

February 21, 2023

**MUNICIPALITY OF LAKESHORE  
STONE POINT WATER TREATMENT PLANT AND WATER SERVICE AREA  
2022 ANNUAL & SUMMARY REPORT  
MADE UNDER O.REG. 170/03**

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The Municipality of Lakeshore is required to provide an *Annual Report* for each of its Ministry of the Environment Conservation and Parks (MECP) drinking water systems under Drinking Water Systems Regulation *O.Reg. 170/03* in accordance with the *Safe Drinking Water Act* (as amended). This *Annual Report* is due to be posted for public viewing by the end of February of the following year.

Under *Schedule 22 of Ontario Regulation 170/03*, a regulation made under the *Safe Drinking Water Act 2002*, requires that a large municipal residential drinking-water system must provide to its members of municipal council a Summary Report on various aspects of the system before March 31 of the following year. The Stoney Point Water Service Area is classed as a large municipal residential drinking-water system and is therefore subject to Schedule 22. The purpose of this letter and its attachments is to satisfy this requirement and report on dates from January 1, 2022, until December 31, 2022.

The Municipality of Lakeshore owns and operates four (4) separate drinking water systems under MECP jurisdiction. This letter focusses on the *Stoney Point Water Treatment Plant (WTP) and Water Service Area (WSA)* which is registered having *Drinking Water System #260003396* under *Municipal Drinking Water License #031-101*. This drinking water system is deemed to be *Large Municipal Residential* having a mathematically assumed population of 6,771 having 2,418 service connections at the end of 2022.

The *Stoney Point WTP*, located in Stoney Point, services the Stoney Point Water Service Area (WSA). This geographically serves the Municipality of Lakeshore from Lake St. Clair south to County Rd 8 and Rochester Townline Rd east to Big Creek. The plant process includes coagulation, flocculation, sedimentation, chlorination, filtration, taste and odour control systems. In these processes the following chemicals are utilized; Aluminum Sulphate, Activated Carbon, Chlorine Gas. The SPWSA includes approximately 208km of distribution piping ranging in sizes 25 to 300 mm in diameter. The distribution system includes secondary disinfection provided by free chlorine. The SPWSA also includes two (2) pressure boosting station located in Haycroft and Comber. Both of these facilities include reservoirs and each have the ability to add chlorine gas to ensure free chlorine residual is safe and consistent throughout those portions of the distribution system.

The Stoney Point WTP is an automated facility that is controlled via a Supervisory Control and Data Acquisition (SCADA) system. *O.Reg.170/03* also specifies what data that must be downloaded, stored and at what interval. The online continuous monitors allow the plant to be automated and comply with all associated regulations. The results of these online instruments as required in this report are listed below in Table I.

**TABLE I**  
**2022 OPERATIONAL TESTING**  
**REGULATION 170/03 DURING 2022**

	Number of Grab Samples	Range of Results (min #)-(max #)	Unit of Measure
Turbidity Filter AVG	8760	0.0 – 2.00	NTU
Chlorine	8760	0 – 2.72	Free CL mg/l
Distribution Additional Residuals	587	0.26 – 1.95	Free CL mg/l

NTU – Nephelometric Turbidity Units  
 8760 – Indicates continuous monitoring equipment used  
 CL – Chlorine  
 mg/l – milligram per litre

Under *Schedule 10* of *O.Reg.170/03* the Municipality of Lakeshore is required to complete microbiological testing of its raw intake water, treated water and distribution water. Treated water is sampled immediately prior to the high lift pump reservoir, any sample taken after the high lift pumps is considered distribution. All these samples are required to be tested by a certified laboratory accredited for drinking water samples. Table II outlines these analytical results.

**TABLE II**  
**2022 MICROBIOLOGICAL TESTING DONE UNDER**  
**SCHEDULE 10 OF REGULATION 170/03**

	NUMBER OF SAMPLES	RANGE OF E.COLI OR FECAL RESULTS (MIN #)-(MAX #) cfu's	RANGE OF TOTAL COLIFORM RESULTS (MIN #)-(MAX #) cfu's	NUMBER OF HPC SAMPLES	RANGE OF HPC RESULTS (MIN #)-(MAX #) cfu's
Raw	52	2 – 70	2 – 2000	0	NA
Treated	104	0 – 0	0 – 0	104	<10 – 30
Distribution	260	0 – 0	0 – 0	156	0 - 0

cfu – colony forming units  
 HPC – heterotrophic plate count

The Municipality of Lakeshore is also required to take treated and distribution samples for various organic and inorganic parameters under *O.Reg. 170/03 Schedule 23 & 24*. In Table III and Table IV, the treated water sample results from this regulatory sampling requirement are listed. No organic or inorganic sample exceeded any regulatory requirement as sampled for 2022.

**TABLE III**  
**2022 INORGANIC PARAMETERS TESTED**  
**TREATED WATER**  
**REGULATION 170/03**

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	October 26, 2022	0.0001	mg/l	NO
Arsenic	October 26, 2022	0.0003	mg/l	NO
Barium	October 26, 2022	0.016	mg/l	NO
Boron	October 26, 2022	0.014	mg/l	NO
Cadmium	October 26, 2022	<0.000010	mg/l	NO
Chromium	October 26, 2022	<0.002	mg/l	NO
Sodium	October 26, 2022	6.9	mg/l	NO
Mercury	October 26, 2022	<0.00002	mg/l	NO
Selenium	October 26, 2022	<0.001	mg/l	NO
Uranium	October 26, 2022	<0.00005	mg/l	NO
Fluoride	October 26, 2022	<0.1	mg/l	NO
Nitrite	October 26, 2022	<0.1	mg/l	NO
Nitrate	October 26, 2022	0.2	mg/l	NO

mg/l – milligram per litre

**TABLE IV**  
**2022 ORGANIC PARAMETERS**  
**ANNUAL TREATED WATER REQUIREMENT**  
**REGULATION 170/03**

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	October 26, 2022	<0.3	ug/l	NO
Atrazine + N-dealkylated metabolites	October 26, 2022	<0.5	ug/l	NO
Azinphos-methyl	October 26, 2022	<1.0	ug/l	NO
Benzene	October 26, 2022	<0.5	ug/l	NO
Benzo(a)pyrene	October 26, 2022	<0.006	ug/l	NO
Bromoxynil	October 26, 2022	<0.5	ug/l	NO
Carbaryl	October 26, 2022	<3.0	ug/l	NO
Carbofuran	October 26, 2022	<1.0	ug/l	NO
Carbon Tetrachloride	October 26, 2022	<0.2	ug/l	NO
Chlorpyrifos	October 26, 2022	<0.5	ug/l	NO
Diazinon	October 26, 2022	<1.0	ug/l	NO
1,2-Dichlorobenzene	October 26, 2022	<0.5	ug/l	NO

Table IV – Cont'd

1,4-Dichlorobenzene	October 26, 2022	<0.5	ug/l	NO
1,2-Dichloroethane	October 26, 2022	<0.5	ug/l	NO
1,1-Dichloroethylene (vinylidene chloride)	October 26, 2022	<0.5	ug/l	NO
2-4 Dichlorophenol	October 26, 2022	<0.2	ug/l	NO
Diclofop-methyl	October 26, 2022	<0.9	ug/l	NO
Dimethoate	October 26, 2022	<1.0	ug/l	NO
Diquat	October 26, 2022	<5.0	ug/l	NO
Diuron	October 26, 2022	<5.0	ug/l	NO
Glyphosate	October 26, 2022	<25	ug/l	NO
Malathion	October 26, 2022	<5.0	mg/l	NO
Metolachlor	October 26, 2022	<3.0	ug/l	NO
Metribuzin	October 26, 2022	<3.0	ug/l	NO
Monochlorobenzene	October 26, 2022	<0.5	ug/l	NO
Paraquat	October 26, 2022	<1.0	ug/l	NO
Pentachlorophenol	October 26, 2022	<0.2	ug/l	NO
Phorate	October 26, 2022	<0.3	ug/l	NO
Polychlorinated Biphenyls(PCB)	October 26, 2022	<0.05	ug/l	NO
Prometryne	October 26, 2022	<0.1	ug/l	NO
Simazine	October 26, 2022	<0.5	ug/l	NO
Terbufos	October 26, 2022	<0.5	ug/l	NO
Tetrachloroethylene	October 26, 2022	<0.5	mg/l	NO
2,3,4,6-Tetrachlorophenol	October 26, 2022	<0.2	mg/l	NO
Triallate	October 26, 2022	<10	ug/l	NO
Trichloroethylene	October 26, 2022	<0.5	ug/l	NO
2,4,6-Trichlorophenol	October 26, 2022	<0.2	ug/l	NO
Trifluralin	October 26, 2022	<0.5	ug/l	NO
Vinyl Chloride	October 26, 2022	<0.2	ug/l	NO
MCPA	October 26, 2022	<10	ug/l	NO
2,4-(2,4-D) Dichlorophenoxy acetic acid,	October 26, 2022	<1.0	ug/l	NO
Dicamba	October 26, 2022	<1.0	ug/l	NO
Picloram	October 26, 2022	<5.0	ug/l	NO

ug/l – microgram per litre

Treated and Distribution water samples are taken for selected organic and inorganic parameter; Trihalomethanes, Haloacetic Acids, Nitrite and Nitrate are sampled quarterly. Lead and alkalinity samples are taken in the distribution system bi-annually. The requirement to take and the amount of samples taken for these parameters falls under O.Reg. 170/03 and is based on population served. In Tables V, VI and VII shows the results satisfying the regulation.

**TABLE V**  
**2022 NITRATE AND NITRITE RESULTS**  
**QUARTERLY TREATED WATER REQUIREMENT**  
**REGULATION 170/03**

Parameter	Date	Result	Unit	Exceedance
Nitrate	March 1, 2022	1.9	mg/L	NO
	June 14, 2022	0.3	mg/L	NO
	October 11, 2022	<0.1	mg/L	NO
	December 13, 2022	0.7	mg/L	NO
Nitrite	March 1, 2022	<0.1	mg/L	NO
	June 14, 2022	<0.1	mg/L	NO
	October 11, 2022	<0.1	mg/L	NO
	December 13, 2022	<0.1	mg/L	NO
THM's	March 1, 2022	27	ug/L	NO
	June 14, 2022	6	ug/L	NO
	October 11, 2022	8	ug/L	NO
	November 30, 2022	10	ug/L	NO
	RAA	12.75	ug/L	NO

ug/l – microgram per litre

RAA – Running Annual Average

**TABLE VI**  
**2022 TRIHALOMETHANES & HALOACETIC ACIDS RESULTS**  
**QUARTERLY DISTRIBUTION WATER REQUIREMENT**  
**REGULATION 170/03**

Parameter	Sample Schedule	Result	Unit of Measure	Exceedance
THM (Treated Water RAA)	Quarterly	12.75	mg/l	NO
THM (Distribution RAA)	Quarterly	25.25	mg/l	NO
HAA (Distribution RAA)	Quarterly	6.85	mg/l	NO

mg/l – milligram per litre

RAA – Running Annual Average

**TABLE VII**  
**2022 LEAD & ALKALINITY RESULTS**  
**DISTRIBUTION WATER**  
**REGULATION 170/03**

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Unit of Measure	Number of Exceedances
Distribution (Lead)	8	0.00007 – 0.00047	mg/l	NONE
Distribution (Alkalinity)	8	55 – 127	mg/l	NA

mg/l – milligram per litre

**TABLE VIII**  
**2022 RESIDUAL MANAGEMENT**  
**TOTAL SUSPENDED SOLIDS**  
**REQUIRED UNDER MUNICIPAL DRINKING WATER LICENCE**

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
May 21, 2021 MDWL 031-101 #4	Total Suspended Solids	RAA	5.22	mg/l

RAA – Running Annual Average (monthly sample averaged)

The water treatment system and service area require extensive maintenance annually. These costs are required to install new equipment and maintain the current assets. There were no capital purchased or installed within the Stoney Point Water Treatment Plant and Water Service Area in 2022.

Under *O.Reg.170/03* the Municipality is required to report notices submitted in accordance with the *Safe Drinking Water Act*, system approvals, Drinking Waterworks Permit, Municipal Drinking Water License. There was one notice reported and filed to the *Spills Action Centre* by the Stoney Point WTP and WSA in 2022 which led to a “Boil Water Advisory” being issued and rescinded once confirmation of safe drinking water by an independent laboratory. The AWQI report #161032 was assigned to this incident. Table IX below outlines the important information and dates associated with this AWQI.

**TABLE IX**  
**DETAIL OF AWQI NOTICE’S FILED 2022**

Incident Date	Parameter	Corrective Action	Corrective Action Date
December 23 <sup>rd</sup> 2022	Loss of Flow / Positive Pressure	Boil Water Advisory Issued & Re-sample x 2	December 26 <sup>th</sup> 2022

As shown above there was a single occasion in 2022 when the Stoney Point Water Service Area was not in compliance with the requirements of the *Safe Drinking Water Act 2002*, associated regulations, system approvals, Drinking Water Works Permit, Municipal Drinking Water Licence and provincial officer orders. In Table X below the specific legislation requirements and corrective measures are stated.

**Table XI**  
**Legislative Requirements & Corrective Actions**  
**ADWQI Notice's Filed**

Drinking Water Legislation	Requirement(s) the System Failed to Meet	Specify the Duration of the Failure (i.e. date(s))	Describe the Measures Taken to Correct the Failure	Status (complete or outstanding)
Safe Drinking Water Act	Associated Regulations	See Below	See Below	
Ontario Regulations	O.Reg. 170/03	December 23 thru 26, 2022	User's notified of "Boil Water Advisory", Flush and Resample	Complete
System Approvals	none			
System Drinking Water Works Permit and Municipal Drinking Water Licence	none			
Provincial Officer's Order	None			

A summary of the quantities and flow rates of water supplied during the period covered by the report, including monthly average flows, maximum daily flows and daily maximum flow rates taken per minute is required and reported in the Summary Report.

The Stoney Point Water Service Area operated under the following listed Permits to Take Water and did exceed its limits for Peak Flow in 2022.

(PTTW) Number 0452-BM6M4M issued on April 17, 2020 has the following flow conditions:

- Maximum Allowable Amount Taken per Minute (Litres/Min) **3,180**
- Maximum Allowable Amount Taken Per Day (Litres/Day) **4,600,000**

The maximum amounts of raw water taken during 2022 are as follows:

- Maximum Amount Taken per Minute in 2022 (Litres/Min) **6,138 (June 17 & 24, 2022)**
- Maximum Amount Taken Per Day in 2022 (Litres/Day) **34,350 (June 1, 2022)**



The Stoney Point Water Service Area operated under Drinking Water Works Permit #301-201 and Municipal Drinking Water Licence #031-101 during 2022:

The Municipal Drinking Water Licence has the following flow conditions:

- The maximum daily volume of treated water that flows from the treatment subsystem to the distribution subsystem shall not exceed **4,545 m<sup>3</sup>/day**.
- The maximum daily volume of water pumped into the distribution system in 2022 was **3,143 m<sup>3</sup>/day (December 23, 2022)**.

The following Table XI & XII give the monthly average and maximum flows for the Stoney Point Water Service Area.

**Table XI**  
**2022**  
**Raw Water Flow Data**  
**Lake Water Used**

Month	Maximum Allowed Flow Rate (m <sup>3</sup> /Day)	Average Flow (m <sup>3</sup> /Day)	Maximum Flow (m <sup>3</sup> /Day)	Maximum Allowed Flow Rate (Litres/Minute)	Maximum Flow Rate (Litres/Minute)
January	4,600	1,761	2,018	3,180	1,656
February	4,600	1,725	1,957	3,180	1,476
March	4,600	1,748	1,919	3,180	2,838
April	4,600	1,834	2,000	3,180	2,598
May	4,600	2,197	2,749	3,180	2,940
June	4,600	2,558	2,954	3,180	6,138
July	4,600	2,723	3,435	3,180	6,138
August	4,600	2,714	3,221	3,180	2,310
September	4,600	2,817	3,203	3,180	2,646
October	4,600	2,024	2,556	3,180	1,836
November	4,600	1,746	1,925	3,180	2,418
December	4,600	1,714	2,139	3,180	3,240



**Table XII**  
**2021 Treated Water Flow Data**  
**Water Sent to Distribution System**

Month	Maximum Allowed Flow Rate (m <sup>3</sup> /Day)	Average Daily Flow (m <sup>3</sup> /Day)	Maximum Daily Flow (m <sup>3</sup> /Day)	Maximum Flow Rate (Litres/Minute)
January	4,545	1,653	1,827	2,172
February	4,545	1,633	1,852	3,102
March	4,545	1,671	1,888	3,162
April	4,545	1,745	1,944	2,172
May	4,545	2,087	2,568	6,528
June	4,545	2,468	3,032	15,732
July	4,545	2,597	3,084	3,750
August	4,545	2,582	3,033	4,158
September	4,545	2,680	3,081	15,720
October	4,545	1,919	2,524	3,3336
November	4,545	1,653	1,810	3,498
December	4,545	1,756	3,143	7,296

This report is made available to the public for viewing on the Municipalities website at <https://www.lakeshore.ca/en/municipal-services/plans-publications-and-reports.aspx#Drinking-Water-Annual-Reports> . The report is printed and available for viewing at 419 Notre Dame Street (Town Hall) & 492 Lakeview Dr, Belle River, Ontario. Both versions are available after February 28<sup>th</sup> 2022.