

Ministry of the Environment,  
Conservation and Parks

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

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March 4, 2022

William Cane  
Mayor  
The Corporation of the Township of Hamilton  
8285 Majestic Hills Dr.  
P.O. Box 1060  
Cobourg, ON K9A 4W5

Dear Mr. Cane,

**RE: Camborne Drinking Water System  
2021-2022 Compliance Inspection Report  
MECP File: SI NO HM FO 540**

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Please find attached the Ministry of the Environment's inspection report for the above facility. The report details the findings of the unannounced inspection that began on January 19, 2022.

This report provides an assessment of compliance and conformance based on observations and information available during the inspection review period only. As always, please refer to the applicable legislative requirements, permissions, policies, guidelines and best management practices to clarify your specific obligations.

Two (2) instances of non-compliance were identified during the inspection and require the submission of information or plans to my attention. Please forward your written response to the Actions Required to the undersigned at the Peterborough District Office of the Ministry of Environment by March 31, 2022.

Please note that "Actions Required" are linked to incidents of non-compliance with regulatory requirements contained within an Act, a Regulation, or site-specific approvals, licenses, permits, orders, or instructions. Such violations could result in the issuance of mandatory abatement instruments including Orders, tickets, penalties, or referrals to the ministry's Investigations and Enforcement Branch.

Additional findings and applicable comments, where provided, will be found within the report.

Please note that due to a change in IT systems, the Inspection Rating Report (IRR) cannot be generated at the same time as the inspection report. The IRR will be sent separately and prior to any public release (typically within 1-2 month of the completion of the inspection).

Thank you for the assistance afforded to me during the conduct of the compliance assessment. Please do not hesitate to call me (705-768-0423) or Ms. Jacqueline Fuller, Supervisor, Safe Drinking Water Branch (705-768-0436), should you have any questions or concerns regarding the above.

Yours truly,



**Viktoria Light**  
Provincial Officer  
Drinking Water Program Inspector  
Eastern Region  
Ministry of Environment, Conservation and Parks  
Enclosure (1)

c: Anita Schoenleber, Water Operations Manager, The Corporation of The Township of Hamilton  
Dr. Natalie Bocking, Medical Officer of Health, Haliburton Kawartha Pine Ridge HU  
Rhonda Bateman, CAO/Secretary-Treasurer, Lower Trent Conservation Authority  
Office File



CAMBORNE DRINKING WATER SYSTEM  
23 FORD ST, HAMILTON TOWNSHIP, ON, L8N 2P4

## Inspection Report

System Number:	220008113
Inspection Start Date:	02/19/2022
Inspection End Date:	03/02/2022
Inspected By:	Viktoria Light
Badge #:	1100
Inspected By:	Jacqueline Fuller
Badge #:	



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(signature)

**NON-COMPLIANCE/NON-CONFORMANCE ITEMS**

The following item(s) have been identified as non-compliance/non-conformance, based on a "No" response captured for a legislative or best management practice (BMP) question (s), respectively.

**Question Group:** Other Inspection Findings

<b>Question ID</b>	MRDW1115000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</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.	Legislative	Not Applicable
<b>Observation/Corrective Action(s)</b>		
<p>The following instance(s) of non-compliance were noted during the inspection:</p> <ol style="list-style-type: none"> <li>1. It was noted that during the inspection review period distribution chlorine residuals were measured on October 12, 2021, at 12:30 and October 14, 2021, at 07:40. Samples were collected and tested less than 48 hours apart, contrary to subsection (6) of Schedule 7-2 of O.Reg.170/03.</li> <li>2. The primary disinfection free chlorine residual is continuously measured by an on-line analyzer and recorded on the SCADA system every 5 minutes. The date and time are recorded with every test result. It was reported on September 9, 2021, that the 5-minute SCADA data have been lost and could not be retrieved for review on August 16, 2021 (20 minutes); August 24, 2021 (10 minutes) and August 29, 2021 (35 minutes). The duty operator was called-out to the site during each of these incidents, but the operating authority was under the impression that service provider will be able to retrieve the missing SCADA data at a later time. The SCADA integrator was unable to retrieve the missing data. On August 16th, August 24th and August 29th, 2021, the continuous monitoring equipment (chlorine analyzer) that is being utilized to fulfill O. Reg. 170/03 requirements did not record data with the prescribed format, contrary to Schedule 6-5 of O.Reg.170/03.</li> </ol> <p>Required Action #1: The operating authority for the Camborne DWS shall ensure that the distribution sampling schedule contained in the Operations Manual is always adhered to, and that distribution chlorine residuals are measured at least 48 hours apart, in accordance with Schedule 7-2 of O.Reg.170/03. By March 31, 2022, the operating authority for the Camborne DWS shall provide to the undersigned Provincial Officer a written plan describing how it will ensure that distribution chlorine residuals are measured in the Camborne distribution system twice each week and that samples are collected and tested at least 48 hours apart.</p> <p>Required Action #2: The Owner and the operating authority for the Camborne DWS shall ensure the continuous chlorine analyzer monitoring primary disinfection process tests and records free chlorine residuals at a minimum frequency of every 5 minutes, in accordance with Schedule 6-5 of O.Reg.170/03. By March 31, 2022, the operating authority for the Camborne DWS shall develop a written procedure for verification of data continuity and a procedure for corrective actions for incidents when the</p>		

immediate restoration of continuous data is not achievable/possible.  
By March 31, 2022, the operating authority for the Camborne DWS shall submit to the undersigned  
Provincial Officer a copy of the procedures prescribed in the previous paragraph.

## INSPECTION DETAILS

This section includes all questions that were assessed during the inspection.

**Ministry Program: Regulated Activity: DRINKING WATER : DW Municipal Residential**

<b>Question ID</b>	MRDW1001000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
What was the scope of this inspection?	Information	Not Applicable
<b>Observation</b>		
<p>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.</p> <p>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.</p> <p>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.</p> <p>On January 17, 2022, Provincial Officer Viktoria Light initiated an announced inspection of the Camborne Drinking Water System (DWS). The Corporation of the Township of Hamilton, the owner and the operating authority for the system, was notified of the inspection on January 7, 2022.</p> <p>Please note that all references to the "inspection review period" refer to the elapsed time since the previous Ministry Compliance Inspection was completed. In this inspection report, "inspection review period" refers to the period of time between February 1, 2021 and January 14, 2022. The drinking-water system inspection included physical inspection of the production wells, treatment system, and a document review.</p> <p>The purpose of the inspection was to assess compliance with the Safe Drinking Water Act ("SDWA"), Ontario Regulation 170/03, Ontario Regulation 128/04, Drinking Water Works Permit (DWWP) Number 139-203 (issued August 12, 2021), Municipal Drinking Water Licence (MDWL) Number 139-103 (issued August 12, 2021) and Permit To Take Water Number 2140-AP5P6D (issued July 11, 2017).</p>		

<b>Question ID</b>	MRDW1000000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Does this drinking water system provide primary disinfection?	Information	Not Applicable

<b>Observation</b>
This Drinking Water System provides for both primary and secondary disinfection and distribution of water.

<b>Question ID</b>	MRDW1007000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Is the owner maintaining the production well(s) in a manner sufficient to prevent entry into the well of surface water and other foreign materials?	Legislative	SDWA   O. Reg. 170/03   1-2   (1)
<b>Observation</b>		
<p>The owner was maintaining the production well(s) in a manner sufficient to prevent entry into the well of surface water and other foreign materials.</p> <p>Both production wells, Well 1a and Well 2a, are situated within concrete well vaults. The well casing of both wells is extending approximately 20 cm above the vault's concrete floor and is equipped with commercially manufactured sanitary seal.</p> <p>The top of each vault extends above the grade and is covered with a solid, watertight cover, sufficient to prevent the entry of surface water and other foreign materials into the vault. Both vault covers are secured in place by a lockable bar.</p>		

<b>Question ID</b>	MRDW1009000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Are measures in place to protect the groundwater and/or GUDI source in accordance with any MDWL and DWWP issued under Part V of the SDWA?	Legislative	SDWA   31   (1)
<b>Observation</b>		
<p>Measures were in place to protect the groundwater and/or GUDI source in accordance with any the Municipal Drinking Water Licence and Drinking Water Works Permit issued under Part V of the SDWA.</p> <p>Section 16 of Schedule B of the Municipal Drinking Water Licence (MDWL) Number 139-103 requires the development of an inspection schedule for all wells associated with the water treatment system, well inspection and maintenance procedures for the entire well structure of each well, and remedial action plans for situations where an inspection indicates non-compliance with respect to the regulatory requirements and/or risk to raw well water quality.</p> <p>The well inspection and maintenance schedule, contained in a separate binder, prescribes monthly visual checks of any sources of pollution around the well, signs of vandalism or unauthorized entry and verification of surface drainage in the immediate vicinity of the wells. The schedule further prescribes a quarterly more in-depth visual inspection of the above grade components of the wells by the operation staff, annual review of raw water quality data and 5–10-year inspection of the below grade components by a licensed well contractor.</p> <p>The review of the monthly and quarterly well inspection records confirmed that during the inspection review period the inspection of production wells was completed in accordance with inspection schedule and documented in the monthly and quarterly well inspection checklists.</p>		



<b>Question ID</b>	MRDW1014000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Is there sufficient monitoring of flow as required by the MDWL or DWWP issued under Part V of the SDWA?	Legislative	SDWA   31   (1)
<b>Observation</b>		
<p>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.</p> <p>Artesian flow and the raw water flow entering the plant were measured by Rosemond flow meters at each well discharge piping. In addition, a treated water flow meter was located at the common treated water discharge, monitoring the water flow entering the distribution system.</p> <p>Artesian, raw water and treated water flow meters were calibrated on December 8, 2021, by Franklin Empire Inc.</p>		

<b>Question ID</b>	MRDW1016000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Is the owner in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the MDWL issued under Part V of the SDWA?	Legislative	SDWA   31   (1)
<b>Observation</b>		
<p>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. Section 1.1 of Schedule C of the current Municipal Drinking Water Licence Number limits the rated capacity of treated water that flows from the treatment subsystem into the distribution system to 415 m<sup>3</sup>/day.</p> <p>The daily treated water volumes were reviewed for the inspection period.</p> <p>The rated capacity for the daily volume of water pumped into the distribution system has not been exceeded during this period.</p> <p>The maximum daily volume of treated water directed to the Camborne distribution system was recorded on October 11, 2021, at 143.03 m<sup>3</sup>/day, as a result of service line break.</p>		

<b>Question ID</b>	MRDW1030000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Is primary disinfection chlorine monitoring being conducted at a location approved by MDWL and/or DWWP issued under Part V of the SDWA, or at/near a location where the intended CT has just been achieved?	Legislative	SDWA   O. Reg. 170/03   7-2   (1), SDWA   O. Reg. 170/03   7-2   (2)
<b>Observation</b>		
<p>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.</p> <p>The primary disinfection free chlorine residual is monitored at the common treated water</p>		

discharge, downstream of the chlorine contact reservoir.

<b>Question ID</b>	MRDW1034000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Is the secondary disinfectant residual measured as required for the small municipal residential distribution system?	Legislative	SDWA   O. Reg. 170/03   7-2   (5), SDWA   O. Reg. 170/03   7-2   (6)
<b>Observation</b>		
<p>The secondary disinfectant residual was measured as required for the distribution system. The Camborne DWS serves 70 private residential dwellings. The system is classified as a small municipal residential drinking water system and the owner and operating authority for the system must ensure that at least two distribution samples are taken each week, at least 48 hours apart, and are tested immediately for free chlorine residual.</p> <p>Distribution chlorine residuals are measured by operation staff at a minimum twice each week at the old Camborne school using a hand-held unit. Free chlorine residual test results are recorded in the monthly operation logs.</p> <p>It was noted that between distribution samples collected on October 12 and October 14, 2021, less than 48 hours have elapsed.</p> <p>The operating authority for the Camborne DWS shall ensure that the distribution sampling schedule contained in the Operations Manual is always adhered to, and that distribution chlorine residuals are measured at least 48 hours apart, in accordance with Schedule 7-2 of O.Reg.170/03.</p>		

<b>Question ID</b>	MRDW1037000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
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?	Legislative	SDWA   O. Reg. 170/03   6-5   (1) 1-4,SDWA   O. Reg. 170/03   6-5   (1)5-10,SDWA   O. Reg. 170/03   6-5   (1.1)
<b>Observation</b>		
<p>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.</p> <p>The minimum chlorine residual required to achieve primary disinfection in the worst-case conditions is 0.3 mg/L, according to the CT calculations.</p> <p>At the time of the inspection, the minimum and maximum chlorine alarm at the continuous on-line chlorine analyzer were set at 0.4 mg/L and 1.7 mg/L, respectively, with 240 second delay.</p>		

<b>Question ID</b>	MRDW1038000
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Question	Question Type	Legislative Requirement
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?	Legislative	SDWA   O. Reg. 170/03   6-5   (1) 1-4
<b>Observation</b>		
<p>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.</p> <p>The primary disinfection free chlorine residual is continuously measured by an on-line analyzer and recorded on the SCADA system every 5 minutes. The date and time are recorded with every test result.</p>		

Question ID	MRDW1035000	Question	Question Type	Legislative Requirement
		Are operators examining continuous monitoring test results and are they examining the results within 72 hours of the test?	Legislative	SDWA   O. Reg. 170/03   6-5   (1) 1-4,SDWA   O. Reg. 170/03   6-5   (1)5-10
<b>Observation</b>				
<p>Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test.</p> <p>Operation staff visited the facility each day and reviewed the on-line trending.</p> <p>The trending review, daily operational parameters and checks, as well as any unusual observations were recorded in the logbook.</p>				

Question ID	MRDW1040000	Question	Question Type	Legislative Requirement
		Are all continuous analysers calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation?	Legislative	SDWA   O. Reg. 170/03   6-5   (1) 1-4,SDWA   O. Reg. 170/03   6-5   (1)5-10
<b>Observation</b>				
<p>All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.</p> <p>The on-line chlorine analyzer installed at the Camborne DWS was calibrated on June 10, 2021, by HACH Service Plus.</p> <p>All hand-held chlorine and turbidity analyzers were calibrated by HACH Service Plus on June 10, 2021.</p>				

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<b>Question ID</b>	MRDW1108000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Where continuous monitoring equipment used for the monitoring of free chlorine residual, total chlorine residual, combined chlorine residual or turbidity, required by Regulation 170, an Order, MDWL, or DWWP issued under Part V, SDWA, has triggered an alarm or an automatic shut-off, did a qualified person respond in a timely manner and take appropriate actions?	Legislative	SDWA   O. Reg. 170/03   6-5   (1) 1-4,SDWA   O. Reg. 170/03   6-5   (1)5-10,SDWA   O. Reg. 170/03   6-5   (1.1)
<b>Observation</b>		
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.		

<b>Question ID</b>	MRDW1018000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Has the owner ensured that all equipment is installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?	Legislative	SDWA   31   (1)
<b>Observation</b>		
The owner had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.		

<b>Question ID</b>	MRDW1021000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Is the owner/operating authority able to demonstrate that, when required during the inspection period, Form 2 documents were prepared in accordance with their Drinking Water Works Permit?	Legislative	SDWA   31   (1)
<b>Observation</b>		
<p>The owner/operating authority was in compliance with the requirement to prepare Form 2 documents as required by their Drinking Water Works Permit during the inspection period. Since the last compliance inspection, two (2) Form 2 (Record of Minor Modification or Replacement) documents were completed by the operating authority.</p> <p>A Form 2 was completed on May 20, 2021, for the installation of a stainless-steel liner in the existing Well 1a, sealing of annular space between casing and liner, installation of a stainless-steel riser and installation of a new well screen.</p> <p>A second Form 2 was completed on November 16, 2021, for the installation of a new well pump in the Well 2a and sealing of annular space between the existing PVC liner and well casing.</p>		

<b>Question ID</b>	MRDW1023000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Do records indicate that the treatment equipment was operated in a manner that achieved the design capabilities required under Ontario Regulation 170/03 or a DWWP and/or MDWL issued under Part V of the SDWA at all times that water was being supplied to consumers?	Legislative	SDWA   O. Reg. 170/03   1-2   (2)
<b>Observation</b>		
<p>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.</p> <p>The Camborne DWS system obtains water from two (2) secure ground water sources. The primary disinfection system consists of chlorination and is capable of achieving an overall performance that provides at a minimum 2-log removal or inactivation of viruses. The water treatment system consists of chlorine disinfection using sodium hypochlorite (certified to ANSI/NSF Standard 60). Secondary disinfection is provided utilizing the primary disinfection chlorine feed system.</p> <p>The primary disinfection free chlorine residual is continuously measured at the treated water discharge piping downstream of chlorine contact reservoir and recorded on a SCADA system. A treated water grab samples are collected daily and analyzed for free and total chlorine residual using a hand-held analyzer to verify the accuracy of the on-line instrument. The test results are recorded in the monthly operation logs.</p> <p>The minimum chlorine residual required to achieve primary disinfection at the Camborne DWS for the worst-case conditions is 0.3 mg/L.</p> <p>The minimum chlorine alarm at the on-line chlorine analyzer monitoring primary disinfection is currently set at 0.60 mg/L.</p> <p>The primary disinfection free chlorine residual was continuously measured at recorded on the SCADA system every 5 minutes.</p> <p>Daily reports and trends were reviewed and recorded by the duty operator in the logbook. In addition, a daily grab sample was collected and analyzed for free chlorine residuals using a hand-held analyzer each day to confirm the accuracy of the on-line analyzer. The test results were recorded in the log sheets.</p> <p>The monthly log sheets and instantaneous chlorine residuals recorded at a 5-minute frequency were reviewed for the period from February 1, 2021, to January 31, 2022.</p> <p>No incidents of primary disinfection residual below the minimum required concentration occurred during the inspection period, with the exception of events of low chlorine residual as a result of on-line analyzer maintenance and cleaning. These activities were documented in the logbook by the duty operator.</p> <p>During the inspection review period, the Camborne DWS provided the required minimum level of treatment through chlorine disinfection.</p>		

<b>Question ID</b>	MRDW1024000	
<b>Question</b>	<b>Question</b>	<b>Legislative</b>

	Type	Requirement
Do records confirm 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?	Legislative	SDWA   O. Reg. 170/03   1-2   (2)
<b>Observation</b>		
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. Since the last inspection, the minimum distribution free chlorine residual of 0.59 mg/L was measured at the old Camborne schoolhouse on November 17, 2021.		

Question ID	MRDW1025000		
Question	Question Type	Legislative Requirement	
Were all parts of the drinking water system that came in contact with drinking water (added, modified, replaced or extended) disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit?	Legislative	SDWA   31   (1)	
<b>Observation</b>			
All parts of the drinking water system were disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit. It was reported during the inspection that disinfection of production wells after completion of well re-lining and pump installation was carried out in accordance with AWWA C654 Standard.			

Question ID	MRDW1062000		
Question	Question Type	Legislative Requirement	
Do records or other record keeping mechanisms confirm that operational testing not performed by continuous monitoring equipment is being done by a certified operator, water quality analyst, or person who meets the requirements of O. Reg. 170/03 7-5?	Legislative	SDWA   O. Reg. 170/03   7-5	
<b>Observation</b>			
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. Distribution and treated water chlorine residuals measured by a hand-held instrument were recorded in the logbook and operation logs along with operator's name or initial. All staff operating the Camborne DWS are appropriately certified to conduct operational tests.			

Question ID	MRDW1060000		
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Question	Question Type	Legislative Requirement
Do the operations and maintenance manuals meet the requirements of the DWWP and MDWL issued under Part V of the SDWA?	Legislative	SDWA   31   (1)
<b>Observation</b>		
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.		

Question ID	MRDW1071000	Question	Question Type	Legislative Requirement
		Has the owner provided security measures to protect components of the drinking water system?	BMP	Not Applicable
<b>Observation</b>				
The owner had provided security measures to protect components of the drinking water system. The property around the Camborne DWS is not fenced. The water treatment facility access door is locked and equipped with a security system. Production wells are located within concrete vaults. Vaults are equipped with lockable access hatch. There are no water storage facilities associated with the Camborne DWS.				

Question ID	MRDW1073000	Question	Question Type	Legislative Requirement
		Has the overall responsible operator been designated for all subsystems which comprise the drinking water system?	Legislative	SDWA   O. Reg. 128/04   23   (1)
<b>Observation</b>				
The overall responsible operator has been designated for each subsystem.  The Camborne DWS is classified as a Class 1 Water Treatment system and a Class 1 Water Distribution system. During the inspection period, Water Operations Manager, Anita Schoenleber, was the designated Overall Responsible Operator. Ms. Schoenleber holds a valid Class 4 Water Treatment Subsystem and Class 3 Water Distribution Subsystem certificates. The ORO designation is noted at the front of the facility logbook.				

Question ID	MRDW1074000	Question	Question Type	Legislative Requirement
		Have operators in charge been designated for all subsystems for which comprise the drinking water system?	Legislative	SDWA   O. Reg. 128/04   25   (1)
<b>Observation</b>				
Operators-in-charge had been designated for all subsystems which comprised the drinking water				

system.

John Smith (WTS Class 2), Jeff Baldini (WTS Class 1), John Corey (WTS Class 2) and Jeff Bailey (WTS Class 1) are designated as Operators-in-Charge (OIC) and are credited OIC experience for every working hour. OIC designation is documented in the logbook.

<b>Question ID</b>	MRDW1075000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Do all operators possess the required certification?	Legislative	SDWA   O. Reg. 128/04   22
<b>Observation</b>		
All operators possessed the required certification.		

<b>Question ID</b>	MRDW1076000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Do only certified operators make adjustments to the treatment equipment?	Legislative	SDWA   O. Reg. 170/03   1-2   (2)
<b>Observation</b>		
Only certified operators made adjustments to the treatment equipment.		

<b>Question ID</b>	MRDW1099000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Do records show 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)?	Information	Not Applicable
<b>Observation</b>		
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). The laboratory analytical test results were reviewed for the period from February 1, 2021, to January 17, 2022. Test results of drinking water samples taken during the inspection period for analysis by a licensed laboratory showed that chemical and microbiological parameters were below the Ontario Drinking Water Standards in all samples collected at the Camborne DWS.		

<b>Question ID</b>	MRDW1094000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Are all water quality monitoring requirements imposed by the MDWL and DWWP being met?	Legislative	SDWA   31   (1)



<p><b>Observation</b></p> <p>All water quality monitoring requirements imposed by the MDWL or DWWP issued under Part V of the SDWA were being met.</p> <p>Schedule C of the Municipal Drinking Water Licence requires quarterly sampling and testing of backwash wastewater for total suspended solids and total chlorine residual.</p> <p>The document review confirmed that wastewater samples were collected on March 15, 2021; June 15, 2021; September 14, 2021, and December 7, 2021, and analyzed for total suspended solids and total chlorine residual.</p>
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<b>Question ID</b>	MRDW1096000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Do records confirm that chlorine residual tests are being conducted at the same time and at the same location that microbiological samples are obtained?	Legislative	SDWA   O. Reg. 170/03   6-3   (1)
<b>Observation</b>		
Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.		

<b>Question ID</b>	MRDW1082000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Are all microbiological water quality monitoring requirements for distribution samples prescribed by legislation being met?	Legislative	SDWA   O. Reg. 170/03   11-2   (1),SDWA   O. Reg. 170/03   11-2   (2),SDWA   O. Reg. 170/03   11-2   (6)
<b>Observation</b>		
<p>All microbiological water quality monitoring requirements for distribution samples prescribed by legislation were being met.</p> <p>The Camborne DWS is classified as a small municipal residential system, as it currently serves drinking water to 70 customers. The owner and operating authority for the system must ensure that at least one distribution sample is taken every two weeks and tested for the prescribed bacteriological parameters.</p> <p>During the inspection period, the operation staff collected one distribution sample each week. Free and total chlorine residuals were measured at the time of sampling.</p> <p>All distribution samples were analyzed for total coliform, E. coli and heterotrophic plate count bacteria.</p> <p>Raw water bacteriological samples were taken from Well 1a and Well 2a on a monthly basis, in accordance with regulatory requirements.</p>		

<b>Question ID</b>	MRDW1084000
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Question	Question Type	Legislative Requirement
Are all inorganic water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	SDWA   O. Reg. 170/03   13-2
<b>Observation</b>		
<p>All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency. The Camborne DWS is classified as a small municipal residential drinking water system using a ground water as the source. The owner and the operating authority for the system must ensure that at least one water sample is taken every 60 months and is tested for each parameter set out in Schedule 23 of O.Reg.170/03.</p> <p>Treated water samples were collected and tested for inorganic parameters listed in Schedule 23 on May 26, 2021. The previous sampling testing for inorganic parameters was carried out in May 2016.</p>		

Question ID	MRDW1085000		
Question	Question Type	Legislative Requirement	
Are all organic water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	SDWA   O. Reg. 170/03   13-4   (1),SDWA   O. Reg. 170/03   13-4   (2),SDWA   O. Reg. 170/03   13-4   (3)	
<b>Observation</b>			
<p>All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.</p> <p>The Camborne DWS is classified as a small municipal residential drinking water system using a ground water as the source. The owner and the operating authority for the system must ensure that at least one water sample is taken every 60 months and is tested for each parameter set out in Schedule 24 of O.Reg.170/03.</p> <p>Treated water samples were collected and tested for organic parameters listed in Schedule 24 on May 26, 2021, and June 7, 2016.</p>			

Question ID	MRDW1086000		
Question	Question Type	Legislative Requirement	
Are all haloacetic acid water quality monitoring requirements prescribed by legislation conducted within the required frequency and at the required location?	Legislative	SDWA   O. Reg. 170/03   13-6.1   (1),SDWA   O. Reg. 170/03   13-6.1   (2),SDWA   O. Reg. 170/03   13-6.1   (3),	

		SDWA   O. Reg. 170/03   13-6.1   (4),SDWA   O. Reg. 170/03   13-6.1   (5),SDWA   O. Reg. 170/03   13-6.1   (6)
<b>Observation</b>		
<p>All haloacetic acid water quality monitoring requirements prescribed by legislation are being conducted within the required frequency and at the required location.</p> <p>The owner of a drinking water system that provides chlorination or chloramination and the operating authority for the system must ensure that at least one distribution sample is taken in each calendar quarter, 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 haloacetic acids.</p> <p>A drinking water system that is a small municipal residential system or a non-municipal year-round residential system may cease sampling and testing for eight consecutive calendar quarters if certain conditions have been met after samples have been taken and tested in at least 12 consecutive calendar quarters.</p> <p>Haloacetic acid (HAA) samples were collected on a quarterly basis in 2018, 2019 and 2020. Concentration of HAAs of all annual running averages was below the test method detection limit. As a result, the Camborne DWS is not required to collect HAA samples in 2021 and 2022.</p>		

<b>Question ID</b>	MRDW1087000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Have all trihalomethane water quality monitoring requirements prescribed by legislation been conducted within the required frequency and at the required location?	Legislative	SDWA   O. Reg. 170/03   13-6   (1)
<b>Observation</b>		
<p>All trihalomethane water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location.</p> <p>The Camborne DWS conducts quarterly sampling for trihalomethanes under the reduced frequency regime permitted by Schedule 13-6 of O.Reg.170/03.</p> <p>The last four quarterly samples were collected in the distribution system in 2020.</p>		

<b>Question ID</b>	MRDW1088000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Are all nitrate/nitrite water quality monitoring requirements prescribed by legislation conducted within the required frequency for the DWS?	Legislative	SDWA   O. Reg. 170/03   13-7
<b>Observation</b>		
All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted		

within the required frequency for the DWS.  
Nitrate & nitrite samples were collected from a treated water tap on March 10, 2021; June 17, 2021; September 13, 2021 and December 6, 2021.  
The concentration of nitrates and nitrites in all collected samples was below the Ontario Drinking Water Quality Standard (ODWS) of 10 mg/L and 1 mg/L, respectively.

<b>Question ID</b>	MRDW1089000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Are all sodium water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	SDWA   O. Reg. 170/03   13-8
<b>Observation</b>		
<p>All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency.</p> <p>The owner of a drinking water system and the operating authority for the system must ensure that at least one water sample is taken every 60 months and tested for sodium.</p> <p>The last sodium sample was collected at the Camborne DWS on June 5, 2017. The concentration of sodium in this sample was 8.01 mg/L.</p> <p>The next sodium sampling will be required to be completed in 2022.</p>		

<b>Question ID</b>	MRDW1090000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Where fluoridation is not practiced, are all fluoride water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	SDWA   O. Reg. 170/03   13-9
<b>Observation</b>		
<p>All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency.</p> <p>If a drinking water system does not provide fluoridation, the owner of the system and the operating facility for the system must ensure that a treated water sample is taken at least once every 60 months and is tested for fluoride, in accordance with Schedule 13-9 of O.Reg. 170/03.</p> <p>The last fluoride sample was collected at the Camborne DWS on June 5, 2017. The concentration of fluoride in this drinking water sample was 0.15 mg/L, which is below the Ontario Drinking Water Quality Standard of 1.5 mg/L for fluoride.</p> <p>A fluoride sample will require to be collected in 2022.</p>		

<b>Question ID</b>	MRDW1100000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Did any reportable adverse/exceedance conditions occur during the inspection period?	Information	Not Applicable
<b>Observation</b>		

There were reportable adverse/exceedances during the inspection period.

<b>Question ID</b>   MRDW1102000		
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Have corrective actions (as per Schedule 18) been taken to address adverse conditions, including any other steps as directed by the Medical Officer of Health?	Legislative	SDWA   O. Reg. 170/03   18-10   (1),SDWA   O. Reg. 170/03   18-11,SDWA   O. Reg. 170/03   18-12,SDWA   O. Reg. 170/03   18-13,SDWA   O. Reg. 170/03   18-14,SDWA   O. Reg. 170/03   18-2,SDWA   O. Reg. 170/03   18-3,SDWA   O. Reg. 170/03   18-4,SDWA   O. Reg. 170/03   18-5,SDWA   O. Reg. 170/03   18-6,SDWA   O. Reg. 170/03   18-9
<b>Observation</b>		
<p>Corrective actions (as per Schedule 18) had been taken to address adverse conditions, including any other steps that were directed by the Medical Officer of Health.</p> <p>In response to two incidents reported on September 9, 2021, and November 4, 2021, related to SCADA data loss on three occasions and inadvertently directing the untreated artesian flow into the system, respectively, the operating authority took corrective actions and restored the SCADA communication connections, as well as developed a procedure for ensuring proper valve operation during the well maintenance.</p>		

<b>Question ID</b>   MRDW1104000		
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Were all required verbal notifications of adverse water quality incidents immediately provided as per O. Reg. 170/03 16-6?	Legislative	SDWA   O. Reg. 170/03   16-6   (1),SDWA   O. Reg. 170/03   16-6   (2),SDWA   O.

		Reg. 170/03   16-6   (3),SDWA   O. Reg. 170/03   16-6   (3.1),SDWA   O. Reg. 170/03   16-6   (3.2),SDWA   O. Reg. 170/03   16-6   (4),SDWA   O. Reg. 170/03   16-6   (5),SDWA   O. Reg. 170/03   16-6   (6)
<b>Observation</b>		
All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6.		

<b>Question ID</b>	MRDW1115000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</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.	Legislative	Not Applicable
<b>Observation</b>		
<p>The following instance(s) of non-compliance were noted during the inspection:</p> <p>1. It was noted that during the inspection review period distribution chlorine residuals were measured on October 12, 2021, at 12:30 and October 14, 2021, at 07:40. Samples were collected and tested less than 48 hours apart, contrary to subsection (6) of Schedule 7-2 of O.Reg.170/03.</p> <p>2. The primary disinfection free chlorine residual is continuously measured by an on-line analyzer and recorded on the SCADA system every 5 minutes. The date and time are recorded with every test result.</p> <p>It was reported on September 9, 2021, that the 5-minute SCADA data have been lost and could not be retrieved for review on August 16, 2021 (20 minutes); August 24, 2021 (10 minutes) and August 29, 2021 (35 minutes). The duty operator was called-out to the site during each of these incidents, but the operating authority was under the impression that service provider will be able to retrieve the missing SCADA data at a later time. The SCADA integrator was unable to retrieve the missing data.</p> <p>On August 16th, August 24th and August 29th, 2021, the continuous monitoring equipment (chlorine analyzer) that is being utilized to fulfill O. Reg. 170/03 requirements did not record data with the prescribed format, contrary to Schedule 6-5 of O.Reg.170/03.</p> <p>Required Action #1: The operating authority for the Camborne DWS shall ensure that the distribution sampling</p>		

schedule contained in the Operations Manual is always adhered to, and that distribution chlorine residuals are measured at least 48 hours apart, in accordance with Schedule 7-2 of O.Reg.170/03. By March 31, 2022, the operating authority for the Camborne DWS shall provide to the undersigned Provincial Officer a written plan describing how it will ensure that distribution chlorine residuals are measured in the Camborne distribution system twice each week and that samples are collected and tested at least 48 hours apart.

**Required Action #2:**

The Owner and the operating authority for the Camborne DWS shall ensure the continuous chlorine analyzer monitoring primary disinfection process tests and records free chlorine residuals at a minimum frequency of every 5 minutes, in accordance with Schedule 6-5 of O.Reg.170/03. By March 31, 2022, the operating authority for the Camborne DWS shall develop a written procedure for verification of data continuity and a procedure for corrective actions for incidents when the immediate restoration of continuous data is not achievable/possible. By March 31, 2022, the operating authority for the Camborne DWS shall submit to the undersigned Provincial Officer a copy of the procedures prescribed in the previous paragraph.

<b>Question ID</b>	MRDW1059000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Do the operations and maintenance manuals contain plans, drawings and process descriptions sufficient for the safe and efficient operation of the system?	Legislative	SDWA   O. Reg. 128/04   28
<b>Observation</b>		
The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.		

<b>Question ID</b>	MRDW1061000	
<b>Question</b>	<b>Question Type</b>	<b>Legislative Requirement</b>
Are logbooks properly maintained and contain the required information?	Legislative	SDWA   O. Reg. 128/04   27   (1), SDWA   O. Reg. 128/04   27   (2), SDWA   O. Reg. 128/04   27   (3), SDWA   O. Reg. 128/04   27   (4), SDWA   O. Reg. 128/04   27   (5), SDWA   O. Reg. 128/04   27   (6), SDWA   O. Reg. 128/04   27   (7)
<b>Observation</b>		

Logbooks were properly maintained and contained the required information.





**APPENDIX A**  
**STAKEHOLDER APPENDIX**

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

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

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



**APPENDIX B**  
**INSPECTION RATING RECORD**