

**Ministry of the Environment and  
Climate Change**

Safe Drinking Water Branch

Barrie District Office  
Unit 1201  
54 Cedar Pointe Drive  
Barrie ON L4N 5R7

Ministère de l'Environnement et de l'Action  
en matière de changement climatique

Direction du contrôle de la qualité de l'eau  
potable

Bureau du district de Barrie  
Bureau 1201  
54, chemin Cedar Pointe  
Barrie (Ontario) L4N 5R7



16 November, 2016

Town of Collingwood  
Box 157, 97 Hurontario Street  
Collingwood, Ontario L9Y 3Z5

**Attention: Peggy Slama, Manager – Manager, Environmental Services**

**Re: 2016 Final Communal Drinking Water Inspection Report  
Collingwood DWS # 220001165**

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Please find enclosed the Ministry of the Environment final report of the inspection of the Town of Collingwood Drinking Water System, (Water Works # 220001165). The physical inspection process took place on 11<sup>th</sup> October, 2016. This report is based on a "focused" inspection of the drinking water 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.

Findings of the inspection are detailed within pages 8 to 16 of the report. Non-compliance items and actions required section is located on page 17 of the report. No Provincial Officer Report or Order is issued at this time.

In order to measure individual inspection results, the Ministry has established an inspection compliance risk framework based on the principles of the Inspection, Investigation & Enforcement (II&E) Secretariat and advice of internal and risk experts. The Inspection Summary Rating Record (IRR), included as Appendix C of the inspection report, provides the Ministry, the system owner and the associated Public Health Units with a summarized quantitative measure of the drinking water system's annual inspection and regulated water quality testing performance. Please note the attached IRR methodology memo describing how the risk rating model has improved to better reflect the health related and administrative non-compliance found in an inspection report. IRR ratings are published (for the previous inspection year) in the Ministry's Chief Drinking Water Inspector's Annual Report.

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Should you have any questions or concerns regarding the rating, please contact Sheri Broeckel, Drinking Water Program Supervisor, at 705-739-6386. If you have any questions or concerns regarding this inspection report, please contact the undersigned at 705-739-6384.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Stuhlemmer", with a horizontal line extending to the right.

**Brian Stuhlemmer  
Provincial Officer  
Barrie District Office**

cc. John Vail, Chief Water Operator, Town of Collingwood  
Gary Carscadden, Compliance Officer, Town of Collingwood  
Dana Doyle, Water Distribution Foreman, Town of Collingwood  
Dr. Charles Gardner, Medical Officer of Health, Simcoe County District Health Unit  
MOE Barrie District File



# Ontario

**Ministry of the Environment and Climate Change**

## **COLLINGWOOD DRINKING WATER SYSTEM**

### **Inspection Report**

|                            |                  |
|----------------------------|------------------|
| <b>Site Number:</b>        | 220001165        |
| <b>Inspection Number:</b>  | 1-CLN50          |
| <b>Date of Inspection:</b> | Oct 11, 2016     |
| <b>Inspected By:</b>       | Brian Stuhlemmer |

**OWNER INFORMATION:**

**Company Name:** COLLINGWOOD PUBLIC UTILITIES  
**Street Number:** 43  
**Street Name:** STEWART Rd  
**City:** COLLINGWOOD  
**Province:** ON  
**Unit Identifier:**  
**Postal Code:** L9Y 3Z5

**CONTACT INFORMATION**

|               |  |              |                 |
|---------------|--|--------------|-----------------|
| <b>Type:</b>  | Other - specify                            | <b>Name:</b> | Peggy Slama     |
| <b>Phone:</b> | (705) 445-1581                             | <b>Fax:</b>  | (705) 445-0984  |
| <b>Email:</b> | pslama@collingwood.ca                      |              |                 |
| <b>Title:</b> | Manager, Environmental Services            |              |                 |
| <b>Type:</b>  | Compliance Officer                         | <b>Name:</b> | Gary Carscadden |
| <b>Phone:</b> | (705) 445-1791                             | <b>Fax:</b>  | (705) 445-0984  |
| <b>Email:</b> | gcarscadden@collingwood.ca                 |              |                 |
| <b>Title:</b> | Compliance Officer, Environmental Services |              |                 |
| <b>Type:</b>  | Operating Authority                        | <b>Name:</b> | John Vail       |
| <b>Phone:</b> | (705) 445-1791                             | <b>Fax:</b>  | (705) 445-0984  |
| <b>Email:</b> | jvail@collingwood.ca                       |              |                 |
| <b>Title:</b> | Chief Water Treatment Operator             |              |                 |
| <b>Type:</b>  | Water Foreman                              | <b>Name:</b> | Dana Doyle      |
| <b>Phone:</b> | (705) 445-1800                             | <b>Fax:</b>  | (705) 445-0791  |
| <b>Email:</b> | ddoyle@collingwood.ca                      |              |                 |
| <b>Title:</b> | Water Distribution Foreman                 |              |                 |

**INSPECTION DETAILS:**

**Site Name:** COLLINGWOOD DRINKING WATER SYSTEM  
**Site Address:** 2 RAGLAN Street COLLINGWOOD ON L9Y 4Z5  
**County/District:** COLLINGWOOD  
**MOECC District/Area Office:** Barrie District  
**Health Unit:** SIMCOE MUSKOKA DISTRICT HEALTH UNIT  
**Conservation Authority:**  
**MNR Office:**  
**Category:** Large Municipal Residential  
**Site Number:** 220001165  
**Inspection Type:** Announced  
**Inspection Number:** 1-CLN50  
**Date of Inspection:** Oct 11, 2016  
**Date of Previous Inspection:** Jul 14, 2015

**COMPONENTS DESCRIPTION**

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

**Type:** DWS Mapping Point

**Sub Type:**
**Site (Name):** RAW WATER

**Type:** Source

**Sub Type:** Surface

**Comments:**

The Collingwood Water Treatment Plant (WTP) is located at 2 Raglan Street in the Town of Collingwood, Simcoe County, on the shore of Nottawasaga Bay in Lake Huron. Treatment at the facility consists of direct membrane filtration and chlorination for primary and secondary disinfection. The WTP consists of a Potable Water Plant and a Process (non-potable) Water Plant. The Process Water Plant supplies unfiltered, unchlorinated water through a dedicated trunk main to a number of industries which utilize this non-potable water for their industrial processing requirements. The Potable Water Plant is used to produce potable drinking water for the Town of Collingwood and supplies this water to the Town of Blue Mountains and through a regional transmission water main owned by New Tecumseth, which supplies water to the Towns of New Lowell in Clearview Township, Angus and Baxter in Essa Township and Alliston in New Tecumseth.

**Raw Water-**

Surface water from Nottawasaga Bay gravity feeds into the WTP via a 765 m long and 1067 mm diameter watermain. The intake is a submerged flared elbow in approximately eight metres of water. Chlorine for pre-treatment and zebra mussel control can be applied before a surge relief chamber which has valving to direct raw water to the industrial process clear well (IPCW), directly to the membrane feed chamber (MFC) within the WTP or, to the Raw Water Supply Plant (RWSP) (typical operations). Chlorine is not typically applied at the RWSP inlet for pretreatment. The RWSP inlet splits into two - Wet Wells 1 and 2. Wet Well 1 directs raw water to the MFC with the aid of an in-line mixer to increase hydraulic gradient. Wet Well 2 houses an unused mechanical screen and can direct water to the IPCW or, as typically occurs, receive recycled process water by gravity back from the IPCW and return it to the MFC. The inlet and outlet lines are valved. The MFC receives raw and recycled process water and directs it by gravity through valved lines to five membrane filter tanks housing five trains of ZW500 membrane filters.

A raw water vertical turbine pump draws water from the MFC, directs it through a 0.5 mm automatic strainer, through a continuously monitored magnetic flow meter, turbidity analyser, a valve and check valve and then into the tank housing one train of ZW1000 membrane filters. Backwash water is directed from this tank by gravity to one of the ZW500 tanks.

All of the filter tanks contain level sensors and valved lines equipped with back flow prevention (BFP), concentrate pumps and continuously monitored magnetic flow meters which can drain the tanks to sanitary sewer and/or to the IPCW (typical) and/or to the overflow outfall in the lake (emergency).

Air is supplied to each tank to air scour the filter units and keep solids in suspension. Air is supplied to the five ZW500 by six positive displacement air blowers (five duty, one standby rated at 680 L/s at a backpressure of 36 kPa) and to the ZW1000 tank by one air blower (rated at 30 L/s at a backpressure of 31 kPa).

There is continuous free chlorine residual, pH, turbidity and temperature monitoring of the raw water from the MFC. There is an unused particle counter on the raw water inlet.

There is not a flow meter installed on the raw water intake. A raw water flow meter will be installed on the raw water header as part of the planned upgrades.

**Site (Name):** RAYMOND A. BARKER ULTRAFILTRATION SURFACE WATER TREATMENT FACILITY

**Type:** Treated Water POE

**Sub Type:** Treatment Facility

**Comments:**

Each treatment train of the filtration system consists of ZeeWeed ultra-filtration membrane modules (five 500 series trains and one 1000 series train), a permeate/ backpulse pump, a backpulse tank and an air blower.

There are six variable speed permeate extraction/backpulse pumps (five duty, 1 spare, each rated at 126 L/s at a total dynamic head (TDH) of 15.24 m) for the ZW500 membranes, and one variable speed multi-purpose permeate extraction/backpulse/chemically enhanced backwash (CEB)/clean-in-place (CIP) pump (rated at 36.6 to 75.7 L/s at a TDH of 13.7 m) for the ZW1000 train.

The permeate pump creates a slight vacuum which suctions clean (permeate) water through the membrane, leaving

any particulate matter greater than 0.035 micron in the process tank. In order to keep the particulate levels in the concentrate (water left behind in the membrane basins) from rising, concentrate pumps withdraw and discharge concentrate to the IPCW, where it may be blended with raw water in the non-potable water supply system prior to being discharged to the industries and/or recycled to the head works of the plant.

Six concentrate pumps (five duty, one standby, each rated at 39 L/s at a TDH of 16.76 m) for the ZW500 trains and one drain pump (rated at 54 to 82 L/s at a TDH of 7.6 m) for the ZW1000 train (directs tank water to ZW500 trains), remove membrane concentrate/ water from the tanks and direct it to the ICPW.

Air is released to the membrane headers by the permeate process which must be removed with six air removal vacuum pumps (five duty, one standby, rated at 48 m<sup>3</sup>/h at 41 kPa) and five air separation columns for the ZW500 trains, and one vacuum pump (rated at 39 m<sup>3</sup>/h at 68 kPa) for the ZW1000 train.

The membranes must be thoroughly cleaned regularly in addition to the continuous backpulse process. This is completed with separate systems for the ZW500 trains and the ZW1000 train. The ZW500 CIP system consists of a 12.3 m<sup>3</sup> mixing tank and pumps directing solution to the various trains, a 12% sodium hypochlorite feed system for organic cleaning during the CIP process (consisting of two 1200 L day tanks and a 178 L/min chemical metering /transfer pump) and a 50% citric acid system (including a 300 L day tank and a 178 L/min chemical metering pump) for inorganic cleaning. The chemicals are pumped into the membranes and discharged to sanitary sewers.

Backpulses are completed with treated water from a 23.8 m<sup>3</sup> tank piped to the five ZW500 trains.

The ZW1000 CIP/CEB system includes 200 L day tanks for 12% sodium hypochlorite and 50% citric acid, 178 L/s chemical metering pumps and a 108 L/s pump for the CEB process.

Both trains are provided air compressors, air receivers and air dryers for membrane integrity testing and valve actuation.

Each permeate extraction line is equipped with a continuously monitored and alarmed turbidity analyser and a continuously monitored magnetic flow meter.

Each concentrate pump discharge is equipped with magnetic flow meters.

Particle counters are installed on the ZW1000 discharge line (not in use) and on the inlet line to the chlorine contact chamber (CCC).

There are continuously monitored magnetic flow meters on the inlet line to the ICPW and the inlet to the CCC.

After passing through the membrane filters, the permeate water is then disinfected with the addition of chlorine gas.

The chlorination system consists of three gas chlorine units (two duty, one standby, each rated at 226 kilograms per day), two weigh scales with SCADA system output, one vacuum regulator and two vacuum switches. The chlorinated permeate water is then discharged into the two 413 m<sup>3</sup> baffled and level controlled CCC's and then flows by gravity into the 797 m<sup>3</sup> clear well. Free chlorine residual is continuously monitored by an alarmed analyser at the CCC inlet.

The finished water is pumped to the Collingwood distribution system via four vertical turbine HLP's with variable speed drives (one jockey pump rated at 56.7 L/s at a TDH of 57 m, and three rated at 138.6 L/s at a TDH of 55 m). Three additional HLP's with variable speed drives, all rated at 136.1 L/s at a TDH of 55m and under the control of the Town of New Tecumseth, direct water to the Regional Pipeline. Each of the HLP's is equipped with pressure monitoring, flow control/check valves and isolation valves.

The HLP discharge header to the Collingwood distribution system is equipped with a continuously monitored magnetic flow meter, pressure transducers and analysers for temperature, free chlorine residual, turbidity and pH. Flow is continuously monitored on the transmission main discharge.

All monitoring, alarms and controls for the WTP and the various other facilities within the Collingwood distribution system are routed through the SCADA system in the WTP.

A 1000 kW diesel standby generator with four contained fuel tanks (2270 L volume) and automatic start and stop capabilities for emergency power supply is located on site.

Floor drains empty to the sanitary sewers.

The clear well overflow empties to the plant head works.

Vents with screens are provided for the chemical tanks, the clear well and the CCC's.

An on-site lab provides testing facilities for various water quality parameters.

The Industrial Process Clear Well receives concentrate waste water from the filter tanks and/or raw water from the plant head works. Flow monitoring is provided on the concentrate line. Concentrate continuously gravity feeds back to the head works when the tank is full or during emergencies to the lake outfall. Four HLP's discharge non-potable process water to industrial users in Town through a watermain network separate from the distribution system. Tank level, flows, turbidity and pressure are monitored on this system.

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**Site (Name):** DISTRIBUTION**Type:** Other**Sub Type:** Other**Comments:**

The Collingwood distribution system serves the Town of Collingwood with an estimated population of 24,800 persons. Watermains are comprised of various components including cast iron, ductile iron, copper, concrete and Polyvinyl chloride (PVC). These watermains range in diameter from 100 mm to 600 mm. There is an estimated total length of 157.75 km of watermains installed within the Town. There are an estimated 921 hydrants, 2625 valves, three pressure sustaining valves, five designated sample stations and numerous blow offs located within the distribution system.

The system is fire rated and includes an elevated storage tower, two reservoir/booster pumping stations, and two below-grade pressure booster stations. Further detail on the reservoirs, booster stations and the elevated tower is provided below.

The Collingwood WTP also supplies drinking water to the Town of the Blue Mountains via a connection to Collingwood's distribution system at the boundary of the two municipalities (Osler Bluff Road) and to the Municipalities of New Tecumseth and Essa via a 58 kilometre long Regional Pipeline. The Regional Pipeline is located in the former railway corridor that runs north-south through the Town of Collingwood (further described below).

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**Site (Name):** WEST END RESERVOIR AND BOOSTER STATION**Type:** Other**Sub Type:** Reservoir**Comments:**

The West End Reservoir and Booster Station (also known as the A. R. (Ted) Carmichael Reservoir) is located at 11437 Highway 26 in the Town of Collingwood. The building is constructed of concrete blocks with a steel roof and locking, alarmed steel entry doors. Contact information and parking control signs are provided.

Distribution system water enters the facility by way of a common inlet/outlet line which separate within the facility.

The inlet line has a pressure relief valve, a chlorine gas injection point, a continuously monitored flow meter, a supply line to the on-line free chlorine residual analyser, a valved reservoir by-pass line and two valved reservoir fill lines.

The reservoir is a concrete, single cell below grade chamber which extends outside of the building. It has a single, screened vent pipe within a locked metal cage enclosure outside of the building, an overflow with metal flapper valve and screen which empties to the roadside ditch, and level monitoring.

Three vertical turbine HLP's (one rated at 100 L/s at a TDH of 45.6 m and two rated at 200 L/s at a TDH of 42.7 m) draw water from the reservoir and discharge it back to the distribution system. Each of the HLP discharges are equipped with pressure gauges, pressure switches for sequential pump starts, valving and flow control/ backflow prevention valves.

The HLP discharge has a pressure relief valve which will direct water back into the reservoir if system pressure is too high, a gas chlorination injection point, a continuously monitored magnetic flow meter with a valved by-pass line and isolation valving.

The gas chlorination system is contained within a separate room, has automatic weigh scales and automatic switch-over capabilities, and is rated at 226 kg/d. It is typically injected into the inlet line in response to chlorine residual set points as recorded by the free chlorine residual analyser.

All alarms and monitoring are trended by the SCADA system at the WTP.

The floor drains empty to the sanitary sewers.

There is a 350 kW diesel generator set with a contained, double fuel tank and automatic start and stop capabilities located inside the building for emergency power supply.

There is a tap outside for public use, equipped with a backflow preventer.

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**Site (Name):** COLLINGWOOD SOUTH RESERVOIR AND BOOSTER STATION**Type:** Other**Sub Type:** Reservoir**Comments:**

The Collingwood South Reservoir became operational in December 2008 and is located on the north side of Poplar

Sideroad (#7508), just west of the Pretty River. It is expected to provide adequate pressure for future development in the area.

This facility draws from the Regional Pipeline, through a 500 mm watermain, where it intersects with Poplar Sideroad. Water entering the facility passes a continuously monitored pressure transducer, isolation valves, a continuously monitored magnetic inlet flow meter with valved bypass line, a pressure sustaining/ flow control valve and then through a valving arrangement with isolation valves, a motorized modulating pressure relief valve which under typical operations directs water to the two celled, concreted, 2,565 m<sup>3</sup> underground storage reservoir, or, if the reservoir is to be by-passed, through a flow control/ backflow preventing valve and on to the facility discharge line. There is a pressure relief valve on the by-pass line which will direct water into the reservoir if system pressure gets too high. Separate fill lines direct water into the reservoir cells. A continuously monitored and alarmed free chlorine analyser draws water from the common inlet line.

The reservoir cells extend outside the building and are hydraulically connected by a valved line which can be closed to isolate the cells. Each cell is equipped with baffle walls, a continuously monitored and alarmed level sensor, plate metal and gasketed access hatches, screened vents exiting the roof of the building, an overflow which empties through a line with backflow prevention to the roadside ditch and a discharge/suction line to the HLP's.

Four HLP's rated at 25 L/s, 55 L/s, 92 L/s and 92 L/s at 60 m TDH and with variable speed drives are installed to discharge water from the facility. Each is equipped with electronic pressure sensors on inlet and outlet for pump start control (sequential), air relief valves, a vacuum priming system tied into a vacuum system, back flow prevention and valving before discharging to the discharge header.

The discharge header is equipped with two 3 m<sup>3</sup> hydropneumatic surge tanks with level gauges, a line with backflow prevention, valving, a flow meter and outside tap for bulk water takings, continuous pressure sensors, an electronic pump switch/sensor, a continuously monitored free chlorine residual/pH/temperature analyser/sensor, a chlorine injection point, air relief valves, isolation valves and a continuously monitored magnetic flow meter with valved by-pass before joining with the outside watermain. The bulk water fill line is accessed by passcode and the backflow preventer installed on the line is inspected annually.

The top up chlorination system is composed of two flow paced chemical metering pumps (duty and standby), each rated at 7.2 L/hr and equipped with manual switch-over under normal conditions. There is an unused, contained 2000 L sodium hypochlorite bulk storage tank with venting and motorized blower, an in-use, approximately 100 L contained day tank, alarmed flow sensors and pump failure alarms.

The floor drains empty to the sanitary sewers.

The building is constructed of concrete blocks with a steel roof and steel entry doors that are alarmed for forced entry. There is a 200 kW diesel generator set with self contained, doubled walled fuel tank and automatic start and stop capabilities located outside the building for emergency power supply.

There is provision for two more reservoir cells and a fifth HLP.

All alarms and monitoring are linked to the SCADA system at the WTP.

**Site (Name):** ELEVATED STORAGE TOWER

**Type:** Other

**Sub Type:** Reservoir

**Comments:**

The Elevated Storage Tower is located at 200 Hume Street and consists of one multi-legged elevated storage tank with a usable volume of 2,273 m<sup>3</sup>, located within a fenced compound with barbed wire and locking gate. The tower has a single, 600 mm diameter inlet/outlet pipe and an overflow which empties into a manhole and then to the adjacent stream. An alarmed continuous free chlorine residual analyser recording to the SCADA system at the WTP draws water from the feed pipe.

A sodium hypochlorite top up chlorination system, injecting into the inlet/outlet header in response to programmed free chlorine set points with water discharge, has been installed including two chemical metering pumps (one duty, one standby), each rated at 12 L/hr, alarmed flow sensors and a 60 L day tank.

This facility is equipped with isolation valves, continuously monitored alarms and sensors for floods, power failure and reservoir level.

A small portable generator is kept on-site for emergency power anywhere in the distribution system.

The floor drains empty to the sanitary sewers.

Access is by way of steps up the central pipe and a locked access hatch at the top of the structure. Venting at the top



of the tower is reportedly screened.

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**Site (Name):** OSLER BLUFF ROAD PRESSURE BOOSTER STATION  
**Type:** Other **Sub Type:** Booster Station

**Comments:**

The Osler Bluff Road Booster Station is located at 223 Osler Bluff Road. The facility consists of an underground precast concrete chamber, accessed by a locked plate metal hatch, three horizontal in-line booster pumps (two duty pumps rated at 43.9 L/s at 27.6 m TDH and one standby pump rated at 45.3 L/s at 27 m TDH), two 300 L hydropneumatic tanks, a continuously monitored magnetic flow meter, valves, an above grade sample line activated by a manually operated solenoid valve, an above grade, steel encased and lockable control panel and a 100 kW, above grade, standby diesel generator set with locking steel enclosure, automatic start and stop capability and self contained fuel tank.

This station ensures that sufficient pressure is maintained in the water distributed to the Town of The Blue Mountains.

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**Site (Name):** GEORGIAN MEADOWS BOOSTER PUMPING STATION  
**Type:** Other **Sub Type:** Booster Station

**Comments:**

The Georgian Meadows Booster Station is located at 1 Georgian Meadows Drive. This facility is not owned by the Town of Collingwood but the Collingwood Public Utilities maintain and operate it for the owners, the Craigeith Land Corporation.

The facility consists of an underground precast concrete chamber with screened air vent, accessed by a locked plate metal hatch, three horizontal in-line booster pumps, two rated at 24.3 L/s at 30.6 m TDH (one duty, one standby), and one pressure pump rated at 6.5 L/s at 24.4 m TDH, an above grade, steel encased and lockable control panel valves and other appurtenances.

This station ensures that sufficient pressure is maintained in the water distributed to the Georgian Meadows subdivision.

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**Site (Name):** NEW TECUMSETH TRANSMISSION WATERMAIN  
**Type:** Other **Sub Type:** Other

**Comments:**

This transmission watermain is supplied from, and runs approximately 58 km from the WTP HLP clearwell to the Town of Alliston in the Town of New Tecumseth. New Tecumseth owns the watermain and the equipment which supplies the main but Collingwood maintains the pumps within the WTP.

Three vertical turbine HLP's, all with variable speed drives, isolation valves, flow control valves and rated at 136.1 L/s at a TDH of 55 m, discharge treated water from the WTP HLP clearwell, through a continuously monitored magnetic flow meter and out of the plant. Collingwood's South End Reservoir on Poplar Sideroad receives water from this watermain before it leaves the Town of Collingwood. There is a second continuously monitored magnetic flow meter installed at the Town boundary.

The transmission main supplies all or part of the water consumed by the Village of New Lowell in Clearview Township, Baxter and Angus in Essa Township and Alliston in New Tecumseth.

## INSPECTION SUMMARY:

### Introduction

- The primary focus of this inspection is to confirm compliance with Ministry of the Environment and Climate Change (MOECC) 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.

The Town of Collingwood, having an estimated population of approximately 24,800 persons is located on Nottawasaga Bay on the southern shore of Georgian Bay within Simcoe County and is served by the Collingwood Drinking Water System (DWS). The Drinking Water System is owned and operated by the Town of Collingwood and is classified as Large Municipal Residential Drinking Water System. This system has been assigned the Drinking Water System (DWS) number 220001165 by the Ministry of Environment and Climate Change (the 'Ministry'). The following certificates of classification were issued by the Ministry of Environment and Climate Change (MoECC) on November 15, 2005

- Water Treatment Subsystem Class 2 - Certificate # 3009,
- Water Distribution Subsystem Class 2 - Certificate # 277

Under the Safe Drinking Water Act, the Ministry had issued the following control documents:

- Municipal Drinking Water Licence number 100-101, Issue 3, June 21, 2016
- Drinking Water Works Permit number 100-201, Issue 2, May 13, 2016

The Drinking Water System consists of the Raymond A. Barker Ultrafiltration Plant (Water Treatment Facility), located within the municipality and drawing from Nottawasaga Bay under Permit to Take Water number 3451-8CZMJC issued Jan 28, 2011. Other Drinking Water Systems that receive drinking water via a 58 kilometer Regional Pipeline from Raymond A. Barker Ultrafiltration Plant include the following:

- Thornbury Drinking Water System (Town of The Blue Mountains), DWS # 220001762
- Baxter Distribution System (Township of Essa), DWS # 260086866
- Angus Drinking Water System (Township of Essa), DWS # 260001026
- Alliston Drinking Water System (Town of New Tecumseth), DWS # 220001174
- New Lowell Drinking Water System (Township of Clearview) via the Alliston System, DWS # 220003706

Treatment of surface water consists of the provision for pre-chlorination for Zebra mussel control, microfiltration,

## Introduction

and chlorination before being fed into the on-site in-ground 797 m<sup>3</sup> storage reservoir and / or the distribution system. Non-potable process water from the Water Treatment Facility is directed to municipal industrial users via a dedicated pipeline. The Collingwood distribution system is comprised of approximately 158 km of various diameter water transmission mains, ranging from 100 mm to 600 mm diameter, as well as the following major components;

- Collingwood Water Tower and Re-chlorination Facility on 250 Hume Street with a 2,273 m<sup>3</sup> elevated storage tank,
- A.R. (Ted) Carmichael West End Reservoir Booster Pumping Station on Highway 26 with rechlorination and 6,800 m<sup>3</sup> reservoir,
- South Collingwood Reservoir Booster Pumping Station on Poplar Sideroad with rechlorination and 2,565 m<sup>3</sup> reservoir,
- Osler Bluff Road Booster Station on Osler Bluff Road, and
- Georgian Meadows Booster Station on Sixth Street.

## 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 2.1 of Schedule C of Municipal Drinking Water Licence number 100-101, issued June 21, 2016 requires continuous flow measurement and recording of the flow rate and daily volume of water to and through the drinking water treatment system.

Flow meters are installed on the non-potable header being directed to industrial users, the treated water header from the treatment facility being directed to Collingwood and Town of Blue Mountain distribution system as well as to the regional supply pipeline, at the regional boundary for the Town of New Tecumseth pipeline, and at the South Reservoir. The installed flow meters are used to calculate the raw water flow and the treated water flow.

- **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 number 100-101, issued June 21, 2016 limits the rated capacity of the Collingwood Drinking Water treatment plant to 31,140 m<sup>3</sup>/day.

The treated water flow from the treatment facility is calculated and logged continuously by the SCADA system by summing the value of the following flow meters:

- Flowmeter 'FLT02' measuring flow to the Collingwood Water Tower, Krohne electromagnetic flowmeter model IFC010F, and
- Flowmeter 'FLT1020', measuring flow to South Collingwood Reservoir, Krohne electromagnetic flowmeter IFC090F

Documents reviewed indicate daily average flow to be 16,145 m<sup>3</sup>/day (56% of limit) with the maximum daily flow of 16,145 m<sup>3</sup>/day (77% of limit) for 2015.

## 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.**

On the day of physical inspection, major components as described within Schedule A of Drinking Water Works Permit number 100-201, issued May 13, 2016, appeared to be installed and operational.

- **The owner/operating authority was in compliance with the requirement to prepare Form 1 documents as required by their Drinking Water Works Permit during the inspection period.**

Records provided by the Operating Authority indicate the following works were undertaken in the alteration, addition, modification or extension to the distribution system for which a 'Form 1 – Record of Watermains

### Treatment Processes

Authorized as a Future Alteration' was completed in concordance with section 3 Schedule B of Drinking Water Works Permit number 100-201, issued May 13, 2016 for the following:

- Hume Street - 5/22/2015
- Niagara Street - 4/21/2016
- Grey County Road 21 - 4/05/2016
- Cranberry Trail - 5/13/2016

The Municipality reports no changes to the Drinking Water System for which a "Form 2 – Record of Minor Modifications or Replacements to the Drinking Water System" or a "Form 3 – Record of Addition, Modification or Replacement of Equipment Discharging a Contaminant of Concern to the Atmosphere", was required to be completed.

- **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.**

For drinking-water systems that obtain water from a raw water supply which is surface water, the treatment process, must as a minimum, consist of chemically-assisted filtration and disinfection; and the water treatment equipment is designed to be capable of achieving, at all times, primary disinfection in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario.

Section 3.4.6 of the Procedure for Disinfection of Drinking Water in Ontario identifies that in order to be considered conventional filtration and meet or exceed the 2.5-log Giardia cyst removal, the 2.0-log Cryptosporidium oocyst removal and 2.0-log virus removal credit, the filtration process must continuously monitor filtrate turbidity from each filter; and meet the performance criterion for filtered water turbidity of less than or equal to 0.1 NTU in 99% of the measurements each month.

Treatment at the Town of Collingwood drinking water system consists of continuous contact filtration via ultra-filtration, followed by chlorination with Pathogen Log Removal / Inactivation Credits detailed in Schedule E of Municipal Drinking Water Licence number 100-101, issued June 21, 2016. Data reviewed in the form of SCADA generated reports for the inspection review period indicate that the required turbidity and chlorination met the standard.

- **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.**

Records provided by the Operating Authority indicate that the water treatment equipment was operated in a manner so that at all times and all locations in the distribution system the chlorine residual was never less than 0.05 mg/L free available chlorine in concordance with Sch. 1-2(2)4 of O.Reg. 170/03.

The secondary disinfection chlorine residual is measured using continuous monitoring equipment located within the distribution system at the elevated water tower, A.R. Carmichael west-end reservoir and the R.A. Davey south-end reservoir. These analysers are connected to the Supervisory Control and Data Acquisition (SCADA) system for recording and alarming purposes.

Approximately 460 grab-samples for chlorine residual are tested over an operational year, all of which indicated results over 0.05 mg/L free available chlorine within the distribution system during the inspection review period.

### Treatment Process Monitoring

- **Primary disinfection chlorine monitoring was conducted at a location approved by Municipal Drinking**

### Treatment Process Monitoring

**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.**

Section 7-2 (1) of Schedule 7 to O. Reg. 170/03 requires where chlorination is provided for primary disinfection, sampling and testing for free chlorine residual is to be carried out by continuous monitoring equipment in the treatment process at or near a location where the intended contact time has just been completed in accordance with the Ministry's Disinfection Procedure.

Primary disinfection is achieved with the application of chlorine gas at an application point in the common membrane permeate header upstream of the two chlorine contact chambers with a volume of 829 m<sup>3</sup>. A continuous chlorine analyser is provided with feed sample water from a point after the clearwell, prior to entering the distribution system. Another continuous chlorine analyzer is installed that draws sample water from between the two cells of the contact chamber for operational monitoring.

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

Section 7-3 Schedule 7 of O. Reg. 170/03 requires that, if a drinking-water system obtains water from a surface water supply and the system provides filtration, as in the case of the Collingwood drinking water treatment system, that sampling and testing for turbidity is carried out by continuous monitoring equipment on each filter effluent line.

Each of the following filter permeate lines is equipped with a continuously monitored and alarmed turbidity analyser (HACH 1720E Turbidimeter for trains A through E, HACH 1720D on train F) for monitoring permeate quality and verifying integrity of filter membranes.:

- Train A Turbidity (Instrument # AIT18A)
- Train B Turbidity (Instrument # AIT18B)
- Train C Turbidity (Instrument # AIT18C)
- Train D Turbidity (Instrument # AIT18D)
- Train E Turbidity (Instrument # AIT18E)
- Train F Turbidity (Instrument # AIT3537)

In addition to individual turbidity analysers on each train, there is also a HACH 2200 PCX Particle Counter (Instrument # AIT-04) installed on the inlet line to the chlorine contact chamber and another continuous turbidity meter (Instrument # AIT-02) monitoring finished / filtered water.

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

In concordance with section 7-2 Schedule 7 of O. Reg. 170/03, secondary disinfection residual sampling and testing for the Town of Collingwood distribution system is performed by continuous monitoring equipment installed at the Water Tower, West End Reservoir and South End Reservoir. In addition to the continuous monitoring, approximately 460 grab samples per year of distribution water are also analysed for free available chlorine residual.

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

In concordance with section 6-5 Schedule 6 of O. Reg. 170/03, it appears that operators examine all test results generated by continuous monitoring equipment within 72 hours of their generation. Checks of acquired data are noted within the 'R. A. Barker Filtration Plant Operating Log'. Operators are typically on-site five days per week (Monday through Friday) and at least once during a holiday weekend to ensure that requirements for data review are met.

- **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.**

### Treatment Process Monitoring

In concordance with section 6-5 Schedule 6 of O. Reg. 170/03, continuous monitoring equipment is in place to ensure primary disinfection is achieved. Process alarm setpoints, when triggered provide audible alarms, visual alarm through SCADA Operator interface terminal, or Operator notification through telecommunications.

The following analysers installed on the common highlift header piping provide an automatic process equipment shutdown of highlift pumps so that no improperly disinfected water is directed to the distribution system;

- Chlorine Analyser (Instrument # AIT-01)
  - Turbidity Analyser (Instrument # AIT-02)
  - pH Analyser (Instrument # AIT-03)
- **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.**

In concordance with section 6-5 Schedule 6 of O. Reg. 170/03, continuous monitoring equipment effects records of date, time, and location of parameters tested with at least the minimum frequency specified by Table 1.

Specifically, the Operating Authority has programmed the SCADA system to poll analysers to record free available chlorine residual once every five minutes and turbidity once every five minutes.

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

Documents reviewed indicated that a regular program of maintenance is carried out with respect to continuous water quality analyzers. Continuous analysers are checked on a daily basis and an accuracy check or calibration is performed once per week. Recalibrations and servicing of process analysers are effected by manufacturer or manufacturer's service representative typically once per year.

### Operations Manuals

- **The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.**

Section 28 of O. Reg. 128/04 requires the owner or operating authority to ensure that operators and maintenance personnel in the subsystem have ready access to the comprehensive operations and maintenance manuals that contain plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.

Schedule B, Condition 16 of Municipal Drinking Water License number 100-101, issued June 21, 2016 also prescribes that an up-to-date operations and maintenance manual be maintained and available for reference by all persons responsible for all or part of the operation or maintenance of the drinking-water system.

Collingwood Drinking Water Treatment and Distribution Operators use a software system (Intalex), designed to supplement the Operation Manual to access appropriate operation and maintenance documents and procedures. The 'Raymond A Barker Operation Manual', produced in July, 2000, with the last major revision in May, 2013 was undergoing another revision at the time of physical inspection.

- **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.**

Schedule B, Section 16 of Municipal Drinking Water 100-101, Issued July 29th, 2011 contains minimum content requirements for the Operations and Maintenance Manual.

Specifically, the Operations and Maintenance Manual must address;

- requirements of the Municipal Drinking Water License and Permit,

### Operations Manuals

- description of the process to achieve primary and secondary disinfection,
- a copy of the CT calculation to achieve primary disinfection,
- procedures to monitoring and recording of treatment processes,
- procedures for operation and maintenance of monitoring equipment,
- contingency and emergency plans, and
- procedures to receive and address consumer complaints.

A review of the manual and procedures available within the Intellex document software program appeared contemporaneous and contained the required content.

### 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.**

Documents reviewed indicate that testing for parameters such as chlorine residual or turbidity not performed by a continuous analyser was tested by an appropriately licensed operator in concordance with section 7-5 Schedule 7 of O. Reg. 170/03.

### Security

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

On the day of physical inspection critical assets such as pumphouses, treatment and storage structures all appeared to be adequately secured against unauthorised entry, fenced and provided with appropriate prohibitory signage. Entry alarms are connected to the SCADA system.

### Certification and Training

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

In concordance with sec. 23 of O. Reg. 128/04, an Overall Responsible Operator had been designated by the operating authority, who has overall operational responsibility for the drinking water system and is in possession of an operator's certificate to match the classification of the facility. Specifically, the Operating Authority has designated two OROs, one for the treatment facility, and one for the distribution system. Should the ORO be absent or unable to act, an OIC then provides coverage.

- **Operators in charge had been designated for all subsystems which comprised the drinking-water system.**

One or more operators have been designated by the Operating Authority as an operator-in-charge (OIC) by the owner or operating authority who may direct other operators, set operational parameters in the drinking water system and has the authority to make operational decisions.

At the time of inspection, there were four licensed water treatment system operators and six licensed water distribution system operators engaged within the drinking water system.

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

Records reviewed indicate that only certified operators effected any adjustments to treatment equipment in concordance with sec. 1-2(2)5 of O. Reg. 170/03.

### Water Quality Monitoring

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



### Water Quality Monitoring

Subsection 10-2 (1) of Schedule 10 to O. Reg. 170/03 prescribes that the owner and the operating authority shall ensure that,

(a) if the system serves 100,000 people or less, at least eight (8) distribution samples, plus one additional distribution sample for every 1,000 people served by the system, are taken every month, with at least one of the samples being taken in each week. Subsection 10-2 (2) prescribes that each of the samples taken under subsection (1) is tested for, (a) E. coli; and (b) total coliforms.

Subsection 10-2 (3) requires that at least 25 per cent of the samples required to be taken under subsection (1) are tested for general bacteria population expressed as colony counts on a heterotrophic plate count (HPC).

The Collingwood drinking water system serves a population of approximately 24,800 persons. Therefore, the owner and operating authority are required to take at least 32 distribution samples every month and at least one of those samples being taken in each week and tested for E. coli and total coliforms; and approximately 8 of the samples per month are to be tested for heterotrophic plate count.

From documentation provided by the Operating Authority, it appears that all O.Reg. 170/03 Schedule 10 microbiological sampling requirements were met. The municipality obtained and had analyzed approximately 463 treated distribution water samples in 2015 for the required O.Reg. 169/03 Schedule 10 microbiological parameters.

Documents indicate that at least 30 distribution water samples were obtained and tested per month with all of these samples being also tested for Heterotrophic Plate Count (HPC) in addition to Escherichia Coli and Total Coliform bacteria. No exceedances of these parameter limits were noted during the inspection review period.

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

Subsection 10-3 of Schedule 10 to O. Reg. 170/03 requires that the owner and the operating authority shall ensure that a treated water sample is taken at least once every week and tested for, (a) E. coli; (b) total coliforms; and (c) general bacteria population expressed as colony counts on a heterotrophic plate count (HPC).

Documents indicate that treated water point of entry locations are sampled and tested once per week and tested for Escherichia coli, total coliforms, and general bacteria population expressed as colony counts on a heterotrophic plate count. No exceedances of these parameter limits were noted during the inspection review period.

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

Subsection 13-2 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority of a large municipal residential drinking water system that obtains water from a raw water supply that is surface water obtains at least one water sample every 12 months to test for Schedule 23 inorganic parameters.

Records reviewed indicate that Schedule 23 inorganic parameters were last sampled and tested in a supererogatory manner by the Operating Authority on August 13 2016, November 12 2016, February 11 2016 and most recently on August 11 2016.

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

Subsection 13-4 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority of a large municipal residential drinking water system that obtains water from a raw water supply that is surface water obtains at least one water sample every 12 months to test for Schedule 24 organic parameters.

Records reviewed indicate that Schedule 24 organic parameters were last sampled and tested in a supererogatory manner by the Operating Authority on August 13 2016, November 12 2016, February 11 2016 and most recently on



### Water Quality Monitoring

August 11 2016.

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

Subsection 13-6 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority of a large municipal residential drinking water system that provides chlorination, obtain at least one water distribution sample in each calendar quarter and test for trihalomethanes.

Records reviewed indicate that trihalomethanes were last sampled and tested by the Operating Authority on August 13 2015, November 11 2015, February 10 2016, May 12 2016 and most recently on August 11 2016.

Documents reviewed indicate that sampling locations were from a point in the drinking water system's distribution system, or plumbing that is connected to the drinking water system, that is likely to have an elevated potential for the formation of trihalomethanes.

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

Subsection 13-7 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority of a large municipal residential drinking water system obtain at least once water sample every three months and test for nitrate and nitrite.

Records reviewed indicate that nitrate and nitrite were last sampled and tested by the Operating Authority on August 13 2015, November 11 2015, February 11 2016, May 12 2016 and most recently on August 11 2016.

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

Subsection 13-8 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority of a large municipal residential drinking water system obtain at least one water sample every sixty months and test for sodium.

Records reviewed indicate that sodium was last sampled and tested in a supererogatory manner by the Operating Authority on August 13 2015, November 11 2015, February 11 2016, May 12 2016 and most recently on August 11 2016. The average sodium concentration for the last four samples appears to be 4.3 mg/L.

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

Subsection 13-9 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority of a large municipal residential drinking water system obtain at least one water sample every sixty months and test for fluoride.

Records reviewed indicate that fluoride was last sampled and tested in a supererogatory manner by the Operating Authority on August 13 2015, November 11 2015, February 11 2016, May 12 2016 and most recently on August 11 2016.

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

Documents provided by staff indicated that chlorine residual levels were analysed concurrently with microbiological sampling in concordance with section 6-3 Schedule 6 of O. Reg. 170/03.

Specifically, the Operator sampling notes the chlorine residual data (free and total chlorine residual) directly on the laboratory sample submission / chain of custody sheet and also included within an annual compliance report.

### 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).**

Laboratory results and monitoring data provided by the operating authority for the inspection review period was reviewed. It appears that the water provided by the drinking water system did not exceed the prescribed drinking water quality standard values listed in tables 1, 2 and 3 of O.Reg. 169/03.

The Inspecting Officer did not collect audit samples on the day of physical inspection. Continuous water quality analysers and other instrumentation critical to monitoring of primary and secondary disinfection of drinking water were verified at the time of physical inspection to be operational and SCADA data to be within process control points.

#### **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.**

Documents reviewed indicate that there was an appropriate and timely response by Operators when continuous water quality analysers caused an alarm.

#### **Other Inspection Findings**

- **The following instance(s) of non-compliance were also noted during the inspection:**

Contrary to subsection 10.1(3), the Drinking Water System Owner failed to provide written notice to update registration information to the Ministry within 10 days of a change.

Specifically, in 2015 the drinking water treatment and distribution operations were transferred from Collus PowerStream Public Utilities to the Town of Collingwood Public Works Department, reporting to the Environmental Services of the Public Works Department, and the appropriate notification (Drinking Water System Profile Information Form) was not submitted at this time.

- **The following items are noted as being relevant to the Drinking Water System:**

At the time of physical inspection, the following items relevant to the current and future management and operation of the Collingwood Drinking Water System were considered noteworthy:

- The Town of Collingwood is in discussions with the Town of New Tecumseth to negotiate a new drinking water supply agreement including a cost-sharing arrangement to replace an ultra-filtration train nearing end of serviceable life.
- The Town is a member of Ontario One Call (ON1Call) as an infrastructure owner and supports the call centre that receives excavation locate requests and notifies registered owners of underground facilities within the vicinity of the proposed excavation.
- The Town has engaged in a third-party contractor for the purpose of a leak detection and water loss reduction program.
- The Town has developed an enhanced water quality monitoring program which exceeds minimum requirements imposed by O. Reg. 170/03. Increased voluntary surveillance includes such items as sampling and analysis for aesthetic characteristics (semi-annual), Schedule 23 Inorganic and Schedule 24 Organic parameters (quarterly in lieu of annual), and microbiological parameters.

## 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 The following instance(s) of non-compliance were also noted during the inspection:**

Contrary to subsection 10.1(3), the Drinking Water System Owner failed to provide written notice to update registration information to the Ministry within 10 days of a change.

Specifically, in 2015 the drinking water treatment and distribution operations were transferred from Collus PowerStream Public Utilities to the Town of Collingwood Public Works Department, reporting to the Environmental Services of the Public Works Department, and the appropriate notification (Drinking Water System Profile Information Form) was not submitted at this time.

**Action(s) Required:**

No further action required.

The Municipality was contacted by the undersigned Inspecting Officer in September 2016 requesting submission to the Ministry of an Drinking Water System Profile Information Form. Subsequently, the Municipality provided written notification and the Ministry's Drinking Water Registration group with Drinking Water Programs Branch provided confirmation in October 2016.

## 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**

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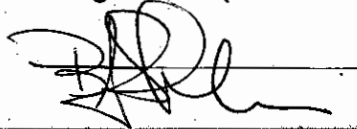
**SIGNATURES**

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Inspected By:

Brian Stuhlemmer

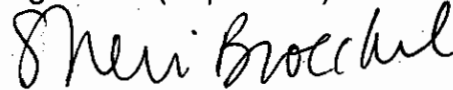
Signature: (Provincial Officer)



Reviewed &amp; Approved By:

Sheri Broeckel

Signature: (Supervisor)



Review &amp; Approval Date:

NOV 16, 2016

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.

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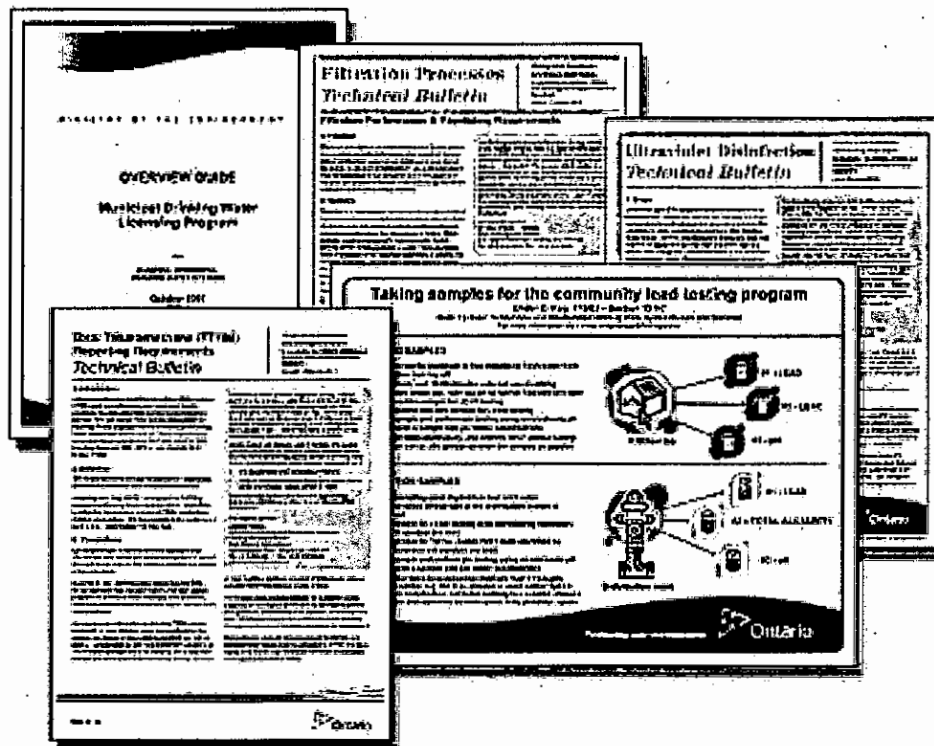
**COLLINGWOOD DRINKING WATER SYSTEM**  
**DWS Number : 220001165**

**Stakeholder Appendix**

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Attached

- *Key Reference and Guidance Material for Municipal Residential Drinking Water Systems*

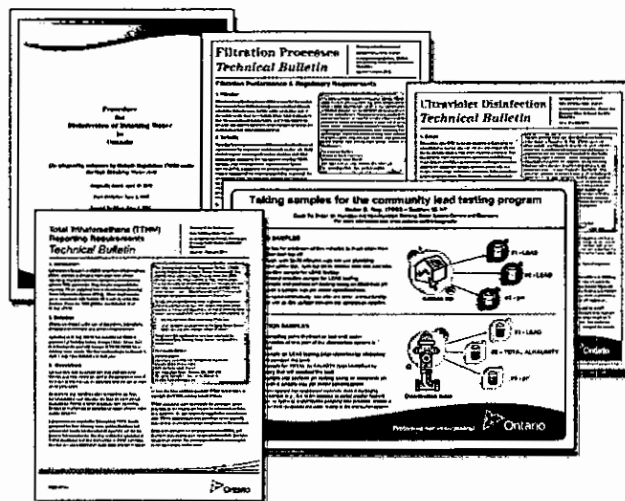


# Key Reference and Guidance Material for Municipal Residential Drinking Water Systems

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 Public Information Centre if you need assistance or have questions at 1-800-565-4923/416-325-4000 or [picemail.moe@ontario.ca](mailto:picemail.moe@ontario.ca).

For more information on Ontario's drinking water visit [www.ontario.ca/drinkingwater](http://www.ontario.ca/drinkingwater) and email [drinking.water@ontario.ca](mailto:drinking.water@ontario.ca) to subscribe to drinking water news.



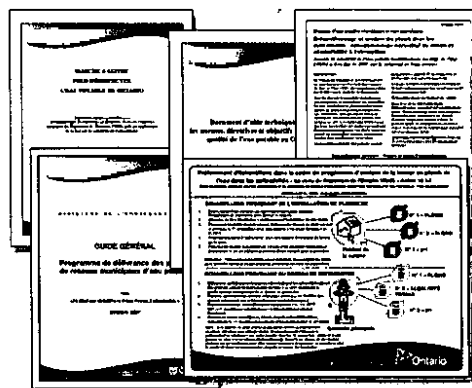
| PUBLICATION TITLE   | PUBLICATION NUMBER  |
|---|---------------------|
| Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils   | 7889e01             |
| FORMS: Drinking Water System Profile Information, Laboratory Services Notification, Adverse Test Result Notification Form       | 7419e, 5387e, 4444e |
| Procedure for Disinfection of Drinking Water in Ontario   | 4448e01             |
| Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids  | 7152e               |
| Total Trihalomethane (TTHM) Reporting Requirements Technical Bulletin (February 2011)   | 8215e               |
| Filtration Processes Technical Bulletin   | 7467                |
| Ultraviolet Disinfection Technical Bulletin   | 7685                |
| Guide for Applying for Drinking Water Works Permit Amendments, Licence Amendments, Licence Renewals and New System Applications | 7014e01             |
| Certification Guide for Operators and Water Quality Analysts  |                     |
| Guide to Drinking Water Operator Training Requirements  | 9802e               |
| Taking Samples for the Community Lead Testing Program   | 6560e01             |
| Community Sampling and Testing for Lead: Standard and Reduced Sampling and Eligibility for Exemption                            | 7423e               |
| Guide: Requesting Regulatory Relief from Lead Sampling Requirements   | 6610                |
| Drinking Water System Contact List  | 7128e               |
| Technical Support Document for Ontario Drinking Water Quality Standards   | 4449e01             |

[ontario.ca/drinkingwater](http://ontario.ca/drinkingwater)

# 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 Centre d'information au public au 1 800 565-4923 ou au 416 325-4000, ou encore à [picemail.moe@ontario.ca](mailto:picemail.moe@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) ou envoyez un courriel à [drinking.water@ontario.ca](mailto:drinking.water@ontario.ca) pour suivre l'information sur l'eau potable.

| TITRE DE LA PUBLICATION  | NUMÉRO DE PUBLICATION |
|--|-----------------------|
| Prendre soin de votre eau potable – Un guide destiné aux membres des conseils municipaux   | 7889f01               |
| Renseignements sur le profil du réseau d'eau potable, Avis de demande de services de laboratoire, Formulaire de communication de résultats d'analyse insatisfaisants et du règlement des problèmes   | 7419f, 5387f, 4444f   |
| Marche à suivre pour désinfecter l'eau potable en Ontario  | 4448f01               |
| Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids (en anglais seulement)  | 7152e                 |
| Total Trihalomethane (TTHM) Reporting Requirements: Technical Bulletin (février 2011) (en anglais seulement)   | 8215e                 |
| Filtration Processes Technical Bulletin (en anglais seulement)   | 7467                  |
| Ultraviolet Disinfection Technical Bulletin (en anglais seulement)   | 7685                  |
| Guide de présentation d'une demande de modification du permis d'aménagement de station de production d'eau potable, de modification du permis de réseau municipal d'eau potable, de renouvellement du permis de réseau municipal d'eau potable et de permis pour un nouveau réseau | 7014f01               |
| 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  |                       |
| Guide sur les exigences relatives à la formation des exploitants de réseaux d'eau potable  | 9802f                 |
| Prélèvement d'échantillons dans le cadre du programme d'analyse de la teneur en plomb de l'eau dans les collectivités  | 6560f01               |
| Échantillonnage et analyse du plomb dans les collectivités : échantillonnage normalisé ou réduit et admissibilité à l'exemption  | 7423f                 |
| Guide: Requesting Regulatory Relief from Lead Sampling Requirements (en anglais seulement)   | 6610                  |
| Liste des personnes-ressources du réseau d'eau potable   | 7128f                 |
| Document d'aide technique pour les normes, directives et objectifs associés à la qualité de l'eau potable en Ontario   | 4449f01               |

[ontario.ca/eaupotable](http://ontario.ca/eaupotable)



**COLLINGWOOD DRINKING WATER SYSTEM  
DWS Number : 220001165****Inspection Summary Rating Record**

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Attached

Inspection Summary Rating Record for Reporting Year – 2016 / 2017.

**Ministry of the Environment - Inspection Summary Rating Record (Reporting Year - 2016-2017)**

|   |
|---|
| <b>DWS Name:</b> COLLINGWOOD DRINKING WATER SYSTEM  |
| <b>DWS Number:</b> 220001165                        |
| <b>DWS Owner:</b> Collingwood Public Utilities      |
| <b>Municipal Location:</b> Collingwood              |
| <b>Regulation:</b> O.REG 170/03                     |
| <b>Category:</b> Large Municipal Residential System |
| <b>Type Of Inspection:</b> Focused                  |
| <b>Inspection Date:</b> October 11, 2016            |
| <b>Ministry Office:</b> Barrie District             |

**Maximum Question Rating: 418**

| Inspection Module              | Non-Compliance Rating |
|--------------------------------|-----------------------|
| Capacity Assessment            | 0 / 30                |
| Treatment Processes            | 0 / 60                |
| Operations Manuals             | 0 / 28                |
| Logbooks                       | 0 / 14                |
| Certification and Training     | 0 / 28                |
| Water Quality Monitoring       | 0 / 104               |
| Reporting & Corrective Actions | 0 / 21                |
| Other Inspection Findings      | 0 / 0                 |
| Treatment Process Monitoring   | 0 / 133               |
| <b>TOTAL</b>                   | <b>0 / 418</b>        |

|                               |              |
|-------------------------------|--------------|
| <b>Inspection Risk Rating</b> | <b>0.00%</b> |
|-------------------------------|--------------|

|                                 |                |
|---------------------------------|----------------|
| <b>FINAL INSPECTION RATING:</b> | <b>100.00%</b> |
|---------------------------------|----------------|

**Ministry of the Environment - Detailed Inspection Rating Record (Reporting Year - 2016-2017)**

|   |
|---|
| <b>DWS Name:</b> COLLINGWOOD DRINKING WATER SYSTEM  |
| <b>DWS Number:</b> 220001165                        |
| <b>DWS Owner:</b> Collingwood Public Utilities      |
| <b>Municipal Location:</b> Collingwood              |
| <b>Regulation:</b> O.REG 170/03                     |
| <b>Category:</b> Large Municipal Residential System |
| <b>Type Of Inspection:</b> Focused                  |
| <b>Inspection Date:</b> October 11, 2016            |
| <b>Ministry Office:</b> Barrie District             |

| Non-compliant Question(s)   | Question Rating |
|---|-----------------|
| <b>Other Inspection Findings</b>  |                 |
| In the event that an issue of non-compliance outside the scope of this inspection protocol is identified, a "No" response may be used if further actions are deemed necessary (and approved by the DW Supervisor) to facilitate compliance. | 0               |
| <b>TOTAL QUESTION RATING</b>  | 0               |

**Maximum Question Rating: 418**

|                               |              |
|-------------------------------|--------------|
| <b>Inspection Risk Rating</b> | <b>0.00%</b> |
|-------------------------------|--------------|

|                                 |                |
|---------------------------------|----------------|
| <b>FINAL INSPECTION RATING:</b> | <b>100.00%</b> |
|---------------------------------|----------------|