

DEC 18 2019



**Ministry of the Environment, Conservation and Parks**

**LATCHFORD DRINKING WATER SYSTEM**

**Inspection Report**

<b>Site Number:</b>	210000960
<b>Inspection Number:</b>	1-L0A77
<b>Date of Inspection:</b>	Oct 25, 2019
<b>Inspected By:</b>	Erin Spires

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## OWNER INFORMATION:

<b>Company Name:</b>	LATCHFORD, THE CORPORATION OF THE TOWN OF		
<b>Street Number:</b>	10	<b>Unit Identifier:</b>	
<b>Street Name:</b>	MAIN St		
<b>City:</b>	LATCHFORD		
<b>Province:</b>	ON	<b>Postal Code:</b>	P0J 1N0

## CONTACT INFORMATION

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<b>Title:</b>	District Manager		

## INSPECTION DETAILS:

<b>Site Name:</b>	LATCHFORD DRINKING WATER SYSTEM
<b>Site Address:</b>	1 MCLEOD Street LATCHFORD ON P0J 1N0
<b>County/District:</b>	LATCHFORD
<b>MECP District/Area Office:</b>	North Bay Area Office
<b>Health Unit:</b>	TIMISKAMING HEALTH UNIT
<b>Conservation Authority:</b>	

**MNR Office:** North Bay Regional Office  
**Category:** Large Municipal Residential  
**Site Number:** 210000960  
**Inspection Type:** Announced  
**Inspection Number:** 1-L0A77  
**Date of Inspection:** Oct 25, 2019  
**Date of Previous Inspection:** Aug 21, 2018

## COMPONENTS DESCRIPTION

**Site (Name):** RAW WATER  
**Type:** Source **Sub Type:** Surface  
**Comments:**

The source water for the Latchford Drinking Water System is Bay Lake which was created with the construction of the Latchford dam on the Montreal River. The First Engineer's Report for the Latchford facility (Earth Tech, 2001) states that Bay Lake water is very soft with very low alkalinity. It is also characterized by low turbidity but high colour.

As a surface water source, Bay Lake and the Montreal River are susceptible to seasonal effects and changing raw water quality typical of a riverine system. The watershed for Bay Lake is large and includes the upper reaches of the Montreal River. Active and inactive mining facilities activities are located within the watershed which makes Bay Lake possibly more susceptible to contamination from spills. However, there have been no specific incidents in recent history.

According to the First Engineer's Report and the Drinking Water Works Permit (DWWP) 277-201 (Issue No. 3), the intake structure for the water treatment plant is located approximately 140 m offshore. The structure is a timber crib and sits approximately 1.15 m off the bottom of Bay Lake in at least 5.5 m of water. Located upstream of the dam, the intake structure resides in an area which is below the low water level for the Lake. Raw water flows by gravity from the intake structure to the water treatment plant via 210 metres of 250 mm diameter pipe.

**Site (Name):** TREATMENT SYSTEM  
**Type:** Treated Water POE **Sub Type:** Treatment Facility  
**Comments:**

Surface water is drawn from Bay Lake via gravity and the low lift pumping station. According to DWWP 277-201 (Issue No. 3), the treatment system is comprised of the following:

**Low lift Pumping Station:** A raw water intake well is equipped with a 250 mm diameter raw water intake pipe, an intake screen and a 100 mm diameter intake flush line from the high lift pumps. The low lift pumping station contains a wet well and is equipped with three (3) vertical turbine pumps (two duty and one standby); each rated at 2.9 L/s.

**Coagulation, Flocculation, Clarification and Filtration:** Two parallel trains, each capable of treating water at a rate of 6.3 L/second. Each unit is equipped with a coagulation vessel, an upflow adsorption clarifier and a multimedia filter. There is provision to direct effluent from each filter unit to waste (Filter-to-Waste). Alum is injected into the raw water pump discharge pipe located immediately downstream of the raw water flow meter, upstream of the flocculation tanks and treatment units. The coagulant dosing system includes two chemical metering pumps (on duty and one standby) each delivering a flow of 1.6 GPH (6.0 L/hr) and one 600 L chemical storage tank with spill containment.

Polymer is injected into the coagulated water supply using one of two chemical metering pumps (one duty and one standby) each capable of delivering a flow of 2.0 GPH (7.6 L/hr) from one 380 L chemical storage tank with spill containment. There are two optional injection points (one upstream and one downstream of the flocculation tanks, both prior to the treatment units).

**pH/Alkalinity:** There are three pH/Alkalinity adjustment systems; one pre-coagulation, one post-filtration and one

distribution. The pre-coagulation injection point is in the raw water pump discharge header and is comprised of two metering pumps (one duty and one standby) each capable of delivering a flow of 1.6 GPH (6.1 L/hr) and one 350 L chemical storage tank with spill containment. The post filtration injection point is into the filter effluent discharge header upstream of the treated water storage reservoir (clear wells). It is comprised of one metering pump capable of delivering a flow of 1.1 GPH (4.2 L/hr) and one 600 L chemical storage tank with spill containment.

The distribution injection point is into the treated water distribution header, immediately prior to discharge from the plant. It uses the same dosing system as the post-filtration system and typically is only used when the post-filtration system is not in service. Liquid soda ash is current used for pH/Alkalinity adjustment.

**Disinfection:** The chlorine disinfection dosing system is comprised of two primary dosing metering pumps (one duty and one standby) each capable of delivering a flow of 1.4 L/hr, injecting into the inlet of the clear well for primary disinfection. Sodium hypochlorite storage consists of one storage tank with spill containment.

**Process Waste Management System:** This system is comprised of a backwash holding tank that is approximately 3.3 m x 2.65 m x 2.4 m with a usable volume of 21 m<sup>3</sup> and two submersible backwash pumps (one duty and one spare) each rate at 22.7 L/s. The pumps discharge wastewater from the holding tank to the sanitary sewer via a 100 mm diameter forcemain.

**Clearwell and High Lift Pumping System:** The clearwell is a 340 m<sup>3</sup> reinforced concrete reservoir comprised of two cells (one with a volume of 248 m<sup>3</sup> and the other of 92 m<sup>3</sup>); two pump wells, one with a volume of 76 m<sup>3</sup> housing high lift pumps #1 and #2 and the other housing high lift pump #3 and a high capacity pump). The total storage capacity of the clearwell is approximately 484 m<sup>3</sup> at water depth of 3.65 m. The high lift pumps consist of one vertical turbine pump rated at 3.7 L/s (variable speed), two vertical turbine pumps each rated at 7.3 L/s (variable speed) and one vertical turbine high capacity pump rated at 38 L/s with fixed speed drive.

**Standby Power System:** There is one outdoor 141 kW standby power diesel engine generator.

**Instrumentation and Control Equipment:** The instrumentation and control system is comprised of; a PLC and in-plant SCADA system; raw water and treated water flow meters; four chlorine residual analyzers (raw water discharge line, filter effluent discharge line, high lift pump discharge line, treated water plant discharge header); pH indicator on the raw water discharge line and treated water plant discharge; three hydropneumatic tanks; one pressure transmitter on the plant discharge, and turbidity meters (located upstream of water treatment units, on each filter effluent line and on the treated water plant discharge).

**Site (Name):** DISTRIBUTION SYSTEM

**Type:** Other

**Sub Type:** Other

**Comments:**

The water distribution system for the Town of Latchford services an approximate population of 300 residents and 190 homes (First Engineer's Report, Earth Tech, 2001).

Based on this information, the Latchford Drinking Water System is classified as a Large Municipal Residential Drinking Water System under O. Reg. 170/03.

The Latchford distribution system is comprised of piping, valves, and fire hydrants. It also includes a 100 mm diameter return line back to the water treatment plant, complete with a 19 mm diameter by-pass, solenoid actuated flow valve and totalizing flow meter. The discharge from the return line is to the clearwell.

The return line originated from historical problems with freezing lines in the distribution system during the winter months due to the frost penetrating into the ground deeper than the depth of the water lines. According to the First Engineer's Report, the return line assists in the maintenance of good chlorine residuals in the distribution system; allows for frequent and reliable measurements of water quality in the distribution system; reduces the freezing of the water lines; and moderates the water temperature.

Additionally, each year Aqua-Flo™ tanks are installed in approximately 50 homes. These in-home water recirculation systems provide greater water movement in the service connections, helping to raise the water temperature and thus reduce the likelihood of frozen waterlines.

**Site (Name):** MOE DWS Mapping  
**Type:** DWS Mapping Point

**Sub Type:**

## **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 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 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 October 25th, 2019, Ministry of the Environment, Conservation and Parks' Water Inspector Erin Spires was accompanied during the announced, detailed inspection of the Latchford Drinking Water System (DWS) by Rico Guindon, Operator with Operator with Overall Responsibility for the Corporation of the Town of Latchford.

The Corporation of the Town of Latchford is the owner and operating authority for the Latchford Drinking Water System and Distribution System.

The drinking water inspection included a physical inspection of the treatment plant as well as a document review for the period of August 1st, 2018 to September 30th, 2019. This period is referred to as the "inspection period" in this report.

Specifically, this included a review and assessment of operating practices in relation to the following documents:

- Drinking Water System Regulation O. Reg. 170/03
- Certification of Drinking Water Systems Operators Regulation O. Reg. 128/04
- Permit To Take Water (PTTW) No. 4370-85SH84 dated May 27th, 2010.
- Municipal Drinking Water Licence (MDWL) No. 277-101 (Issue No. 3) dated March 9th, 2016.
- Drinking Water Works Permit (DWWP) No. 277-201 (Issue No. 3) dated April 21st, 2017.
- Previous ministry inspection reports dated August 21st, 2018 and February 6th, 2018.

### **Source**

- **Trends in source water quality were being monitored.**
- **The owner did not have a harmful algal bloom monitoring plan in place.**

The owner and operators indicated that the owner does not have a Harmful Algal Bloom (HABs) monitoring plan in place.

On November 7th, 2019, the water inspector forwarded the May 10th, 2019 letter from the ministry recommending that weekly sampling for total microcystins occur from June to October in the raw and treated water. The letter also highlights that, while monitoring for HABs is currently a best management practice, the municipal drinking water licences will include monitoring requirements once renewed.

### Source

It is recommended, as a best management practice, that the owner develop a Harmful Algal Bloom monitoring plan that includes (at a minimum):

1. Visual monitoring for HABs at or near the intake,
2. Details relating to visual monitoring of the shoreline where the proximity of the intakes may be of concern,
3. Details relating to reporting the observed or suspected HAB,
4. A sampling plan, including: the identification of sample locations, sampling frequencies and any triggers that may increase the sampling frequency, and;
5. Up-to-date records documenting staff training on the HAB monitoring, reporting, and sampling procedures.

Please refer to Item No. 1 in the section in this report entitled "Summary of Recommendations and Best Practice Issues" for further discussion.

### Permit To Take Water

- **The owner was in compliance with all conditions of the PTTW.**

Condition 4 of the Permit To Take Water No. 4370-85SH84 (PTTW) requires that the Corporation of the Town of Latchford shall record the date, volume of water taken, and the rate at which water is taken daily.

Condition 3.2 of the PTTW requires that the Corporation of the Town of Latchford shall only take water from Bay Lake at a maximum rate of 379 L/min and 545.76 m<sup>3</sup>/day.

A review of the information provided for the inspection period indicates that the maximum flow rate of raw water was 10.31 L/sec on September 21st, 2018 and the maximum total daily flow of raw water was 362.13 m<sup>3</sup>/day.

### 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.**
- **The flow measuring devices were calibrated or verified in accordance with the requirements of the MDWL issued under Part V of the SDWA.**
- **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 Municipal Drinking Water Licence No. 277-101 (Issue No. 3) specifies that the maximum daily volume of treated water that flows from the Latchford Water Treatment Plant to the distribution system shall not exceed the rated capacity of 500 m<sup>3</sup>/day.

A review of the summary spreadsheets for the inspection period indicate that the maximum daily volume of treated water was 270.03 m<sup>3</sup>/day on July 26th, 2019.

- **Appropriate records of flows and any capacity exceedances were made in accordance with the Municipal Drinking Water Licence issued under Part V of the SDWA.**

### 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.**
- **Records indicated that the treatment equipment was operated in a manner that achieved the design**



## Treatment Processes

**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.**

The Procedure for Disinfection of Drinking Water in Ontario requires the treatment process of surface water to consist of chemically assisted filtration and disinfection and achieve an overall performance that provides (at a minimum) 2-log (99%) removal or inactivation of *Cryptosporidium* oocysts, a 3-log (99.9%) removal or inactivation of *Giardia* cysts, and a 4-log (99.99%) removal or inactivation of viruses prior to the first consumer. In addition, at least 0.5-log removal or inactivation of *Giardia* cysts and a 2-log removal or inactivation of viruses must be provided through disinfection.

### Filtration

Conventional filtration provides 2 log inactivation credit for *Cryptosporidium* oocysts, 2.5 log inactivation credits for *Giardia* Cysts, and 2 log inactivation credit for viruses when:

1. A chemical coagulant is used at all times when the treatment plant is in operation;
2. Chemical dosages are monitored and adjusted in response to variations in raw water quality;
3. Effective backwash procedures, including the filter-to-waste, to ensure that the effluent turbidity requirements are met at all times;
4. Filtrate turbidity is continuously monitored from each filter, and;
5. Performance Criterion for filtered water turbidity of less than or equal to 0.3 NTU in 95% of the measurements each month shall be met for each filter.

### Chlorination

Chlorination is required to provide the remaining 0.5 log removal credit for *Giardia* Cysts and 2 log removal credit for viruses.

The Chlorine Contact Time Standard Operation Procedure for the Latchford Water Treatment Plant indicates that a minimum free chlorine residual of 0.6 mg/L is required in the treated water leaving the plant to achieve primary disinfection under worst-case conditions. Worst-case conditions include:

- Clearwell level drops below 1.3 m
- pH goes above 8
- Treated flow rate of 20 L/sec
- Temperature of 0.5 deg C

The Latchford WTP – CT Calculation SOP for the Fire Pump Running requires, if the fire pump is running, a minimum free chlorine residual of 1.2 mg/L for primary disinfection under the worst-case conditions identified above and a treated flow rate of 38 L/sec.

A review of the continuous monitoring data and plant logbooks indicate that primary disinfection was met during the inspection period.

- **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.**

### Treatment Processes

A review of the certificates of analysis and the Latchford Distribution Residual sheets indicates that the lowest chlorine residual was tested at 0.44 mg/L on June 27th, 2019.

- **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.**
- **The owner had evidence indicating that all chemicals and materials that come in contact with water within the drinking water system met the AWWA and ANSI standards in accordance with the Municipal Drinking Water Licence and Drinking Water Works Permit issued under Part V of the SDWA.**
- **Up-to-date plans for the drinking water system were kept in a place, or made available in such a manner, that they could be readily viewed by all persons responsible for all or part of the operation of the drinking water system in accordance with the DWWP and MDWL issued under Part V of the SDWA.**

### 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.**

Primary disinfection chlorine monitoring in the Latchford Water Treatment Plant is conducted on the high lift pump discharge line exiting the clearwells, using a HACH CL17 chlorine analyzer. The analyzer is mounted adjacent to the main door of the facility.

- **Operators were aware of the operational criteria necessary to achieve primary disinfection within the drinking water system.**
- **Continuous monitoring of each filter effluent line was being performed for turbidity.**
- **The secondary disinfectant residual was measured as required for the distribution system.**
- **Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test.**
- **Samples for chlorine residual analysis were tested using an acceptable portable device.**
- **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 not equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6.**

Section 6-5(1)5 of Schedule 6 of O.Reg. 170/03 requires continuous monitoring equipment to be designed and operated such that an alarm must signal immediately if the equipment malfunctions, or loses power or the test result is above the maximum alarm standard of 1.0 NTU for turbidity and 0.1 mg/L less than the concentration of free chlorine residual that is required to achieve primary disinfection. The alarm must signal immediately at the location where the equipment conducts tests and at a location where a person is present.

The alarm set points for the primary chlorine analyzer and the filter effluent turbidity met the requirements of Section 6-5(1) of Schedule 6 of O.Reg. 170/03 for the inspection period.

However, a review of the continuous trends and logbooks indicate that on four occasions during the inspection period the treated free chlorine analyzer malfunctioned, and did not alarm out, as follows:

### Treatment Process Monitoring

- On November 29th, 2018, the treated free chlorine residual continued to measure the chlorine residual as 1.17 mg/L from 2:01 am until 9:22 am. Operators took a handheld reading of 1.01 mg/L free chlorine at 9:20 am.
- On December 20th, 2018, the treated free chlorine analyzer measured a chlorine residual of 1.16 mg/L continuously from 4:01 am to 7:11 am. Operators took a chlorine residual of 1.11 mg/L at 7:10 am.
- On January 3rd, 2019 at 6:09 pm, the treated free chlorine analyzer measured a chlorine residual of 1.85 mg/L continuously until 7:18 am on January 4th, 2019. Operators took a chlorine residual of 1.71 mg/L at 7:20 am.
- On February 4th, 2019 at 2:43 am, the treated free chlorine analyzer measured a chlorine residual of 1.13 mg/L continuously until 7:14 am. Operators took a chlorine residual of 1.10 mg/L at 7:32 am.

A review of the logbooks indicate that the chlorine analyzer was in error and, upon discovery, operators took appropriate action and monitored chlorine residuals until the analyzer was repaired. During the inspection, operators indicated that they were cleaning the chlorine analyzer more frequently (every two weeks) to prevent this issue.

Failure to ensure that continuous monitoring equipment was designed and operated such that an alarm signaled immediately when the equipment malfunctioned is a violation of Section 6-5(1)5 of Schedule 6 of O.Reg. 170/03.

Please refer to Item No. 1 in the section of this report "Non-Compliance with Regulatory Requirements and Actions Required" for further discussion.

- **Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was not performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and/or was not recording data with the prescribed format.**

Section 6-5(1) of Schedule 6 of O.Reg. 170/03 states that the owner and operating authority for the system shall ensure that continuous monitoring equipment records the results of the free chlorine tests taken at least every 5 minutes.

As described earlier in the inspection report, the treated free chlorine analyzer used to monitor primary disinfection malfunctioned on four occasions and continuously recorded the same free chlorine residual until operators began taking handheld chlorine residuals and repaired the analyzer. Operators indicated that to resolve this issue the chlorine analyzer was being cleaned more frequently.

Failure to ensure that continuous monitoring equipment was recording the test results for free chlorine residual at the minimum frequency of every 5 minutes is a violation of Section 6-5(1) of O.Reg. 170/03.

Please refer to Item No. 2 in the section of this report "Non-Compliance with Regulatory Requirements and Actions Required" for further discussion.

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

### Process Wastewater

- **The process wastewater and residual solids/sludges were treated, handled and disposed of in accordance with the design requirements approved under the Drinking Water Works Permit and the Municipal Drinking Water Licence.**

### Distribution System

- **There is no backflow prevention program, policy and/or bylaw in place.**

The Town of Latchford does not have a backflow prevention program, or bylaw to address cross connections and water connections to high hazard facilities.

The owner indicated there are no high hazard facilities or known cross-connections connected to the water system.

As recommended previously in the 2014-15 Inspection Report, it is recommended that the municipality inspect local industrial, commercial and institutional facilities to identify any cases where backflow prevention is warranted (e.g. on a boiler or ice-making system). Additionally, it is recommended that the municipality develop a by-law that prohibits cross connections between the water distribution system and other water sources such as wells, cisterns or surface water.

For more information please refer to the following guidance material:

CAN/CSA standards associated with backflow (B64.10.01 / B64.10.1-01 Manual for the Selection and Installation of Backflow Prevention Devices / Manual for the Maintenance and Field Testing of Backflow Prevention Devices), and - the InfraGuide - Innovations and Best Practices Potable Water - Methodology for Setting a Cross-Connection Control Program available at [www.infraguide.ca](http://www.infraguide.ca).

Please refer to Item No. 2 in the section in this report entitled "Summary of Recommendations and Best Practice Issues" for further discussion.

- **The owner had implemented a program for the flushing of watermains as per industry standards.**

A review of the records and discussions with operators indicate that hydrants are flushed twice per year in the Spring and Fall.

- **Records confirmed that disinfectant residuals were routinely checked at the extremities and "dead ends" of the distribution system.**

A review of the Latchford distribution residual sheets indicate that disinfection residuals are being checked at the return line, town office, town shop, and the dam depot. Operators indicated that the return line is the last connection/sample point in the distribution system.

- **A program was in place for inspecting and exercising valves.**
- **There was a program in place for inspecting and operating hydrants.**
- **There was no by-law or policy in place limiting access to hydrants.**

The owner indicated there is no bylaw or formal policy in place limiting access to hydrants. However, hydrants are only accessed by certified operators and the fire department. Operators are members of the fire department and notification is provided to operators in the event of a fire.

A review of the logbooks indicates that the operators were notified in the event that there was a fire and were operating the hydrants for filling of the fire truck and swimming pools.

Please refer to Item No. 3 in the section in this report entitled "Summary of Recommendations and Best Practice Issues" for further discussion.

- **The owner was able to maintain proper pressures in the distribution system and pressure was monitored to alert the operator of conditions which may lead to loss of pressure below the value under which the system is designed to operate.**

### **Distribution System**

Pressure is monitored and alarmed. The low distribution pressure alarm has a set point of 40 psi and callouts to an operator.

There was one low pressure event during the inspection period on April 26th, 2019, due to a watermain break in the distribution system.

### **Operations Manuals**

- **Operators and maintenance personnel had ready access to operations and maintenance 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 did not meet the requirements of the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA.**

Condition 16.2.1 of Schedule B of Municipal Drinking Water Licence No. 277-101 (Issue No. 3) (Licence) requires that the operations and maintenance manual shall include the requirements of this licence and associated procedures.

A copy of the Licence was not in the operations and maintenance manual as required. The operator took appropriate action and added a copy of the Licence on the day of the inspection.

Failure of the owner to ensure that operations and maintenance manuals meet the requirements of Municipal Drinking Water Licence No. 277-101 (Issue No. 3) is a violation of Section 31(1)(b) of the Safe Drinking Water Act, 2002.

Please refer to Item No. 3 in the section of this report "Non-Compliance with Regulatory Requirements and Actions Required" for further discussion.

### **Logbooks**

- **Logbooks were properly maintained and contained the required information.**
- **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.**
- **For every required operational test and every required sample, a record was not made of the date, time, location, name of the person conducting the test and result of the test.**

Section 6-10(1) of O.Reg. 170/03 requires that the owner of the drinking water system shall ensure that for every required operational test and sample required by O.Reg. 170/03 a record is made of the date, time, location, name of the person conducting the test and result of the test.

A review of the information provided for the inspection period indicates that for the majority of the inspection period the information was recorded for every required operational test and sample. However, on three occasions during the inspection period not all of the information was recorded as required, including:

- On October 29th, 2018 a record of the time for the distribution chlorine residual was not recorded, and;
- On January 28th, 2019 and February 11th, 2019 the distribution residual logsheet indicates that two chlorine

### Logbooks

residuals were taken from the Town Shop. However, on November 19th, 2019, operators indicated that the second residual was taken at the Town Office.

Failure to ensure that for every required operational test a record is made of the time and location of the test is a violation of Section 6-10(1) of O.Reg. 170/03.

Please refer to Item No. 4 in the section of this report "Non-Compliance with Regulatory Requirements and Actions Required" for further discussion.

- **The operator-in-charge ensured that records were maintained of all adjustments made to the processes within his or her responsibility.**
- **Logs or other record keeping mechanisms were available for at least five (5) years.**

### Contingency/Emergency Planning

- **Spill containment was provided for process chemicals and/or standby power generator fuel.**
- **Clean-up equipment and materials were in place for the clean up of spills.**
- **Standby power generators were tested under normal load conditions.**

### Security

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

The Latchford Water Treatment Plant is fenced, equipped with an alarmed security system. The water treatment plant is kept locked when an operator is not present.

### Consumer Relations

- **The owner and/or operating authority undertook efforts to promote water conservation and reduce water losses in their system.**

In efforts to promote water conservation and reduce water losses in their system the owner has installed Aqua-flows and during high periods of flow in the summer the town will issue water conservation notices to reduce water usage.

### Certification and Training

- **The overall responsible operator had been designated for each subsystem.**  
Mr. Rico Guindon is the Operator with Overall Responsibility (ORO) for the Latchford Drinking Water System.
- **Operators-in-charge had been designated for all subsystems which comprised the drinking water system.**
- **All operators possessed the required certification.**
- **Only certified operators made adjustments to the treatment equipment.**

### Water Quality Monitoring

### Water Quality Monitoring

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

Section 10-4 of Schedule 10 of O.Reg. 170/03 requires the owner and operating authority for the system to ensure at least one raw water sample is collected weekly and tested for E.coli and total coliforms.

A review of the certificates of analysis for the inspection period indicates that one raw water sample was collected weekly and tested for E.coli and total coliforms.

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

Section 10-2 of Schedule 10 of O.Reg. 170/03 requires the owner and operating authority for the system to ensure at least 8 water samples are collected monthly, with at least one of the samples being taken in each week, from the distribution system based on a population of 300. Samples must be tested for E.coli, total coliforms, and 25% of those samples tested for general background population expressed as colony counts on a heterotrophic plate count (HPC).

A review of the certificates of analysis for the inspection period indicates that at least 8 distribution samples were taken monthly and tested for E.coli and total coliforms. Half of these samples were tested for HPC.

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

Section 10-3 of Schedule 10 of O.Reg. 170/03 requires the owner and operating authority for the system to ensure at least one treated water sample is collected weekly and tested for E.coli, total coliforms, and general background population expressed as colony counts on a heterotrophic plate count (HPC).

A review of the certificates of analysis for the inspection period indicates that one treated water sample was collected weekly and tested for E.coli, total coliforms and HPC.

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

Section 13-2 of Schedule 13 of O.Reg. 170/03 requires the owner and operating authority for the system to ensure at least one sample of treated water is collected every 12 months (+/- 30 days) and tested for every parameter set out in Schedule 23 (inorganics).

Monitoring for Schedule 23 parameters was last completed in the Latchford Drinking Water System on April 1st, 2019 and, prior to that, on April 3rd, 2018.

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

Section 13-4 of Schedule 13 of O.Reg. 170/03 requires the owner and operating authority for the system to ensure at least one sample of treated water is collected every 12 months (+/- 30 days) and tested for every parameter set out in Schedule 24 (organics).

Monitoring for Schedule 24 parameters was last completed in the Latchford Drinking Water System on April 1st, 2019 and, prior to that, on April 3rd, 2018.

- **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 of Schedule 13 of O.Reg. 170/03 requires the owner and operating authority for the system to ensure at least one water sample is collected every three months (+/- 30 days) from points in the distribution system likely to have an elevated potential for the formation of haloacetic acids and test for haloacetic acids (HAAs).

### Water Quality Monitoring

The standard for HAAs does not come into effect until January 1st, 2020. It will be expressed as a Running Annual Average of quarterly testing results. The four quarters begin on January 1, April 1, July 1, and October 1 of each year.

A review of the certificates of analysis indicates that sampling for HAAs was conducted on October 9th, 2018 (32 ug/L), January 7th, 2019 (64 ug/L), April 1st, 2019 (36 ug/L), July 8th, 2019 (92 ug/L), and October 7th, 2019 (27 ug/L).

It is worth noting that the most suitable sampling location for HAAs should be determined by sampling a variety of locations throughout the distribution system that includes locations nearer the point of entry to the distribution system, the middle and the end. HAAs are known to decline over time within the distribution system and may or may not be best represented at the extremities of the distribution system.

On November 19th, 2019, operators indicated that sampling for HAAs would continue to be taken in locations close to the Latchford Water Treatment Plant.

- **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 of O.Reg. 170/03 requires the owner and operating authority for the system to ensure at least one water sample is collected every three months (+/- 30 days) from points in the distribution system likely to have an elevated potential for the formation of trihalomethanes (THMs) and test for THMs.

A review of the certificates of analysis indicates that sampling for THMs was conducted on October 9th, 2018 (42.5 ug/L), January 7th, 2019 (52 ug/L), April 1st, 2019 (54.6 ug/L), July 8th, 2019 (45.4 ug/L), and October 7th, 2019 (45.5 ug/L).

As of January 1st, 2016, the Ontario standard for THMs is 0.1 mg/L, expressed as a Running Annual Average (RAA) of quarterly testing results. The four quarters begin on January 1, April 1, July 1, and October 1 of each year.

The THMs were taken at a location near the Latchford Water Treatment Plant. On November 19th, 2019, operators indicated that sampling for THMs would be changed to a location further in the distribution system as it may have elevated levels of THMs.

- **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 of O.Reg. 170/03 requires the owner and operating authority for the system to ensure at least one treated water sample is collected every three months (+/- 30 days) and tested for nitrite and nitrate.

A review of the certificates of analysis for the inspection period indicates that treated water samples were taken on October 9th, 2018, January 7th, 2019, April 1st, 2019, July 8th, 2019, and October 7th, 2019 and tested for nitrate and nitrites.

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

Section 13-8 of Schedule 13 of O.Reg. 170/03 requires the owner and operating authority for the system to ensure at least one treated water sample is collected every 60 months (+/- 90 days) and tested for sodium.

From the previous inspection report, the April 27th, 2015 sampling tested at 30.1 mg/L for sodium.

On May 11th, 2015 the re-sample tested at 35.8 mg/L sodium. The source of the sodium has been attributed to the



### **Water Quality Monitoring**

sodium carbonate that is used in the treatment process to adjust the alkalinity and the pH.

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

Section 13-9 of Schedule 13 of O.Reg. 170/03 requires the owner and operating authority for the system to ensure at least one treated water sample is collected every 60 months (+/- 90 days) and tested for fluoride.

The most recent sample was collect on April 27th, 2015.

- **The owner ensured that water samples were taken at the prescribed location.**
- **All sampling requirements for lead prescribed by schedule 15.1 of O. Reg. 170/03 were being met.**  
Lead monitoring under the "reduced" requirements specified in Schedule 15.1-5 of O. Reg. 170/03 was completed in April 2011 and October 2011. There were no plumbing samples that exceeded the standard for lead and therefore monitoring of lead in plumbing systems in the Town of Latchford is no longer required.

In accordance with Schedule 15.1-5 (10) of O. Reg. 170/03, the owner is required to continue monitoring for pH and alkalinity in the distribution system during each specified period (Dec. 15-April 15 and June 15 - October 15) and obtain a lead sample from the distribution system every third 12 month period for two consecutive periods.

A review of information provided during the inspection report indicates that lead monitoring occurred on April 3rd, 2018, October 10th, 2018, and April 1st, 2019.

- **Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.**
- **The owner indicated that the required records are kept and will be kept for the required time period.**

### **Water Quality Assessment**

- **Records showed that all water sample results taken during the inspection review period did not exceed the values of tables 1, 2 and 3 of the Ontario Drinking Water Quality Standards (O.Reg. 169/03).**

### **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.**
- **The Annual Report containing the required information was prepared by February 28th of the following year.**
- **Summary Reports for municipal council were completed on time, included the required content, and were distributed in accordance with the regulatory requirements.**
- **All changes to the system registration information were not provided within ten (10) days of the change.**

Section 10.1(3) of O.Reg. 170/03 requires that the owner of the drinking water system gives the Director written notice of any changes to the drinking water system within 10 days of the change.

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**Reporting & Corrective Actions**

A review of the Drinking Water System Profile information indicates that the system information was not updated when OCWA was no longer operating as ORO from November 1st, 2018. The Profile Information Form was updated and provided to the ministry on October 24th, 2019.

Failure to provide written notice of any changes to the drinking water system within 10 days of the change is a violation of Section 10.1(3) of O.Reg. 170/03.

Please refer to Item No. 5 in the section of this report "Non-Compliance with Regulatory Requirements and Actions Required" for further discussion.

## 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.

1. **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 not equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6.**

Section 6-5(1)5 of Schedule 6 of O.Reg. 170/03 requires continuous monitoring equipment to be designed and operated such that an alarm must signal immediately at the location where the equipment conducts tests and at a location where a person is present if the equipment malfunctions.

A review of the information provided indicates that on four occasions the chlorine analyzer malfunctioned and continuously measured the same chlorine residual until operators were onsite. Operators took appropriate action; measuring the free chlorine residual and cleaning the chlorine analyzer. Operators indicated during the inspection that to prevent this issue the chlorine analyzer was being cleaned more frequently.

### Action(s) Required:

The owner is required to ensure that continuous monitoring equipment is designed and operated such that an alarm must signal immediately at the location where the treated free chlorine analyzer conducts tests and at a location where a person is present if a person is not always present at the location where the equipment conducts tests, if the equipment malfunctions as required by Section 6-5(1)5 of Schedule 6 of O.Reg. 170/03.

By no later than January 31st, 2020, the owner is required to provide to Water Inspector Erin Spires (Ministry of the Environment, Conservation and Parks' North Bay Office) written confirmation indicating that the treated free chlorine analyzer used to monitor primary disinfection has been equipped with an alarm that will signal if the analyzer malfunctions as required by Section 6-5(1)5 of Schedule 6 of O.Reg. 170/03 and that the alarm has been tested.

2. **Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was not performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and/or was not recording data with the prescribed format.**

Section 6-5(1) of Schedule 6 of O.Reg. 170/03 states that the owner and operating authority for the system shall ensure that continuous monitoring equipment records the results of the free chlorine tests taken at least every 5 minutes.

As described earlier in the inspection report, the treated free chlorine analyzer used to monitor primary disinfection malfunctioned on four occasions and continuously recorded the same free chlorine residual until operators began taking handheld residuals and repaired the analyzer. Operators indicated that to resolve this issue the chlorine analyzer was being cleaned more frequently.

### Action(s) Required:

Operators indicated that they began cleaning the chlorine analyzer more frequently to prevent this issue.

No further action required.

3. **The operations and maintenance manuals did not meet the requirements of the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA.**

On the day of the inspection, a copy of the Municipal Drinking Water Licence No. 277-101 (Issue No. 3) was not in the operations and maintenance manual as required by Condition 16.2.1 of Schedule B of the Licence. The operator

added the Licence to the Operations and Maintenance Manual on the day of the inspection.

**Action(s) Required:**

No further action required.

- 4. For every required operational test and every required sample, a record was not made of the date, time, location, name of the person conducting the test and result of the test.**

Section 6-10(1) of O.Reg. 170/03 requires that the owner of the drinking water system shall ensure that for every required operational test and sample required by O.Reg. 170/03 a record is made of the date, time, location, name of the person conducting the test and result of the test.

On October 29th, 2018 a record of the time for the distribution chlorine residual was not recorded.

On January 28th, 2019 and February 11th, 2019 the distribution residual logsheet indicates that two chlorine residuals were taken from the Town Shop.

However, on November 19th, 2019, operators indicated that the second residual was taken at the Town Office.

**Action(s) Required:**

A review of the information provided for the inspection period indicates that for the majority of the inspection period the information was recorded as required.

However, it is strongly recommended that the the owner ensure that the address is recorded when sampling and testing chlorine distribution residuals to ensure that the location of the samples is recorded with the greatest accuracy and in accordance with Section 6-10(1)1 of Schedule 6 of O. Reg. 170/03.

- 5. All changes to the system registration information were not provided within ten (10) days of the change.**

A review of the Drinking Water System Profile information indicates that the system information was not updated when the Town of Latchford became the Operator with Overall Responsibility on November 1st, 2018.

**Action(s) Required:**

The Profile Information Form was updated and provided to the ministry on October 24th, 2019.

No further action required.

## **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.

### **1. The owner did not have a harmful algal bloom monitoring plan in place.**

The owner and operators indicated that there is no Harmful Algal Bloom (HABs) monitoring plan in place.

On November 7th, 2019, the water inspector forwarded the May 10th, 2019 letter from the ministry recommending that weekly sampling for total microcystins occur from June to October in the raw and treated water. The letter also highlights that, while monitoring for HABs is currently a best management practice, the municipal drinking water licences will include monitoring requirements once renewed.

#### **Recommendation:**

It is recommended, as a best management practice, that the owner develop a Harmful Algal Bloom monitoring plan that includes (at a minimum):

1. Visual monitoring for HABs at or near the intake,
2. Details relating to visual monitoring of the shoreline where the proximity of the intakes may be of concern,
3. Details relating to reporting the observed or suspected HAB,
4. A sampling plan, including: the identification of sample locations, sampling frequencies, and any triggers that may increase the sampling frequency, and;
5. Up-to-date records documenting staff training on the HAB monitoring, reporting, and sampling procedures.

### **2. There is no backflow prevention program, policy and/or bylaw in place.**

The Town of Latchford does not have a backflow prevention program, or bylaw to address cross connections and water connections to high hazard facilities.

The owner indicated there are no high hazard facilities or known cross-connections connected to the water system.

#### **Recommendation:**

As recommended previously in the 2014-15 Inspection Report, it is recommended that the municipality inspect local industrial, commercial and institutional facilities to identify any cases where backflow prevention is warranted (e.g. on a boiler or ice-making system). Additionally, it is recommended that the municipality develop a by-law that prohibits cross connections between the water distribution system and other water sources such as wells, cisterns or surface water.

For more information please refer to the following guidance material:

CAN/CSA standards associated with backflow (B64.10.01 / B64.10.1-01 Manual for the Selection and Installation of Backflow Prevention Devices / Manual for the Maintenance and Field Testing of Backflow Prevention Devices), and - the InfraGuide - Innovations and Best Practices Potable Water - Methodology for Setting a Cross-Connection Control Program available at [www.infraguide.ca](http://www.infraguide.ca).

### **3. There was no by-law or policy in place limiting access to hydrants.**

The owner indicated there is no bylaw or formal policy in place limiting access to hydrants. However, hydrants are only accessed by certified operators and the fire department. Operators are members of the fire department and notification is provided to operators in the event of a fire.

A review of the logbooks indicates that the operators were notified in the event that there was a fire and were operating the hydrants for filling of the fire truck and swimming pools.

**Recommendation:**

It is recommended, as a best management practice, that the owner develops a formal by-law or policy limiting access to hydrants.

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**SIGNATURES**

Inspected By:

Erin Spires

*Erin Spires Dec 17<sup>th</sup> 2019*

Signature: (Provincial Officer)

Reviewed &amp; Approved By:

Sherry Ilersich

Signature: (Supervisor)

*Sherry A Ilersich*

Review &amp; Approval Date:

*December 17, 2019*

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.

**APPENDIX A –  
INSPECTION SUMMARY RATING RECORD (IRR)**



Ministry of the Environment - Inspection Summary Rating Record (Reporting Year - 2019-2020)

**DWS Name:** LATCHFORD DRINKING WATER SYSTEM  
**DWS Number:** 210000960  
**DWS Owner:** Latchford, The Corporation Of The Town Of  
**Municipal Location:** Latchford

**Regulation:** O.REG 170/03  
**Category:** Large Municipal Residential System  
**Type Of Inspection:** Detailed  
**Inspection Date:** October 25, 2019  
**Ministry Office:** North Bay Area Office

Maximum Question Rating: 577

Inspection Module	Non-Compliance Rating
Permit To Take Water	0 / 12
Capacity Assessment	0 / 42
Treatment Processes	0 / 89
Process Wastewater	0 / 10
Operations Manuals	14 / 42
Logbooks	4 / 30
Certification and Training	0 / 42
Water Quality Monitoring	0 / 136
Reporting & Corrective Actions	4 / 33
Treatment Process Monitoring	42 / 141
<b>TOTAL</b>	<b>64 / 577</b>

Inspection Risk Rating | 11.09%

**FINAL INSPECTION RATING: 88.91%**

**Ministry of the Environment - Detailed Inspection Rating Record (Reporting Year - 2019-2020)**

<b>DWS Name:</b>	LATCHFORD DRINKING WATER SYSTEM
<b>DWS Number:</b>	210000960
<b>DWS Owner:</b>	Latchford, The Corporation Of The Town Of
<b>Municipal Location:</b>	Latchford

**Regulation:** O.REG 170/03  
**Category:** Large Municipal Residential System  
**Type Of Inspection:** Detailed  
**Inspection Date:** October 25, 2019  
**Ministry Office:** North Bay Area Office

Non-compliant Question(s)	Question Rating
<b>Logbooks</b>	
For every required operational test and for every required sample, is a record made of the date, time, location, name of the person conducting the test and result of the test?	4
<b>Operations Manuals</b>	
Do the operations and maintenance manuals meet the requirements of the DWWP and MDWL issued under Part V of the SDWA?	14
<b>Reporting &amp; Corrective Actions</b>	
Have all changes to the system registration information been provided to the Ministry within ten (10) days of the change?	4
<b>Treatment Process Monitoring</b>	
Is continuous monitoring equipment that is being utilized to fulfill O. Reg. 170/03 requirements 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?	21
Are all continuous monitoring equipment utilized for sampling and testing required by O. Reg.170/03, or MDWL or DWWP or order, equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6?	21
<b>TOTAL QUESTION RATING</b>	<b>64</b>

**Maximum Question Rating: 577**

<b>Inspection Risk Rating</b>	<b>11.09%</b>
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<b>FINAL INSPECTION RATING:</b>	<b>88.91%</b>
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**APPENDIX B –  
LISTING OF KEY REFERENCE AND GUIDANCE MATERIAL**



# 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](mailto:waterforms@ontario.ca).

For more information on Ontario's drinking water visit [www.ontario.ca/drinkingwater](http://www.ontario.ca/drinkingwater)



PUBLICATION TITLE	PUBLICATION NUMBER
<b>FORMS:</b>	
Drinking Water System Profile Information	012-2149E
Laboratory Services Notification	012-2148E
Adverse Test Result Notification	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](mailto: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](http://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