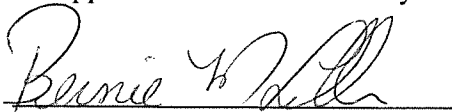


Municipality of Huron East
Water Distribution Systems

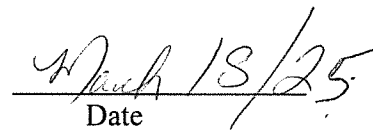
Drinking Water Quality Management System
Operational Plan
for

Brucefield
Brussels
Seaforth/Egmondville
Vanastra

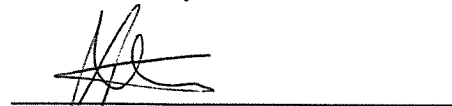
Approved and Authorized By:



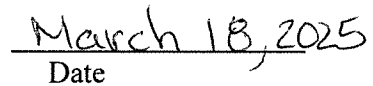
Mayor Bernie MacLellan
Owner/Mayor



Date



Brad McRoberts, CAO
Top Management



Date

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ELEMENTS

1. Quality Management System

This document will act as the quality management system Operational Plan for the Municipality of Huron East Water Distribution Systems for Brucefield, Brussels, Seaforth/Egmondville and Vanastra. The Municipality of Huron East Water Department is the Operating Authority for the Distribution System. (There is a contracted operating authority for the treatment of the water supply and water storage for the distribution system.)

The development and continual improvement of the plan will help ensure that all regulatory requirements are met and that consumers can be confident that their drinking water will be protected through the effective application of the QMS.

This plan was developed to meet the Ministry of the Environment's Drinking Water Quality Management Standard (DWQMS).

2. Quality Management System Policy

The Municipality of Huron East is committed to meeting all legislative and regulatory requirements in order to supply safe clean drinking water to all of our consumers. Huron East will also maintain and continually improve the Quality Management System.

3. Commitment and Endorsement

The owner (Mayor and Council) endorsement shall be demonstrated by the endorsement through documentation in the Council Minutes and documented in the Operational Plan. The QMS Policy is communicated to users through posting on the Municipal Website (www.huroneast.com) and on the bulletin board in the Public Works Main Office. The Communication Procedure is found in Appendix H. Council endorsement exhibits the Owner's Commitment to providing the resources needed to maintain and continually improve the QMS.

4. Quality Management System Representative

The Public Works Manager is appointed by Top Management (Water & Sewer Committee) to the role of QMS representative. The QMS representative will ensure that the QMS is maintained and continually improved. The QMS representative will also ensure that the QMS is effectively documented and will report the performance of the QMS to top management. (Refer to Section 9 and Appendix H).

5. Documents and Record Control

Procedures are in place for Document Control and Record Control (attached in Appendices A, B). These procedures describe how QMS documents are identified, kept

current, legible and retained and how QMS records are stored, protected from damage and deterioration, retained and kept retrievable. All QMS system documentation is controlled. Methods of control are defined in the reference procedures.

Records are maintained as objective evidence of conformance to the DWQMS and compliance with all applicable Safe Drinking Water Regulations.

All documents and records required by Ministry of the Environment in order to demonstrate compliance will be maintained in accordance with the regulations.

6. Drinking Water System

(i) Brucefield Water System

The Brucefield water system is a well supply system that services approximately 175 consumers with 97 service connections. The distribution system is composed of 50mm and 100mm PVC pipe. Four manual blowoffs are connected throughout the distribution system for the purpose of flushing. Four 455L bladder type pressure tanks are used as a supplementary supply and to maintain system pressure.

An accredited contracted corporation is the operating authority for the well along with the pressure tanks and pumphouse while Huron East Water Department staff operate the distribution system. Raw water is treated by chlorine, and ultraviolet light. The distribution system is kept pressurized by pump and tank pressure. Spring and fall flushing of hydrants and blow-offs are conducted in order to maintain disinfection residuals throughout the distribution system. For more information on the well and water parameters for this system see the Quality Management System Operational Plan developed by the Contracted Corporation.

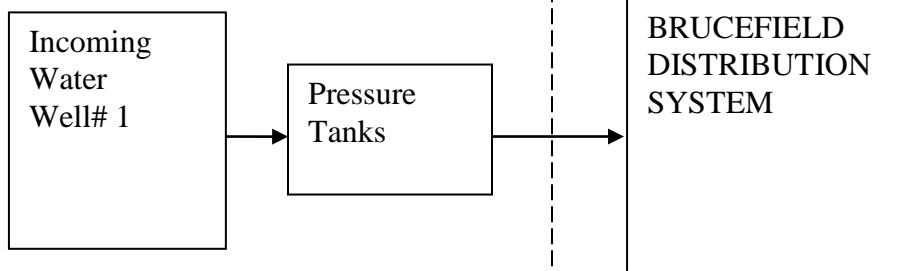
Process Flow Chart

Owner: Municipality of Huron East

OA: Jacobs, Contracted Corporation

Owner: Municipality of Huron East

OA: Municipality of Huron East

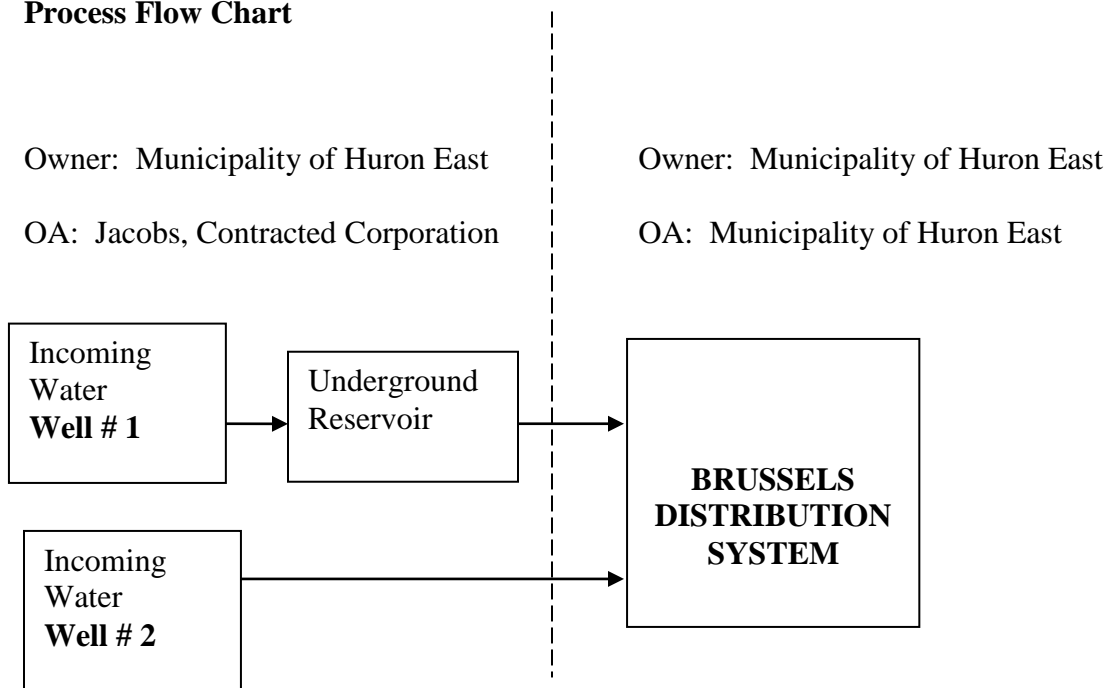


(ii) **Brussels Water System**

The Brussels water system is a well supply system that services approximately 1277 consumers. The distribution system is composed of cast iron, ductile iron and PVC pipe with 69 hydrants. One automatic blowoff, six (6) manual blowoffs and one sampling station are connected throughout the distribution system. A 568 m³ underground reservoir is used as a supplementary supply and for emergencies.

An accredited contracted corporation is the operating authority for the wells (2) along with the reservoir, and pumphouses while Huron East Water Dept. staff operates the distribution system. Raw water is treated by chlorine and Ultraviolet light (Well 2 only). The distribution system is kept pressurized by pump pressure. Spring and fall flushing of hydrants and blow-offs are conducted in order to maintain disinfection residuals throughout the distribution system. For more information on the well and water parameters for this system see the Quality Management System Operational Plan developed by the Contracted Corporation.

Process Flow Chart

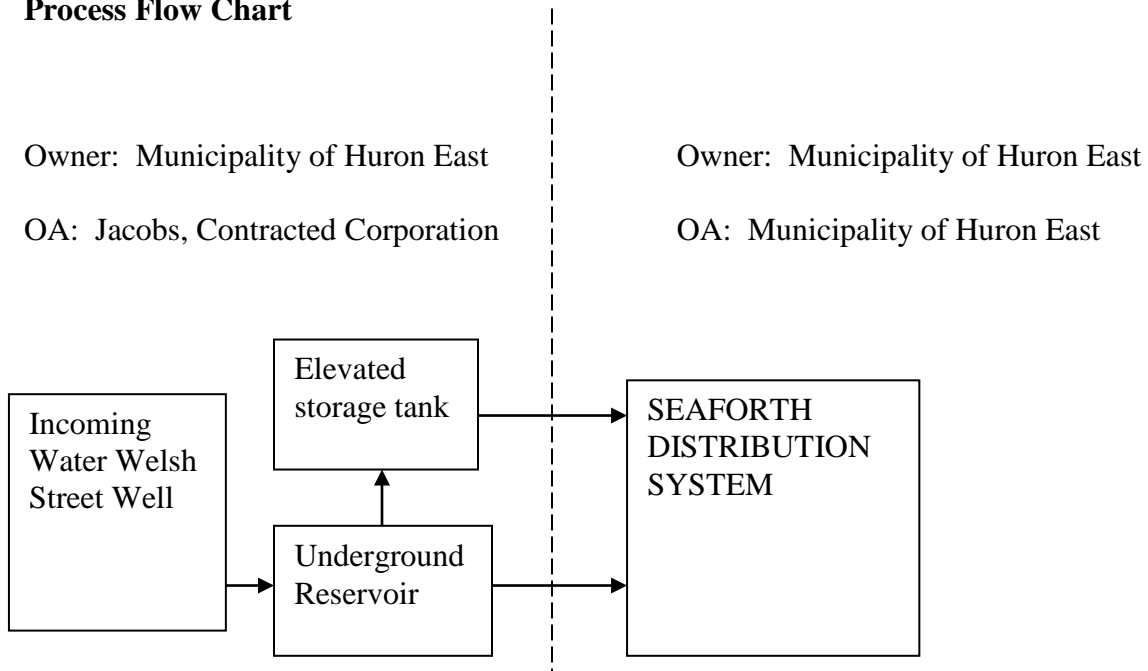


(iii) Seaforth/Egmondville Water System

The Seaforth/Egmondville water system is a well supply system that services approximately 3300 consumers. The distribution system is composed of cast iron, ductile iron and PVC pipe with 130 hydrants. One automatic blowoff, eleven (11) manual blowoffs and three sampling stations are connected throughout the distribution system. An underground reservoir with a capacity of 670 m³ and a 1930m³ elevated storage tank is used as a supplementary supply and for emergencies.

An accredited contracted corporation is the operating authority for the wells (3) along with the water tower and pumphouses while Huron East Water Department staff operate the distribution system. Raw water is treated by chlorine and sodium silicate (to sequester iron). The distribution system is kept pressurized by water tower and pump pressure. Spring and fall flushing of hydrants and blow-offs are conducted in order to maintain disinfection residuals throughout the distribution system. For more information on the well and water parameters for this system see the Quality Management System Operational Plan developed by the contracted corporation.

Process Flow Chart

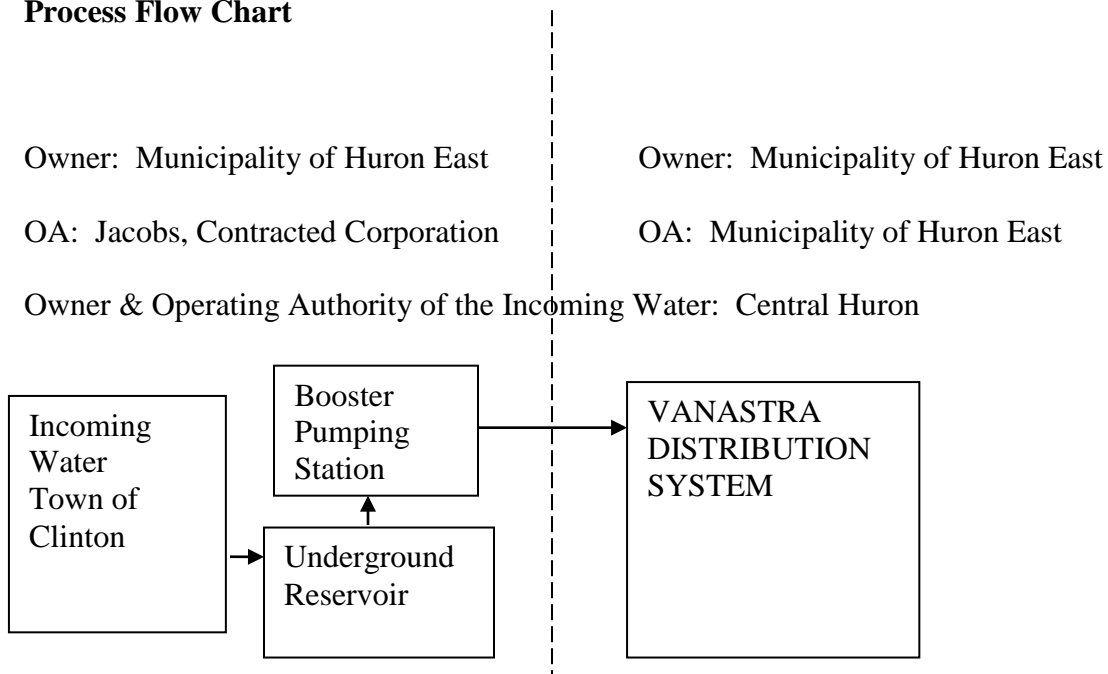


(iv) Vanastra Water System

The Vanastra water system receives treated ground water from the Town of Clinton in the Municipality of Central Huron by way of a 150mm PVC water main. The Municipality of Central Huron provides primary treatment for the water received by the Vanastra Drinking Water System. The Vanastra Booster pumping station provides re-chlorination and pressure boosting of incoming water, which services approximately 650 consumers. The distribution system is composed of cast iron, ductile iron and PVC pipe with 49 hydrants. Three (3) manual blow-offs are connected to the distribution system for flushing purposes. An 1135 m³ underground reservoir is used as a supplementary supply and for emergencies.

An accredited contracted corporation is the operating authority for the booster pumping station along with the reservoir while Huron East Water Dept. staff operates the distribution system. Received treated water is re-chlorinated, and the distribution system is kept pressurized by pump pressure. Spring and fall flushing of hydrants and blow-offs are conducted in order to maintain disinfection residuals throughout the distribution system. For more information on the pumping station and water parameters for this system see the Quality Management System Operational Plan developed by the Contracted Corporation.

Process Flow Chart



7 & 8. Risk Assessment and Outcomes

A Risk Assessment Procedure is located in Appendix C.

The Risk Assessment Table shows the identified hazards and hazardous events, ranked risks, control measures, and reference to monitoring and response procedures.

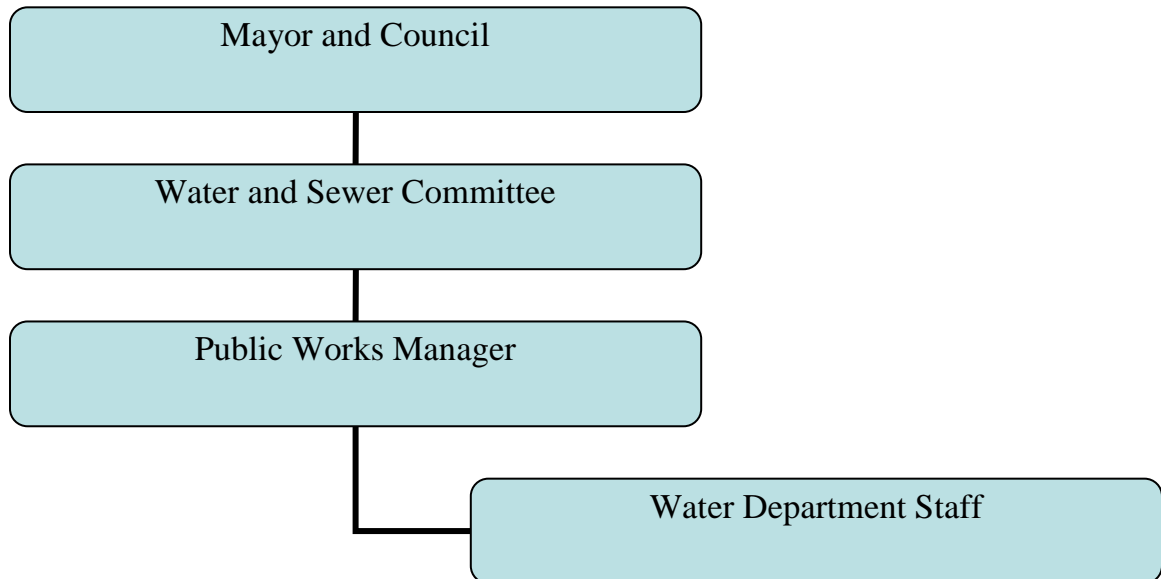
Critical Control Points identified in the Risk Assessment are:

- Asset operation and maintenance:
 - to reduce watermain break hazards
 - to reduce potential cross-contamination of tools and operators
 - to reduce the likelihood of source water contamination
 - maintain chlorine residuals throughout distribution system

Appendix D: Critical Control Point Procedure.

9. Organizational Structure, Roles, Responsibilities and Authorities

A basic overall organizational chart is shown below:



Key water system roles are listed below, with associated responsibilities and authorities. This information is communicated as per the Communication Procedure (Element 12, Appendix H).

The Public Works Manager (QMS Representative) is responsible for keeping the structure, respective roles, responsibilities and authorities of the organization current through communication with the owner and personnel.

Role	Responsibilities	Authorities
Municipality of Huron East Mayor and Council (Owner)	<ul style="list-style-type: none"> • Prescribe requirements and monitor operations of the waterworks • Provide resources and system infrastructure, as necessary • Represent the waterworks to end users and the public 	<ul style="list-style-type: none"> • Prescribe requirements and obligations for the operation of the waterworks • Ensure a continual supply of safe drinking water • Provide resources and system infrastructure, as necessary • Designate responsibilities as appropriate
Water and Sewer Committee (Top Management)	<ul style="list-style-type: none"> • Ensure QMS is in place • Communicate QMS as per Communication Procedure • Determine, obtain and provide resources required for QMS • Perform Management Review 	<ul style="list-style-type: none"> • Allocation of provided resources • Designate responsibilities as required.
Public Works Manager (QMS Representative)	<ul style="list-style-type: none"> • Maintain regulatory compliance • Monitor water quality & demand • Develop, implement and maintain the QMS • Report on the performance of the QMS to Top Management • Identify needs for improvement in the QMS • Ensure that the current versions of documents required by the QMS are in use at all times • Ensure that all personnel are aware of all applicable legislative requirements that are relevant to the operation of the works • Stay up to date on changes to relevant legislative and regulatory requirements • Promote the QMS throughout the Operating Authority 	<ul style="list-style-type: none"> • Delegate duties as necessary • Oversees daily functions of Public Works and Water Department staff • Assigns work to Foremen • Hire additional water department staff • Sign-off expenditures • Develops and oversees budget • Meets regularly with water department staff to determine capital project priorities • Maintain license certification
Certified Foreman	<ul style="list-style-type: none"> • Oversees daily operation/maintenance of all the water distributions systems. • Oversees water operators • Future planning and development of the Water Department 	<ul style="list-style-type: none"> • Assigns tasks to Operators • Ensures training of staff meets requirements • Recommend ways to improve operational effectiveness • Sign- off expenditures • Maintain license certification
Water Operators	<ul style="list-style-type: none"> • Performs daily maintenance on water distribution systems 	<ul style="list-style-type: none"> • Performs tasks set out by Foreman • Recommend ways to improve operational effectiveness • Maintain license certification
Operator in Training (OIT)	<ul style="list-style-type: none"> • Performs daily maintenance on water distribution systems under the direction of a licensed water operator 	<ul style="list-style-type: none"> • Assist with daily maintenance operations

10. Competencies

The Competencies Procedure (Appendix F) describes Huron East's commitment to developing, maintaining and documenting the competencies required for personnel performing duties directly affecting drinking water quality.

11. Personnel Coverage

The Water Department's normal hours of operation are Monday to Friday 7:30am to 4:00pm. The certified foreman is the primary overall responsible operator (ORO). Personnel coverage Procedure for after hour emergencies can be found in Appendix G.

12. Communications

The Communications Procedure describes the process for ensuring relevant aspects of the QMS are communicated between Top Management and the Owner, water department staff, suppliers and the public. The procedure is located in Appendix H.

13. Essential Supplies and Services

The Essential Supplies and Services Procedure describes the process for identifying essential supplies and services, and ensuring quality requirements and procurement methods are established and communicated. The procedure is provided in Appendix I.

14. Review and Provisions of Infrastructure

The Infrastructure Review Procedure describes the process for the review of the infrastructure adequacy. The procedure is provided in Appendix J.

15. Infrastructure Maintenance, Rehabilitation and Renewal

The maintenance program currently involves mapping all the components of the distribution system, including valves and hydrants, determining the condition of the distribution system. A preventive maintenance program will be developed based on the information developed from the mapping and review.

A summary of the Water Departments programs will be monitored and maintained in order to evaluate their effectiveness and also to communicate them with the owner and top management.

Renewal of the infrastructure is discussed in the Infrastructure Review procedure provided in Appendix J.

16. Sampling, Testing and Monitoring

The Sampling Testing and Monitoring Procedure describes the procedures for sampling, testing and monitoring at the water department. The procedure is located in Appendix K.

17. Measurement and Recording Equipment and Maintenance

The Calibration and Maintenance of Measuring Equipment Procedure describes the process for maintenance and calibration of measurement and testing equipment. The procedure is located in Appendix L.

18. Emergency Management

An emergency is considered to be a potential situation or service interruption that may result in the loss of the ability to maintain a supply of safe drinking water to consumers.

The Emergency Management procedure (Appendix M) describes the process of maintaining a state of emergency preparedness. It refers to applicable emergency response procedures.

19. Internal Audit

The Internal Audits Procedure describes the procedure for internal audits, including audit criteria, frequency, scope, records, methodology and schedule. The Corrective Action Procedure describes the process of initiating, investigating, performing and documenting corrective actions. Both procedures are provided in Appendices N and E.

20. Management Review

The Management Review Procedure describes the procedure for management review, including review items, reviewers, outcomes, and documentation. The Procedure is provided in Appendix O.

21. Continual Improvement

The Municipality of Huron East has recognized the Quality Management System as a priority and is committed to implementing any changes deemed necessary through annual audit and reviews in order to continually make improvements to our drinking water system. The effectiveness of the QMS will be evaluated and continually improved through the use of corrective actions, staff suggestions and Management Reviews. (Appendix P).

Revision	Date	Description	By
0	November 20 th , 2008	Original – 4 separate plans for Brucefield, Brussels, Seaforth/Egmondville & Vanastra	Shawn Bromley
1	March 28 th , 2019	Combined 4 individual plans into 1 document with 4 system descriptions. Revisions were made to the plan to comply with the New Standard 2.0. Appendix P was created and added to the plan.	Cathy Garrick Shawn Bromley
2	September 17, 2020	CA	Cathy Garrick Shawn Bromley
3	November 16, 2021	Updated system descriptions for Brucefield and Seaforth to reflect construction work on Goderich Street East and new residential developments. Updated Brad McRoberts, CAO, on cover page.	Cathy Garrick Shawn Bromley
4	December 9 th , 2022	Updated system descriptions for Brussels and Seaforth to reflect construction in 2022 – Bryans Drive, Princess Street and Roberts Street	Cathy Garrick Shawn Bromley
5	November 23, 2023	Updated Number of hydrants and blow-offs in Seaforth/Egmondville Water System Updated number of manual blow-offs for Vanastra Water System	Meaghan McCallum Shawn Bromley
6	September 25, 2024	Reviewed – no revisions	MM & SB

Appendix A - Document Control Procedure



Municipality of Huron East DWQMS PROCEDURE

Title: CONTROL OF DOCUMENTS	Control Number: Appendix A – Element 5
Revision: #04	Effective Date: September 17, 2020

1 Purpose

The purpose of this procedure is to define the method for controlling QMS documents.

2 Scope

This procedure is applicable to all QMS documentation (as identified in the Master List of Documents – except Records) and all personnel whose activities affect drinking water quality. This procedure is applicable to all drinking water activities for which the Municipality of Huron East is responsible as Owner and Operating Authority.

Document Categories subject to the scope of this procedure:

- Operational Plan
- Quality Policy
- Work Instruction
- Standard Operating Procedures
- Audit Checklists
- Blank Forms
- Equipment Manuals (documents of external origin)
- Training Materials

In both electronic (soft) and paper (hard) copy formats.

3 References

- DWQMS Element 5 Document and Records Control

Definitions and Acronyms

Master Copy – Current version of document, (stored in binder).

Master Binder – Binder containing master copies of all documents pertaining to operating and maintaining the distribution systems.

Master List of Documents – List of all the documents stored in the Master Binder

4 Procedure

4.1 Creating and Revising Documents

4.2 Approval from the Public Works Manager shall be obtained before a new document may be created.

4.3 All documents shall be reviewed as required by Water Department Staff.

4.4 Upon approval, new documents may be created by Water Department staff or the Public Works Assistant.

4.5 The documents will be created using a standard template that is located in the Public Works Department computer.

4.6 Final approval of the documents are performed by the Public Works Manager, a new or revised document may be issued by the Public Works Manager, Water Department staff or the Public Works Assistant.

4.7 The original document shall be stored on the Public Works Department computer. The computer location for the documents may be identified on the footer of the document.

4.8 The original electronic version shall be read only, to protect against accidental changes.

4.9 A Master hard copy of all documents pertaining to operating and maintaining the water distributions systems within Huron East shall be stored in a clearly marked hard covered binder located at the Water Department Office. Hard copies of master documents shall be reviewed annually during the internal audit and current versions replaced in the Master Document Binder.

4.10 When documents are revised it shall be the responsibility of the Water Department staff to ensure that previous revisions are removed from the Master Binder and either properly stored or disposed of.

4.11 When an existing document is determined to be obsolete, with the approval of the Public Works Manager, it may be removed from use by Water Department staff or the Public Works Assistant. The obsolete document will be stamped “Obsolete” and the effective date noted. At this time the master list of documents shall be updated to reflect the change.

Retention and Disposal of Obsolete Documents

4.12 The table below indicates the amount of time obsolete documents shall be retained. Hard copies of obsolete documents will be disposed of by shredding; electronic copies will be deleted when minimum retention time expires.

Document	Minimum Retention
Operational Plan	At least one obsolete revision level, retained indefinitely
Template	No retention of obsolete templates required
Process Map	At least one obsolete revision level, retained indefinitely
Standard Operating Procedure	Previous revision, stored electronically
Work Instruction	No retention of obsolete Work Instructions required
Blank Forms	No retention of obsolete forms required
Document of External Origin	No retention of obsolete Documents of External Origins required
Training Materials	No retention of obsolete Training Material required

Network Back-Up of Electronic QMS Documents

4.13 All documents that are created electronically shall be stored as a hard copy in the master binder and also on the Municipality's shared network (O: drive). The network backs-up frequently used files daily and backs-up all the files in the network weekly. IT personnel shall be responsible for maintaining the network systems. Electronic documents pertaining to the water distribution systems shall be retained as long as necessary and shall only be removed by Public Works Assistant.

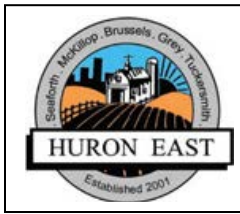
5 Associated Documents and Records

Master List of Documents – Stored in Master Binder

6 History of Changes

Revision	Date	Description	By
0	November, 2008	Original	Shawn Bromley
1	May 26, 2009	Updated as per internal audit, added 4.5 referencing the standard template	Cathy Garrick
2	September 29, 2009	Updated as per CGSB Document Review CAR #091 and CAR #092; marking of obsolete documents added to 4.11 and disposal of obsolete documents added to 4.12.	Shawn Bromley & Cathy Garrick
3	March 28, 2019	Updated as part of Document Review for compliance with New Standard 2.0	Shawn Bromley & Cathy Garrick
4	September 17, 2020	Updated Section 4.9 as per CAR# 1-2020	Cathy Garrick

Appendix B – Record Control Procedure



Municipality of Huron East DWQMS PROCEDURE

Title: CONTROL OF RECORDS	Control Number: Appendix B – Element 5
Revision: #05	Effective Date: September 25, 2020

DW/W/P

1 Purpose

The purpose of this procedure is to define the method for Control of Records that are required by the Quality Management System.

2 Scope

This procedure is applicable to all records that are generated from processes and activities that are described within the Operational Plan and/or its referenced procedures, demonstrating conformance to the QMS requirements. This procedure is applicable to all drinking water activities for which the Municipality of Huron East is responsible as Owner and Operating Authority.

3 References

- DWQMS Element 5 Document and Records Control
- Legislative references as outlined in Section 5

4 Definitions and Acronyms

Master Copy –	Most updated version of document, (stored in binder).
Master Binder –	Binder containing master copies of all documents pertaining to operating and maintaining the distribution systems.
Master List of Documents –	List of all the documents stored in the Master Binder
System Binder –	Binder containing records referencing one particular system
Locate Binder –	Binder containing records of locations of water services for each individual water distribution system

Training Binder – Binder containing records of training completed by Water Department staff
 DWWP – Drinking Water Works Permit

5 Procedure

- 5.1 Records are maintained as objective evidence that the requirements of the Safe Drinking Water Act, other applicable Ontario legislation and the DWQMS are being effectively addressed.
- 5.2 Water Department Staff shall be responsible for maintaining records pertaining to the operation and maintenance of the water distribution systems within Huron East.

General Requirements

- 5.3 Records shall be completed in permanent ink and shall be legible.
- 5.4 Records shall be stored according to record type and distribution system. Records shall be stored in a hard covered binder specific to each Water System within Huron East.
- 5.5 The record binders shall be stored at the Water Department office, where they are protected from damage.
- 5.6 Records shall be stored as hard copies at the Water Department Office and may be stored electronically on the Public Works Department computer, as back up.
- 5.7 Water department staff shall retrieve all hard copies upon request.
- 5.8 Records shall be retained as per the following table:

Type of record	Storage Location	Minimum retention time.
Ministry Inspection Reports	System Binder	6 years
Water Main Breaks	System Binder	6 years
Water System Samples, Results	System Binder	15 years
Boil Water Advisory (issuance/lift)	System Binder	6 years
Complaints	System Binder	5 years
Hydrant Flushing Reports	System Binder	5 years
Distribution System Maps	Safe at Water Department Office	Indefinitely

Drinking Water Works Permit and Drinking Water Licence	System Binder	Indefinitely
Forms 1, 2, & 3	System Binder	10 years
Operator Certification	Training Binder	until expiry
Operator Training	Training Binder	3years
Quality Management System Records (including internal and external audit results, management review)	QMS Rep Binder	10 years
Annual Reports prepared by the Owner	System Binder	6 years
Council acknowledgement of Summary report from the OA	System Binder	6 years
Operator log books and other record-keeping mechanisms as per O. Reg. 128	Water Department Office	5 years

5.9 Forms 1, 2, & 3 must be completed before additions, modifications or replacements are placed into service, in accordance with the Drinking Water Works Permit for that particular system.

6 Associated Documents and Records

Master List of Documents – Stored in Master Binder (contains forms for creating records)

7 History of Changes

Revision	Date	Description	By
0	November 20, 2008	Original	Shawn Bromley
1	May 26, 2009	Updated as per internal audit, added "protected from damage".	Cathy Garrick
2	January 20, 2012	Updated as per internal audit 5.8 QMS records stored in QMS Rep binder	Shawn Bromley
3.	May 20, 2016	Updated as per Internal Audit CAR #08-2016; Section 5.8 Permits & Licences to replace CofA	Cathy Garrick & Shawn Bromley
4	August 27, 2019	Update to General Requirements to include Forms 1, 2, & 3 within the table and added Section 5.9 to reference DWWP requirements.	Shawn Bromley
5	September 25, 2020	Updated Retention Times in Table in section 5.8 as per External Audit OFI	Shawn Bromley Cathy Garrick

Appendix C – Risk Assessment Procedure



Municipality of Huron East DWQMS PROCEDURE

Title: RISK ASSESSMENT	Control Number: Appendix C – Elements 7 & 8
Revision: #04	Effective Date: December 9, 2022

1 Purpose

The purpose of this procedure is to define the method used to assess and rank risks to the drinking water system, and identify critical control points.

In general, the procedure describes how to:

- Identify and rank potential hazards to the water distribution system
- Identify control measures to address hazards
- Identify Critical Control Points (CCPs) and associated methods of monitoring and controlling them.

2 Scope

This procedure is applicable to all water processes and activities within the control of the distribution system. This procedure is applicable to all drinking water activities for which the Municipality of Huron East is responsible.

3 References

- DWQMS Elements 7 & 8 Risk Assessment and Outcomes
- Ministry of Environment, Conservation & Parks – Potential Hazardous Events for Municipal Residential Drinking Water Systems to Consider in the DWQMS Risk Assessment

4 Definitions and Acronyms

CCP – Critical Control Point

DWQMS – Drinking Water Quality Management Standard

SOP – Standard Operating Procedure

5 Procedure

5.1 The Risk Assessment Table Form shall be used to document this process.

Hazard / Hazardous Event Identification

5.2 The QMS Representative shall assemble a team to discuss and identify all potential hazards to the water distribution system. The team members at a minimum shall include the QMS Representative and an Operator.

5.3 Each of the process areas of the water distribution system shall be reviewed to identify potential hazards, and hazards shall be recorded in the table.

5.4 For each hazard, control measures in place to prevent the hazard or hazardous event from occurring shall be identified.

Ranking Risk

5.5 Each hazard identified shall be “ranked” by the team according to:

- **Likelihood** - the probability/likelihood of a hazard or hazardous event occurring (see below)
- **Severity** - the potential impact to health or impact on operations if the hazard or hazardous event occurs (see below)
- **Detectability** - a measure of the ability to detect the presence of the hazard or hazardous event (see below)

	LIKELIHOOD	Rating
Rare	May occur only in exceptional circumstances	1
Unlikely	Could occur at some time; has occurred less than once every 5-10 years	2
Possible	Might occur at some time/the event should occur at some time – once or more per year	3
Likely	Will probably occur in most circumstances – occurs monthly to quarterly	4
Almost Certain	Is expected to occur in most circumstances – occurs more frequently than monthly	5

	SEVERITY	Rating
Insignificant	Insignificant impact, little disruption to normal operation, low increase in normal operations costs	1
Minor	Minor impact for small proportion of population, some manageable operation disruption, some increase in operating costs	2
Moderate	Minor impact for larger proportion of population, significant modification to normal operation but manageable, operation costs increased, increased monitoring	3
Major	Major impact for small proportion of population, systems significantly compromised and abnormal operation if at all, high level of monitoring required	4
Catastrophic	Major impact for large proportion of population, complete failure of essential systems	5

	DETECTABILITY	Rating
High Detectability	Automatic response AND alarm	1
Moderate Detectability	Alarm/pager OR automatic response	2
Detectable	Visually detectable on operator's rounds. Regular maintenance would discover problem. Customer feedback.	3
Poor Detectability	Visually detectable, but not inspected on a regular basis. Would not be detected before a problem was evident. Lab tests are not done on a regular basis (e.g. Quarterly). Sickness-related customer feedback	4
Undetectable	Cannot detect	5

- 5.6 The reliability and redundancy of equipment shall be considered in this ranking.
- 5.7 The control measures, monitoring and response procedures may be considered when assigning risk ratings.
- 5.8 The total risk shall be determined by adding the individual scores for likelihood, severity, and detectability, and shall be recorded.

Critical Control Points

- 5.9 All hazards or hazardous events, which have an overall risk rating of 9 or higher, shall be identified on the table. The process step associated with high risk may be designated as a critical control point (CCP).

- 5.10 The team shall have the authority to add or remove CCP assignments at their discretion, and shall note reasons for changes in the comments column. (E.g. No Operating Authority control)
- 5.11 For each critical control point, the following information shall be recorded into the Risk Assessment Table:
- Reference to monitoring SOPs, to describe critical control limits and what is monitored to indicate that the process step has gone out of specified critical control limits
 - Reference to response SOPs, to describe the response to deviation from critical control limits, including reporting and recording of information
- 5.12 If required, the QMS Representative shall be responsible for creating the monitoring, recording, reporting and response procedures for deviations from critical control limits, as per the Control of Documents Procedure.

General

- 5.13 Supporting notes and comments, as needed, shall be recorded in the table.
- 5.14 The QMS representative shall ensure that the completed Risk Assessment is circulated to key staff for review.
- 5.15 Every calendar year, the QMS Representative shall review the risk assessment and ensure that the information and assumptions remain current and valid. This shall be conducted prior to the QMS Management Review or more frequently if a significant process change or upgrade has occurred.
- 5.16 Every 36 months, the QMS Representative shall ensure a new risk assessment is conducted, following this procedure.

6 Associated Documents and Records

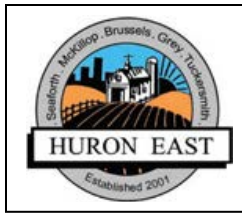
- Risk Assessment Table Form
- Completed Risk Assessments
- Document Control Procedure
- Record Control Procedure

7 History of Changes

Revision	Date	Description	By
	December 4, 2008	Original	Shawn Bromley

1	May 26, 2009	Updated as a result of internal audit.	Cathy Garrick
2	March 28, 2019	Reviewed and updated as part of Document Review for compliance with New Standard 2.0	Shawn Bromley Cathy Garrick
3	December 9, 2022	Revised Sections 5.15 and 5.16 as per External Audit OFI to reflect the wording in the Standard.	Shawn Bromley Cathy Garrick
4	September 19, 2024	Removed the date from section 3	Shawn Bromley Meaghan McCallum

Appendix D – Critical Control Points Procedure



Municipality of Huron East DWQMS PROCEDURE

Title: CRITICAL CONTROL POINTS	Control Number: Appendix D – Element 8
Revision: #05	Effective Date: September 30, 2020

1. Purpose

This procedure describes the monitoring, response, recovery and recording tasks related to Critical Control Points identified on the Risk Assessment Table.

2. Scope

This procedure is applicable to the drinking water activities for which the Municipality of Huron East is responsible as Owner and Operating Authority.

3. References

- DWQMS Element 8 - Risk Assessment Outcomes
- Ministry of Environment, Conservation & Parks (MOECP) – Potential Hazardous Events for Municipal Residential Drinking Water Systems to Consider in the DWQMS Risk Assessment

4. Definitions and Acronyms

DWQMS – Drinking Water Quality Management Standard

CCP – Critical Control Point, an essential step or point in the system 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 Limits, the first point at which a Critical Control Point response procedure is initiated.

ECG – Emergency Control Group

MoH – Medical Officer of Health (Health Unit)

SAC – Spills Action Centre

System Binder – Binder containing records referencing one particular system

5. Procedure

Critical Control Point	System	Monitoring	Critical Control Limit (CCL)	Response if CCL is exceeded	Reporting and Recording Deviations
Asset Operation and Maintenance - (Hazard - Main break)	Seaforth Vanastra Brussels Brussels (across river)	<ul style="list-style-type: none"> - Patrolling by Operators report leaks when seen. - Public feedback on leaks when seen - Pressure drops and SCADA alarms monitored by Operating Authority 	<ul style="list-style-type: none"> - Visible leak from main - Significant leaks are repaired ASAP. - All leaks are repaired. 	- SOP #11, 12, 13 – Water main Break	<ul style="list-style-type: none"> - Operators record observations of leaks or breaks in Logbooks - Public feedback recorded - Water Main breaks are reported as per SOP# 11, 12, or 13
Asset Operation and Maintenance- (Hazard – potential cross-contamination of tools and operators)	Seaforth Brucefield Vanastra Brussels	<ul style="list-style-type: none"> - Weekly testing - Supervision of operators, scheduling of jobs, etc. 	- Legislated water quality standards	- Legislative protocol is followed in the event of adverse water quality. The appropriate authorities are notified as per legislative requirements. O.Reg. 170/03	The use of possibly contaminated tools or equipment is reported in the operator’s logbook and appropriate action is taken if drinking water quality is affected. Records of adverse water quality events are stored in the records binder for the applicable system.

Critical Control Point	System	Monitoring	Critical Control Limit (CCL)	Response if CCL is exceeded	Reporting and Recording Deviations
Asset Operation (Hazard – chemical spill on source water)	Seaforth Brucefield Brussels	- Routine Testing and monitoring in accordance with O.Reg. 170-03	- Chemical spill inside source water protection zone	- Notify MOECP, Spills Action Centre Notification, Health Unit - Consult professionals - Notify the ECG	- Reported in Operator's Log Book - Notify agencies (MOECP, SAC, MoH and ECG)
Maintaining Distribution Chlorine Residual	Seaforth Brucefield Vanastra Brussels	- Continuous chlorine monitoring devices and weekly bacteriological sampling	- 0.20 mg/L of free chlorine residual	- See SOP #10 Hydrant Flushing	- Reported in Operator's Log Book - Notify agencies (MOECP, SAC, MoH and ECG)

6. Associated Documents and Records

- SOP #10 – Hydrant flushing
- SOP #11, 12, 13 – Watermain Break
- Sampling Testing and Monitoring Procedure
- Source Water Protection Plans for Ausable Bayfield Conservation Authority and Maitland Valley Conservation Authority.

7. History of Changes

Revision	Date	Description	By
0	January 29, 2009	Revision	Shawn Bromley
1	May 26, 2009	Updated as per Internal Audit	Cathy Garrick
2	June 25, 2009	Updated as per CAR 002	Shawn Bromley

3	March 28, 2019	Reviewed and updated as part of Document Review for compliance with New Standard 2.0 Added chemical spill to CCP chart	Shawn Bromley Cathy Garrick
4	September 30, 2020	Added "Maintaining Distribution Chlorine Residual" to CCP chart as per external audit OFI Added SOP #10 to associated documents	Shawn Bromley Cathy Garrick
5	September 19, 2024	Updated Critical control limited per latest 2020 Watermain disinfection procedure – from 0.05mg/L to 0.20 mg/L Removed date from Section 3 second bullet	Shawn Bromley Meaghan McCallum

Appendix E – Corrective Action Procedure



Municipality of Huron East DWQMS PROCEDURE

Title: CORRECTIVE ACTION	Control Number: Appendix E - Elements 19 & 21
Revision: #02	Effective Date: October 2, 2020

1 Purpose

The purpose of this procedure is to describe how Corrective Actions are initiated, assigned, documented, implemented, and validated as being effective.

2 Scope

This procedure is applicable to all detected non-conformities of the QMS with respect to the requirements of the DWQMS, or any other undesirable situation.

3 References

- DWQMS Element 19 Internal Audit
- DWQMS Element 21 Continual Improvement

4 Definitions and Acronyms

CAR – Corrective Action Request

QMS – Quality Management System

5 Procedure

Initiating a Corrective Action

5.1 Corrective Actions shall be initiated through the identification of nonconformities within the waterworks or the QMS. Nonconformities may be detected by any number of methods including:

- Internal or External Audits
- End user complaints
- Operator feedback

- 5.2 Nonconformities shall be reported to the QMS Representative, who shall create a Corrective Action Request.

Investigating and Completing a Corrective Action Request

- 5.3 The QMS Representative shall assign a Corrective Action to appropriate staff when it is determined that a Corrective Action is required. Each non-conformance shall require a separate Corrective Action.

- 5.4 The Corrective Action form shall be completed with the following information:

- The QMS Representative shall complete:
 - The date the Corrective Action was initiated.

The assignee shall complete:

- A description of the root cause of the non-conformance
- A description of the corrective actions being taken.
- Responsibilities and timelines for corrective actions.
- A signoff by the responsible employee once the corrective action(s) is complete.

- 5.5 The Corrective Action Assignee shall report progress to the QMS Representative based on established timelines.

- 5.6 Corrective Actions shall be closed out once validated by the QMS Representative or their designate. The purpose of validation is to ensure that the root cause of the nonconformity was identified and that the solution was effective in eliminating the root cause.

Tracking of Corrective Actions

- 5.7 The QMS Representative shall maintain a listing of all Corrective Actions, which will include a date for validating that the implemented solution was effective.

- 5.8 The QMS Representative shall maintain originals of all completed Corrective Actions.

6 Associated Documents and Records

- Corrective Action Form
- Completed Corrective Action Reports with back-up documentation
- Document Control Procedure
- Record Control Procedure

7 History of Changes

Revision	Date	Description	By
0	December 11, 2008	Revision	Shawn Bromley
1	May 26, 2009	Updated as per Internal Audit. Changed section 5.4 to differentiate who completes the form, removed reference to 5Why technique	Cathy Garrick
2	October 2, 2020	Updated date formats for consistency	Cathy Garrick

Appendix F – Competencies Procedure



Municipality of Huron East DWQMS PROCEDURE

Title: COMPETENCIES	Control Number: Appendix F – Element 10
Revision: #05	Effective Date: November 22, 2023

1. Purpose

The purpose of this procedure is to describe the process for developing, maintaining and documenting the competencies required for personnel performing duties directly affecting drinking water quality, and for ensuring all personnel are aware of the relevance of their duties.

2. Scope

This procedure applies to all water distribution personnel, with particular requirements for personnel performing duties directly affecting drinking water quality.

3. References

- DWQMS Element 10 Competencies

4. Definitions and Acronyms

Master Copy –	Most updated version of document, (stored in binder).
Master Binder –	Binder containing master copies of all documents pertaining to operating and maintaining the distribution systems.
Master List of Documents –	List of all the documents stored in the Master Binder
OIT –	Operator in Training
WHMIS –	Workplace Hazardous Material Information System
SDWA –	Safe Drinking Water Act

5. Procedure

Identification of Competencies for Roles Directly Affecting Drinking Water

5.1. The table below indicates the competencies that shall be required by personnel whose duties directly affect drinking water quality.

Organizational Position	Desired Competencies	Competencies
Public Works Manager	<ul style="list-style-type: none"> - Class 2 Water Distribution and Supply Certification - First Aid/CPR training - Fall Arrest /Confined Space - WHMIS - Drivers License 	<ul style="list-style-type: none"> - Class 1 Water Distribution and Supply Certification - First Aid/CPR training - Fall Arrest /Confined Space - WHMIS - Valid Drivers License
Certified Foreman	<ul style="list-style-type: none"> - Class 2 Water Distribution and Supply Certification - First Aid/CPR training - Fall Arrest /Confined Space - WHMIS - Drivers License 	<ul style="list-style-type: none"> - Class 2 Water Distribution and Supply Certification - First Aid/CPR training - Fall Arrest /Confined Space - WHMIS - Valid Drivers License
Water Operators	<ul style="list-style-type: none"> - Class 2 Water Distribution and Supply Certification - First Aid/CPR training - Fall Arrest /Confined Space - WHMIS - Drivers License 	<ul style="list-style-type: none"> - Class 3 Water Distribution and Supply Certification - First Aid/CPR training - Fall Arrest /Confined Space - WHMIS - Valid Drivers License
Operator in Training OIT	<ul style="list-style-type: none"> - High School Diploma - First Aid/CPR training - Fall Arrest /Confined Space - WHMIS - Drivers License 	<ul style="list-style-type: none"> - OIT Water Distribution and Supply

- 5.2. The Desired Competencies listed in Column 2 above, may be based on legislative requirements set out in the Safe Drinking Water Act, in addition to workplace training provided by the Municipality of Huron East. The “Competencies” listed in Column 3 are those of the current Huron East Water Department Staff.
- 5.3. The Public Works Manager shall determine what competencies are required for the municipality and shall ensure that staff has obtained the proper certification in order to comply with the SDWA.

Development and Maintenance of Competencies – For Roles Directly Affecting Drinking Water

- 5.4. In order for drinking water operators in Huron East to maintain their certification they shall complete 35 hours of training, 12 of those 35 hours shall be obtained at a director-approved course while the rest of the training may be completed as on the job training.
- 5.5. Operators shall be responsible for maintaining their certification.
- 5.6. Operators shall be required to keep themselves informed as to the training and renewal requirements needed to maintain their certification.
- 5.7. The Public Works Manager shall monitor and implement workplace training such as WHMIS, fall arrest, when updated training is required.
- 5.8. The Public Works Manager shall review and implement new work place training requirements as new job requirements, new equipment are implemented.
- 5.9. The effectiveness of training shall be monitored through testing which is required as part of the certification process as well as annual performance evaluations that shall be completed by the Public Works Manager in conjunction with the foreman.
- 5.10. New Operators may be hired without certification, and a plan will be developed in order for them to achieve the OIT level.

Records

- 5.11. Certificates obtained from the successful completion of training courses attended by Water Department staff shall be recorded and stored at the Water Department office in a corresponding hard covered binder. These records shall be available for review by operators to ensure they are meeting the necessary requirement required to maintain their certification.

Relevance of Duties for All Water Distribution Personnel

- 5.12. Water Department staff shall be responsible for the maintenance and operation of all the water distribution systems within the Municipality of Huron East.

5.13. Meetings shall be conducted quarterly between the Public Works Manager, and Water Department staff to discuss their roles and responsibilities as the operating authority of the water distribution systems in Huron East.

5.14. Relevant changes to the DWQMS or the SDWA shall be reviewed at these meetings.

5.15. The Public Works Manager shall record minutes of these meetings, which shall be stored in the Meeting Minutes Binder at the Water Department Office.

6. Associated Documents and Records

- Training Record Form – Master copy stored in Master binder
- Employee Training Records – Stored in Training Binder

7. History of Changes

Revision	Date	Description	By
0	November 20, 2008	Original	Shawn Bromley
1	May 26, 2009	Updated as per CAR #5. Modified the Purpose and section 5.8 to more clearly describe the process	Cathy Garrick
2	September 29, 2009	Updated as per CGSB Document Review CAR #094; changed competencies of Public Works Manager and Water Operator in 5.1.	Shawn Bromley and Cathy Garrick
3	March 28, 2019	Reviewed and updated as part of Document Review for compliance with New Standard 2.0	Shawn Bromley Cathy Garrick
4	September 17, 2020	Table in 5.1 – clarified competencies and added OIT	Cathy Garrick, Shawn Bromley
5	November 22, 2023	Removed “meeting minutes binder” from associated documents and records.	Shawn Bromley, Meaghan McCallum

Appendix G – Personnel Coverage Procedure



Municipality of Huron East DWQMS PROCEDURE

Title: PERSONNEL COVERAGE	Control Number: Appendix G – Element 11
Revision: #09	Effective Date: October 2, 2020

1 Purpose

The purpose of this procedure is to define the method for Personnel Coverage for the distribution system.

2 Scope

This procedure is applicable to all drinking water activities for which the Municipality of Huron East is responsible as Owner and Operating Authority.

3 References

- DWQMS Element 11 Personnel Coverage

4 Definitions and Acronyms

Master Copy –	Most updated version of document, (stored in binder).
Master Binder –	Binder containing master copies of all documents pertaining to operating and maintaining the distribution systems.
Master List of Documents –	List of all the documents stored in the Master Binder
ORO –	Overall Responsible Operator
OIC	Operator In Charge
OA –	Operating Authority (Jacobs)
South Patrol –	Area of Huron East South of Winthrop Road.
North Patrol –	Area of Huron East North of Winthrop Road.

5 Procedure

- 5.1 Normal Hours of Operation for the Municipality of Huron East Public works staff shall be Monday to Friday 7:30 am – 4:00 pm.
- 5.2 For after hours Water & Sewer Emergencies staff shall be called as per the call out schedule located in the Master Document Binder.
- 5.3 The Certified Foreman shall be the Overall Responsible Operator for all the Water Distribution systems in Huron East. Should the Certified Foreman be unavailable, an Operator with at least Class I Water Distribution and Supply Certification may act as the temporary ORO for not more than 150 days in a 12-month period.
- 5.4 The Public Works Manager, Certified Foreman and the Water Operator all carry sufficient certificates to be designated as Operator in Charge (OIC) for the Water Distribution systems in Huron East. The OIC will be designated at the beginning of each shift and recorded in the operators' daily log book.
- 5.5 For Water and Sewer Emergencies the Certified Foreman, the Operator, and the Public Works Manager shall be On-Call.

Emergencies

- 5.6 For Emergencies that occur during normal operating hours staff may be contacted through the Huron East municipal office in Seaforth (Office#: 519-527-1710)
- 5.7 In the event of an after hours Water or Sewer related emergency the automated voice messaging system at the Huron East Municipal office in Seaforth shall direct callers to contact staff in the following order:
 - 1st Huron East Municipal Office # 519-527-1710
 - 2nd Water & Sewer Department On-Call cell # 519-525-7080
 - 3rd Operating Authority for Water & Sewer Emergencies at # 519-527-1004
- 5.8 After a staff member has been contacted regarding the emergency they will proceed to contact the appropriate staff from the call-out schedule.
- 5.9 In the event that not enough staff are available to cover a water or sewer emergency a contractor may be contacted. The contractor contact list shall be located in the Master Document Binder.

6 Associated Documents and Records

- Huron East Call-Out Schedule - (Document)
- Contractors Contact List - (Document)
- Water Main Break Contingency Plan - (Document)
- Master List of Documents – Stored in Master Binder
- Master Document Binder

7 History of Changes

Revision	Date	Description	By
0	November 20, 2008	Revision	Operator
1	May 26, 2009	Revised as per Internal Audit	Cathy Garrick
2	September 29, 2009	Revised as per CGSB CAR #094, an Operator with at least Class I Water Distribution and Supply Certification may act as the temporary ORO added to 5.3.	Shawn Bromley and Cathy Garrick
3	April 14, 2010	Revised – change in Operating Authority	Cathy Garrick
4	September 3, 2010	Changed “list” to “schedule” in Section 5.2; deleted obsolete cell number in Section 5.6.	Cathy Garrick
5	August 4, 2015	OIC designation added in Section 5.4 and section numbers adjusted.	Shawn Bromley
6	September 3, 2015	Section 5.3 ...not more than 150 days	Shawn Bromley
7	October 26, 2018	Updated Operating Authority information	Shawn Bromley
8	March 28, 2019	Reviewed and updated as part of Document Review for compliance with New Standard 2.0	Shawn Bromley Cathy Garrick
9	October 2,	Updated date formats and	Cathy Garrick

	2020	hours of operation for consistency among documents	
10	September 25, 2024	Updated after hours point of contacts	MM & SB

Appendix H – Communications Procedure



Municipality of Huron East

DWQMS PROCEDURE

Title: COMMUNICATIONS	Control Number: Appendix H – Element 12
Revision: #07	Effective Date: November 16, 2021

1 Purpose

This procedure describes how relevant aspects of the Quality Management System are communicated between Top Management (Huron East Water & Sewer Committee) and:

- The Owner (Mayor & Huron East Council)
- Operating Authority personnel (QMS Rep and Water Department Staff)
- Suppliers, and
- The Public

2 Scope

This procedure applies to the Owner, Top Management, QMS Rep, Water Distribution System staff, suppliers, and the public.

3 References

DWQMS Element 12 – Communications

DWQMS Element 9 – Organizational Structure, Roles, Responsibilities and Authorities

DWQMS Element 19 – Internal Audit

DWQMS Element 20 – Management Review

4 Definitions and Acronyms

DWQMS – Drinking Water Quality Management Standard

QMS – Quality Management System

QMS Rep – Quality Management System Representative (Public Works Manager)

5 Procedure

The Owner (Mayor & Council)

- 5.1 The Water and Sewer Committee (Top Management) shall communicate DWQMS or water quality issues to the Owner (Mayor and Council). Items to be discussed may include:
- QMS Operational Plan
 - Management Review minutes (see Management Review Procedure)
 - Internal and External Audit Reports
 - Recommendations and concerns by Water Department staff.
- 5.2 Communications between the Water and Sewer Committee and the Owner is conducted through minutes of regular Water and Sewer Committee Meetings being provided to Council at their monthly meetings.
- 5.3 Communications between the Water and Sewer Committee and the Owner shall be recorded by meeting minutes.

Operating Authority Personnel (Water Department Staff)

- 5.4 Top Management (Water and Sewer Committee) shall communicate with Water Department staff through the QMS Rep by conducting meetings throughout the year, during which the Operational Plan, priority tasks, system maintenance and operation, and staffing/office issues may be discussed.
- 5.5 The QMS may be reviewed at each Water Department meeting focusing on revisions or changes that have occurred and shall ensure that the correct procedures are being followed.
- 5.6 Site meetings shall be held between the QMS Rep and the Water Department staff before construction projects and water main repairs.
- 5.7 Water Department meetings shall be documented by keeping minutes of topics discussed. Minutes are taken and kept by the Public Works Manager.
- 5.8 Water Department staff may use these meetings to communicate any questions or concerns to Top Management through the QMS Rep.
- 5.9 The Municipality of Central Huron, the Operating Authority for the Clinton Water System, provides an Annual Report of the Clinton Water System which supplies water to the Vanastra Water System in Huron East, to the QMS Rep. The Clinton Water System Annual Report is submitted to the Water and Sewer Committee and posted on the Huron East website.

Suppliers

- 5.10 Quality requirements shall be communicated to Suppliers by Water Department staff during ordering or receiving of Essential services and supplies, as per the Essential Supplies and Services Procedure. Annually, all Essential Service & Supply providers will be sent a letter indicating that Huron East has a Drinking Water Quality Management System Plan and Policy.
- 5.11 Other relevant aspects of the QMS may be communicated from Top Management to or from Suppliers via the QMS Rep, as required.

The Public

- 5.12 DWQMS information shall be available for viewing at the Municipal office.
- 5.13 The QMS policy shall be posted on the Municipality's website, as well as being posted in Publics Works Offices.
- 5.14 Annual reports shall be posted on the Municipality's website.
- 5.15 Consumer complaints shall be addressed by Water Department staff or contracted Operating Authority staff, depending on the nature of the complaint. All pertinent information shall be recorded on the Municipality of Huron East Water and Sewer Community Complaints form as well as the resolution to the complaint. Record of the complaint and resolution shall be stored in the records binder by system. Consumer complaints are communicated to Top Management through the Management Review Process.
- 5.16 If necessary, Advisory Notices may be issued to the public to inform them of actions that may be required, for example a Boil Water Advisory Notice.

6 Associated Documents and Records

- Document Control Procedure
- Record Control Procedure
- Management Review Procedure
- Municipality of Huron East Water and Sewer Community Complaints Form
- Boil Water Advisory Notice
- Essential Supplies and Services Procedure
- Water System Binders

- Minutes of Meetings (Council, Water and Sewer Committee, Water Department)
- Internal and External Audit Reports

7 History of Changes

Revision	Date	Description	By
0	Dec. 11, 08	Original	Shawn Bromley
1	May 26, 2009	Revised as per CAR #3; clarified lines of communication between Top Management and others through the QMS Rep.	Cathy Garrick
2	September 29, 2009	Revised as per CGSB Document Review CAR #095; new section 5.2 outlines communication method between the Water and Sewer Committee and Council.	Shawn Bromley and Cathy Garrick
3	May 20, 2016	Revised section 5.4 as per CAR #01-2016 Internal Audit Revised section 5.9 as per CAR #06-2016 Internal Audit	Cathy Garrick, Shawn Bromley
4	May 16, 2017	Revised sections 5.1 to 5.8 as per CAR #02-2017 Internal Audit – timing of meetings	Cathy Garrick, Shawn Bromley
5	March 28, 2019	Reviewed and updated as part of Document Review for compliance with New Standard 2.0	Shawn Bromley Cathy Garrick
6	October 2, 2020	Deleted references to number of meeting and timing for supplier notifications, as per external audit recommendations November 25, 2019.	Shawn Bromley Cathy Garrick
7	November 16, 2021	Added New section 5.9 regarding Vanastra Water System being supplied with water from Central Huron's Clinton Water System; renumbered other sections	Shawn Bromley Cathy Garrick

Appendix I – Essential Supplies and Services Procedure



Municipality of Huron East DWQMS PROCEDURE

Title: ESSENTIAL SUPPLIES AND SERVICES	Control Number: Appendix I – Element 13
Revision: #10	Effective Date: March 1, 2023

1 Purpose

The purpose of this procedure is to identify the supplies and services, which are deemed as essential to the delivery of safe drinking water, and to describe how the quality and procurement of these services is ensured.

2 Scope

This procedure is applicable to all drinking water personnel who have the responsibility for procurement of essential supplies and services.

3 References

- DWQMS Element 13 Essential Supplies & Services

4 Definitions and Acronyms

AWWA – American Water Works Association

ANSI – American National Standards Institute

ESL – Evans Utility and Municipal Products Supply Limited

5 Procedure

- 5.1 A list of essential suppliers and services is provided below, which includes means of procurement.
- 5.2 Procurement information, such as ordering contact information, shall be maintained by Huron East Water Department staff and available to the Operator at all times.
- 5.3 The Public Works Manager shall review this list annually with Water Department staff to ensure that it is valid.

Quality Requirements for Essential Supplies and Services

- 5.4 Where applicable, essential supplies shall meet AWWA, ANSI, or NSF standards.
- 5.5 Water Department staff shall verify that all Essential supplies meet AWWA, ANSI, or NSF standards when receiving a delivery.
- 5.6 When selected through the tender process, quality requirements for essential supplies and services shall be stipulated in the tendering documents, as per the Engineering firm recommendations as well as current industry standards.
- 5.7 The evaluation of the quality requirements for these items shall be the responsibility of the Public Works Manager, Water Department staff as well as the on-site inspector during construction.

Item	Means of Procurement/Stock Level	Supplier	Location
Sodium Hypochlorite	Stock minimum 2 bottles, purchased as needed from local supplier by Water Dept. staff	D.H. Jutzi Ltd. Contracted Operating Authority	Kept at 40 Welsh Street.
Hydrants	Stock minimum 3 hydrants, purchased as needed from local supplier by Water Dept. staff	ESL, Carson Supply	Kept at Tuckersmith Shop.
Portable water pumps	One operational pump is carried in the service van at all times. More pumps are available on request from the Roads Dept.	Claessen Pumps	In the van – Grindex
Hydraulic dewatering pump and valve maintenance trailer	Purchased in 2019 and used for watermain repairs. Hydraulic pump is on the valve maintenance trailer.	Wachs Canada	Kept at the McKillop Shop
Chlorine test kits	One Cl ₂ residual analyzer is carried in service van. Stock 2 pack of DPD pouches (both Free and Total)	VWR	Kept in the van; calibrated once a month. Pouches in van (1 of each) and more in the basement of the Water Dept.

Repair clamps	Stock minimum 2 clamps for each water main size in the municipality	ESL, Carson Supply	Kept in van and basement, at least 2 of each size; classified Water Quality ANSI/NSF.61 DWS Components
Water Main Pipe	Stock minimum 6 metres (20 feet) of all water main sizes in the municipality	ESL, Carson Supply	Kept behind the McKillop Shop. Some smaller pipe is kept inside the shop, ready to go on the truck for emergency repairs.
Water Main Valves	Stock minimum 1 valve for each water main size in the municipality	ESL, Carson Supply	In the red shed at the Town Hall in Seaforth
Water Main Couplers	Stock a minimum 2 for each size of water main in the municipality	ESL, Carson Supply	Kept on shelves in the basement of the Water Dept. offices in McKillop; shelves are labeled, basement is dry; minimum number of each size kept in stock
Bottled Water Service		Seaforth Foodland 519 527-1631	Watermain Break Contingency Plan Contact List in Master Binder.
External Laboratory	Services of an accredited lab are available during normal operating hours Mon. - Sat. or on an emergency basis 24/7	SGS Laboratories	SGS Lab Accreditation London Lab and Lakefield Lab (Lead Testing)
Courier Service		Purolator Courier	Infrequently used.
Courier Service	SGS will provide courier service	SGS on Tuesdays	Water staff changed their hall sampling to coincide with SGS's courier service which is a free service.
Operating Authority for water supply	Contact List	Jacobs Engineering	Name changed from CH2M to Jacobs Engineering in 2018

<p>Clinton Water Supply</p>	<p>Water is piped from Clinton to Vanastra. Water Operators from the Municipality of Central Huron can be contacted in case of an emergency 24/7 regarding the transmission pipe line</p>	<p>Municipality of Central Huron</p>	<p>On Watermain Break Contingency Plan List</p>
<p>Bulk Water Carriers</p>	<p>See SOP #20</p>	<p>Gardner's Trucking Dairy; Johnson Allen Ltd., Gay Lea Foods Ltd</p>	<p>Various: Goderich/Listowel/Teeswater</p>

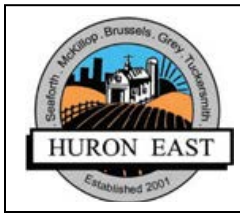
6 Associated Documents and Records

- Document Control Procedure
- Record Control Procedure
- Personnel Coverage Procedure
- Watermain Break Contingency Plan

7 History of Changes

Revision	Date	Description	By
0	November 20 th , 2008	Original	Shawn Bromley
1	May 28 th , 2015	Updated as part of internal audit. NOTE: CAR #05-2015 removed Obsolete Excavating Contractor; CAR #06-2015 OMI Contact list needs to be updated.	Cathy Garrick
2	May 19 th , 2017	Updated as part of internal audit.	Cathy Garrick
3	September 17 th , 2020	Updated as part of internal audit	Cathy Garrick
4	April 10, 2018	Revised – change in calibration company	Cathy Garrick
5	April 11, 2018	Revised – correct change in calibration company and add supply company for water works parts (Wolseley)	Shawn Bromley
6	October 19, 2018	Removed Auditor’s notes from 4th column	Shawn Bromley
7	October 2, 2020	Updated Essential Supplies and Services list as per Internal Audit July 10, 2020	Cathy Garrick
8	November 16, 2021	Added “bulk water” to section 5.7 table.	Cathy Garrick Shawn Bromley
9	December 9, 2022	Added Hydraulic Dewatering Pump and Valve Maintenance Trailer	Cathy Garrick Shawn Bromley
10	March 1, 2023	Removed GMI Personal Surveyor (gas detector) from section 5.7 table, as per CAR #02-2022	Cathy Garrick Shawn Bromley

Appendix J – Infrastructure Review Procedure



Municipality of Huron East DWQMS PROCEDURE

Title: INFRASTRUCTURE REVIEW	Control Number: Appendix J – Element 14
Revision: #04	Effective Date: October 2, 2020

1 Purpose

The purpose of this procedure is to define the method for reviewing the adequacy of the infrastructure necessary to operate and maintain the Water Distribution Systems.

2 Scope

This procedure is applicable to all drinking water activities related to the review and provision of the Infrastructure for which the Municipality of Huron East is responsible as Owner and Operating Authority.

3 References

- DWQMS Element 14 Review and Provision of Infrastructure
- DWQMS Elements 7 & 8 Risk Assessment & Outcomes
- Appendix C – Risk Assessment Procedure

4 Definitions and Acronyms

Department Heads – Management Staff from all Huron East Departments and Facilities

5 Procedure

Infrastructure Maintenance Program

- 5.1 Major infrastructure maintenance activities will be communicated to the Operators through the QMS Rep.

- 5.2 Infrastructure maintenance activities are recorded in the System Binders and in the Operator Log Books, as well as in engineered “as-built” drawings.
- 5.3 Long term forecasting of major infrastructure projects are reviewed and outlined during the development of the Huron East Water & Wastewater Financial Plan.
- 5.4 Watermain valve maintenance is conducted twice a year during spring and fall flushing.
- 5.5 Water Department staff collect GIS data on water distribution infrastructure and maintenance activities. For example, mapping of valves, hydrants, etc. is available electronically.

Review of Infrastructure

- 5.6 The condition of the infrastructure and maintenance activities are reviewed and discussed at the following meetings:
 - 5.6.1 Water Department Staff Meetings where staff may discuss observations of infrastructure conditions and any concerns they may have. This discussion shall occur a minimum of once per year, prior to budget deliberations.
 - 5.6.2 Water & Sewer Committee Meetings where members of the water committee may discuss infrastructure observations and concerns, including those from staff meetings. At this meeting they may also discuss the results of external infrastructure reviews and studies.
- 5.7 Asset Management review shall include the age of the infrastructure and the results of planned and unplanned maintenance of the asset in order to make recommendations on improvements to the infrastructure.
- 5.8 Outcomes from the Asset Management review may identify infrastructure issues that require upgrading or additional review.
- 5.9 Outcomes from the Risk Assessment Review will be considered when reviewing infrastructure needs.

Budgeting Process

- 5.10 The overall draft budget is developed from the Infrastructure Review process by the Public Works Manager and Staff.
- 5.11 Proposed capital infrastructure projects shall be reviewed based on sustainability, growth, risk, compliance, overall priorities, time required and capital budget allocations.

- 5.12 Results of the review of Capital Works Projects shall be documented as the draft capital budget.
- 5.13 The draft overall budget shall be reviewed by the Water & Sewer Committee. If revisions are required they will be made by the Department.
- 5.14 A finalized capital budget shall be prepared by the Treasurer and submitted to Council for approval.

6 Associated Documents and Records

- Document Control Procedure
- Record Control Procedure
- Risk Assessment Procedure
- Risk Assessment Tables
- Meeting Minutes (Council, Water and Sewer Committee, Water Department)
- Water and Wastewater Financial Plan
- Huron East budget

7 History of Changes

Revision	Date	Description	By
0	December 4, 2008	Revision	Shawn Bromley
1	May 26, 2009	Updated as per internal audit.	Cathy Garrick
2	September 29, 2009	Updated as per CGSB Document Review CAR #096, new section added to section 5 headed Infrastructure Maintenance Program including sections 5.1 – 5.4	Shawn Bromley and Cathy Garrick
3	March 28, 2019	Reviewed and updated as part of Document Review for compliance with New Standard 2.0	Shawn Bromley Cathy Garrick

4	October 2, 2020	Updated date formats for consistency; added associated documents and records	Cathy Garrick
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Appendix K – Sampling, Testing and Monitoring Procedure



Municipality of Huron East

DWQMS PROCEDURE

Title: SAMPLING, TESTING AND MONITORING	Control Number: Appendix K – Element 16
Revision: #04	Effective Date: October 2, 2020

1 Purpose

The purpose of this procedure is to define sampling, testing and monitoring procedures for the Municipality of Huron East water distribution system.

2 Scope

This procedure applies to the sampling, testing and monitoring activities for the water distribution system that is owned and operated by the Municipality of Huron East.

3 References

DWQMS Element 16 Sampling, Testing, & Monitoring

4 Definitions and Acronyms

SDWA – Safe Drinking Water Act

SOP – Standard Operating Procedure

MOECP – Ministry of the Environment, Conservation and Parks

MOH – Medical Officer of Health

SAC – Spills Action Centre

5 Procedure

- 5.1 The Public Works Manager shall be responsible for ensuring that sampling, testing and monitoring requirements prescribed by legislation are implemented at the waterworks.
- 5.2 Lead Sampling is conducted as per O.Reg. 170/03.
- 5.3 A Certified Operator shall perform microbiological sampling when a Boil Water Advisory is issued. Sampling shall be conducted in the area affected by the advisory, with specific locations being selected at the discretion of the operator performing the sampling.
- 5.4 Additional Chlorine residual sampling may also be conducted throughout the distribution systems wherever it is deemed necessary by Water Department staff.
- 5.5 Sampling procedures shall be performed by Huron East Water Department staff following SOP #014 (Lead sampling) and SOP #015 (Boil Water Advisory sampling) in the Documents binder.
- 5.6 Lead sampling is completed as per MOECP requirements in each distribution system.
- 5.7 External analysis is performed by an accredited laboratory (SGS Environmental Services).
- 5.8 Results from external analysis are sent to the Public Works Manager and shall be reviewed by Water Department staff to ensure results comply with the SDWA.
- 5.9 In the event of an adverse test result the Public Works Manager shall comply with O.Reg 170/03 and notify the MOECP Spills Action Centre and the local MOH both orally and in writing within the time allotted by the regulation. For resolution the adverse result shall also be supplied in writing to SAC and the MOH within the time set out by the regulation.
- 5.10 Results shall be stored in the records binder for the applicable system.
- 5.11 Chlorine residual, and pH are the only tests performed by Huron East Water Department staff.
- 5.12 A chlorine residual test kit shall be carried in the Water Department service van, and Huron East Water Department staff and contracted Operating Authority staff shall share the pH analyzer.
- 5.13 Results from these tests shall be recorded on the Chain of Custody Form that is sent with samples going out for external analysis.
- 5.14 Results are listed on the analysis report sent from the laboratory to the Public Works Manager and shall be stored in the records binder for the applicable system.

- 5.15 SOP#014, SOP #015 and Manufacturer instructions shall be referenced during sampling.

Testing After Maintenance

- 5.16 Chlorine residual tests may be completed after water main breaks that have been repaired under full or partial pressure to ensure water quality has not been compromised due to the break.
- 5.17 If a section of water main requires dewatering in order to make repairs, microbiological samples may be taken after the water main has been properly repaired and flushed, in accordance with the MOECP Watermain Disinfection Procedure.
- 5.18 Samples from the section of water main affected by the break shall be taken and sent for external analysis to ensure water quality has not been compromised.

New Water mains

- 5.19 Prior to new water mains being put into service microbiological and chlorine residual samples shall be taken. Water Department staff shall analyze chlorine residual samples on site while the microbiological samples are sent to a laboratory for external analysis.
- 5.20 A chain of custody form shall be completed before samples are sent to the accredited laboratory.
- 5.21 Huron East Water Department staff shall review the results when analysis has been complete.
- 5.22 When consecutive results are received indicating that the water quality in the new water main is suitable the new water main can be put into service with the rest of the system.
- 5.23 Additional microbiological and chlorine residual testing shall also be required after the new water main has been connected to the existing system to ensure that water quality in the distribution system has not been compromised due to water main depressurization and valve operations.

Upstream Sampling, Testing and Monitoring

- 5.24 All the test results from the Water Treatment facilities for Brucefield, Brussels, Seaforth and Vanastra are received by the Municipality of Huron East, reviewed by Water Department staff, and kept in the appropriate system binder.
- 5.25 An Annual report is received by the Municipality of Huron East from the Municipality of Central Huron on the drinking water quality being supplied

to the Vanastra drinking water system from the Clinton drinking water system.

5.26 The Public Works Manager shall review this report.

Annual Monitoring

5.27 The Public Works Manager and the Water Department staff shall review test results as they become available. The Public Works Manager shall inform the owner of any test result that may be of concern.

6 Associated Documents and Records

- Document Control Procedure
- Record Control Procedure
- Chain of Custody Form
- Notice of Adverse Test Results or Other Problems Form
- SOP #014 (Lead Testing Sampling)
- SOP #015 (Sampling in the Water Distribution Systems - Boil Water Advisory Sampling)
- MOECP Watermain Disinfection Procedure November 2020

7 History of Changes

Revision	Date	Description	By
0	December 11, 2008	Initial Release	Shawn Bromley
1	May 26, 2009	Updated as per internal audit.	Cathy Garrick
2	June 25, 2009	Updated as per CAR #04	Bromley / Garrick
3	March 28, 2019	Reviewed and updated as part of Document Review for compliance with New Standard 2.0	Shawn Bromley Cathy Garrick
4	October 2, 2020	Updated date formats for consistency	Cathy Garrick

Appendix L – Calibration and Maintenance of Measurement Equipment Procedure



Municipality of Huron East DWQMS PROCEDURE

Title: CALIBRATION AND MAINTENANCE OF MEASUREMENT AND RECORDING EQUIPMENT	Control Number: Appendix L – Element 17
Revision: #05	Effective Date: October 2, 2020

1 Purpose

The purpose of this procedure is to define the process for the calibration and maintenance of measurement and recording equipment.

2 Scope

This procedure is applicable to measuring and recording equipment used by the waterworks for the measuring and recording of data related to drinking water.

3 References

DWQMS Element 17 Measurement and Recording Equipment Calibration and Maintenance

DWQMS Element 16 Sampling, Testing and Monitoring (Appendix K)

4 Definitions and Acronyms

5. Procedure

- 5.1. Calibration and maintenance of the Chlorine residual analyzer and pH meter shall be performed by Water Department staff.
- 5.2. Both instruments shall be calibrated and maintained according to manufacturer's specifications, using the manufacturer's manual. This manual shall be kept with the equipment.
- 5.3. Equipment that cannot be properly calibrated by the operator shall be sent back to the manufacturer or to a private contractor for servicing.
- 5.4. Calibration and Maintenance records shall be kept in the location where the equipment is stored.
- 5.5. Water Department staff shall ensure that equipment is properly calibrated and recorded before use.
- 5.6. Any calibration certificates that come from the manufacturer or private contractor shall be stored with the calibration records.
- 5.7. The frequency of calibration shall be at least that which is required by O. Reg. 170/03, or suggested by the manufacturer, whichever is most frequent.
- 5.8. The pH meter is calibrated prior to every use. The chlorine residual analyzer is calibrated at the beginning of each month.
- 5.9. If monitoring equipment is dropped or damaged, the equipment shall be repaired and calibrated prior to being put back into service.

6 Associated Documents

- Manufacturer Instructions for Measurement and Recording Equipment
- Calibration Certificates
- Records of Calibration Checks
- Sampling, Testing and Monitoring Procedure
- Record Control Procedure

7 History of Changes

Revision	Date	Description	By
0	December 11, 2008	Original	Shawn Bromley
1	May 26, 2009	Updated as per the internal audit.	Cathy Garrick
2	July 21, 2010	Updated as per External Audit - 5.8 added maintenance frequency for chlorine residual analyzer.	Shawn Bromley, Cathy Garrick
3	December 3, 2010	Updated Section 5.8 as per CAR #008	Shawn Bromley Cathy Garrick
4	March 28, 2019	Reviewed and updated as part of Document Review for compliance with New Standard 2.0	Shawn Bromley Cathy Garrick
5	October 2, 2020	Updated date formats for consistency	Cathy Garrick

Appendix M – Emergency Management Procedure



Municipality of Huron East DWQMS PROCEDURE

Title: EMERGENCY MANAGEMENT	Control Number: Appendix M – Element 18
Revision: #04	Effective Date: October 2, 2020

1. Purpose

The purpose of this procedure is to identify all potential emergencies that can occur within the Drinking Water Distribution system, and to describe the response procedures and the testing and training processes related to these emergencies.

2. Scope

This procedure is applicable to the potential emergencies affecting the quality of drinking water provided to consumers, related to drinking water activities for which the Municipality of Huron East is responsible as Operating Authority,

Should a waterworks-related emergency go beyond the scope of this procedure, the Municipality of Huron East Emergency Plan and Procedures shall take precedence.

3. References

DWQMS Element 18 Emergency Management

4. Definitions and Acronyms

SOP- Standard Operating Procedure

System Binder – Binder containing records referencing one particular system

Master Binder – Binder containing master copies of all documents pertaining to operating and maintaining the distribution systems.

Master List of Documents – List of all the documents stored in the Master Binder

SAC – Spills Action Centre

5. Procedure

Identifying Potential Emergencies

5.1. The Risk Assessment Table shall be used for identifying potential emergency situations that may arise. The Risk Assessment is reviewed annually (as per the Risk Assessment Procedure); if any additional emergencies are identified they shall be added to the list shown below by the QMS Representative.

POTENTIAL EMERGENCIES	
Description of Emergency	Response Work Instruction
Water Main Breaks (Loss of pressure)	SOP# 11, 12, & 13
Source Water Contaminated by Chemical Spill	Notify SAC
Contamination of Treated Water	Regulatory requirements for reporting an adverse sample

5.2. Other sources of information for identifying potential emergencies include:

- Corporate Audits
- Insurance company reviews
- Records of past emergencies
- New reports about emergencies in other systems
- Ministry of Environment Inspections

Emergency Response and Recovery

5.3. First response to an emergency in the water distribution systems is provided by the Public Works Manager and Water Department staff.

5.4. Overall response to an emergency is carried out by Water Department staff, as well as other public works employees at the direction of the Public Works Manager.

5.5. Communications with the public are directed through the Public Works Office and the Public Works Manager.

5.6. The Public Works Manager will inform council and committee members at the appropriate time depending on the scope and magnitude of the emergency.

5.7. Emergency Response Work Instructions shall cover the following information:

- Assessing the situation
- Protecting consumers, employees, visitors, equipment, vital records and other assets
- Communication methods with the community, personnel and responders
- Addressing the emergency
- Shut down and start up of Operations
- Restoring of Operations

Emergency Contacts

5.8. The emergency contacts can be found in the Master Documents binder under the following headings:

- Water Main Break Contingency Plan
- Huron East Call-Out Schedule
- Contractors Contact List

The Municipality of Huron East Emergency Response Plan is located at the Municipal Office.

5.9. The Public Works Manager along with the Water Department is responsible for ensuring that these documents are current.

Emergency Response Training

5.10. Training is received by Water Department staff in advance of emergencies and is provided by an external organization that specializes in water distribution repairs and maintenance.

5.11. Training is received on an annual basis.

5.12. Training includes the preparation of the emergency site such as obtaining locates and setting up traffic control as well as the actual repair of the water distribution system.

5.13. The occurrence of an emergency in the water distribution systems is recorded in the record binder for the applicable system.

Emergency Response Testing

5.14. Emergency response testing shall take place during actual emergency events. Operators response to the emergency is based on their experience and on the job training

5.15. The Public Works Manager and Water Department staff shall review the actions taken in response to an emergency. Any procedural changes identified shall be made as a result of the review. The Huron East Water Main Break Form may be used for the review.

5.16. Emergency events are recorded in the record binder for the applicable system.

Distribution of Procedures

5.17. Hard copies of emergency procedures are kept in the Master Documents binder and are also retrievable through the municipality’s computer network.

6 Associated Documents

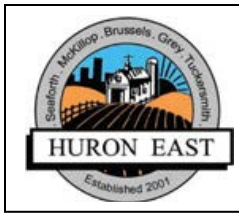
- Document Control Procedure
- Record Control Procedure
- Personnel Coverage Procedure
- Communication Procedure
- Municipality of Huron East Emergency Response Plan
- Master List of Documents – Stored in Master Binder
- Water Main Break Contingency Plan (document)
- Huron East Call-Out Schedule (document)
- Contractors Contact List (document)
- SOP# 11, 12, & 13 (documents)

7 History of Changes

Revision	Date	Description	By
0	January 6, 2008	Original	Shawn Bromley
1	May 26, 2009	Updated from internal audit, as per CAR # 6	Cathy Garrick
2	December 3, 2010	Updated Section 5.8 to reflect that the Huron East Emergency Response Plan is located at the Municipal office; also corrected title in footer	Shawn Bromley Cathy Garrick
3	March 28, 2019	Reviewed and updated as part of Document Review for compliance with New Standard 2.0	Shawn Bromley Cathy Garrick

4	October 2, 2020	Updated date format for consistency plus minor edits	Cathy Garrick
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Appendix N – Internal Audit Procedure



Municipality of Huron East

DWQMS PROCEDURE

Title: INTERNAL AUDIT	Control Number: Appendix N – Element 19
Revision: #03	Effective Date: October 2, 2020

1 Purpose

The purpose of this procedure is to describe the Internal Audit process, which is used to verify that:

- The QMS conforms to the requirements of the DWQMS, and
- The QMS has been effectively implemented and properly maintained.

2 Scope

This procedure is applicable to all drinking water activities for which the Municipality of Huron East is responsible as Owner and Operating Authority.

3 References

- DWQMS Element 19 Internal Audit

4 Definitions and Acronyms

CAR – Corrective Action Request

QMS - Quality Management System

DWQMS – Drinking Water Quality Management

5 Procedure

Preparation

5.1 Internal audits shall only be conducted by persons approved by the QMS Representative and having the following qualifications:

- Internal employees who have completed internal audit training,
or

- Employees of other operating authorities who have completed internal audit training.
- 5.2 Internal Audits shall be conducted on the QMS at least once a year.
- 5.3 Internal audits shall be scheduled. The schedule shall be maintained by the QMS Representative, and shall include the element(s) to be audited, the month(s), and the assigned Auditor.
- 5.4 The audit checklist shall be created and maintained by the Auditor. The internal Auditor shall use the checklist as a guideline, for record-keeping purposes, and for conducting the interviews and document review during the audit.

Conducting the Audit

- 5.5 The Auditor shall observe activities, review records, and review previous internal and external audit results, and interview personnel as necessary to ensure that the status of the audited element of the QMS has been effectively covered.

Reporting the Results

- 5.6 The Auditor shall submit a completed report, including the checklist, to the QMS Representative.
- 5.7 The report shall include any corrective actions requests (CARs) required to address nonconformities.
- 5.8 Responses to CARs shall be designated to the responsible individual by the QMS Representative.
- 5.9 It shall be the responsibility of the QMS Representative to ensure that all CARs are followed up and responses to the CARs are provided to the internal Auditor by the date documented on the CAR.
- 5.10 Audit results provided by another municipality's internal Auditor may be reported per the procedures of the auditing municipality,
- 5.11 CARs shall be completed, addressed and filed as per the Corrective Action Procedure.
- 5.12 The QMS Representative shall communicate the results of the audit to the Owner. Results shall be communicated at least annually through the Management Review process.

6 Associated Documents and Records

- Corrective Action Procedure
- Internal Audit Reports
- Document Control Procedure
- Record Control Procedure

7 History of Changes

Revision	Date	Description	By
0	December 11, 2008	Revision	Shawn Bromley
1	May 26, 2009	Updated as per internal audit.	Cathy Garrick
2	March 28, 2019	Reviewed and updated as part of Document Review for compliance with New Standard 2.0	Shawn Bromley Cathy Garrick
3	October 2, 2020	Updated date format for consistency	Cathy Garrick

Appendix O – Management Review Procedure



Municipality of Huron East

DWQMS PROCEDURE

Title: MANAGEMENT REVIEW	Control Number: Appendix O – Element 20
Revision: #06	Effective Date: October 2, 2020

1 Purpose

This purpose of this procedure is to define the Management Review process used to evaluate the continuing suitability, adequacy and effectiveness of the QMS.

2 Scope

This procedure is applicable to the Quality Management System, as defined in the Operational Plan.

3 References

- DWQMS Element 20 Management Review

4 Definitions and Acronyms

QMS – Quality Management System

5 Procedure

Preparation

- 5.1 Management Reviews shall be conducted on an annual basis
- 5.2 Top Management, as defined in the Operational Plan, shall perform the Management Review.
- 5.3 The QMS Representative shall include the Management Review in the Water & Sewer Committee Agenda.
- 5.4 The QMS Representative shall prepare summaries of the following information, as it pertains to the waterworks, prior to the meeting:
 - Incidents of regulatory non-compliance
 - Incidents of adverse drinking water tests

- Deviations from critical control point limits and response actions
- The effectiveness of the risk assessment process
- Results of internal and 3rd party audits
- Results of relevant emergency response testing
- operational performance
- water quality trends
- Follow-up on actions items from previous management reviews
- Status of management action items (if any) identified between reviews
- Changes in resource requirements, infrastructure, process, personnel, the Drinking Water Quality Management Standard or regulations that could affect the QMS
- Consumer feedback
- The resources needed to maintain the QMS
- The results of the infrastructure review
- Operational Plan currency, content and updates
- Significant events in the water systems, and
- Staff suggestions

Review Process

- 5.5 Each input item shall be reviewed in order to identify if, where and when improvements to the QMS and its procedures are required.
- 5.6 The QMS Representative shall make note of any changes or action items required during the course of the review.

Review output

- 5.7 The output from the Management Review shall be included in the Water & Sewer Committee Meeting Minutes. The minutes shall include:
- The date and time of the Management Review and the names of participants and attendees.
 - Any identified deficiencies.
 - A list of “action” items. All action items shall identify an individual responsible and the proposed timelines for implementation.
 - Recommendation(s) for any resources needed for maintenance or improvement of the QMS.
- 5.8 The QMS Representative shall provide the meeting minutes to the Water & Sewer Committee and Council.

5.9 The QMS Representative shall be responsible for communication and implementation of the management review action items.

6 Associated Documents and Records

- Water & Sewer Committee Agenda list and preparation documents
- Document Control Procedure
- Record Control Procedure
- Water and Sewer Committee Meeting Minutes containing Management Review
- Council Minutes accepting Water & Sewer Committee Meeting Minutes

7 History of Changes

Revision	Date	Description	By
0	December 4, 2008	Revision	Shawn Bromley
1	May 26, 2009	Updated as per internal audit.	Cathy Garrick
2	April 14, 2010	Updated as per staff review – March 24, 2010 minutes of Water Department Meeting – added Water & Sewer Committee Meeting Minutes to Section 6.	Cathy Garrick
3	November 3, 2011	Updated as per QMS Rep review – Sections 5 and 6 to include the Management Review as part of the regular Water & Sewer Committee Agenda and Meeting.	Cathy Garrick
4	May 16, 2017	Updated as per Internal Audit – Section 5.4 to include Significant events in the water systems to be reported in the Management Review.	Shawn Bromley, Cathy Garrick

5	March 28, 2019	Reviewed and updated as part of Document Review for compliance with New Standard 2.0	Shawn Bromley Cathy Garrick
6	October 2, 2020	Updated date format for consistency	Cathy Garrick

Appendix P – Continual Improvement / Best Practices Procedure



Municipality of Huron East DWQMS PROCEDURE

Title: CONTINUAL IMPROVEMENT	Control Number: Appendix P - Element 21
Revision: #01	Effective Date: October 2, 2020

1 Purpose

The purpose of this procedure is to describe how Continual Improvement of the DWQMS will be tracked and monitored.

2 Scope

This procedure is applicable to all existing and potential non-conformities that have been detected within the QMS with respect to the requirements of the DWQMS, or any other undesirable situation.

3 References

- DWQMS Element 19 Internal Audit
- DWQMS Element 21 Continual Improvement

4 Definitions and Acronyms

CAR – Corrective Action Request

QMS – Quality Management System

DWQMS – Drinking Water Quality Management System

MOECP – Ministry of Environment Conservation and Parks

5 Procedure

MOECP Best Management Practices

5.1 The QMS Rep. as well as Water Department staff shall review best management practices published by the MOECP on the website www.ontario.ca/drinkingwater at least once every thirty six months. The review of the MOECP best management practices will be recorded through the meetings held between the QMS Rep. and Water Department staff. The QMS Rep. and Water Department staff will consider recommendations and best practices issues noted in the annual MOECP inspection reports.

Corrective Actions

5.2 The Corrective Actions procedure (Appendix E) provides the necessary details on how corrective actions are identified, investigated, resolved and tracked.

Preventive Actions

5.3 Preventive Actions shall be reviewed during:

- Meetings between the QMS Rep and Water Department staff
- End user complaints
- Operator feedback
- Opportunities for Improvement identified in Internal and External audit reports

5.4 Any Preventive Action that is identified will be recorded on a Preventive Action Form.

5.5 The Preventive Action form document will indicate:

- The potential non—conformity
- Action(s) the QMS Rep. determines necessary, if any.
- Individual responsible for completing the necessary action.
- Date when the action was completed and signed off by QMS Rep.
- Date QMS Rep. reviewed the effectiveness of the action taken.

5.6 The QMS Representative shall maintain originals of all completed Preventive Actions.

6 Associated Documents and Records

- Preventive Action Form
- Corrective Action Form
- Completed Corrective Action Reports with back-up documentation
- Document Control Procedure
- Record Control Procedure
- Audit reports (Internal and External)
- MOECP Annual Drinking Water Inspection reports

7 History of Changes

Revision	Date	Description	By
0	April 2, 2019	Original	Shawn Bromley
1	October 2, 2020	Updated as per opportunities for improvement identified in External and Internal audits	Shawn Bromley Cathy Garrick