

The Corporation of the Town of Fort Erie
Drinking Water Distribution System



**Drinking Water Quality Management System
Operational Plan**

As decision-makers for the drinking water system and representatives of Top Management and the Owner, we endorse this Operational Plan and are committed to:

- ensuring that a Quality Management System is in place that meets the requirements of the DWQMS,
- ensuring that the operating authority is aware of all applicable legislative and regulatory requirements,
- communicating the Quality Management System according to the procedure for communications,
- determining, obtaining or providing the resources needed to maintain and continually improve the Quality Management System.

Top Management:

 Chief Administrative Officer – Chris McQueen	Sept 14/2026 Date
 Director, Infrastructure Services – Tommy Peazel	SEPT 14/26 Date
 Director, Corporate Services / Treasurer – Jonathan Janzen	SEP 14/26 Date
 Manager, Engineering – Leo Ferreira	SEPT 14 2026 Date
 Manager, Water and Wastewater – Peter Nikolica	SEPT 14/26 Date

Owner Representative:

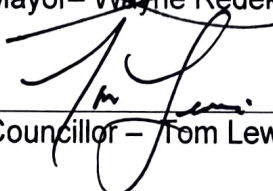
 Mayor – Wayne Redekop	Sept. 14/26 Date
 Councillor – Tom Lewis	SEPT 14/26 Date

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Glossary

AC – asbestos-cement pipe

AWWA – American Water Works Association

Certified – certified drinking water Operator in possession of a license issued by the MOE. In order to be OIC/ORO, appropriate certification requirements must be met as defined in O.Reg 128/04.

CAO – Chief Administrative Officer

Calendar Year – A period of one year beginning and ending with the dates conventionally accepted as marking the beginning and end of a year (January 1st to December 31st).

CI – cast iron pipe

Consumer – metered end user purchasing water from the Fort Erie DWDS

Corrective Action – Action to eliminate the cause of a detected nonconformity of the QMS with the requirements of the DWQMS or other undesirable situation.

Council (Including Mayor) – elected council of The Corporation of the Town of Fort Erie, exercising the powers of the Owner

CCP – Critical Control Point – an essential step or point in the Fort Erie DWDS at which control can be applied by the operating authority to prevent or eliminate a drinking water health hazard or to reduce it to an acceptable level.

CCL – Critical Control Limit – The point at which a Critical Control Point response procedure is initiated.

CPP – concrete pressure pipe

Document – designed with the capacity and intent to communicate information

DWQMS – Drinking Water Quality Management Standard and its collective requirements for a quality management system approved by the MOE

DWDS – Drinking Water Distribution System

ERPM – the Niagara Region's Emergency Response Procedures Manual

Fort Erie DWDS – the physical infrastructure that comprises the Fort Erie Drinking Water Distribution System

Drinking Water QMS – the Town of Fort Erie's quality management system under which the Fort Erie DWDS is operated

FAC – Free Available Chlorine

Glossary, Continued

GIS – Geographic Information System

ICI – refers to Industrial, Commercial and Institutional consumers (as opposed to residential consumers), purchasing water from the Fort Erie DWDS

Infrastructure Services – the department within The Corporation of the Town of Fort Erie that is responsible for the Fort Erie DWDS

MAC - Maximum Acceptable Concentration

MOE – the Ontario Ministry of the Environment, Conservation and Parks

MOH – Medical Officer of Health

Non-Conformance – Non-fulfillment of a requirement.

OIC – “Operator-in-Charge”, as defined by the regulations of the Safe Drinking Water Act. Refer to Operating Procedure IS-QMS-P003 – Water Utility Personnel Coverage for further detail.

Drinking Water QMS Operational Plan – this document describing the Drinking Water QMS.

Operator – Operators regulated under the Certification of Drinking-Water and Water Quality Analysts Regulation (Ontario Regulation 128/04).

Operating Authority – The person or entity that is given responsibility by the Owner for the operation, management, maintenance or alteration of the Fort Erie DWDS.

Opportunity for Improvement – An area where improvement is suggested but is not considered a non-conformance.

ORO – “Overall-Responsible-Operator”, as defined by the regulations of the Safe Drinking Water Act. Refer to Operating Procedure IS-QMS-P003 – Water Utility Personnel Coverage for further detail.

Glossary, Continued

Owner – The Corporation of the Town of Fort Erie and refers to ownership of the Fort Erie DWDS. Elected Council and Mayor of The Corporation of the Town of Fort Erie exercise the powers of the Owner.

Potential Non-Conformance – A finding where conformance to a requirement is found but where an action or lack of action could lead to a non-conformance over time.

Preventative Action – Action to prevent the occurrence of nonconformity of the QMS with the requirements of the DWQMS or other undesirable situation.

PVC –polyvinyl chloride pipe

QMS – quality management system.

QMS Representative – the Coordinator, Quality Management Systems or designate.

RA – Risk Assessment.

Record – a document showing results achieved or providing proof of activities performed

Residential service – the connection between the consumer and the Fort Erie DWDS and includes a private system such as a trailer park.

SAC – Spills Action Centre

SDWA – Safe Drinking Water Act.

SOP – Standard Operating Procedure

Staff (Personnel) – persons employed by the Owner.

Supplier – an organization or person that provides a product or service to the Owner.

24/7 – 24 hours a day, seven days a week

WTP – Rosehill Water Treatment Plant

WWT – the Water/Wastewater Technician employed by the Owner

1. Quality Management System

The Fort Erie Drinking Water Distribution System (Fort Erie DWDS) is owned and operated by The Corporation of the Town of Fort Erie (Owner). In its operation of the Fort Erie DWDS, the Owner strives to adhere to the Drinking Water Quality Management Standard (DWQMS). The Fort Erie DWDS is managed through the use of the Drinking Water Quality Management System (Drinking Water QMS). The Drinking Water QMS is documented utilizing the Owner's *QMS Document and Record Control Database*, a cornerstone of which is this document, the "Drinking Water QMS Operational Plan".

The Owner operates a distribution system network supplying potable water to the serviced areas within urban and rural areas of Fort Erie. The Owner purchases treated water from Niagara Region. Niagara Region draws the raw source water from Lake Erie and provides treatment at the Rosehill Water Treatment Plant (WTP).

The Fort Erie DWDS is a Class II Large Municipal Residential System, as defined by the MOE, extending from Old Fort Erie at the juncture of Lake Erie and the Niagara River westerly through Crescent Park, Thunder Bay, Ridgeway into Crystal Beach and Point Abino, northerly into Douglastown through Stevensville.

2. Quality Management System Policy

On July 21, 2014, the Owner adopted By-law 108-2014, Being a By-Law to adopt a Drinking Water Quality Management System Policy for The Town of Fort Erie.

By-Law 108-2014 in its entirety is attached as Appendix F.

The Fort Erie Drinking Water QMS policy is a Schedule to By-law 108-2014 which contains, in part, the following:

It is the Policy of the Corporation to;

- i) Provide Fort Erie consumers with safe drinking water*
- ii) Comply with all applicable drinking water legislation and regulations*
- iii) Manage and operate the Town of Fort Erie Distribution System in a responsible manner in accordance with the Drinking Water Quality Management System, Operational Plan, policies and procedures*
- iv) Maintain and continually improve the Drinking Water Quality Management System*
- v) Communicate these commitments to all consumers, our employees and vendor partners*

The Drinking Water QMS Commitment Poster (Appendix A) contains the three main commitments of the Drinking Water QMS Policy. The Policy and Commitment Poster are communicated to all Operating Authority personnel, the Owner and the Public through this document and as indicated in Operating Procedure IS-QMS-P001 – Document and Record Control. Operating Procedure IS-QMS-P009 – Communications provides additional information including detail on communications with essential suppliers and service providers. A Quality Management System has been established that is consistent with the Policy.

3. Commitment and Endorsement

Initial endorsement of this Drinking Water QMS Operational Plan was demonstrated by Resolution 16 of Council meeting April 27, 2009.

The process for obtaining written endorsement updates are demonstrated through the signatures of Top Management and Owner Representatives using the cover of this Drinking Water QMS Operational Plan. These updates take place when there is a change in Top Management or Owner Representatives. The Owner and Top Management endorse the implementation, maintenance and continual improvement of the Drinking Water QMS by:

- a) Ensuring that a Quality Management System is in place that meets the requirements of the DWQMS,
- b) Ensuring that the Operating Authority is aware of all applicable legislative and regulatory requirements,
- c) Communicating the Quality Management System according to the procedure for communications,
- d) Determining, obtaining or providing the resources needed to maintain and continually improve the Quality Management System.

Revisions to the Drinking Water QMS Operational Plan are communicated to Top Management and the Owner (Mayor and Council) through the QMS Document and Record Control Database.

4. Quality Management System Representative

The Coordinator, Quality Management Systems is the QMS Representative.

In general, the QMS Representative is responsible to:

- a) Ensure that processes and procedures needed for the Drinking Water QMS are established and maintained;
- b) Report to Top Management on the performance of the Drinking Water QMS and any needed improvement;
- c) Make certain that current versions of documents required by the Drinking Water QMS are being used at all times;
- d) Ensure that personnel are aware of all applicable legislative and regulatory requirements that pertain to their duties for the operation of the subject system; and,
- e) Promote awareness of the Drinking Water QMS throughout the Operating Authority.

5. Document and Record Control

Document and record control is maintained in accordance with the formal municipal procedure, Operating Procedure IS-QMS-P001 – Document and Record Control. This procedure describes how documents and records pertaining to the Drinking Water QMS are stored, retrievable and retained.

6. Drinking Water System

The Municipal Corporation of the Town of Fort Erie owns and operates the Fort Erie DWDS. This is a distribution system only; water treatment falls outside the scope of Town operations. The Municipal Corporation of the Town of Fort Erie does not own/operate equipment that provides primary/secondary disinfection. The Town receives its treated drinking-water from the Rosehill Water Treatment Plant (WTP), which is owned and operated by Niagara Region.

Niagara Region is responsible for water treatment, transmission watermain facilities, water storage, and residual disinfection. The Niagara Region owns/operates these systems. Lake Erie is the single raw water source of the Rosehill WTP. Rosehill WTP is a conventional surface water treatment plant which incorporates coagulation, flocculation, sedimentation, filtration and primary disinfection using sodium hypochlorite. Niagara Region is responsible for all sampling, testing and monitoring at the WTP.

System storage within the Fort Erie DWDS is provided by three (3) storage facilities including one (1) elevated tank (Central Avenue), a reservoir (Stevensville) and treatment plant ground storage, all owned and operated by Niagara Region for a combined storage capacity of approximately 15.1 megalitres.

To ensure that the regulatory requirements for chlorine residual are met throughout the Fort Erie DWDS, Niagara Region owns and operates a Single Chlorination Booster Station that provides the addition of sodium hypochlorite in the western limits of the Fort Erie DWDS.

A schematic is included in Appendix B.

The Municipal Corporation of Town of Fort Erie relies upon the Niagara Region to assist in ensuring the provision of safe drinking water.

The Fort Erie DWDS, classified as a Class II Large Municipal Residential System, as defined by the MOE, is comprised of approximately 286 km of distribution watermain ranging in size from 50 mm – 400 mm diameter, within a single pressure zone. The majority of these watermains are cast iron (CI), AC, or polyvinyl chloride (PVC) pipe. Other components of the Fort Erie DWDS include fire hydrants, isolation valves and bulk water stations.

As of August 2026, the Fort Erie DWDS serves 13,869 residential and 611 ICI connections. Consumption for every connection is measured through mandatory water meters.

To maintain disinfection residuals, Certified Operators conduct regular water quality sampling and testing on the Fort Erie DWDS and additionally undertake routine flushing to address the adequacy of chlorine residual in low flow and dead-end areas. (See Section 16 – Sampling, Testing, and Monitoring and Section 15 – Infrastructure Maintenance, Rehabilitation or Renewal)

This description is kept current through the regular reviews of this document. Refer to Operating Procedure IS-QMS-P001 – Document and Record Control.

6. Risk Assessment

A risk assessment procedure was developed to identify potential hazards and critical control points (CCP) existing within the Fort Erie DWDS. (See Operating Procedure IS-QMS-P002 – Risk Assessment.)

7. Risk Assessment Outcomes

The findings of the most recent Risk Assessment are described in Appendix D along with revisions made based on findings from Risk Assessment Reviews.

In the case of responding to hazards/emergencies, records will be kept per Operating Procedure IS-ERP-P001 – Emergency Response Procedures Water and Wastewater Services.

9. Operational Structure, Roles, Responsibilities and Authorities

The corporate operational structure, roles, responsibilities and authorities are under the direction of the CAO and the Director, Infrastructure Services. The QMS Representative will ensure operational structure, roles, responsibilities and authorities described in the Drinking Water QMS Operational Plan are kept current. The QMS Representative and relevant Managers are responsible for ensuring staff remain aware of their respective roles, responsibilities and authorities. See Appendices C and E.

This description is kept current through the regular reviews of this document. Refer to Operating Procedure IS-QMS-P001 – Document and Record Control. This information is communicated to the Operating Authority and the Owner through the distribution of the Drinking Water QMS Operational Plan. Refer to Operating Procedure IS-QMS-P009 – Communications for further communications details.

10. Competencies

Core competencies are deemed to be those that are minimally required to fill a respective position. Leverage competencies describe knowledge, skill and ability in excess of the minimum that may enhance an Operator's succession within the corporation. See Operating Procedure IS-QMS-P007 – Competencies which describes practices employed to develop and/or maintain competencies for Water and Wastewater staff whose duties directly affect drinking water quality.

Table 1 outlines the competencies required by all staff whose duties directly affect drinking water quality.

Table 1 – Minimum Staff Competencies

<i>Director, Infrastructure Services (Overall-Responsible-Operator)</i>	
<i>Core competencies</i>	<i>Leverage competencies</i>
• Post secondary education in related field or equivalent work experience • Seven to ten years progressive experience • Knowledge of planning, design, construction, operation, maintenance and repair of water infrastructure • Knowledge of budgeting and asset management • Knowledge of applicable legislation • Knowledge of record keeping practices • Valid Ontario driver's license • Possess and maintain valid provincial government Class II distribution certificate or greater	• Leadership training • Financial management training
<i>Manager, Engineering Division</i>	
<i>Core competencies</i>	<i>Leverage competencies</i>
• Professional Engineer, Civil or Municipal or equivalent experience • Eight years experience in a relevant field • Valid Ontario driver's license • Knowledge of supervisory and management practices • Knowledge of water works standards, design, construction, maintenance and repair • Knowledge of applicable legislation • Knowledge of budgeting and asset management • Knowledge of record keeping practices	• Leadership training • Financial management training
<i>Manager, Water and Wastewater</i>	
<i>Core competencies</i>	<i>Leverage competencies</i>
• Post secondary education in related field or equivalent work experience • Possess and maintain valid provincial government Class II distribution certificate or greater • Valid Ontario driver's license • Four to five years' relevant experience • Knowledge of supervisory and management practices • Knowledge of drinking water system construction, operation, maintenance and repair • Knowledge of water quality monitoring techniques • Knowledge of applicable legislation • Knowledge of budgeting and asset management • Knowledge of record keeping practices	• Leadership training • Financial management training

Table 1 Minimum Staff Competencies (continued)	
<i>Supervisor, Water and Wastewater (Primary Operator-in-Charge)</i>	
<i>Core competencies</i>	<i>Leverage competencies</i>
• Ontario Secondary School Diploma or equivalent plus post-secondary or equivalent experience • Valid Class II Water Distribution System Operator's Certificate • Three to four years' relevant experience • Related supervisory experience in infrastructure operations • Valid Ontario driver's license • Knowledge of applicable legislation • Knowledge of drinking water distribution operations, construction, maintenance and repair • Knowledge of water quality monitoring techniques • Knowledge of Ontario Traffic Manual Book 7, OPS Standards and Specifications • Knowledge of trenching and shoring and confined space entry • Knowledge of use of construction equipment and tools, heavy equipment and safe vehicle operation • Knowledge in organizing, leading and directing routine operations and emergency service requests • Knowledge of record keeping practices • Note: Supervisor that is not certified must work towards appropriate certification, training and supervisory experience. During this time the Supervisor that is not certified cannot act as OIC or ORO.	• Supervisor competency training • Leadership training
<i>Crew Leaders, Water and Wastewater (Supplemental Operator-in-Charge)</i>	
<i>Core competencies</i>	<i>Leverage competencies</i>
• Ontario Secondary School Diploma or equivalent • Valid Class II Water Distribution System Operator's Certificate • Three to four years relevant experience • Minimum DZ Driver's License • Knowledge of applicable legislation • Knowledge of Ontario Traffic Manual Book 7, OPS Standards and Specifications • Knowledge of trenching and shoring and confined space entry • Knowledge of use of construction equipment and tools, heavy equipment and safe vehicle operation • Knowledge of drinking water distribution operations, maintenance and repair • Knowledge of water quality monitoring techniques • Knowledge of supervisory practices • Knowledge of record keeping practices	• Supervisor competency Training • Cross Connection Training
<i>Water/Wastewater Technician</i>	
<i>Core competencies</i>	<i>Leverage competencies</i>
• Ontario Secondary School Diploma or equivalent • Two to three-year post-secondary education in relevant field or equivalent experience • Operator in Training up to Class II Water Distribution System Operator's Certificate • Minimum DZ Driver's License • Over three years experience in a similar environment • Knowledge of water quality analysis, sampling, lab techniques • Knowledge of applicable legislation • Knowledge of Ontario Traffic Manual Book 7, OPS Standards and Specifications • Knowledge of trenching and shoring and confined space entry • Knowledge of record keeping practices • Knowledge of use of construction equipment and tools, and safe vehicle operation • Knowledge of drinking water distribution operations, maintenance and repair	• Cross Connection Training

Table 1 Minimum Staff Competencies (continued)	
<i>Extraneous Flow Inspector</i>	
<i>Core competencies</i>	<i>Leverage competencies</i>
- Ontario Secondary School Diploma or equivalent - Three-year post-secondary education in relevant field in a related field or equivalent experience - Operator in Training up to Class II Water Distribution System Operator's Certificate - Over three years on the job experience - Knowledge of drinking water distribution operations, maintenance and repair - Knowledge of water quality monitoring techniques - Minimum DZ Driver's License - Knowledge of Ontario Traffic Manual Book 7, OPS Standards and Specifications - Knowledge of trenching and shoring and confined space entry - Knowledge of applicable legislation - Knowledge of use of construction equipment and tools and safe vehicle operation - Knowledge of record keeping practices	Cross Connection training
<i>Water Meter Technician</i>	
<i>Core competencies</i>	<i>Leverage competencies</i>
- OSSD or equivalent plus at least one-year relevant experience - Class II Water Distribution System Operator's Certificate - Knowledge of plumbing practices - Knowledge of the operation and repair of water meters, remote reading systems and attachments - Knowledge of applicable legislation - Knowledge of water meter database and accounting applications - Knowledge of use of construction equipment and tools and safe vehicle use - Knowledge of Ontario Traffic Manual Book 7, OPS Standards and Specifications - Knowledge of trenching and shoring and confined space entry - Knowledge of water quality monitoring techniques - Knowledge of record keeping practices - Minimum DZ Driver's License	Cross Connection training
<i>Operators</i>	
<i>Core competencies</i>	<i>Leverage competencies</i>
- Minimum Ontario Secondary School Diploma or equivalent - Operator in Training up to Class II Water Distribution System Operator's Certificate - Over three years' relevant experience to attain appropriate certificates - Minimum DZ Driver's License - Knowledge of use of construction equipment and tools, heavy equipment and safe vehicle operation - Knowledge of Ontario Traffic Manual Book 7, OPS Standards and Specifications - Knowledge of trenching and shoring and confined space entry - Knowledge of applicable legislation - Knowledge of drinking water distribution operations, maintenance and repair - Knowledge of water quality monitoring techniques - Knowledge of record keeping practices	Cross Connection training

11. Personnel Coverage

Personnel coverage is established in accordance with, Operating Procedure IS-QMS-P003 – Water Utility Personnel Coverage. This procedure establishes water utility personnel coverage to address routine operation (weekdays, weekends, statutory holidays), labour disruptions, emergency situations, after-hour response and to ensure the continuity of the designation of the Overall-Responsible-Operator and the Operator-in-Charge

12. Communications

Operating Procedure IS-QMS-P009 – Communications has been developed to document a procedure for communications that describes how relevant aspects of the Drinking Water QMS are communicated between Top Management and the Owner, Operating Authority personnel, the public and suppliers that have been identified as essential under Plan (a) of Element 13 of the Drinking Water Quality Management Standard on matters relating to the Drinking Water QMS.

13. Essential Supplies and Services

Operating Procedure IS-QMS-P010 – Essential Supplies and Services has been developed to list supplies and services essential for the delivery of safe drinking water, provide procurement information and identify quality and / or service requirements.

14. Review and Provision of Infrastructure

Operating Procedure IS-QMS-P006 – Infrastructure Adequacy Review has been developed to outline the process followed by the Town of Fort Erie in reviewing the adequacy of its drinking water system infrastructure.

Selected documentation and records are compiled to be used as inputs to the infrastructure adequacy review. The documentation and records provide valuable information about the operation and maintenance of the drinking water system infrastructure.

The Infrastructure Adequacy Review record describes the outcomes of the infrastructure adequacy review. The results of the Infrastructure Adequacy Review are communicated to the Owner.

15. Infrastructure Maintenance, Rehabilitation and Renewal

The following routine planned, preventative maintenance is conducted on the Fort Erie DWDS:

- fire hydrant maintenance (IS-WAT-P020 Fire Hydrant Maintenance)
- watermain flushing (IS-WAT-P021 Watermain Flushing)
- watermain valve maintenance (IS-WAT-P014 Watermain Valve Maintenance)
- leak detection (IS-WAT-P026 Leak Detection Monitoring); and,
- system-wide water quality monitoring / sampling (IS-WAT-S004 Water Quality Monitoring Sampling Testing).

Planned, preventative maintenance is scheduled and delegated to Operators. Maintenance records are retained and stored in accordance with the Operating Procedure IS-QMS-P001 Document and Record Control.

Unplanned (reactive) maintenance activities are conducted as required. The ORO/OIC prioritizes and schedules these maintenance activities. A permanent record of maintenance and service request resolutions is maintained in an electronic work order system. In the Fort Erie DWDS, unplanned maintenance consists primarily of watermain break repairs and water service, valve, and hydrant repairs.

The Town of Fort Erie has a water meter replacement program that is based on an industry-accepted life expectancy of approximately 15 to 18 years for water meters. The replacement program assists in ensuring a high level of confidence in water meter consumption readings. The replacement program allows for the on-going systematic replacement of aging residential meters throughout the Fort Erie DWDS.

The Town maintains a long-term forecast of major infrastructure maintenance, rehabilitation and renewal activities in the form of a 10-year capital forecast. The 10-year capital forecast is reviewed at least once every calendar year.

Infrastructure maintenance, rehabilitation and renewal programs are communicated to the Owner through the distribution of the Drinking Water QMS Operational Plan, Management Review minutes, Infrastructure Review minutes, and annual water quality report.

The effectiveness of the maintenance programs is monitored with discussions of performance at the Management Review and Infrastructure Review meetings.

This description is kept current through the regular reviews of this document. Refer to Operating Procedure IS-QMS-P001 – Document and Record Control.

16. Sampling, Testing and Monitoring

As a split jurisdictional model, the Corporation of the Town of Fort Erie is responsible for the sampling, testing and monitoring of the Fort Erie DWDS.

Niagara Region is responsible for upstream sampling. Sampling includes microbiological (O.Reg 170/03 Schedule 10), operational testing (O.Reg 170/03 Schedule 7), organic and inorganic testing (O.Reg. 170/03 Schedule 13), lead testing (O.Reg 170/03 Schedule 15.1).

Operating Standard IS-WAT-S004 – Water Quality Monitoring, Sampling and Testing provides water quality monitoring, sampling and testing procedures including the corrective actions for responding to adverse water quality results. The sampling procedures have been developed to ensure compliance with the requirements of the Safe Drinking Water Act (SDWA) and associated regulations.

Certified Operators conduct all required regulatory sampling. Routine and representative field-testing for free chlorine residuals is undertaken to ensure the adequacy of a disinfectant residual throughout the Fort Erie DWDS. Dead end sections of water main and areas of low flow / high residence time is monitored regularly to ensure the maintenance of water quality. Refer to Operating Procedure IS-WAT-P021 Watermain Flushing.

Table 2 summarizes sample parameters and their appropriate sample frequencies as directed by the MOE.

Samples requiring laboratory analysis are submitted to accredited laboratories. Contact information for these laboratories can be found in Operating Procedure IS-WAT-P010 Essential Supplies and Services.

Sampling, testing and monitoring results are shared between the Operating Authority and the Owner by submitting an annual summary water quality report within the prescribed timelines.

Table 2 – Sample Parameters and Frequency

Parameter	Criteria	Common Source	Frequency
Microbiological Analysis			
E. Coli	Not Detectable	Indicates the presence of fecal matter.	The Owner collects 11 samples weekly.
Total Coliform	Not Detectable	Indicates the possible presence of pathogenic bacteria.	
Heterotrophic Plate Count	<500 Colonies per sample	Indication of water quality deterioration.	
Organics			
Lead	0.010 mg/L (MAC)	Corrosion of plumbing systems: erosion of natural deposits in Lake Erie water.	Every 3 years take 4 samples from the distribution system in winter and summer periods.
Trihalomethanes	0.10 mg/L (MAC) (expressed as a running annual average of quarterly results)	By-product of chlorination-reaction of chlorine and organic matter.	Minimum one (1) sample taken every quarter.
Haloacetic Acids	0.08 mg/L (MAC) (expressed as a running annual average of quarterly results)	By-product of chlorination – reaction of chlorine and organic matter.	Minimum one (1) sample taken every quarter.
Disinfectant			
Free Chlorine Residual	Min. - 0.05 mg/L Max. - 4.0 mg/L	Level of disinfectant present.	Conducted in conjunction with micro. samples as well as weekly FAC monitoring.
Aesthetics			
Alkalinity/pH	Alkalinity 30-500 mg/L pH 6.5 – 8.5 Operational Guidelines	Corrosion within the distribution system.	Every year samples are taken from the distribution system in winter and summer periods

MAC – Maximum Acceptable Concentration

17. Measurement and Recording Equipment

Operating Procedure IS-WAT-P012 – Equipment Calibration and Verification provides detail on the calibration and verification of measurement and recording equipment used in the operation of the Fort Erie DWDS.

18. Emergency Management

Emergency situations within the Fort Erie DWDS are managed in accordance with the adopted operating procedures as outlined in Operating Procedure IS-ERP-P001 - Emergency Response Procedures for Water and Wastewater Services.

19. Internal Audit

Internal audits are conducted to ensure that the Drinking Water QMS conforms to the requirements of the DWQMS. (See Operating Procedure IS-QMS-P004 – Internal Audits regarding the Internal Audit process.)

20. Management Review

Management Reviews are conducted to evaluate the suitability, adequacy and effectiveness of the Drinking Water QMS. (See Operating Procedure IS-QMS-P005 – Management Review Procedure)

21. Continual Improvement

The Operating Authority has a procedure in place for tracking and measuring continual improvement of its QMS. (See Operating Procedure IS-QMS-P008 Continual Improvement)

Appendix A
Drinking Water QMS Commitment Poster

FORT ERIE DRINKING WATER QUALITY MANAGEMENT SYSTEM

**Fort Erie has implemented a
QUALITY MANAGEMENT SYSTEM
and is committed to:**

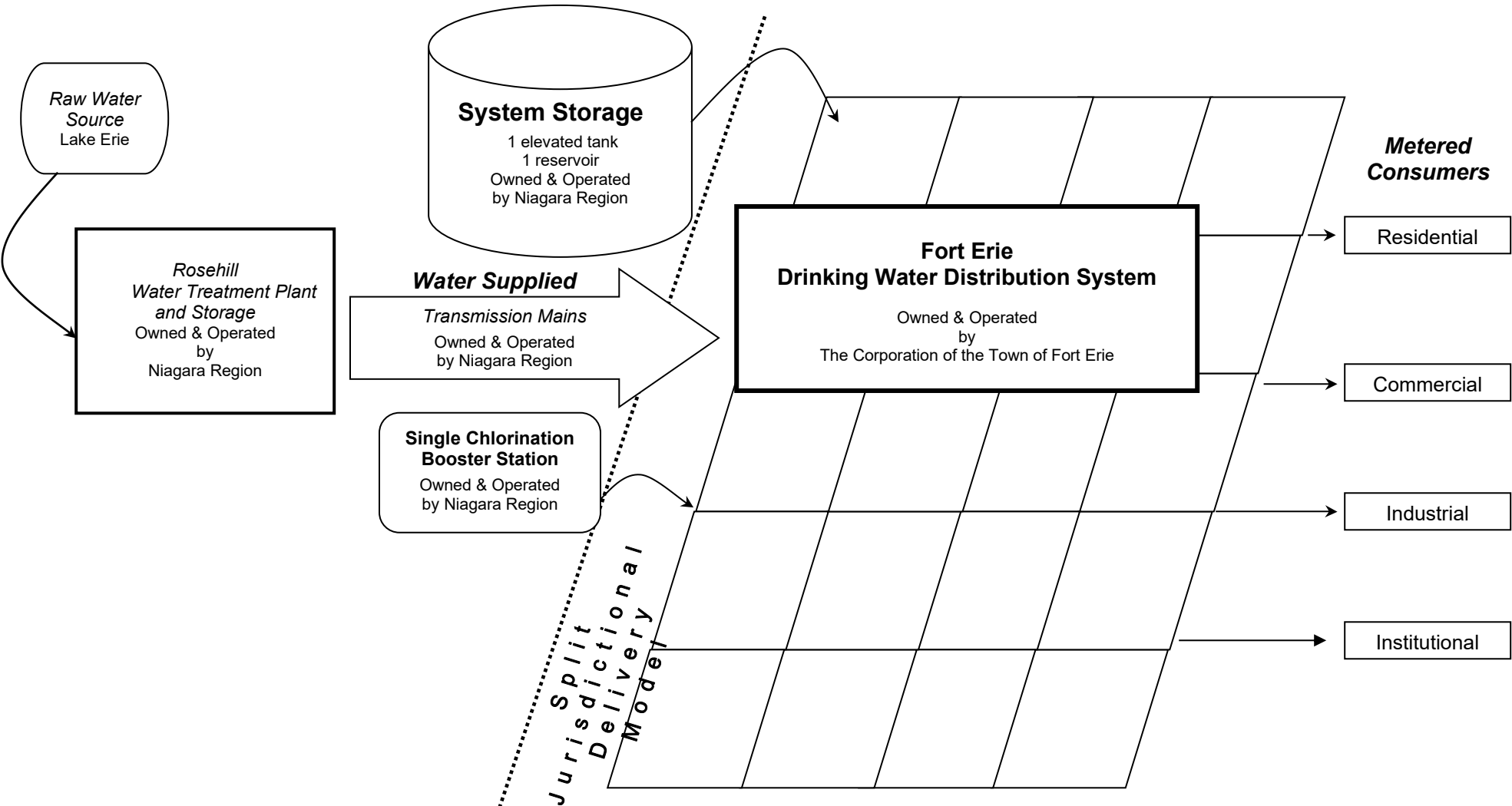
- **Delivering safe drinking water to our customers**
- **Complying to all relevant legislation & regulations**
- **Maintaining & continuously improving the
Drinking Water Quality Management System**



www.forterie.ca

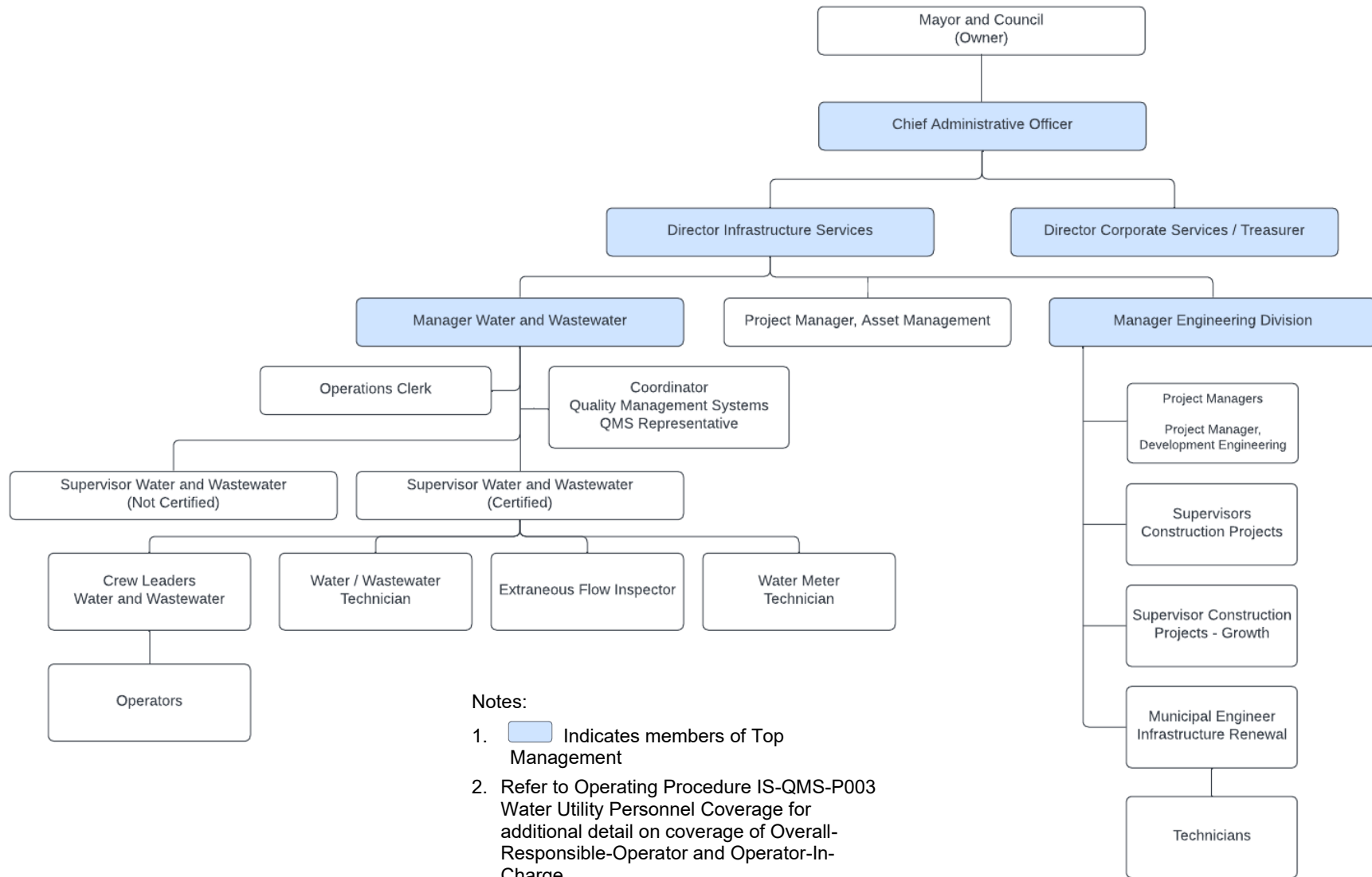
Fort Erie Drinking Water QMS Operational Plan

Appendix B
Town of Fort Erie
Drinking Water Distribution System Schematic



Fort Erie Drinking Water QMS Operational Plan

Appendix C **Drinking Water QMS Organizational Structure**



Fort Erie Drinking Water QMS Operational Plan

Appendix D

Town of Fort Erie Drinking Water QMS Risk Assessment Table											
Note: Hazardous events with no CCP have dark grey shading in CCP column								Risk Assessment Review July 18, 2024, July 14, 2025, July 14, 2026 36 Month Risk Assessment conducted on July 14, 2026			
	Process Step	Description of Hazardous Event	Description of Associated Hazard	Like	Severity	Detect.	Risk Rating	Control Measures (CM)	Critical Control Points	Critical Control Limit	Procedures for Monitoring, Responding and Reporting/Recording Deviations from CCL
1	Distribution System	Illegal use of fire hydrants	Physical (Sediment) Biological (Microbiological) Chemical	4	3	3	10	By-law 66-2016 & Anti Tampering Devices installed on private fire hydrants, remote hydrants (ongoing program) when actual and/or suspected unauthorized usage occurs	Yes Adherence to by-law	MAC as per O.Reg. 169/03 and O.Reg. 170/03	Monitoring: - IS-WAT-P020 - Fire Hydrant Maintenance - IS-WAT-S004 - Water Quality Monitoring Sampling Testing Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - Anti Tampering Devices installed on private fire hydrants, remote hydrants (ongoing program) when actual and/or suspected unauthorized usage occurs
2	Distribution System	Watermain Break or Frozen Water Main within TOFE Distribution	Physical (Sediment) Biological (Microbiological) Chemical	5	3	3	11	T.O.F.E. Operating Standards and Procedures Water Main Break Repair IS-WAT-P001, and Frozen Services IS-WAT-P018, Leak Detection Monitoring IS-WAT-P026 MOE Watermain Disinfection Procedure Pressure monitors at bulk water stations Smart Meters	Yes Adherence to SOPs and legislation	MAC as per O.Reg. 169/03 and O.Reg. 170/03 and Any limits as outlined in MOE Watermain Disinfection Procedure	Monitoring: - IS-WAT-P001 - Water Main Break Repair (includes MOE Watermain Disinfection Procedure reqs) - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - IS-WAT-P018 Frozen Services - Leak Detection Monitoring IS-WAT-P026 - Pressure monitors at bulk water stations Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - IS-WAT-P001a - Special Case Contamination - IS-WAT-P009 Public Health Notification Water Service Disruption - Leak Detection Monitoring IS-WAT-P026
3	Distribution System	Allowable use of fire hydrants	Physical (Sediment) Biological (Microbiological) Chemical	5	3	2	10	Chief Training Officer provides training on proper fire hydrant use to Fire & Emergency Services staff	Yes Adherence to Training	MAC as per O.Reg. 169/03 and O.Reg. 170/03	Monitoring: - If an issue were to occur Fire & Emergency Services would notify the Water and Wastewater Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - IS-WAT-P001 - Water Main Break Repair - IS-WAT-P020 - Fire Hydrant Maintenance
4	Distribution System	Contractor working on the Water Distribution System damages infrastructure	Physical (Sediment) Biological (Microbiological) Chemical	4	3	1	8	T.O.F.E. Operating Standards and Procedures Commissioning New Watermain IS-WAT-P010, Notification to Contractors IS-QMS-S001, Water Main Break Repair IS-WAT-P001 MOE Watermain Disinfection Procedure	Yes Adherence to SOPs and legislation	MAC as per O.Reg. 169/03 and O.Reg. 170/03 and Any limits as outlined in MOE Watermain Disinfection Procedure	Monitoring: - IS-WAT-P010 - Commissioning New Watermain (includes MOE Watermain Disinfection Procedure reqs) - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - IS-WAT-P001 - Water Main Break Repair (includes MOE Watermain Disinfection Procedure reqs) - Pressure monitors at bulk water stations Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - IS-WAT-P009 Public Health Notification Water Service Disruption - IS-WAT-P001a - Special Case Contamination - IS-WAT-P001 - Water Main Break Repair (includes MOE Watermain Disinfection Procedure reqs)

Fort Erie Drinking Water QMS Operational Plan

Appendix D, continued

Town of Fort Erie Drinking Water QMS											
Risk Assessment Table											
Note: Hazardous events with no CCP have dark grey shading in CCP column								Risk Assessment Review July 18, 2024, July 14, 2025, July 14, 2026 36 Month Risk Assessment conducted on July 14, 2026			
	Process Step	Description of Hazardous Event	Description of Associated Hazard	Like.	Severity	Detect.	Risk Rating	Control Measures (CM)	Critical Control Points	Critical Control Limit	Procedures for Monitoring, Responding and Reporting/Recording Deviations from CCL
5	Distribution System	Contractor working near the Distribution System damages infrastructure	Physical (Sediment) Biological (Microbiological) Chemical	3	3	1	7	Ontario Underground Infrastructure Notification Systems Act 2012 (Ontario One Call) and Water Main Break Repair IS-WAT-P001 MOE Watermain Disinfection Procedure	Yes Adherence to Act and legislation Rating below threshold but must meet legislation	MAC as per O.Reg. 169/03 and O.Reg. 170/03 Any limits as outlined in MOE Watermain Disinfection Procedure	Monitoring: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - IS-WAT-P001 - Water Main Break Repair (includes MOE Watermain Disinfection Procedure reqs) - Pressure monitors at bulk water stations Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - IS-WAT-P009 Public Health Notification Water Service Disruption - IS-WAT-P001a - Special Case Contamination - IS-WAT-P001 - Water Main Break Repair (includes MOE Watermain Disinfection Procedure reqs)
6	Distribution System	ICI Cross Connection and Contamination (Backflow)	Physical (Sediment) Biological (Microbiological) Chemical	2	3	4	9	By-law 66-2016 & T.O.F.E. Operating Standards and Procedures Cross Connection Control Program IS-WAT-P005 (this program is in development)	Yes Adherence to by-law and SOP	MAC as per O.Reg. 169/03 and O.Reg. 170/03	Monitoring: - IS-WAT-P005 - Cross Connection Control Program (program in development) - IS-WAT-S004 - Water Quality Monitoring Sampling Testing Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing
7	Distribution System	Rosehill Plant Failure	Physical (Sediment) Biological (Microbiological) Chemical	2	5	1	8	Under Regional Control Short term reliance on system storage / Region responsibility Niagara Region has an Emergency Drinking Water Provision Plan (provides information about emergency water sources)	No No Control	MAC as per O.Reg. 169/03 and O.Reg. 170/03	Monitoring: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - Pressure monitors at bulk water stations Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing
8	Distribution System	Reduced pressure loss other than main break related (<20 psi)	Physical (Sediment) Biological (Microbiological) Chemical	2	2	4	8	T.O.F.E. Operating Standards and Procedures -Water Quality Site Visit IS-WAT-P011 Pressure monitors at bulk fill stations	Yes Adherence to SOP Pressure monitors	MAC as per O.Reg. 169/03 and O.Reg. 170/03	Monitoring: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - Pressure monitors at bulk water stations Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - IS-WAT-P011 - Water Quality Site Visit

Fort Erie Drinking Water QMS Operational Plan

Appendix D, continued

Town of Fort Erie Drinking Water QMS Risk Assessment Table												
Note: Hazardous events with no CCP have dark grey shading in CCP column										Risk Assessment Review July 18, 2024, July 14, 2025, July 14, 2026 36 Month Risk Assessment conducted on July 14, 2026		
	Process Step	Description of Hazardous Event	Description of Associated Hazard	Like.	Severity	Detect.	Risk Rating	Control Measures (CM)	Critical Control Points	Critical Control Limit	Procedures for Monitoring, Responding and Reporting/Recording Deviations from CCL	
9	Distribution System	Residential Cross Connection and contamination resulting	Physical (Sediment) Biological (Microbiological) Chemical	2	2	5	9	Cross Connection Control Program not currently enforced for residential connections	No No Control	MAC as per O.Reg. 169/03 and O.Reg. 170/03	Monitoring: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - IS-WAT-P001a - Special Case Contamination	
10	Distribution System	Watermain Break within Regional Trans.	Physical (Sediment) Biological (Microbiological) Chemical	3	3	3	9	Under Regional Control Niagara Region procedure - Watermain Break ERP-WT-ALL-P-010	No No Control	MAC as per O.Reg. 169/03 and O.Reg. 170/03 and Any limits as outlined in MOE Watermain Disinfection Procedure	Monitoring: - IS-WAT-P001 - Water Main Break Repair (includes MOE Watermain Disinfection Procedure reqs) - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - Pressure monitors at bulk water stations Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - IS-WAT-P001a - Special Case Contamination	
11	Distribution System	Low Chlorine Residual (< 0.05 mg/L - Regulatory threshold)	Biological	4	2	3	9	T.O.F.E. Operating Standards and Procedures Water Quality Monitoring Sampling Testing IS-WAT-S004 and Watermain Flushing IS-WAT-P021 Auto Flushers (Pt Abino, Cherry Hill Blvd, Niagara Blvd)	Yes Adherence to SOPs & Regulatory Compliance O. Reg. 170/03 Auto Flushers	Chlorine Residual < 0.05 mg/L O.Reg. 170/03	Monitoring: - IS-WAT-P004b - Chlorine Residual Sampling -IS-WAT-P021 - Watermain Flushing Responding/Reporting/Recording: - IS-WAT-P004b - Chlorine Residual Sampling	
12	Distribution System	Low Chlorine Residual (< 0.20 mg/L - Town of FE threshold)	Biological	4	1	3	8	T.O.F.E. Operating Standards and Procedures Water Quality Monitoring Sampling Testing IS-WAT-S004 and Watermain Flushing IS-WAT-P021 Auto Flushers (Pt Abino, Cherry Hill Blvd, Niagara Blvd)	Yes Adherence to SOPs Auto Flushers	Chlorine Residual < 0.20 mg/L Recommended Target	Monitoring: - IS-WAT-P004b - Chlorine Residual Sampling -IS-WAT-P021 - Watermain Flushing Responding/Recording: - IS-WAT-P004b - Chlorine Residual Sampling	
13	Distribution System	Microbiological Parameter Exceedance (T.O.F.E or Region)	Biological - E. Coli	1	4	3	8	T.O.F.E. Operating Standards and Procedures Water Quality Monitoring Sampling Testing IS-WAT-S004	Yes Adherence to SOP & Regulatory Compliance O. Reg. 170/03	Microbiological parameters detectable O.Reg. 169/03	Monitoring: - IS-WAT-P004 - Microbiological Sampling Responding/Reporting/Recording - IS-WAT-P004a - Corrective Action for Adverse Microbiological Sampling Result	
			Biological - Total Coliforms / Heterotrophic Plate Count	3	2	3	8					

Fort Erie Drinking Water QMS Operational Plan

Appendix D, continued

**Town of Fort Erie Drinking Water QMS
Risk Assessment Table**

Town of Fort Erie Drinking Water QMS Risk Assessment Table											
Note: Hazardous events with no CCP have dark grey shading in CCP column								Risk Assessment Review July 18, 2024, July 14, 2025, July 14, 2026 36 Month Risk Assessment conducted on July 14, 2026			
	Process Step	Description of Hazardous Event	Description of Associated Hazard	Like.	Severity	Detect.	Risk Rating	Control Measures (CM)	Critical Control Points	Critical Control Limit	Procedures for Monitoring, Responding and Reporting/Recording Deviations from CCL
14	Distribution System	Chemical (THM) Parameter Exceedance	Chemical	1	2	3	6	T.O.F.E. Operating Standards and Procedures Water Quality Monitoring Sampling Testing IS-WAT-S004	Yes Adherence to SOP & Regulatory Compliance O. Reg. 170/03 Rating below threshold but must meet legislation	THM > 0.100 mg/L running annual average of quarterly results	Monitoring: - IS-WAT-P004d - Trihalomethane Sampling Responding/Reporting/Recording - IS-WAT-P004d - Trihalomethane Sampling
15	Distribution System	Contamination from Biofilm slough within distribution pipes	Biological	2	2	3	7	T.O.F.E. Operating Standards and Procedures -Water Quality Site Visit IS-WAT-P011, Chlorine Residual Sampling IS-WAT-P004b for flushing, Watermain Flushing IS-WAT-P021	Yes Adherence to SOP Rating below threshold but must meet legislation	MAC as per O.Reg. 169/03 and O.Reg. 170/03	Monitoring: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - IS-WAT-P021 - Watermain Flushing Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - IS-WAT-P011 Water Quality Site Visit
16	Distribution System	Commissioning of new watermains	Physical (Sediment) Biological (Microbiological) Chemical	4	1	1	6	T.O.F.E. Operating Standards and Procedures Commissioning New Watermain IS-WAT-P010 MOE Watermain Disinfection Procedure	Yes Adherence to SOP and legislation Rating below threshold but must meet legislation	MAC as per O.Reg. 169/03 and O.Reg. 170/03 Any limits as outlined in MOE Watermain Disinfection Procedure	Monitoring: - IS-WAT-P010 - Commissioning New Watermain (includes MOE Watermain Disinfection Procedure reqs) - IS-WAT-S004 - Water Quality Monitoring Sampling Testing Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing
17	Distribution System	Critical Staff Loss (Pandemic, Sickness, Strike)	Physical (Sediment) Biological (Microbiological) Chemical	3	1	1	5	T.O.F.E. Operating Standards and Procedures Water Utility Personnel Coverage IS-QMS-P003 (provincial requirement to report insufficient staff to run the utility) Business Continuity Program Delivery Plan	No Not CCP but have control measures in place - Adherence to SOP	MAC as per O.Reg. 169/03 and O.Reg. 170/03	Monitoring: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - IS-WAT-P003 - Water Utility Personnel Coverage - Covid-19 Pandemic Safe Work Standard 05-032 - Business Continuity Program Delivery Plan

Fort Erie Drinking Water QMS Operational Plan

Appendix D, continued

Town of Fort Erie Drinking Water QMS												
Risk Assessment Table												
Note: Hazardous events with no CCP have dark grey shading in CCP column								Risk Assessment Review July 18, 2024, July 14, 2025, July 14, 2026				
Note: Light grey shading indicates potential hazardous events identified in the MOE document titled "Potential Hazardous Events for Municipal Residential Drinking Water Systems"								36 Month Risk Assessment conducted on July 14, 2026				
	Process Step	Description of Hazardous Event	Description of Associated Hazard	Like	Severity	Detect.	Risk Rating	Control Measures (CM)	Critical Control Points	Critical Control Limit	Procedures for Monitoring, Responding and Reporting/Recording Deviations from CCL	
18	Distribution System	Water Supply Shortfall (exceed capacity)	Physical (Sediment) Biological (Microbiological) Chemical	1	5	1	7	Under Regional Control Niagara Region Emergency Response Procedure - Inability to Meet Water Demand - ERP-WT-ALL-P-008	No No Control	MAC as per O.Reg. 169/03 and O.Reg. 170/03	Monitoring: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing Responding/Reporting/Recording: - By-Law 66-2016 (Water Restrictions Section) - Adherence to Corporate Communications protocols - IS-WAT-S004 - Water Quality Monitoring Sampling Testing	
19	Distribution System	Extreme Weather Events (e.g. tornado, ice storm)	Extreme weather may lead to watermain breaks, frozen watermain breaks, frozen services and water quality issues (e.g. low chlorine, microbiological exceedance) Risk ratings for this hazardous event are found under the following: - Item 2 - Watermain Break or Frozen Watermain - Item 11 & 12 - Low Chlorine - Item 13 - Microbiological Exceedance - Item 32 - Frozen Services									
20	Distribution System	Sustained Extreme Temperatures (e.g. heat wave, deep freeze)	Sustained extreme temperatures may lead to watermain breaks, frozen watermain breaks, frozen services and water quality issues (e.g. low chlorine, microbiological exceedance) Risk ratings for this hazardous event are found under the following: - Item 2 - Watermain Break or Frozen Watermain - Item 11 & 12 - Low Chlorine - Item 13 - Microbiological Exceedance - Item 32 - Frozen Services									
21	Distribution System	Long Term Impacts of Climate Change	Long term impacts of climate change may lead to extreme weather events and sustained extreme temperatures. This results in watermain breaks, frozen watermain breaks, frozen services and water quality issues (e.g. low chlorine, microbiological exceedance). Risk ratings for this hazardous event are found under the following: - Item 2 - Watermain Break or Frozen Watermain - Item 11 & 12 - Low Chlorine - Item 13 - Microbiological Exceedance - Item 19 - Extreme Weather Events - Item 20 - Sustained Extreme Temperatures - Item 32 - Frozen Services									
22	Distribution System	Chemical Spill Impacting Source Water / Source Contamination	Physical (Sediment) Biological (Microbiological) Chemical Radiological	1	4	1	6	Under Regional Control Niagara Region procedure - Source Water Quality - Possible Compromise ERP-WT-ALL-P-006	No No Control	MAC as per O.Reg. 169/03 and O.Reg. 170/03	Monitoring: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - IS-WAT-P001a - Special Case Contamination	

Fort Erie Drinking Water QMS Operational Plan

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Town of Fort Erie Drinking Water QMS Risk Assessment Table														
Note: Hazardous events with no CCP have dark grey shading in CCP column										Risk Assessment Review		July 18, 2024, July 14, 2025, July 14, 2026		
Note: Light grey shading indicates potential hazardous events identified in the MOE document titled "Potential Hazardous Events for Municipal Residential Drinking Water Systems"										36 Month Risk Assessment conducted on			July 14, 2026	
	Process Step	Description of Hazardous Event	Description of Associated Hazard	Like.	Severity	Detect.	Risk Rating	Control Measures (CM)	Critical Control Points	Critical Control Limit	Procedures for Monitoring, Responding and Reporting/Recording Deviations from CCL			
23	Distribution System	Terrorist and Vandalism Actions	Physical (Sediment) Biological (Microbiological) Chemical Radiological	1	4	4	9	Anti-Tampering devices installed on private and remote fire hydrants (ongoing program) Bulk Water Stations are locked Sample Stations are locked Direct access to water plant is under Regional control. Niagara Region procedure - Threat to a Water or Wastewater Facility, System or Supply ERP-ALL-ALL-001	Yes Anti-tampering devices on hydrants Locks on bulk water stations and sampling stations	MAC as per O.Reg. 169/03 and O.Reg. 170/03	Monitoring: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing - IS-WAT-P001a - Special Case Contamination			
24	Distribution System	Cyber Security Threat	Cyber Security Threats (cyber attacks and unauthorized access)	1	4	3	8	Firewalls, endpoint protection software and access control lists, Corporate Cyber Security Policy	Yes See Control measures - firewalls, policy, etc.	MAC as per O.Reg. 169/03 and O.Reg. 170/03	Monitoring: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing Responding/Reporting/Recording: - IS-WAT-S004 - Water Quality Monitoring Sampling Testing			
25	Distribution System	Sustained Pressure Loss	Sustained pressure loss may result from illegal use of fire hydrants, watermain break, frozen watermain, allowable use of fire hydrants, reduced pressure loss other than main break related. Risk rating for this hazardous event is found under: - Item 1 - Illegal Use of Fire Hydrants - Item 2 - Watermain Break or Frozen Watermain - Item 3 - Allowable use of Fire Hydrants - Item 8 - Reduced Pressure Loss Other Than Main Break Related											
26	Distribution System	Backflow	Risk rating for this hazardous event is found under: - Item 6 - ICI Cross Connection - Item 9 - Residential Cross Connection											
27	Treatment Systems	Sudden Changes to Raw Water Characteristics (e.g. turbidity, pH)	Not applicable Applies to Treatment Systems only as indicated in MOE Document titled Potential Hazardous Events for Municipal Residential Drinking Water Systems											
28	Treatment Systems	Failure of Equipment or Process Associated with Primary Disinfection (e.g. coagulant dosing system, filters,UV system, chlorination system)	Not applicable Applies to Treatment Systems only as indicated in MOE Document titled Potential Hazardous Events for Municipal Residential Drinking Water Systems											

Fort Erie Drinking Water QMS Operational Plan

Appendix D, continued

Town of Fort Erie Drinking Water QMS Risk Assessment Table											
Note: Hazardous events with no CCP have dark grey shading in CCP column								Risk Assessment Review July 18, 2024, July 14, 2025, July 14, 2026			
Note: Light grey shading indicates potential hazardous events identified in the MOE document titled "Potential Hazardous Events for Municipal Residential Drinking Water Systems"								36 Month Risk Assessment conducted on July 14, 2026			
	Process Step	Description of Hazardous Event	Description of Associated Hazard	Like	Severity	Detect	Risk Rating	Control Measures (CM)	Critical Control Points	Critical Control Limit	Procedures for Monitoring, Responding and Reporting/Recording Deviations from CCL
29	Treatment Systems and Distribution Systems Providing Secondary Disinfection	Failure of Equipment or Process Associated with Secondary Disinfection (eg Chlorination Equipment, Chloramination Equipment)	Not applicable Applies to Treatment Systems and Distribution Systems Providing Secondary Disinfection only as indicated in MOE Document titled Potential Hazardous Events for Municipal Residential Drinking Water Systems								
30	Treatment Systems using Surface Water	Algal blooms	Not applicable Applies to Treatment Systems only as indicated in MOE Document titled Potential Hazardous Events for Municipal Residential Drinking Water Systems								
31	Distribution System	Chemical (HAA) Parameter Exceedance	Chemical	1	2	3	6	T.O.F.E. Operating Standards and Procedures Water Quality Monitoring Sampling Testing IS-WAT-S004	Yes Adherence to SOP & Regulatory Compliance O. Reg. 170/03 Rating below threshold but must meet legislation	HAA > 0.080 mg/L running annual average of quarterly results	Monitoring: - IS-WAT-P004e - Haloacetic Acid Sampling Responding/Reporting/Recording - IS-WAT-P004e - Haloacetic Acid Sampling
32	Distribution System	Frozen Services	Physical (Sediment) Biological (Microbiological) Chemical	3	1	1	5	T.O.F.E. Operating Standards and Procedures Frozen Services IS-WAT-P018	No Not CCP but have control measures in place - Adherence to SOP	MAC as per O.Reg. 169/03 and O.Reg. 170/03	Monitoring: - IS-WAT-P018 Frozen Services - IS-WAT-S004 - Water Quality Monitoring Sampling Testing Responding/Reporting/Recording: - IS-WAT-P018 Frozen Services - IS-WAT-S004 - Water Quality Monitoring Sampling Testing
33	Distribution System	Low Water Use Conditions - Private Facilities / Properties (Due to operating restrictions during pandemic or other emergency)	Physical (Sediment) Biological (Microbiological) Chemical	3	2	3	8	T.O.F.E. Operating Standards and Procedures Water Quality Monitoring Sampling Testing IS-WAT-S004 and Watermain Flushing IS-WAT-P021 Auto Flushers (Pt Abino, Cherry Hill Blvd, Niagara Blvd)	Yes Adherence to SOP	MAC as per O.Reg. 169/03 and O.Reg. 170/03	Monitoring: - IS-WAT-S004 Water Quality Monitoring Sampling Testing - IS-WAT-P021 Watermain Flushing Responding/Reporting/Recording: - IS-WAT-S004 Water Quality Monitoring Sampling Testing - IS-WAT-P021 Watermain Flushing - Made in Niagara Guide to Flushing Your Facility
34	Distribution System	Excavating in Areas of Significance	Physical (Sediment) Biological (Microbiological) Chemical	4	1	1	6	T.O.F.E. Operating Standards and Procedures Excavating in Areas of Significance IS-WAT-P027, Water Main Break Repair IS-WAT-P001	No Not CCP but have control measures in place - Adherence to SOP	MAC as per O.Reg. 169/03 and O.Reg. 170/03	Monitoring: - IS-WAT-S004 Water Quality Monitoring Sampling Testing - IS-WAT-P001 Water Main Break Repair Responding/Reporting/Recording: - IS-WAT-S004 Water Quality Monitoring Sampling Testing IS-WAT-P001 Water Main Break Repair

Fort Erie Drinking Water QMS Operational Plan

Appendix E

Operational Roles, Responsibilities and Authorities

Council (incl Mayor) of The Corporation of the Town of Fort Erie (Representing Owner)	
Roles & Responsibilities	Authorities
• Complete oversight of entire drinking water distribution system and the Drinking Water QMS • Monitors the Drinking Water QMS and the need for resources to support the Drinking Water QMS • Strive to continuously improve the Drinking Water QMS • Ultimate responsibility for the provision of safe drinking water • Ensure overall compliance	• Financial and administrative authority related to the distribution of safe drinking water • Endorse Drinking Water QMS • Recommend changes to Drinking Water QMS
Top Management (Chief Administrative Officer; Director, Infrastructure Services; Director, Corporate Services/Treasurer; Manager, Engineering Division; and Manager, Water and Wastewater)	
Roles & Responsibilities	Authorities
• Ensure that a Quality Management System is in place that meets the requirements of the DWQMS • Provide and/or obtain resources needed to maintain and continually improve the QMS • Ensure the Operating Authority is aware of all applicable legislation and regulatory requirements • Promote the Drinking Water QMS • Communicate the QMS according to the procedure for communications • Communicate operational roles, responsibilities and authorities throughout the organization • Responsible for undertaking management reviews described under Element 20 of DWQMS • Note: at this time the Director, Infrastructure Services performs the duties of Primary ORO.	• Financial, administrative and technical authority related to the distribution of safe drinking water • Endorse Drinking Water QMS • Appoint QMS Representative • Recommend changes to Drinking Water QMS
Manager, Water and Wastewater	
Roles & Responsibilities	Authorities
• General management of drinking water distribution system in conjunction with Director, IS • General management of equipment maintenance and replacement • Prepare annual estimates and budgets for Director, IS • Regularly communicate with Director, Infrastructure Services • Promote the Drinking Water QMS • Remain apprised of current statutory and regulatory enactments and recommend appropriate action • Ensure that all identified training is completed • Coordinate the development and mentoring of new Water and Wastewater staff • Ensure staff coverages • Identify opportunities for drinking water distribution system improvement • Act on and report any incidents of non-compliance • Member of Top Management	• Administrative and technical authority related to the distribution of safe drinking water • Staffing and purchasing within budget and procedural guidelines • Ensure personnel are aware of all current regulatory and legislative requirements relevant to the operation of the drinking water distribution system • Recommend changes to Drinking Water QMS

Fort Erie Drinking Water QMS Operational Plan

Appendix E, continued

Operational Roles, Responsibilities and Authorities

Manager, Engineering Division	
Roles & Responsibilities	Authorities
• General management of the Engineering Division • Prepare the annual and ten-year capital expenditure programs • Stay current with legislative and regulatory changes, recommend and/or take appropriate action in response; ensure knowledge of relevant legislation, regulations, practices remain current • Regularly communicate with Director, Infrastructure Services • Member of Top Management • Promote the Drinking Water QMS	• Staffing and purchasing within budget and procedural guidelines • Ensure personnel are aware of all current regulatory and legislative requirements relevant to the drinking water distribution system • Recommend changes to Drinking Water QMS
Primary Operator-in-Charge (Certified Supervisor, Water and Wastewater)	
Roles & Responsibilities	Authorities
• Provide on-site supervision to ensure work is conducted in compliance with applicable legislation. • Coordinate, schedule and supervise staff and equipment, and oversee contractors • Respond to public requests, inquiries and complaints regarding water operations • Regularly communicate with Water and Wastewater staff and ORO on work activities • Prepare/present or contribute to preparation and presentation of administrative reports, capital and operating budgets, policy recommendations, by-laws and resolutions for the Owner's consideration • Direct or approve the purchase of necessary supplies and services and manage inventories, subject to budgetary guidelines and purchasing policies • Fill the role of Overall-Responsible-Operator in the absence of the Primary ORO • Maintain current knowledge of applicable legislation and regulations and recommend appropriate operation and/or policy responses • Promote the Drinking Water QMS • Act on and report any incidents of non-compliance	• Assign and direct Operators, contractors and equipment in day-to-day operation and maintenance of drinking water distribution system • Recommend changes to Drinking Water QMS • Ensure personnel are aware of all current regulatory and legislative requirements relevant to the drinking water distribution system
Supervisor, Water and Wastewater (Not Certified)	
Roles & Responsibilities	Authorities
• Regularly communicate with the Manager, Water and Wastewater, ORO on work activities • Prepare/present or contribute to preparation and presentation of administrative reports, capital and operating budgets, policy recommendations, by-laws and resolutions for the Owner's consideration • Build knowledge of applicable legislation and regulations • Promote the Drinking Water QMS	• Recommend changes to Drinking Water QMS

Fort Erie Drinking Water QMS Operational Plan

Appendix E, Continued **Operational Roles, Responsibilities and Authorities**

Supplemental Operator-in-Charge (Crew Leaders, Water and Wastewater and Duty/On Call Supervisor)	
Roles & Responsibilities	Authorities
- Regularly communicate with Water and Wastewater staff, Primary OIC and ORO on work activities - Organize day-to-day activities relating to drinking water distribution system construction, inspection, maintenance, repair and operation - Investigate customer complaints, faults or problems and remedy where possible - Ensure work is performed in accordance with legislation and standards - Report incidents of non-compliance/adverse test results to the ORO and Primary OIC - Promote the Drinking Water QMS	- Assign and direct Operators, contractors and equipment in day-to-day operation and maintenance of drinking water distribution system - Recommend changes to Drinking Water QMS
QMS Representative (Coordinator, Quality Management Systems)	
Roles & Responsibilities	Authorities
- Ensure that processes and procedures needed for the Drinking Water QMS are established and maintained, in consultation with the Manager, Water and Wastewater - Report to Top Management on the performance of the Drinking Water QMS and any need for improvement - Make certain current versions of Drinking Water QMS documents are being used - Undertake Management Reviews described in Element 20 of the Drinking Water QMS with the Top Management Team - Ensure personnel are aware of current regulatory and legislative requirements relevant to the operation of the drinking water distribution system, in consultation with the Manager, Water and Wastewater - Support communication processes as described in IS-QMS-P009 Communications - Promote the Drinking Water QMS - Lead Internal Auditor	Recommend changes to Drinking Water QMS
Operations Clerk	
Roles & Responsibilities	Authorities
- Respond to and document public complaints and requests for service - Provide support to staff as needed - Promote the Drinking Water QMS	Recommend changes to Drinking Water QMS

Fort Erie Drinking Water QMS Operational Plan

Appendix E, continued

Operational Roles, Responsibilities and Authorities

Municipal Engineer Infrastructure Renewal	
Roles & Responsibilities	Authorities
• Prepare/oversee preparation of plans, designs, specifications, and tender documents for municipal infrastructure projects • Manage project implementation and contract administration • Manage in-house studies/investigations • Prepare/oversee preparation of engineering drawings for capital projects • Ensure GIS is updated as required • Promote the Drinking Water QMS	• Provide technical support to infrastructure projects • Direct technicians • Recommend changes to Drinking Water QMS
Project Manager	
Roles & Responsibilities	Authorities
• Prepare/oversee preparation of plans, designs, specifications, and tender documents for municipal infrastructure projects • Manage project implementation and contract administration • Ensure GIS is updated as required • Promote the Drinking Water QMS	• Provide technical support to infrastructure projects • Recommend changes to Drinking Water QMS
Supervisor Construction Projects / Supervisor Construction Project - Growth	
Roles & Responsibilities	Authorities
• Administer in-house projects and oversee consultant administered projects, studies and plans • Attend project/site meetings; conduct field inspection and site supervision to ensure works are performed in accordance with contract documents, health & safety and legislative standards • Promote the Drinking Water QMS • Note: Supervisor Construction Project Growth focuses on population and employment growth	• Provide technical support to infrastructure projects • Report construction/servicing deficiencies • Recommend changes to Drinking Water QMS
Technician (Infrastructure Asset Technician/Technologist & Infrastructure Technician/Technologist)	
Roles & Responsibilities	Authorities
• Assist with the design of municipal infrastructure projects • Assist with planning, layout and inspection of construction works • Collect, organize, record and retrieve engineering data • Create detailed engineering drawings for infrastructure projects • Maintain/update engineering/infrastructure databases, maps and drawings • Promote the Drinking Water QMS	• Provide technical support to infrastructure projects • Recommend changes to Drinking Water QMS

Fort Erie Drinking Water QMS Operational Plan

Appendix E, continued

Operational Roles, Responsibilities and Authorities

Project Manager, Asset Management	
Roles & Responsibilities	Authorities
• Manage the assets by developing, implementing and sustaining asset management practices and processes • Promote the QMS throughout the utility	• Recommend changes to Drinking Water QMS
Project Manager, Development Engineering	
Roles & Responsibilities	Authorities
• Support development approval process by providing engineering and technical support in the review/approval of new developments • Provide project management of engineering construction works applicable to on-site development lands • Review/approve engineering drawings for proposed developments • Ensure GIS is updated as required for work related to developments • Promote the QMS throughout the utility	• Provide technical support to infrastructure projects • Recommend changes to Drinking Water QMS
Water/Wastewater Technician	
Roles & Responsibilities	Authorities
• Organize and maintain specific water quality monitoring initiatives • Organize and conduct collection of samples; test and/or submit samples for testing • Oversee the care and calibration of analytical equipment • Conduct water quality site visits as directed or requested • Perform regular and emergency system construction, inspection, maintenance, repair and operation • Promote the Drinking Water QMS throughout the utility • Report incidents of non-compliance/adverse test results to the ORO and OIC	• Schedule sample collection • Organize and coordinate remedial works in response to adverse sample results • Recommend changes to the Drinking Water QMS
Extraneous Flow Inspector	
Roles & Responsibilities	Authorities
• Perform regular and emergency system construction, inspection, maintenance, repair and operation • Report incidents of non-compliance/adverse test results to the ORO and OIC • Promote the Drinking Water QMS throughout the utility	• Recommend changes to the Drinking Water QMS

Fort Erie Drinking Water QMS Operational Plan

Appendix E, continued

Operational Roles, Responsibilities and Authorities

Water Meter Technician	
Roles & Responsibilities	Authorities
• Repair/replace meters, fittings, remotes and attachments. • Develop and follow a work schedule for conducting water meter readings in consultation with the Manager, Water and Wastewater and Supervisor, Revenues and Collections • Investigate questionable meter readings • Perform regular and emergency system construction, inspection, maintenance, repair and operation • Report incidents of non-compliance/adverse test results to the ORO and OIC • Promote the Drinking Water QMS throughout the utility	• Recommend changes to the Drinking Water QMS
Operators	
Roles & Responsibilities	Authorities
• Perform regular and emergency system construction, inspection, maintenance, repair and operation • Water quality sampling and monitoring • Report incidents of non-compliance/adverse test results to the ORO and OIC • Promote the Drinking Water QMS throughout the utility	• Recommend changes to the Drinking Water QMS

Fort Erie Drinking Water QMS Operational Plan

Appendix F

By-law 108-2014 to Adopt a Drinking Water QMS Policy



The Municipal Corporation of the Town of Fort Erie

BY-LAW NO. 108-2014

BEING A BY-LAW TO ADOPT A DRINKING WATER QUALITY MANAGEMENT SYSTEM POLICY FOR THE TOWN OF FORT ERIE

WHEREAS the *Safe Drinking Water Act, 2002* provides in part that every owner and accredited operational authority of a drinking water system shall adopt and maintain an Operational Plan consistent with the directions issued by the Ministry of Environment for its preparation and content, and

WHEREAS the directions issued by the Ministry provide in part, that every Operational Plan shall document a Quality Management System Policy, and

WHEREAS at the Regular Council Meeting held April 27, 2009 Council passed Resolution No. 16 and endorsed a Drinking Water Quality Management System Operational Plan ("the Plan") for the Town of Fort Erie, and

WHEREAS the Plan documents a Quality Management System Policy for the Town of Fort Erie, and

WHEREAS an internal audit of the Plan has identified an opportunity to improve the Plan by having Council adopt a separate, formal Water Quality Management System Policy re-affirming the Corporation's commitment to the delivery of safe drinking water to consumers, and

WHEREAS it is deemed desirable to adopt the Drinking Water Quality Management System Policy in the form of Schedule "A" attached to and forming part of this by-law;

NOW THEREFORE the Municipal Council of the Town of Fort Erie hereby enacts as follows:

1. **THAT** the Town of Fort Erie Drinking Water Quality Management System Policy in the form of Schedule "A" attached hereto and forming part of this by-law, be and it is hereby adopted.

Fort Erie Drinking Water QMS Operational Plan

Appendix F, continued

By-law 108-2014 to Adopt a Drinking Water QMS Policy

By-law No. 108-2014

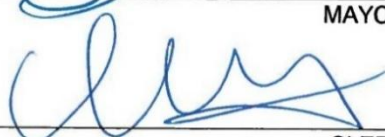
Page 2

2. **THAT** pursuant to the provisions of Sections 23.1 to 23.5 inclusive of the *Municipal Act, 2001*, as amended, the Clerk of the Town of Fort Erie is hereby authorized to effect any minor modifications or corrections solely of an administrative, numerical, grammatical, semantical or descriptive nature or kind to this by-law or its schedules as such may be determined to be necessary after the passage of this by-law.

READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 21ST DAY OF JULY, 2014.



MAYOR



CLERK

I, Carolyn J. Kett, the Clerk, of The Corporation of the Town of Fort Erie hereby certifies the foregoing to be a true certified copy of By-law No. 108-2014 of the said Town. Given under my hand and the seal of the said Corporation, this day of _____, 2014.

Fort Erie Drinking Water QMS Operational Plan

Appendix F, continued

By-law 108-2014 to Adopt a Drinking Water QMS Policy

Schedule "A" to By-law No. 108-2014

Town of Fort Erie Drinking Water Quality Management System Policy

Definitions

"Corporation" means The Corporation of the Town of Fort Erie

Background

The Corporation owns and operates a large municipal drinking water distribution system and has adopted a Quality Management System and an Operational Plan to guide system operation.

Purpose

This Policy affirms the Corporation's important commitment to the safety of its drinking water supply system and addresses obligations to comply with prevailing legislation. It reflects council's vision and corporate goals.

This Policy is the foundation upon which the Quality Management System and Operational Plan are grounded. It is put into practice through the dedication, support and participation of Corporation employees. Combined, the System, the Plan, this Policy and our People demonstrate a collective commitment to the operation, maintenance and continuous improvement of a safe drinking water system.

By adopting this Policy, Fort Erie consumers can be confident in the safety and quality of the Corporation's drinking water supply.

Policy

It is the Policy of the Corporation to;

- i) Provide Fort Erie consumers with safe drinking water
- ii) Comply with all applicable drinking water legislation and regulations
- iii) Manage and operate the Town of Fort Erie Distribution System in a responsible manner in accordance with the Drinking Water Quality Management System, Operational Plan, policies and procedures
- iv) Maintain and continually improve the Drinking Water Quality Management System
- v) Communicate these commitments to all consumers, our employees and vendor partners

Schedule C – Director’s Directions for Operational Plans (Subject System Description Form) Municipal Residential Drinking Water System

Fields marked with an asterisk (*) are mandatory.

Owner of Municipal Residential Drinking Water System *

[The Corporation of the Town of Fort Erie](#)

Subject Systems

Name of Drinking Water System (DWS) *	Licence Number *	Name of Operating Subsystems (if applicable)	Name of Operating Authority *	DWS Number(s) *
1. Fort Erie Distribution System	064-101	Not Applicable	The Corporation of the Town of Fort Erie	260004904

Contact Information for Questions Regarding the Operational Plan

Primary Contact

Last Name *	First Name *	Middle Initial
Mills	Shawna	
Title *	Telephone Number *	Email Address *
Coordinator Quality Management Systems	905-871-1600 ext. 2485	smills@forterie.ca

Secondary Contact

Last Name	First Name	Middle Initial
Peazel	Tommy	
Title	Telephone Number	Email Address
Director Infrastructure Services	905-871-1600 ext. 2400	tpeazel@forterie.ca