



**Ministry of the Environment,
Conservation and Parks
Drinking Water and Environmental
Compliance Division
West Central Region
Niagara District Office**

**Ministère de l'Environnement
de la Protection de la nature et des Parcs
Division de la conformité en matière d'eau
potable et d'environnement
Direction régionale du Centre-Ouest
Bureau de district de Niagara**

9th Floor, Suite 15
301 St. Paul Street
St. Catharines, ON L2R 7R4
Tel.: 905 704-3900
1-800-263-1035
Fax: 905 704-4015

9^e étage, bureau 15
301, rue St. Paul
St. Catharines, ON L2R 7R4
Tel.: 905 704-3900
1-800-263-1035
Fax: 905 704-4015

February 1st, 2021

SI NI PC 540 – 2020-21

Darlene Suddard
Environmental Compliance Supervisor
City of Port Colborne
1 Killaly St. W
Port Colborne, ON, L3K 2L5
darlenesuddard@portcolborne.ca

Re: Port Colborne Distribution System 2020-21 MECP Inspection Report 1-NS45I

Dear Ms. Suddard et al,

Please see attached copy of the 2020-21 MECP inspection report for the Port Colborne DS (DWS# 260001643).

Section 19 of the Safe Drinking Water Act (Standard of Care) creates a number of obligations for individuals who exercise decision-making authority over municipal drinking water systems. Please be aware that the Ministry has encouraged such individuals, particularly municipal councillors, to take steps to be better informed about the drinking water systems over which they have decision-making authority. These steps could include asking for a copy of this inspection report and a review of its findings. Further information about Section 19 can be found in "Taking Care of Your Drinking Water: A guide for members of municipal council" found on the Ontario website at: <http://www.ontario.ca/environment-and-energy/taking-care-your-drinking-water-guide-members-municipal-councils>.

If applicable, any items found within the section entitled "Non-compliance with Regulatory Requirements and Actions Required" outline non-compliance with regulatory requirements contained within an Act, a Regulation, or site-specific approvals, licenses, permits, orders, or guidelines. Please ensure that the required actions are completed within the prescribed timeframe, if applicable.

Any items found within the section entitled "Summary of Best Practice Issues and Recommendations" provide information to the owner or operating authority outlining practices or standards established through existing and emerging industry standards that should be considered in order to advance

current efforts. These items do not, in themselves, constitute violations. More recommendations are also provided within the body of the report.

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/external risk experts. The Inspection Summary Rating Record (IRR), included as an Appendix of the inspection report, provides the Ministry, the system owner and the local 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 Inspectors' Annual Report. If you have any questions or concerns regarding the rating, please contact Zafar Bhatti, Water Compliance Supervisor, at (519)400-6731 or zafar.bhatti@ontario.ca.

Thank you for your time and assistance during the inspection process. Please do not hesitate to contact me if you have any questions or concerns about the attached report.

Sincerely,



Sean Roelofsen
Water Inspector
Provincial Officer #1273
Niagara District Office - West Central Region
(289)241-4791
sean.roelofsen@ontario.ca

cc: Chris Kalimootoo – Director of Engineering and Operations, Port Colborne
Glen Hudgin – Manager - Niagara Region Public Health Unit
Darren MacKenzie - Niagara Peninsula Conservation Authority
Zafar Bhatti – Supervisor Water Compliance, MECP West-Central Region
MECP Niagara District File



Ministry of the Environment, Conservation and Parks

**PORT COLBORNE DISTRIBUTION SYSTEM
Inspection Report**

Site Number:	260001643
Inspection Number:	1-NS45I
Date of Inspection:	Nov 25, 2020
Inspected By:	Sean Roelofsen

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OWNER INFORMATION:

Company Name:	PORT COLBORNE, THE CORPORATION OF THE CITY OF		
Street Number:	66	Unit Identifier:	
Street Name:	CHARLOTTE St		
City:	PORT COLBORNE		
Province:	ON	Postal Code:	L3K 3C8

CONTACT INFORMATION

Type:	Main Contact	Name:	Darlene Suddard
Phone:	(905) 835-2901 x256	Fax:	(905) 835-6800
Email:	darlenesuddard@portcolborne.ca		
Title:	Environmental Compliance Supervisor		

Type:	Operating Authority	Name:	Chris Kalimootoo
Phone:	(905) 835-2901 x223	Fax:	(905) 835-6800
Email:	chris.kalimootoo@portcolborne.ca		
Title:	Director of Engineering and Operations		

Type:	Niagara Public Health Unit	Name:	Glen Hudgin
Phone:	(905) 688-3762	Fax:	
Email:	glen.hudgin@niagararegion.ca		
Title:	Manager, Environmental Health - Niagara Region Public Health Unit		

Type:	Conservation Authority	Name:	Darren MacKenzie
Phone:	(905) 788-3135	Fax:	(905) 788-1121
Email:	dmackenzie@npca.ca		
Title:	Niagara Peninsula Conservation Authority - Director of Planning and Regulations		

INSPECTION DETAILS:

Site Name:	PORT COLBORNE DISTRIBUTION SYSTEM
Site Address:	1 KILLALY Street West PORT COLBORNE ON L3K 6H1
County/District:	PORT COLBORNE
MECP District/Area Office:	Niagara District
Health Unit:	REGIONAL NIAGARA PUBLIC HEALTH DEPARTMENT
Conservation Authority:	Niagara Peninsula Conservation Authority
MNR Office:	Niagara Regional Office
Category:	Large Municipal Residential
Site Number:	260001643
Inspection Type:	Unannounced
Inspection Number:	1-NS45I
Date of Inspection:	Nov 25, 2020
Date of Previous Inspection:	Oct 17, 2019

COMPONENTS DESCRIPTION

Site (Name): Port Colborne Water Distribution System
Type: Other **Sub Type:** Other
Comments:

The City of Port Colborne receives its supply of treated water from the Port Colborne Water Treatment Plant which is owned and operated by the Regional Municipality of Niagara and is subject to a separate inspection. The source water for this plant is taken from the Welland Canal.

Treated water from the Port Colborne Water Treatment Plant is distributed to approximately 16,000 residents through approximately 100 kilometres of City, and 8 kilometres of Regional water mains which range in size from 100 mm to 600 mm. The system consists primarily of cast iron, asbestos concrete, polyvinyl chloride, ductile iron, and high pressure concrete piping throughout the City. There are approximately 592 fire hydrants and approximately 996 valves located throughout the system.

The Regional Municipality of Niagara owns and operates the water storage facilities in the City of Port Colborne: a new water tower on Barrick Road, operational since November 2017, and a reservoir located on Fielden Avenue. The old King Street elevated tank has been demolished by the Region. There are two municipal water filling depots, located on Elm Street and Elizabeth Street, respectively, as well as one private filling station. The Elizabeth Street filling station is equipped with backflow prevention for the side filling line, and uses an air gap for top filling. The Elm Street and the private filling stations only offer top filling, and both use air gaps to prevent backflow.

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

INSPECTION SUMMARY:

Introduction

- The primary focus of this inspection is to confirm compliance with Ministry of the Environment, Conservation and Parks (MECP) legislation as well as evaluating conformance with ministry drinking water policies and guidelines during the inspection period.

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 an inspection of a "stand alone connected distribution system". This type of system receives treated water from a separately owned "donor" system. This report contains elements required to assess key compliance and conformance issues associated with a "receiver" system. This report does not contain items associated with the inspection of the donor system, such as source waters, intakes/wells and treatment facilities.

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.

This "unannounced detailed" inspection review period was from September 1, 2019 to October 31, 2020. During the inspection process, Inspector Sean Roelofsen met with Compliance Supervisor Darlene Suddard on November 25, 2020 and visited bulk filling stations on the same day.

Updated Drinking Water Works Permit (DWWP) 073-201, Issue 5, and Municipal Drinking Water Licence (MDWL) 073-101, Issue 4, were issued to the City of Port Colborne on October 11, 2019.

Treatment Processes

- 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.

All Form 1s signed during the inspection period met the requirements of the DWWP.

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

City of Port Colborne has SOP# C2.3 (Standard Operating Procedure for Repair of Watermain Breaks) to document procedures on Watermain Repair/Maintenance Reports. All required information was recorded on the documents reviewed for the inspection period.

The Ministry's Watermain Disinfection Procedure (WDP) was updated and approved in August 2020. As per Condition 2.3.2, the City is required to comply with the requirements of the updated WDP within six months of its approval. The City is aware of this requirement and will be discussed in the next inspection.

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

Treatment Processes

water system in accordance with the DWWP and MDWL issued under Part V of the SDWA.

Treatment Process Monitoring

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

The City of Port Colborne monitors the free chlorine residual in the distribution system, utilizing the 4/3 option as described in Sched. 7-2(4) of O. Reg. 170/03 (ie. at least 4 samples taken on one day of the week, at least 3 samples taken on a second day of the week, at least 48 hours apart). The City generally samples more locations than required, rotating sampling locations on a weekly basis in a 4-week rotation.

- **Samples for chlorine residual analysis were tested using an acceptable portable device.**

Distribution System

- **The owner had up-to-date documents describing the distribution components as required.**

- **There is a backflow prevention program, policy and/or bylaw in place.**

As per SOP15-1A - Infrastructure Maintenance Table:

The City has a program to inspect city-owned backflow prevention devices annually, both those located in buildings and portable devices used for watermain commissioning. There is no bylaw in place at this time, however the City utilizes a cross-connection control specialist plumber to identify high-hazard facilities.

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

As per SOP15-1A - Infrastructure Maintenance Table:

The City completes weekly flushing at hydrants and/or flushing stations from May to October each year in order to maintain good FCR residuals, especially near dead ends (divided into 4 zones). Information is recorded on Watermain Flushing and Sampling Field Report forms.

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

- **A program was in place for inspecting and exercising valves.**

As per SOP15-1A - Infrastructure Maintenance Table:

The City has a program to inspect and exercise 25% of all valves annually.

- **There was a program in place for inspecting and operating hydrants.**

As per SOP15-1A - Infrastructure Maintenance Table:

The City has a program to inspect hydrants annually. There is also a Winter hydrant inspection check (for freezing etc) once between Nov 1 to Dec 31 and once between Jan 1 to Apr 1 each year. Additionally, complete fire flow testing of 25% of hydrants is to be completed annually.

- **There was a by-law or policy in place limiting access to hydrants.**

City of Port Colborne Water Use By-Law 3151-22-95 that limits and prohibits public access to hydrants.

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

As per SOP15-1A - Infrastructure Maintenance Table:

Distribution System

The City has a program to do complete fire flow testing of 25% of hydrants annually to ensure adequate pressure during fire events. Pressures are measured during flushing events and recorded on Watermain Flushing and Sampling Field Report forms

- **The donor had provided an Annual Report to the receiver drinking water system.**

Operations Manuals

- **Operators and maintenance personnel had ready access to operations and maintenance manuals.**
Operators have ready access to hard copy and digital copies of the O&M Manual, including all SOPs.
- **The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.**
- **The operations and maintenance manuals met the requirements of the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA.**

Logbooks

- **Records or other record keeping mechanisms confirmed that operational testing not performed by continuous monitoring equipment was being done by a certified operator, water quality analyst, or person who suffices the requirements of O. Reg. 170/03 7-5.**
- **For every required operational test and every required sample, a record was made of the date, time, location, name of the person conducting the test and result of the test.**

The City launched WaterTrax Mobile in January 2020, whereby operators would enter their field sampling records directly into the mobile app set up on their mobile devices. During the transition, hard copy paper records were also used where the information could then be uploaded manually by operators that might be less 'tech savvy' than others. The City reported some minor issues during the early days of the transition, but full records exist and contain the required information.

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

The City is aware of the record-keeping requirements.

Contingency/Emergency Planning

- **Clean-up equipment and materials were in place for the clean up of spills.**

The City has spill kits available at the Public Works Yard.

Security

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

Backflow prevention devices and/or air gaps are in place at the City's two bulk water filling stations. Access is restricted to holders of a security pass card. The Inspector observed trucks filling at each location, the air gap works as required.

Consumer Relations

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

The City has replaced all water meters in the past 5-10 years. In 2011, the City received Showcasing Water Innovation funding to integrate a water loss analysis tool into the city's water SCADA system. The project was proposed to provide staff with the capability of monitoring flow and pressure in the distribution system using off-line and real-time software tools. Previously, up to 40+% of water purchased from Niagara Region's Port Colborne WTP was lost to unknown causes. That percentage has declined somewhat due to City initiatives.

In 2019-20, the City implemented a semi-annual leak detection program via consultant performing acoustic leak detection. In addition, dead ends were inventoried and a process to optimize flushing schedules is ongoing. The City reports that unbilled water usage has dropped from 48% to 34% since 2017, and the volume of water purchased from Niagara Region has decreased 27%.

Certification and Training

- **The overall responsible operator had been designated for each subsystem.**
- **Operators-in-charge had been designated for all subsystems which comprised the drinking water system.**
- **All operators possessed the required certification.**
- **An adequately licenced operator was designated to act in place of the overall responsible operator when the overall responsible operator was unable to act.**

Water Quality Monitoring

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

The City of Port Colborne is required to take at least 26 microbiological samples (testing for Total Coliform bacteria and E. Coli) per month, including at least one sample per week, as per Schedule 10 of O. Reg. 170/03. At least 25% of the samples must also be tested for Heterotrophic Plate Count (HPC).

The City generally takes eight microbiological samples per week (32 samples per month), rotating through sampling locations on a weekly basis in a 4-week rotation.

A review of sampling records indicated that the City has complied with all microbiological sampling requirements. The City tests 100% of microbiological samples for HPC.

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

Haloacetic Acid (HAA) samples were collected and tested on a quarterly basis with an annual running average of 6.7 ug/L. The Region also samples for HAAs in its distribution mains. The limit of 80 ug/L HAA came into effect on January 1, 2020.

The City has met all prior MECP recommendations with regard to characterizing the distribution system sampling for HAAs.

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

Trihalomethane (THM) samples are collected and tested on a quarterly basis from two locations in the distribution system. Niagara Region also tests for THMs in its distribution mains. The running annual average is currently 31.5

Water Quality Monitoring

ug/L. The drinking water standard for THMs is 100 ug/L, expressed as a running annual average.

- **The owner ensured that water samples were taken at the prescribed location.**
- **All sampling requirements for lead prescribed by schedule 15.1 of O. Reg. 170/03 were being met.**
The City is exempt from sampling from private plumbing, however, is required to sample for alkalinity, lead, and pH in the distribution system. All sampling requirements were met for the inspection period. The City will sample for lead from private plumbing if a request from a resident is received.
- **Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.**
- **The owner indicated that the required records are kept and will be kept for the required time period.**

Water Quality Assessment

- **Records did not 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).**
The City of Port Colborne had three AWQIs reported during the inspection review period:

AWQI 148060 - Sep 16, 2019:

FCR = 0.00 mg/L at sample station 39 - flushed until FCR satisfactory

AWQI 151180 - Aug 8, 2020:

FCR = 0.00 mg/L at sample station 39 - flushed until FCR satisfactory

AWQI 151224 - Aug 6, 2020::

1 Total coliform cfu/100 mL sample result @ 43 Runnymede Rd (new hydrant) FCR = 0.25 mg/L

All reporting requirements and corrective actions were completed as required for these three reported AWQIs.

Reporting & Corrective Actions

- **Corrective actions (as per Schedule 17) had been taken to address adverse conditions, including any other steps that were directed by the Medical Officer of Health.**
- **Corrective actions as directed by the Medical Officer of Health had been taken by the owner and operating authority to address exceedances of the lead standard.**
- **All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6.**
- **All required written notices of adverse water quality incidents were provided as per O. Reg. 170/03 16-7.**
- **In instances where written notice of issue resolution was required by regulation, the notice was provided as per O. Reg. 170/03 16-9.**
- **Summary Reports for municipal council were completed on time, included the required content, and were distributed in accordance with the regulatory requirements.**

Reporting & Corrective Actions

- **All changes to the system registration information were provided within ten (10) days of the change.**
The distribution system has had several staffing changes related to ORO and other management personnel. The City is reminded to keep their Drinking Water Profile up-to-date by sending all updates/changes to waterforms@ontario.ca

Other Inspection Findings

- **The following items are noted as being relevant to the Drinking Water System:**
Due to the Covid-19 Pandemic and its potential effect on drinking water staffing levels, the City of Port Colborne applied for, and received, the following regulatory relief from the Ministry:

1 - Subject to condition 2.3 in Schedule B of DWWP, the Director hereby authorizes the following procedure until August 1st, 2020:
The Operator in Charge (OIC) may categorize watermain breaks remotely provided that the OIC is in direct contact via a video link with an Operator-in-Training, or an O. Reg. 75/20-designated operator, that is on-site for the watermain break.

2 - O. Reg. 170/03, Schedule 10 - 2 (1): At minimum 75% of the required distribution microbiological samples (20 samples) must be taken every month, with at least two (2) of the samples being in each week. Relief expires Dec 31, 2020, however an application for extension to end of June 2021 has been submitted and likely to be approved.

3 - O. Reg. 170/03, Schedule 7: A minimum At least three (3) free chlorine residual samples must be taken on one day of the week, and two (2) samples on another day of the week 48 hours apart (5 samples per week). This relief expires Dec 31, 2020, however an application for extension to end of June 2021 has been submitted and likely to be approved.

Note that as of the inspection date, the City has not had to make use of the granted relief.

NON-COMPLIANCE WITH REGULATORY REQUIREMENTS AND ACTIONS REQUIRED

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

Not Applicable

SUMMARY OF RECOMMENDATIONS AND BEST PRACTICE ISSUES

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

Not Applicable

SIGNATURES

Inspected By:

Sean Roelofsen

Signature: (Provincial Officer)



Reviewed & Approved By:

Zafar Bhatti

Signature: (Supervisor)



Review & Approval Date:

January 29, 2021

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

Appendix A

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

For more information on Ontario's drinking water visit www.ontario.ca/drinkingwater and email drinking.water@ontario.ca to subscribe to drinking water news.



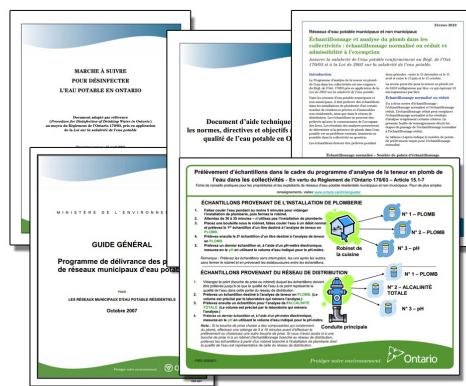
PUBLICATION TITLE	PUBLICATION NUMBER
Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils	7889e01
FORMS: Drinking Water System Profile Information, Laboratory Services Notification, Adverse Test Result Notification Form	7419e, 5387e, 4444e
Procedure for Disinfection of Drinking 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

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 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 ou envoyez un courriel à 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

Appendix B

Inspection Rating Record (IRR)

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

DWS Name: PORT COLBORNE DISTRIBUTION SYSTEM
DWS Number: 260001643
DWS Owner: Port Colborne, The Corporation Of The City Of
Municipal Location: Port Colborne

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Standalone
Inspection Date: November 25, 2020
Ministry Office: Niagara District

Maximum Question Rating: 321

Inspection Module	Non-Compliance Rating
Treatment Processes	0 / 37
Distribution System	0 / 4
Operations Manuals	0 / 42
Logbooks	0 / 26
Certification and Training	0 / 35
Water Quality Monitoring	0 / 71
Reporting & Corrective Actions	0 / 77
Treatment Process Monitoring	0 / 29
TOTAL	0 / 321

Inspection Risk Rating 0.00%

FINAL INSPECTION RATING: 100.00%

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

DWS Name: PORT COLBORNE DISTRIBUTION SYSTEM
DWS Number: 260001643
DWS Owner: Port Colborne, The Corporation Of The City Of
Municipal Location: Port Colborne

Regulation: O.REG 170/03

Category: Large Municipal Residential System

Type Of Inspection: Standalone

Inspection Date: November 25, 2020

Ministry Office: Niagara District

Maximum Question Rating: 321

Inspection Risk Rating 0.00%

FINAL INSPECTION RATING: 100.00%

APPLICATION OF THE RISK METHODOLOGY USED FOR MEASURING MUNICIPAL RESIDENTIAL DRINKING WATER SYSTEM INSPECTION RESULTS



The Ministry of the Environment (MOE) has a rigorous and comprehensive inspection program for municipal residential drinking water systems (MRDWS). Its objective is to determine the compliance of MRDWS with requirements under the Safe Drinking Water Act and associated regulations. It is the responsibility of the municipal residential drinking water system owner to ensure their drinking water systems are in compliance with all applicable legal requirements.

This document describes the risk rating methodology, which has been applied to the findings of the Ministry's MRDWS inspection

results since fiscal year 2008-09. The primary goals of this assessment are to encourage ongoing improvement of these systems and to establish a way to measure this progress.

MOE reviews the risk rating methodology every three years.

The Ministry's Municipal Residential Drinking Water Inspection Protocol contains 15 inspection modules consisting of approximately 100 regulatory questions. Those protocol questions are also linked to definitive guidance that ministry inspectors use when conducting MRDWS inspections.

ontario.ca/drinkingwater

The questions address a wide range of regulatory issues, from administrative procedures to drinking water quality monitoring. The inspection protocol also contains a number of non-regulatory questions.

A team of drinking water specialists in the ministry assessed each of the inspection protocol regulatory questions to determine the risk (not complying with the regulation) to the delivery of safe drinking water. This assessment was based on established provincial risk assessment principles, with each question receiving a risk rating referred to as the Question Risk Rating. Based on the number of areas where a system is deemed to be non-compliant during the inspection, and the significance of these areas to administrative, environmental, and health consequences, a risk-based inspection rating is calculated by the ministry for each drinking water system.

It is important to be aware that an inspection rating less than 100 per cent does not mean the drinking water from the system is unsafe. It shows areas where a system’s operation can improve. The ministry works with owners and operators of systems to make sure they know what they need to do to achieve full compliance.

The inspection rating reflects the inspection results of the specific drinking water system for the reporting year. Since the methodology is applied consistently over a period of years, it serves as a comparative measure both provincially and in relation to the individual system. Both the drinking water system and the public are able to track the performance over time, which encourages continuous improvement and allows systems to identify specific areas requiring attention.

The ministry’s annual inspection program is an important aspect of our drinking water safety net. The ministry and its partners share a common commitment to excellence and we continue to work toward the goal of 100 per cent regulatory compliance.

Determining Potential to Compromise the Delivery of Safe Water

The risk management approach used for MRDWS is aligned with the Government of Ontario’s Risk Management Framework. Risk management is a systematic approach to identifying potential hazards, understanding the likelihood and consequences of the hazards, and taking steps to reduce their risk if necessary and as appropriate.

The Risk Management Framework provides a formula to be used in the determination of risk:

RISK = LIKELIHOOD × CONSEQUENCE
(of the consequence)

Every regulatory question in the inspection protocol possesses a likelihood value (L) for an assigned consequence value (C) as described in **Table 1** and **Table 2**.

TABLE 1:	
Likelihood of Consequence Occurring	Likelihood Value
0% - 0.99% (Possible but Highly Unlikely)	L = 0
1 – 10% (Unlikely)	L = 1
11 – 49% (Possible)	L = 2
50 – 89% (Likely)	L = 3
90 – 100% (Almost Certain)	L = 4

TABLE 2:	
Consequence	Consequence Value
Medium Administrative Consequence	C = 1
Major Administrative Consequence	C = 2
Minor Environmental Consequence	C = 3
Minor Health Consequence	C = 4
Medium Environmental Consequence	C = 5
Major Environmental Consequence	C = 6
Medium Health Consequence	C = 7
Major Health Consequence	C = 8

The consequence values (0 through 8) are selected to align with other risk-based programs and projects currently under development or in use within the ministry as outlined in **Table 2**.

The Question Risk Rating for each regulatory inspection question is derived from an evaluation of every identified consequence and its corresponding likelihood of occurrence:

- All levels of consequence are evaluated for their potential to occur
- Greatest of all the combinations is selected.

The Question Risk Rating quantifies the risk of non-compliance of each question relative to the others. Questions with higher values are those with a potentially more significant impact on drinking water safety and a higher likelihood of occurrence. The highest possible value would be 32 (4×8) and the lowest would be 0 (0×1).

Table 3 presents a sample question showing the risk rating determination process.

TABLE 3:							
Does the Operator in Charge ensure that the equipment and processes are monitored, inspected and evaluated?							
Risk = Likelihood × Consequence							
C=1	C=2	C=3	C=4	C=5	C=6	C=7	C=8
Medium Administrative Consequence	Major Administrative Consequence	Minor Environmental Consequence	Minor Health Consequence	Medium Environmental Consequence	Major Environmental Consequence	Medium Health Consequence	Major Health Consequence
L=4 (Almost Certain)	L=1 (Unlikely)	L=2 (Possible)	L=3 (Likely)	L=3 (Likely)	L=1 (Unlikely)	L=3 (Likely)	L=2 (Possible)
R=4	R=2	R=6	R=12	R=15	R=6	R=21	R=16

Application of the Methodology to Inspection Results

Based on the results of a MRDWS inspection, an overall inspection risk rating is calculated. During an inspection, inspectors answer the questions related to regulatory compliance and input their “yes”, “no” or “not applicable” responses into the Ministry’s Laboratory and Waterworks Inspection System (LWIS) database. A “no” response indicates non-compliance. The maximum number of regulatory questions asked by an inspector varies by: system (i.e., distribution, stand-alone); type of inspection (i.e., focused, detailed); and source type (i.e., groundwater, surface water).

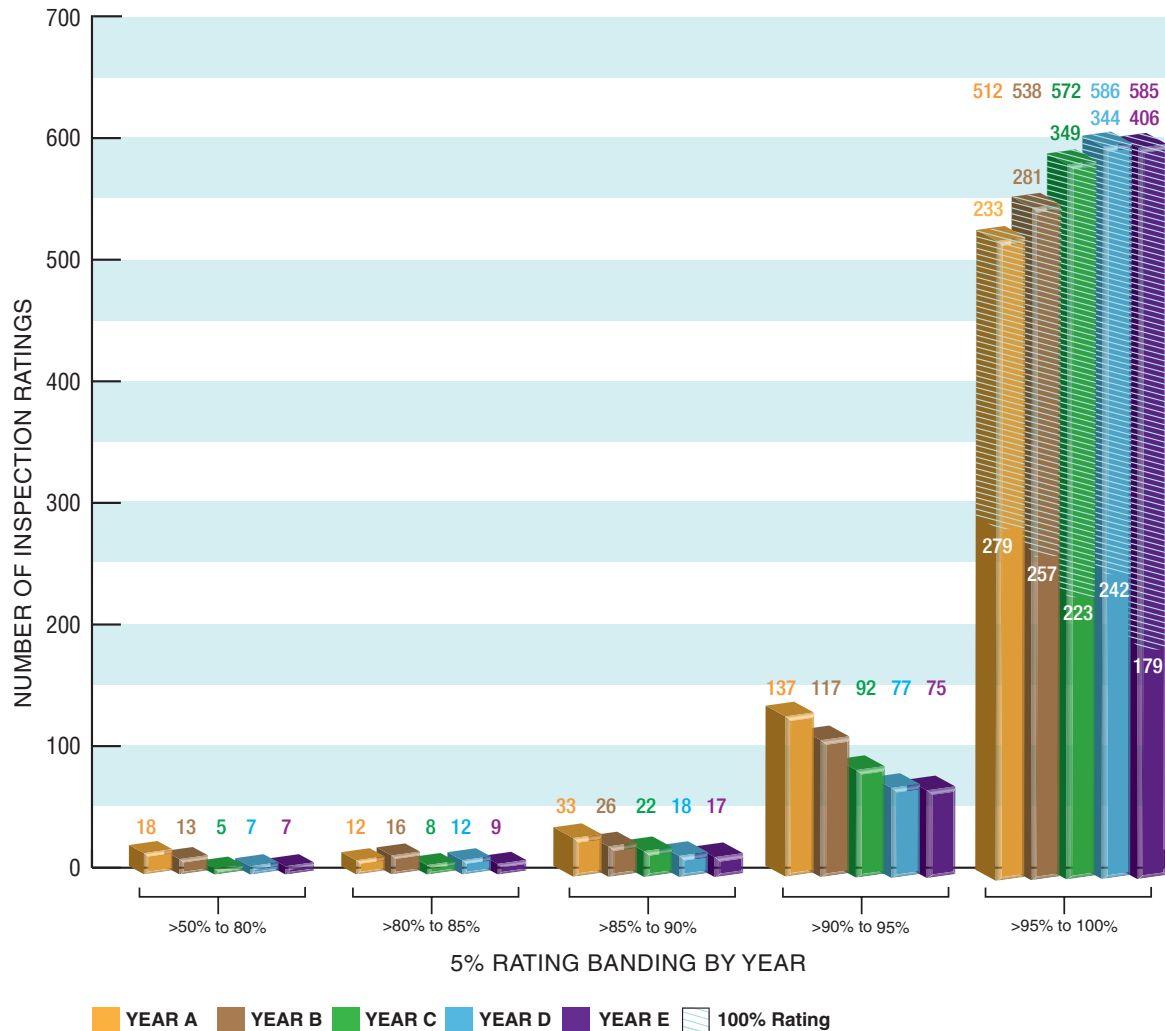
The risk ratings of all non-compliant answers are summed and divided by the sum of the risk ratings of all questions asked (maximum question rating). The resulting inspection risk rating (as a percentage) is subtracted from 100 per cent to arrive at the final inspection rating.

Application of the Methodology for Public Reporting

The individual MRDWS Total Inspection Ratings are published with the ministry’s Chief Drinking Water Inspector’s Annual Report.

Figure 1 presents the distribution of MRDWS ratings for a sample of annual inspections. Individual drinking water systems can compare against all the other inspected facilities over a period of inspection years.

Figure 1: Year Over Year Distribution of MRDWS Ratings



Reporting Results to MRDWS Owners/Operators

A summary of inspection findings for each system is generated in the form of an Inspection Rating Record (IRR). The findings are grouped into the 15 possible modules of the inspection protocol,

which would provide the system owner/operator with information on the areas where they need to improve. The 15 modules are:

- | | | | |
|-------------------------|---------------------------------|--|--|
| 1. Source | 5. Treatment Process Monitoring | 9. Logbooks | 13. Water Quality Monitoring |
| 2. Permit to Take Water | 6. Process Wastewater | 10. Contingency and Emergency Planning | 14. Reporting, Notification and Corrective Actions |
| 3. Capacity Assessment | 7. Distribution System | 11. Consumer Relations | 15. Other Inspection Findings |
| 4. Treatment Processes | 8. Operations Manuals | 12. Certification and Training | |

For further information, please visit www.ontario.ca/drinkingwater