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Conservation and Parks
Eastern Region
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2nd Floor, South Tower
Peterborough ON K9J 3C7
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Ministère de l'Environnement, de la
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Région de l'Est
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300, rue Water
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October 29, 2019

The Corporation of the Township of Hamilton
8285 Majestic Hills Dr.
Cobourg, Ontario K9A 4W5

Attention: William Cane, Mayor

**RE: Hamilton Township Distribution System (260039208)
Drinking Water Inspection Report 1-L2215**
File: SI NO CO MA 540

Please find attached the Ministry of the Environment's inspection report for the above facility. The report details the findings of the inspection that began on August 20, 2019.

In the inspection report, any "*Actions Required*" are linked to incidents of non-compliance with regulatory requirements contained within the 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 Environmental and Enforcement Compliance Office.

"*Recommended Actions*" convey information that the owner or operating authority should consider implementing in order to advance efforts already in place to address such issues as emergency preparedness, the availability of information to consumers, and conformance with existing and emerging industrial standards. Please note that items which appear as recommended actions do not, in themselves, constitute violations.

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 under "Resources" on the Drinking Water Ontario website at www.ontario.ca/drinkingwater.

I would like to thank the staff for the assistance afforded to me during this compliance assessment. If you have any questions or concerns please contact myself or Jacqueline Fuller, Water Compliance Supervisor, at 705-768-0436.

Yours truly,



Brittney Wielgos

Water Inspector

Ministry of the Environment, Conservation and Parks

Drinking Water and Environmental Compliance Division

300 Water Street, 2nd Floor South

Peterborough, ON K9J 3C7

705-768-8195

cc:

Larry Spyrka, Manager of Water System, Lakefront Utility Services

Shawn Bolender, Water Systems Supervisor, Lakefront Utility Services

Sarah Whitton, Water Compliance Coordinator, Lakefront Utility Services

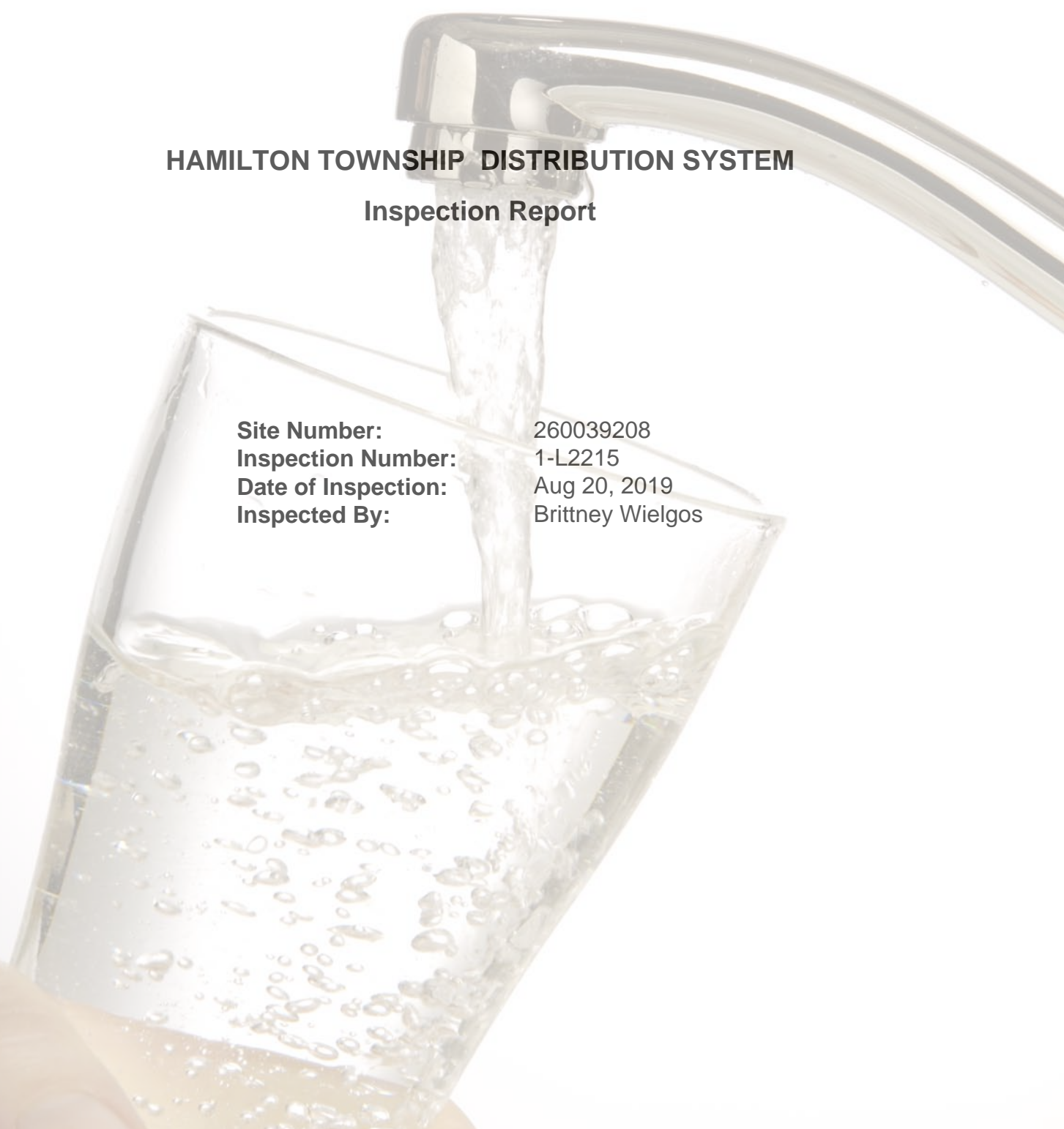
Dr. Lynn Noseworthy, Medical Officer of Health, Haliburton, Kawartha, Pine Ridge District Health Unit

Linda Laliberte, CAO/Secretary – Treasurer, Ganaraska Region Conservation Authority

Jacqueline Fuller, Water Compliance Supervisor, Peterborough District Office, MECP



Ministry of the Environment, Conservation and Parks

A close-up photograph of a chrome faucet pouring clear water into a clear glass. The water is captured mid-pour, creating a dynamic splash and bubbles within the glass. The background is a plain, light color.

HAMILTON TOWNSHIP DISTRIBUTION SYSTEM
Inspection Report

Site Number:	260039208
Inspection Number:	1-L2215
Date of Inspection:	Aug 20, 2019
Inspected By:	Brittney Wielgos



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2. Drinking Water System Inspection Report

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- A. Stakeholders Appendix**
- B. Inspection Rating Record**

OWNER INFORMATION:

Company Name:	HAMILTON, THE CORPORATION OF THE TOWNSHIP OF		
Street Number:	8285	Unit Identifier:	
Street Name:	MAJESTIC HILLS Dr		
City:	COBOURG		
Province:	ON	Postal Code:	K9A 4W5

CONTACT INFORMATION

Type:	Owner	Name:	William Cane
Phone:	(905) 342-2810 x112	Fax:	(905) 342-2818
Email:	bcane@hamiltontownship.ca		
Title:	Mayor, Township of Hamilton		

Type:	Operating Authority	Name:	Larry Spyrka
Phone:	(905) 372-2793	Fax:	(905) 372-2581
Email:	lspyrka@lusi.on.ca		
Title:	Manager of Water Systems, Lakefront Utility Services Inc.		

Type:	Operating Authority	Name:	Shawn Bolender
Phone:	(905) 372-2193	Fax:	(905) 372-2581
Email:	sbolender@lusi.on.ca		
Title:	Water Systems Supervisor		

Type:	Operating Authority	Name:	Sarah Whitton
Phone:	(905) 372-2581	Fax:	(905) 372-2581
Email:	swhitton@lusi.on.ca		
Title:	Water Compliance Coordinator		

INSPECTION DETAILS:

Site Name:	HAMILTON TOWNSHIP DISTRIBUTION SYSTEM
Site Address:	HAMILTON TOWNSHIP
County/District:	HAMILTON TOWNSHIP
MECP District/Area Office:	Peterborough District
Health Unit:	HALIBURTON, KAWARTHA, PINE RIDGE DISTRICT HEALTH UNIT
Conservation Authority:	
MNR Office:	
Category:	Large Municipal Residential
Site Number:	260039208
Inspection Type:	Announced
Inspection Number:	1-L2215
Date of Inspection:	Aug 20, 2019
Date of Previous Inspection:	Jul 24, 2018

COMPONENTS DESCRIPTION

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

Sub Type:

Site (Name): Cobourg Water Treatment Plant
Type: Treated Water POE

Sub Type: Treatment Facility

Comments:

The Hamilton Township Stand Alone Distribution System is supplied with potable water produced by the Cobourg Water Treatment Plant.

The Cobourg WTP obtains raw water through an 1050 mm steel intake pipe that extends 850 m into Lake Ontario. The Cobourg WTP is a conventional treatment facility consisting of coagulation (alum), flocculation, clarification, filtration (activated carbon and silica) and disinfection (chlorination). Disinfection at the plant is provided through the injection of chlorine gas which is delivered to the plant in one ton cylinders and injected through one of four Wallace & Tiernan chlorinators.

Chlorine may be added to the raw water at the intake (during the zebra mussel season) or at the influent wet well (17,500 L) during the rest of the year. Water from the influent wet well passes through a travelling screen before entering the low lift wet well (393,000 L). One of four vertical turbine pumps directs the water through a common 500 mm discharge header that leads to the solids contact clarifier. The discharge header incorporates a magnetic flow meter, an aluminum sulphate injection point, as well as temperature, turbidity, and chlorine residual monitoring points. The Graver 'Reactivator' Upflow Clarifier consists of a circular tank (24.5 m diameter x 6.0 m deep) equipped with tube settlers, variable speed mixer, fixed weir, and automated sludge removal system. The Engineer's Report by KMK Consultants (Brampton, ON) reports the clarifier provides 112 minutes of detention time at the rated capacity of 36,368 m³/day. A 600 mm conduit directs the clarified water past a second on-line turbidity analyzer to a common inlet trough that leads to two rapid gravity filter units. The dual media filters contain 600 mm of granular activated carbon and 150 mm of silica sand media with a surface area of 53.1 m². Both filters are equipped with air scour assisted backwash that may be initiated automatically by preset headloss, turbidity, or run-time parameters.

Backwash cycles may also be manually initiated by the operators. Backwashes are provided on an alternating basis through one of two filter backwash pumps rated at 433 L/s at 9.1 m TDH. One pump is a dry pit submersible pump and the other is a vertical centrifugal pump with a flexible drive shaft and independently mounted motor.

Filtered water is directed via separate 600 mm conduits (equipped with continuously operating turbidimeters) into the former chlorine contact chamber. Upgrades in 2003, converted the 566.4 m³ contact chamber into a backwash well, thus permitting use of unchlorinated water for backwashes (extending the life of the filter media and eliminating the requirement to dechlorinate backwash wastewater).

Chlorine gas is injected into the filtered water at the outlet of the backwash well, prior to entering the dual celled, in-ground concrete contact tank. All in-plant chlorination is provided through chlorine gas delivered in one ton cylinders and discharged through a 32 mm line via one of four Wallace & Tiernan model V2000 chlorinators. The 34 m³ inlet chamber directs filtered water into two baffled contact cells (with a baffle factor of 0.7 and detention time of 51.0 minutes) via separate 750 mm inlet conduits. An overflow weir located on the centre partition connects the two 916 m³ cells, allowing a total contact volume of 1,840 m³. The flow from both cells passes over separate weirs and connects with a common 900 mm stainless steel conduit leading to the treated water reservoir. Each cell of the treated water reservoir measures 27.4 m x 24.4 m x 4.67 m providing a total volume of 6,244 m³. The two cells are interconnected with a 600 mm sluice gate permitting treated water to pass through both cells before entering the high lift wet well. An overflow weir directs overflow discharges into a storm sewer connection to the supernatant pond prior to discharge to Lake Ontario.

Water passes from the clearwell through a 600 mm conduit to the 502.8 m³ concrete high lift wet well. Four vertical turbine high lift pumps connect to a 600 mm discharge header directing treated water into the distribution system.

The high lift pumping gallery consists of:

- one constant speed pump rated at 121 L/s at 67 m TDH,
- one constant speed pump rated at 223 L/s at 67 m TDH, and
- two variable speed pumps rated at 227 L/s at 67 m TDH.

The Cobourg distribution system serves two separate pressure zones, each with a separate elevated storage tank. Pressure Zone 1 serves the southern and eastern portion of the Town of Cobourg. Pressure Zone 2 serves the north and western portion of the Town of Cobourg, as well as the Hamilton Township Stand Alone Distribution System.

Site (Name): Hamilton Township Stand Alone Distribution System

Type: Other

Sub Type: Other

Comments:

The Hamilton Township Stand-Alone Distribution System obtains treated water produced by the Cobourg Water Treatment Plant. Treated water is directed to Hamilton Township located north of the Town of Cobourg through the Cobourg distribution system. It was reported that all water supplied to Hamilton Township is provided through an extension of the Town of Cobourg's distribution system serving Pressure Zone 2.

The Stand-Alone Distribution System extends north of Hwy. 401 from Ontario Street to Oliver's Lane. Treated water is supplied to approximately 119 homes in the area bounded by Ontario Street, Oliver's Lane, and June Avenue. This service area consists of 150 mm, 200 mm, and 300 mm watermains, 23 valves, and 13 hydrants.

There are no storage, pressure boosting, rechlorination facilities, or other external structures provided in the Hamilton Township Stand-Alone Distribution System.

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.

On August 20, 2019, Provincial Officer Brittney Wielgos began an announced inspection of the Hamilton Township Distribution System.

The Hamilton Township Distribution System (the System) is owned by the Corporation of the Township of Hamilton and operated by Lakefront Utility Services Inc. (LUSI) and serves a population of approximately 342. The System obtains water produced by the Cobourg Water Treatment Plant. Treated water is directed to the Hamilton Township Distribution System through an extension of the Town of Cobourg's Distribution System serving Pressure Zone 2.

The inspection included a compliance assessment of applicable Ministry of Environment, Conservation and Parks (MECP) legislation, an inspection of the procedures used within the treatment and distribution system, and a review of records.

Records reviewed in conjunction with this inspection include:

- Drinking Water Works Licence No. 139-101, dated: September 19, 2016
- Drinking Water Works Permit No. 139-201, dated: August 18, 2016
- Hamilton Township Signed Water Service Agreement, dated August 1, 2018

This inspection was conducted pursuant to section 81 of the Safe Drinking Water Act in order to assess compliance with the requirements of Ontario Regulation 170/03 (O.Reg.170/03). The drinking water inspection included: interviews with operating authority staff and a review of relevant documents from the period of July 24 2018 to August 20, 2019 (hereafter referred to as the "inspection review period").

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.**

The Hamilton Township Distribution System obtains water from the Cobourg Water Treatment Plant. There is no treatment equipment located within Hamilton Township. The system consists solely of distribution water mains.

There have been no changes to the distribution system since the permit was issued on September 19, 2016.

Treatment Processes

Distribution System

- **The receiving system was claiming exemptions to O. Reg. 170/03 available under subsection 5(4), and the agreement with the donor satisfied the requirements prescribed by subsection 5(4).**

The Hamilton Township Distribution System and the Cobourg Drinking Water System have a written agreement dated August 1, 2018, stating that the Hamilton Township Distribution System will be operated as an extension of the Cobourg Distribution System.

The agreement satisfies the requirements prescribed by section 5(4) of O.Reg.170/03.

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

Water Quality Monitoring

- **All sampling requirements for lead prescribed by schedule 15.1 of O. Reg. 170/03 were being met.**

In February 2017, the Township of Hamilton qualified for reduced sampling as per section 15.1-5 of Schedule 15 of O.Reg.170/03.

Under the reduced sampling schedule, the Township was required to test ten (10) residential, one (1) non-residential and two (2) distribution sampling points for lead during the periods from December 15 to April 15 (WINTER) and June 15 to October 15 (SUMMER) in every subsequent 12-month period.

LUSI completed the required sampling for the Township in the SUMMER 2017 sampling period and the WINTER 2017/18 period. Review of analytical data indicates that not more than 10% of plumbing exceeds 10 µg/L in each period. Reduced sampling was completed in SUMMER 2018 sampling period and the WINTER 2018/19 period. Based on the sample results, Hamilton Township qualifies for plumbing exemption as described in section 15.1-9 of Schedule 15 of O.Reg.170/03.

Hamilton Township is required to test for alkalinity and for pH during the WINTER and SUMMER periods in every 12-month period. Furthermore, the Township is required to test for lead during each of the periods in every third 12-month period. The next sampling period for lead is SUMMER 2021.

Reporting & Corrective Actions

- **All changes to the system registration information were provided within ten (10) days of the change.**
- **The owner had evidence that all required notifications to all legal owners associated with the Drinking Water System had been made during the inspection period.**

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:
Brittney Wielgos

Signature: (Provincial Officer)


Reviewed & Approved By:
Jackie Fuller

Signature: (Supervisor)

Review & Approval Date:

 Oct 28/19

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 Ministry if you need assistance or have questions at 1-866-793-2588 or waterforms@ontario.ca.

For more information on Ontario's drinking water visit www.ontario.ca/drinkingwater



PUBLICATION TITLE	PUBLICATION NUMBER
FORMS: 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 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

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

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

DWS Name: HAMILTON TOWNSHIP DISTRIBUTION SYSTEM
DWS Number: 260039208
DWS Owner: Hamilton, The Corporation Of The Township Of
Municipal Location: Hamilton Township

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Standalone
Inspection Date: August 20, 2019
Ministry Office: Peterborough District

Maximum Question Rating: 30

Inspection Module	Non-Compliance Rating
Treatment Processes	0 / 14
Water Quality Monitoring	0 / 8
Reporting & Corrective Actions	0 / 8
TOTAL	0 / 30

Inspection Risk Rating	0.00%
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FINAL INSPECTION RATING:	100.00%
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Ministry of the Environment - Detailed Inspection Rating Record (Reporting Year - 2019-2020)

DWS Name: HAMILTON TOWNSHIP DISTRIBUTION SYSTEM
DWS Number: 260039208
DWS Owner: Hamilton, The Corporation Of The Township Of
Municipal Location: Hamilton Township

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Standalone
Inspection Date: August 20, 2019
Ministry Office: Peterborough District

Maximum Question Rating: 30

Inspection Risk Rating | 0.00%

FINAL INSPECTION RATING: | 100.00%