2 The flow rate and daily volume of water that flows into the treatment subsystem.

Flow meters are installed on the raw inlet header to the water treatment plant and also on each membrane train permeate discharge line. Additionally, a flow meter is installed to measure filter backwash waste discharge flow to the residuals treatment clarifier. Flow meters are also installed on each high-lift discharge header to the distribution system.

All of the flow measuring devices were most recently calibrated on June 29 and 30, 2020, and there were reportedly no concerns identified during those calibrations.

- **The owner was in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the Municipal Drinking Water Licence issued under Part V of the SDWA.**

Condition 1.1 of Schedule C of the MDWL identifies that the maximum daily volume of treated water that flows from the treatment subsystem to the distribution system at the Southampton Water Treatment Plant shall not exceed 18,000 m³/day. During the inspection review time period, the maximum day flow of treated water was 11,414 m³ on July 5, 2020, representing approximately 63% of the approved rated capacity.

Treatment Processes

- **The owner had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.**

The equipment installed at the Saugeen DWS plant compares favourably to the equipment listed in the DWWP issued for the Saugeen DWS. The process flow diagram included in Schedule D of the Permit also appears to be accurate. All equipment described in the Permit appeared to be installed and operating on the date of this inspection.

- **The owner/operating authority was in compliance with the requirement to prepare Form 2 documents as required by their Drinking Water Works Permit during the inspection period.**
- **Records indicated that the treatment equipment was operated in a manner that achieved the design capabilities required under Ontario Regulation 170/03 or a Drinking Water Works Permit and/or Municipal Drinking Water Licence issued under Part V of the SDWA at all times that water was being supplied to consumers.**

Treatment for a surface water source is required to achieve 2-log removal or inactivation of *Cryptosporidium* oocysts, a 3-log removal or inactivation of *Giardia* cysts and a 4-log removal or inactivation of viruses. These requirements are reportedly met by membrane filtration followed by gas chlorination and sodium hypochlorite for both primary and secondary disinfection purposes.

Treatment Processes

According to Schedule E of the Licence, the ultrafiltration process is credited with 2.5 log Giardia cyst removal, 2.0 log Cryptosporidium oocyst removal and 0 log virus removal credits, if the filtration process meets the following criteria:

1. Effective backwash procedures shall be maintained including filter-to-waste or an equivalent procedure to ensure that the effluent turbidity requirements are met at all times;
2. Membrane integrity shall be monitored by continuous particle counting or by an equivalently effective means such as intermittent pressure decay measurements;
3. Filtrate turbidity shall be continuously monitored;
4. Performance criterion for filtered water turbidity of less than or equal to 0.1 NTU in 99% of the measurements each month shall be met for each filter train; and
5. Membrane filtration process shall be specifically tested and confirmed by an independent testing agency or the approving Director for 2-log removal or inactivation of Cryptosporidium oocysts or removal of surrogate particles.

The Chlorination disinfection process is credited with 0.5 log Giardia cyst removal and 4 log virus removal credits, if the chlorination process meets Licence Schedule E chlorination treatment criteria.

Records reviewed indicate that the Saugeen Shores Water Treatment Plant was operated to achieve the necessary CT requirements and membrane filtration performance criteria for primary disinfection purposes during the inspection cycle.

- **Records confirmed that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated so that at all times and all locations in the distribution system the chlorine residual was never less than 0.05 mg/l free or 0.25 mg/l combined.**

Following completion of the intended chlorine contact time for primary disinfection purposes, free available chlorine residual is maintained out and into the distribution system(s) for secondary disinfection purposes to reduce the potential for microbial re-growth within the distribution system, and in accordance with section 1-5 of Schedule 1, O.Reg.170/03. During the inspection review period, the free chlorine residual in the distribution system(s) exceeded the minimum distribution system chlorine residual regulatory limit of 0.05 mg/L, with a low free chlorine residual concentration level of 0.14 mg/L.

- **Where an activity has occurred that could introduce contamination, all parts of the drinking water system were disinfected in accordance with Schedule B, Condition 2.3 of the Drinking Water Works Permit.**

In accordance with Section 2.3, Schedule B of the DWWP, the owner has developed Standard Operating Procedures (SOPs) which provides operational staff directives regarding Watermain Distribution Repairs, and incorporates the procedures set out in the Ministry's Watermain Disinfection Procedure, dated November 2015. The Ministry recently updated the Watermain Disinfection Procedure on August 1, 2020 and the Owner shall be required to use the updated Watermain Disinfection Procedure when the MDWL/DWWP for the DWS is renewed. The November 2015 version of the Ministry's Watermain Disinfection Procedure is to be used until the DWWP is updated with the new condition at licence renewal.

The SOPs for watermain repairs and disinfection of water system components of the DWS include:

G-31 - "Watermain Repair (Includes Service Repair and Appurtenance Repair)"

G-40 - "Flushing Procedures"

G-42 - "Disinfection of Drinking Water System Components"

The operating authority also has a standard operating procedure which details disinfection procedures associated with commissioning of new works. This SOP is entitled:

G-30 - "Watermain Commissioning (Includes New Installations and Temporary Watermains)"

- **The primary disinfection equipment was equipped with alarms or shut-off mechanisms that satisfied the standards described in Section 1-6 (1) of Schedule 1 of Ontario Regulation 170/03.**

There are 4 filter trains and permeate turbidity meters are installed on each filtration train. The on call operators receive initial warning alarm which is set at 0.15 NTU with a delay of 900 seconds in which the membrane train will

Treatment Processes

go into Membrane Integrity Test (MIT) mode. If the train is able to achieve a log removal value (LRV) greater than the set point of 4 it will restart. If the train does not achieve this (LRV less than 4.0) it will shut-down and lock-out. If the permeate turbidity reaches an a alarm set point of 0.5 NTU with a delay of 300 seconds it will trigger a shutdown until the alarms have cleared .

Treatment Process Monitoring

- **Primary disinfection chlorine monitoring was conducted at a location approved by Municipal Drinking Water Licence and/or Drinking Water Works Permit issued under Part V of the SDWA, or at/near a location where the intended CT has just been achieved.**

Continuous chlorine monitors/controllers with free chlorine probes measures free chlorine on the respective Zone #1 and Zone #2 clearwell high lift discharge headers. These analysers are used for measuring primary disinfection CT at the outlet of each of the clearwell sections, consistent with the Ministry's "Procedure for Disinfection of Drinking Water in Ontario".

- **Continuous monitoring of each filter effluent line was being performed for turbidity.**

Hach 1720E low range continuous turbidity analysers measure turbidity from the respective membrane permeate lines; one per membrane train.

- **The secondary disinfectant residual was measured as required for the distribution system.**

Logs and trends show that distribution system free chlorine residuals were taken, measured and recorded continuously, in conjunction with sampling under O. Reg. 170/03 s. 6-4 (1) and (2), which requires continuous testing for secondary disinfection distribution free chlorine residual to be completed and recorded at least every hour. Sampling by continuous analysers at two locations, the Port Elgin Reservoir and Southampton low lift pump station (potable water tap), was conducted and recorded by the SCADA Historian server at least every 5 minutes. There is also a distribution continuous analyser located at the MacGregor Point station. Although results there are not transmitted to the SCADA system, that analyser is equipped with a circular chart recorder. The Port Elgin Reservoir is also equipped with a circular chart recorder for backup. Log sheets also show that operator(s) undertook daily grab samples at the Port Elgin reservoir and MacGregor Point station, thus providing multiple layers of required sampling backup in the event any one of the analysers or recording systems fails or SCADA communications are lost.

- **Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test.**

In accordance with OCWA's "Daily Data Review" standard operating procedure, and as reflected in the facility logbook and trend review summaries, reviews of continuous monitoring summary results are completed once per day from printed copies, supplemented by a review of screen trends. The operator is also required to note the reasons for anomalies in the log book. During the inspection the most recent printed trend data, and log book entries, were reviewed and it was found that these monitoring procedures were being followed.

- **All continuous monitoring equipment utilized for sampling and testing required by O. Reg.170/03, or Municipal Drinking Water Licence or Drinking Water Works Permit or order, were equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6.**
- **Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format.**
- **The owner and operating authority ensured that the primary disinfection equipment had a recording device**

Treatment Process Monitoring

that continuously recorded the performance of the disinfection equipment.

- **All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.**

Routine analyzer maintenance, accuracy verification checks and calibrations are conducted by the operator which are recorded in plant logs and daily SCADA reports. OCWA has yearly calibrations (completed on May 12, 2020) conducted by an outside source company and they also calibrate their analyzers on a monthly basis.

Operations Manuals

- **The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.**
- **The operations and maintenance manuals met the requirements of the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA.**

Logbooks

- **Records or other record keeping mechanisms confirmed that operational testing not performed by continuous monitoring equipment was being done by a certified operator, water quality analyst, or person who suffices the requirements of O. Reg. 170/03 7-5.**

Security

- **The owner had provided security measures to protect components of the drinking water system.**

Certification and Training

- **The overall responsible operator had been designated for each subsystem.**

The Overall Responsible Operator for the Saugeen Shores DWS is Paul Shular who possess a Class 4 Water Treatment Subsystem Certificate and a Class 4 Water Distribution and Supply Certificate.

- **Operators-in-charge had been designated for all subsystems which comprised the drinking water system.**
- **All operators possessed the required certification.**

Operator certification is posted at locations from where the drinking water subsystems are managed. Operator certification was verified with the Ontario Water Wastewater Certification Office and all operators were in possession of valid certificates. Some operators have certificates set to expire in 2021. Those individuals are required to renew those certificates.

- **Only certified operators made adjustments to the treatment equipment.**

Water Quality Monitoring

- **All microbiological water quality monitoring requirements for distribution samples were being met.**

The owner of a large municipal residential drinking water system shall ensure that if the system serves a population of 100,000 or less, at least 8 distribution samples plus one for every thousand people served by the system are taken every month. At least one of the samples must be taken each week. As Saugeen Shores DWS population is estimated to be 16,000 residents by OCWA, 24 samples must be collected from the distribution system on a

Water Quality Monitoring

monthly basis at a minimum. These samples are required to be tested for E.Coli. and total coliform; and at least 25 percent of the samples are required to be tested for general bacteria populations expressed as colony counts on a heterotrophic plate count. Records indicate that the Owner is routinely collecting seven distribution samples each week in order to comply with, and exceed, the regulatory requirement. Each of those samples were tested for E.Coli., total coliform, and approximately one third of the samples were tested for general bacteria populations expressed as colony counts on a heterotrophic plate count. There were no concerns identified with the results obtained.

- **All microbiological water quality monitoring requirements for treated samples were being met.**

Section 10-3 of Schedule 10, O.Reg.170/03 requires the municipality to ensure samples are collected at least once every week from the system's treated water at the point of entry into the distribution system. The samples collected are required to be tested for E.Coli and total coliform, and general bacteria populations expressed as colony counts on a heterotrophic plate count. Records reviewed in the course of this inspection indicate that the Owner complied with these requirements. There were no concerns identified with the results obtained.

- **All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Sampling and testing for inorganic parameters has been conducted for the Saugeen DWS in accordance with Schedule 13-2 of Ontario Regulation 170/03. The regulation requires that samples are to be collected every 12 months and tested for each parameter listed in Schedule 23; this requirement has been met. During the inspection review time period, samples were collected on January 12, 2021 and there were no concerns identified from the results obtained.

- **All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Sampling and testing for organic parameters has been conducted for the Saugeen DWS in accordance with Schedule 13-4 of Ontario Regulation 170/03. The regulation requires that samples are to be collected every 12 months and tested for each parameter listed in Schedule 24; this requirement has been met. During the inspection review time period, samples were collected January 12, 2021 and there were no concerns identified from the results obtained.

- **All haloacetic acid water quality monitoring requirements prescribed by legislation are being conducted within the required frequency and at the required location.**

Section 13-6.1 (1) of Schedule 13, O.Reg.170/03 requires the Owner/Operator to ensure that at least one distribution sample is taken every 3 months from a point in the drinking water system's distribution system that is connected to the drinking water system, that is likely to have an elevated potential for the formation of Haloacetic Acids (HAAs), and tested for HAAs. Section 6-1.1 of Schedule 6, O.Reg.170/03 requires that these samples be taken at least 60 days, and not more than 120 days, after a sample was taken for that purpose in the previous three month period. A drinking water quality standard of 80 micrograms per Litre (ug/L) for HAAs took effect under O.Reg.169/03 "Ontario Drinking Water Quality Standards" (ODWQS) on January 1, 2020. It is expressed as a Running Annual Average (RAA), where the RAA is defined as the average for quarterly HAAs results for a drinking water system. HAAs will generally form at the beginning of the distribution system. During the inspection review time period, sampling occurred on April 6, July 6, and October 6, 2020 and January 12, 2021 and there were no concerns identified with the sample results.

- **All trihalomethane water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location.**

Section 13-6 of Schedule 13, O.Reg.170/03 requires the Owner/Operator to ensure that at least one distribution sample is taken every 3 months from a point in the drinking water system's distribution system, or in plumbing that is connected to the drinking water system, that is likely to have an elevated potential for the formation of

Water Quality Monitoring

Trihalomethanes (THMs), and tested for THMs. Section 6-1.1 of Schedule 6, O.Reg.170/03 requires that these samples be taken at least 60 days, and not more than 120 days, after a sample was taken for that purpose in the previous three month period. A drinking water quality standard of 100 micrograms per Litre (ug/L) for THMs is in effect under O.Reg.169/03 "Ontario Drinking Water Quality Standards" (ODWQS). It is expressed as a Running Annual Average (RAA), where the RAA is defined as the average for quarterly THMs results for a drinking water system. During the inspection review time period, sampling occurred on April 6, July 6, and October 6, 2020 and January 12, 2021 and there were no concerns identified with the sample results.

- **All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency for the DWS.**

Section 13-7 of Schedule 13, O.Reg.170/03 requires the Owner/Operator to ensure that at least one water sample is taken every three months and tested for nitrates and nitrites. Section 6-1.1 of Schedule 6, O.Reg.170/03 requires that these samples be taken at least 60 days, and not more than 120 days, after a sample was taken for that purpose in the previous three month period. During the inspection time period, the Owner complied with these requirements when they conducted the required monitoring on April 6, July 6, and October 6, 2020 and January 12, 2021 and there were no concerns identified with the sample results.

- **All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Section 13-8 of Schedule 13, O.Reg.170/03 requires that the Owner/Operator to ensure that a treated water sample is taken every 60 months and is tested for sodium. The Owner complied with these requirements when they conducted the required monitoring on January 9, 2018 and achieved a result of 6.12 mg/L . There were no concerns identified with the sample results.

- **All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Section 13-9 of Schedule 13, O.Reg.170/03 requires the Owner/Operator to ensure that at least one water sample is taken every 60 months and tested for Fluoride. The Owner complied with these requirements when they conducted the required monitoring on January 9, 2018 and achieved a result of 0.08 mg/L. There were no concerns identified with the sample results.

- **All water quality monitoring requirements imposed by the MDWL or DWWP issued under Part V of the SDWA were being met.**

Schedule C of the MDWL also requires sampling the discharge from the membrane waste treatment system and testing for suspended solids on a monthly basis. This sample must be a composite sample and not exceed 25 mg/L at any time or exceed 15 mg/L as an annual average; these requirements have been met.

- **Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.**

Subsection 6-3 (1) of Schedule 6 of O.Reg.170/03 prescribes that if a microbiological sample required by the regulation is taken, that another sample must be taken at the same time from the same location and tested immediately for free chlorine residual. Records made during this inspection review period, indicate that the Owner ensured that a free chlorine residual was taken at the same time of all microbiological samples. Operational staff recorded the free available chlorine residual test results directly on the Laboratory Sample Submission/Chain of Custody Form at the same time that microbiological samples were obtained. The chlorine residuals associated with microbiological sample were then included by the laboratory on the analytical report associated with results of the microbiological test.

Water Quality Assessment

- **Records showed that all water sample results taken during the inspection review period did not exceed the**

Water Quality Assessment

values of tables 1, 2 and 3 of the Ontario Drinking Water Quality Standards (O.Reg. 169/03).

The standards for drinking water quality in Ontario are prescribed in O.Reg.169/03 "Ontario Drinking Water Quality Standards" (ODWQS). Background and supporting information for each of the standards can be found in the Ministry's "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines". During this inspection review period, there were no Adverse Water Quality Incidents (AWQI) reported for the drinking water system. All results for sampling conducted during this inspection review period met the microbiological and chemical requirements of O.Reg.169/03, and there were no reports made relating to adverse chlorine or turbidity monitoring.

Reporting & Corrective Actions

- **Where required continuous monitoring equipment used for the monitoring of chlorine residual and/or turbidity triggered an alarm or an automatic shut-off, a qualified person responded in a timely manner and took appropriate actions.**

Following a review of the SCADA and log book entries for the inspection review period, where required, operators appeared to have responded to and took appropriate measures, where necessary, in response to alarm conditions. Explanations appear to have been consistently provided for power interruptions, maintenance activities, process operation alarm calls, and any communication errors that triggered alarms. Any after hours alarm calls appear to have been responded to in a timely fashion by the utility operators and notes have been entered in the log book of their actions taken.
- **When the primary disinfection equipment, other than that used for chlorination or chloramination, has failed causing an alarm to sound or an automatic shut-off to occur, a certified operator responded in a timely manner and took appropriate actions.**

NON-COMPLIANCE WITH REGULATORY REQUIREMENTS AND ACTIONS REQUIRED

This section provides a summary of all non-compliance with regulatory requirements identified during the inspection period, as well as actions required to address these issues. Further details pertaining to these items can be found in the body of the inspection report.

Not Applicable

SUMMARY OF RECOMMENDATIONS AND BEST PRACTICE ISSUES

This section provides a summary of all recommendations and best practice issues identified during the inspection period. Details pertaining to these items can be found in the body of the inspection report. In the interest of continuous improvement in the interim, it is recommended that owners and operators develop an awareness of the following issues and consider measures to address them.

Not Applicable

SIGNATURES

Inspected By:
Robert Graham

Signature: (Provincial Officer)



Reviewed & Approved By:
Mark Smith

Signature: (Supervisor)



March 29, 2021

Review & Approval Date:

Note: This inspection does not in any way suggest that there is or has been compliance with applicable legislation and regulations as they apply or may apply to this facility. It is, and remains, the responsibility of the owner and/or operating authority to ensure compliance with all applicable legislative and regulatory requirements.



**Ministry of the Environment, Conservation and Parks
Drinking Water Inspection Report**

APPENDIX A

INSPECTION SUMMARY RATING RECORD

Ministry of the Environment - Inspection Summary Rating Record (Reporting Year - 2020-2021)

DWS Name: SAUGEEN SHORES DRINKING WATER SYSTEM
DWS Number: 210000078
DWS Owner: Saugeen Shores, The Corporation Of The Town Of
Municipal Location: Saugeen Shores

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Focused
Inspection Date: March 2, 2021
Ministry Office: Owen Sound District Office

Maximum Question Rating: 507

Inspection Module	Non-Compliance Rating
Capacity Assessment	0 / 30
Treatment Processes	0 / 102
Operations Manuals	0 / 28
Logbooks	0 / 14
Certification and Training	0 / 42
Water Quality Monitoring	0 / 112
Reporting & Corrective Actions	0 / 42
Treatment Process Monitoring	0 / 137
TOTAL	0 / 507

Inspection Risk Rating	0.00%
-------------------------------	--------------

FINAL INSPECTION RATING:	100.00%
---------------------------------	----------------

Ministry of the Environment - Detailed Inspection Rating Record (Reporting Year - 2020-2021)

DWS Name: SAUGEEN SHORES DRINKING WATER SYSTEM
DWS Number: 210000078
DWS Owner: Saugeen Shores, The Corporation Of The Town Of
Municipal Location: Saugeen Shores

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Focused
Inspection Date: March 2, 2021
Ministry Office: Owen Sound District Office

Maximum Question Rating: 507

Inspection Risk Rating | 0.00%

FINAL INSPECTION RATING: | 100.00%

Key Reference and Guidance Material for Municipal Residential Drinking Water Systems

Many useful materials are available to help you operate your drinking water system. Below is a list of key materials owners and operators of municipal residential drinking water systems frequently use.

To access these materials online click on their titles in the table below or use your web browser to search for their titles. Contact the Ministry if you need assistance or have questions at 1-866-793-2588 or waterforms@ontario.ca.

For more information on Ontario's drinking water visit www.ontario.ca/drinkingwater



PUBLICATION TITLE	PUBLICATION NUMBER
FORMS: Drinking Water System Profile Information Laboratory Services Notification Adverse Test Result Notification	012-2149E 012-2148E 012-4444E
Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils	Website
Procedure for Disinfection of Drinking Water in Ontario	Website
Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids	Website
Filtration Processes Technical Bulletin	Website
Ultraviolet Disinfection Technical Bulletin	Website
Guide for Applying for Drinking Water Works Permit Amendments, & License Amendments	Website
Certification Guide for Operators and Water Quality Analysts	Website
Guide to Drinking Water Operator Training Requirements	9802E
Community Sampling and Testing for Lead: Standard and Reduced Sampling and Eligibility for Exemption	Website
Drinking Water System Contact List	7128E01
Ontario's Drinking Water Quality Management Standard - Pocket Guide	Website
Watermain Disinfection Procedure	Website
List of Licensed Laboratories	Website

Principaux guides et documents de référence sur les réseaux résidentiels municipaux d'eau potable

De nombreux documents utiles peuvent vous aider à exploiter votre réseau d'eau potable. Vous trouverez ci-après une liste de documents que les propriétaires et exploitants de réseaux résidentiels municipaux d'eau potable utilisent fréquemment. Pour accéder à ces documents en ligne, cliquez sur leur titre dans le tableau ci-dessous ou faites une recherche à l'aide de votre navigateur Web. Communiquez avec le ministère au 1-866-793-2588, ou encore à waterforms@ontario.ca si vous avez des questions ou besoin d'aide.



Pour plus de renseignements sur l'eau potable en Ontario, consultez le site www.ontario.ca/eaupotable

TITRE DE LA PUBLICATION	NUMÉRO DE PUBLICATION
Renseignements sur le profil du réseau d'eau potable	012-2149F
Avis de demande de services de laboratoire	012-2148F
Avis de résultats d'analyse insatisfaisants et de règlement des problèmes	012-4444F
Prendre soin de votre eau potable - Un guide destiné aux membres des conseils municipaux	Site Web
Marche à suivre pour désinfecter l'eau potable en Ontario	Site Web
Stratégies pour minimiser les trihalométhanes et les acides haloacétiques de sous-produits de désinfection	Site Web
Filtration Processes Technical Bulletin (en anglais seulement)	Site Web
Ultraviolet Disinfection Technical Bulletin (en anglais seulement)	Site Web
Guide de présentation d'une demande de modification du permis d'aménagement de station de production d'eau potable	Site Web
Guide sur l'accréditation des exploitants de réseaux d'eau potable et des analystes de la qualité de l'eau de réseaux d'eau potable	Site Web
Guide sur les exigences relatives à la formation des exploitants de réseaux d'eau potable	9802F
Échantillonnage et analyse du plomb dans les collectivités : échantillonnage normalisé ou réduit et admissibilité à l'exemption	Site Web
Liste des personnes-ressources du réseau d'eau potable	Site Web
L'eau potable en Ontario - Norme de gestion de la qualité - Guide de poche	Site Web
Procédure de désinfection des conduites principales	Site Web
Laboratoires autorisés	Site Web



**Ministry of the Environment, Conservation and Parks
Drinking Water Inspection Report**

APPENDIX B

REFERENCE GUIDE FOR STAKEHOLDERS