



OPERATIONAL PLAN

for The Corporation of the Town of
Kingsville

Revision 12 - December 1, 2025

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1. **Kingsville Water and Wastewater Department Quality Management System (QMS)**

The Corporation of the Town of Kingsville, referred to hereafter as the Town of Kingsville, is the Owner of the Kingsville Water Distribution System. The Town of Kingsville's Water and Wastewater Department is also the Operating Authority of the Kingsville Water Distribution System (WDS).

This document is the drinking water Quality Management System (QMS) Operational Plan for the Kingsville Water and Wastewater Department and is structured and documented with the purpose of:

1. Establishing policy and objectives with respect to the effective management and operation of the distribution system.
2. Understanding and controlling the risks associated with the distribution system's activities and processes.
3. Achieving continuous improvement of the QMS and the distribution system's performance.

The Operational Plan for the above noted facility fulfils the requirements of the MECP's DWQMS version 2.0. The 21 QMS procedures within this Operational Plan align with the 21 elements of the DWQMS.

2. **Quality Management System (QMS) Policy**

The Kingsville Water and Wastewater Department, its management and entire staff are committed to the principles and objectives set out in our Quality Management System (QMS) Policy. The Town of Kingsville is committed to providing safe drinking water to its drinking water system customers.

This commitment shall be fulfilled by Kingsville Water and Wastewater Department with adherence to the following:

-
- Operate and maintain the drinking water supply system in accordance with all applicable legislation and regulation
 - Ensure that all staff are well trained, competent to undertake the duties assigned them and certified appropriately
 - Provide its customers with safe drinking water
 - Maintain and continually improve the Quality Management System
-

Our water system operational employees will be trained in the implementation of the QMS Policy. The QMS Policy will be given to Municipal Council and made available to the public on the municipal website or upon request.

Operational Plan Revision History

Date	Revision #	Reason for Revision
26-Nov-19	8	Updated as per DWQMS version 2.0 and added Table 3 and 4
14-Mar-22	9	Updated to include new department titles
10-Mar-22	10	Updated new Endorsement and Directors Directions
08-Aug-24	11	Update Director Directions, Endorsement, Add Water Compliance & Operations role, update department titles, update element 9, update element 10, update essential suppliers, update water system description, update appendices
01-Dec-25	12	Update department titles, update RAA, update appendices

3. Commitment & Endorsement of the Kingsville Water and Wastewater Department QMS & Operational Plan

This Operational Plan supports the overall goal of Kingsville Water and Wastewater Department and the Kingsville Water Distribution System to develop, implement and continuously improve its Quality Management System for the Kingsville Distribution System.

This endorsement further confirms a commitment to undertake the necessary steps to ensure that the established QMS complies with all applicable legislation and regulations and assures to identify and provide all resources required for the maintenance and continual improvement of the system.

Ownership of the Town of Kingsville and Top Management of Kingsville’s Water and Wastewater Department have approved the QMS for the drinking water system as documented in this Operational Plan.

Operating Authority Approval

Shaun Martinho, H.B.Sc., MBA Date
Director of Public Operations

Erica Allen, C.Tech Date
Manager of Public Works and Water / Wastewater

Owner Endorsement & Approval

John Norton _____
CAO Date

Denis Rogers _____
Mayor Date

4. Quality Management System Representative

All personnel have a role and associated responsibilities within the Kingsville Water and Wastewater Department's QMS.

The Water Compliance & Operations Technician is the primary QMS Representative for the Kingsville Distribution System. Alternate QMS Representatives are as follows in the absence of the primary; The Manager of Public Works and Water / Wastewater , The Director of Public Operations

Water Operations and Compliance Technician is generally responsible for:

- Reporting to the Director of Public Operations and The Manager of Public Works and Water / Wastewater on the performance of the QMS and any need for improvement within any and all areas of the QMS
- Lead the design, implementation and continual improvement of the Town of Kingsville Distribution Systems QMS
- Responsible for implementing and monitoring processes and developing strategies and plans to deal with non-compliance issues
- Ensuring that current versions of documents required by QMS are being used
- Promote awareness of the QMS throughout the Town of Kingsville
- Ensure that personnel are aware of all applicable legislative and regulatory requirements that pertain to their duties of the subject system
- Coordinate internal and external audits of QMS
- Coordinate inspections for regulatory purposes
- Correspond with auditors and inspectors regarding the Town of Kingsville Distribution System
- Delivering reports to the owner of the Kingsville Distribution System as directed by the Director of Public Operations

The Manager of Public Works and Water / Wastewater is responsible for:

- Operation of the drinking water system
- Reviewing processes and standard operating procedures
- Distribution and updating of revisions to Operational Plan and Procedures
- Maintaining control of the master Operational Plan and Procedures electronic file
- Monitoring the QMS performance and identifying opportunities for improvements
- Ensuring that personnel are aware of all applicable legislation and regulatory requirements that pertain to their operational duties
- Delivering reports to the owner of the Kingsville Distribution System as directed by the Director of Public Operations

The Director of Public Operations is generally responsible for:

- Approval of establishing / maintaining processes and procedures required for the overall administration of the facility's QMS
- Reporting to the owner on QMS performance and identified improvements
- Monitoring the QMS performance and identifying opportunities for improvements
- Approving revisions to the SOP's

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- Primary contact between the Town of Kingsville's ownership / CAO

5. **Documents and Records Control**

All documents and records required by this Quality Management System to demonstrate compliance with Kingsville Water / Wastewater ' QMS Policy are maintained in accordance with Kingsville Water / Wastewater procedures in the **Procedure 5:01 in Appendix A.**

All documents and records required by this Quality Management System are:

- i. Kept current, legible and readily identifiable
- ii. Retrievable
- iii. Appropriately stored, protected, retained and disposed of

6. **Drinking Water System**

6.1 **General**

The Town of Kingsville is the Owner and Operating Authority of the Kingsville Water Distribution System (WDS) where it supplies water to residents, institutions and businesses in the municipality. The population served is approximately 19,781.

6.2 **System Overview**

The Kingsville WDS is a stand-alone water distribution system which is a single operational system. The Kingsville WDS is also connected to several other water systems. It receives all of its water from a water treatment plant (WTP) located in the municipality and owned by the Union Water Supply System Inc. (UWSS). There are several connections to the following municipal water distribution systems in addition to, various private water systems:

- Municipality of Lakeshore Union Water Distribution System
- Municipality of Leamington Union Water Distribution System
- Town of Essex Union Water Distribution System
- Town of Essex Harrow-Colchester South Water Distribution System

The water provided by UWSS supplies adequate secondary disinfection for most of the Kingsville WDS. However, at the UWSS Cottom Booster Station, extra pressure is added to the water leaving this station to ensure adequate pressure for the Town of Essex after it moves out of the Town of Kingsville's jurisdiction. Re-chlorination is carried out using Sodium Hypochlorite to provide the required boosted free chlorine residual.

6.3 **Water Source**

The Kingsville WDS obtains all of its drinking water from the UWSS.

The Union Water Supply System Inc. (UWSS) was created on February 24, 2023 as a Municipal Services Corporation under Ontario Regulation 599/06 of the Municipal Act, 2001. The UWSS has four (4) shareholders which include the Municipality of Leamington, the Town of Kingsville, the Town of Essex, and the Municipality of Lakeshore. The UWSS is operated by the Ontario Clean Water Agency.

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The raw water is obtained from Lake Erie and is treated by a conventional surface-water treatment plant.

6.4 Critical Control Processes

6.4.1 Upstream The UWSS controls the treatment of the raw water and the secondary disinfection of the treated water. It is responsible for operating the treatment plant to ensure that safe drinking water is produced. The UWSS monitors and controls the chlorine residual leaving the WTP and Cottom Booster Station to ensure that it is high enough to result in a proper residual in the most remote part of the distribution system. The UWSS controls the pressure in the system by the operation of the WTP pumps, booster pumps and the water towers. The UWSS monitors and controls the water level in the Leamington Water Tower, the Kingsville Water Tower and Cottom Booster Station to ensure a proper pressure in the Kingsville WDS.

6.4.2 Downstream The Kingsville WDS operates a backflow prevention program through the Building Department and a third party contractor to ensure that backflow preventers are installed, maintained and operated at all business premises connected to the water distribution system where a threat from backflow exists.

6.5 Connections to Other Systems

There are four (4) interconnections between the Kingsville WDS and other municipal water systems which are listed below;

1. The Kingsville WDS is connected to the Leamington (UWSS) WDS at a number of points. With one exception these connection points are at valves which are normally closed. The valves are routinely maintained, however will only remain open in an emergency.
2. The Kingsville WDS is connected to the Essex (UWSS) WDS. The connection points are at valves which are closed. The valves are routinely maintained, however will only remain open in an emergency.
3. The Kingsville WDS is connected to the Town of Essex Harrow-Colchester South WDS. The two connection points are at valves which are closed. The valves are routinely maintained however will only remain open in an emergency.
4. The Kingsville WDS supplies water to the Lakeshore (UWSS) WDS. The valves are routinely maintained and remain open.

Current interconnections are shown on the system map located in the geographic information system.

6.6 Water Distribution System Components

The Kingsville WDS is comprised of approximately 365 kilometers of watermains from 100mm (4inch) to 1050mm (42inch) in diameter. There are approximately 1150 fire hydrants in the system. There are approximately 8691 residential services and commercial service connections.



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6.7 Related Documents

Water System Distribution Map – hard copy located in Town Hall and the digital version is available to staff via the Town of Kingsville Interactive Mapping.

Water System Subject Description Form – is attached below in section 6.9

6.8 Operational Challenges

Currently, there are no significant operational challenges in the daily maintenance of the system.

Future challenges that are being reviewed consist of the following:

- the large demand for water by the growing greenhouse industry;
- pressures throughout the system are adequate for drinking water however are insufficient for fire protection; and
- dead end waterlines where residential consumption exists have automatic flushers and are considered for annual looping initiatives.

6.9 Subject System Description Form

Ontario  Ministry of the Environment, Conservation and Parks [Print Form](#) **Schedule C – Director’s Directions for Operational Plans (Subject System Description Form)**
Municipal Residential Drinking Water System

Fields marked with an asterisk (*) are mandatory.
Owner of Municipal Residential Drinking Water System *
[Corporation of the Town of Kingsville](#)

Subject Systems

Name of Drinking Water System (DWS) *	Licence Number *	Name of Operating Subsystems (if applicable)	Name of Operating Authority *	DWS Number(s) *
1. Kingsville Water Distribution System	2664		Kingsville Environmental Services	22000343

[Add item \(+\)](#)

Contact Information for Questions Regarding the Operational Plan [i](#)

Primary Contact

Last Name *	First Name *	Middle Initial
Davis	Kyle	
Title *	Telephone Number *	Email Address *
Water Compliance & Operations Tech	519-733-2305 ext.	kdavis@kingsville.ca

Secondary Contact

Last Name	First Name	Middle Initial
Allen	Erica	
Title	Telephone Number	Email Address
Manager of Pubic Works & Environmental Services	519-733-2305 ext.	eallen@kingsville.ca

[Save Form](#) [Print Completed Form](#) [Clear Form](#)

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7. Risk Assessment


Refer to **Appendix A, Procedure 7/8:01** Risk Assessment and Risk Assessment Outcomes.

8. Risk Assessment Outcomes

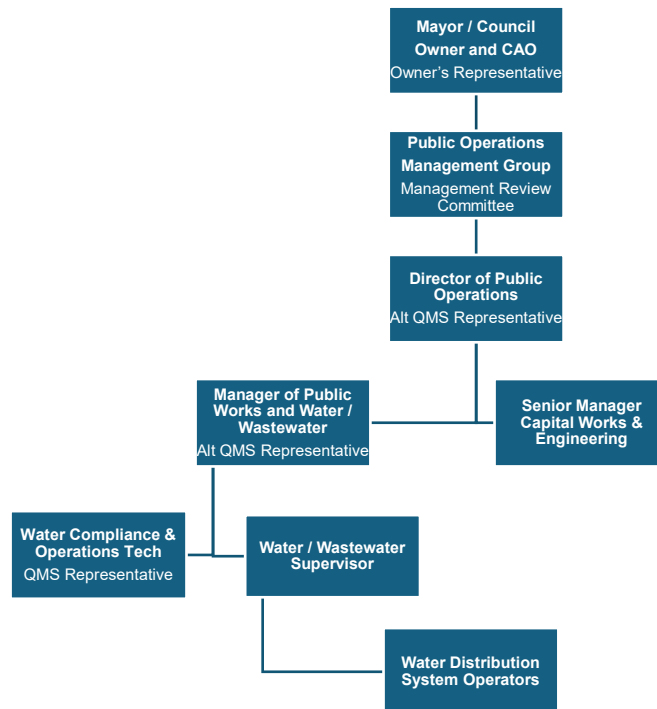
Refer to **Appendix A, Procedure 7/8:01**, for summary tables of Risk Assessment Outcomes.

9. Organizational Structure, Roles, Responsibilities, and Authorities

The Director of Public Operations (Alt QMS Representative) will keep the organizational structure, roles, responsibilities, and authorities current and will communicate this information to the Operating Authority's personnel and the Owner. The Director of Public Operations is the Top Management for Kingsville Water / Wastewater . The Owner of this system is The Corporation of the Town of Kingsville.

The following flow chart represents the QMS Organizational Structure for The Corporation of the Town of Kingsville. 

QMS Organizational Chart



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The following table lists the Position Titles, the responsibilities of each position, and their respective authorities.

Roles, Responsibilities, and Authorities Table

TITLE	RESPONSIBILITIES	AUTHORITIES
<i>Mayor, Council and CAO, through the Director of Public Operations</i>	<ul style="list-style-type: none"> ▪ Complete oversight of the entire distribution system and the QMS ▪ Ultimate responsibility for the provision of safe drinking water ▪ Ensure compliance with applicable legislation and regulations 	<ul style="list-style-type: none"> ▪ Financial & administrative authority related to the distribution of safe drinking water
<i>Director of Public Operations</i>	<ul style="list-style-type: none"> ▪ Complete oversight and operation of the entire distribution system ▪ Tertiary QMS representative as outlined in Element 4 ▪ Provide and/or obtain resources for the QMS and necessary infrastructure and resources to operate and maintain the drinking water system safely and efficiently ▪ Ensure the system is operated in accordance with applicable legislation and regulations ▪ Part of Management Review team ▪ Communication with Mayor & Council about the QMS and the water distribution system ▪ Communication/liaison with the Senior Manager of Capital Works & Engineering and the Manager of Public Works & Water / Wastewater ▪ Reviews Risk Assessment annually ▪ Approves Roles and Responsibilities Table ▪ Recommendation of system improvements ▪ Recommends / develop / approves procedures and processes for assuring water quality ▪ Emergency response planning & training ▪ Overall responsible Operator for both water distribution and wastewater collection ▪ Ensures that all municipal studies are kept up to date ▪ Other duties as assigned 	<ul style="list-style-type: none"> ▪ Financial, administrative and technical authority related to the distribution of safe drinking water ▪ Approve / recommend / make changes to the QMS ▪ Assess & respond to public inquiries and complaints ▪ Is top management for Kingsville Water / Wastewater ▪ QMS Representative ▪ ORO for the Kingsville Water System

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TITLE	RESPONSIBILITIES	AUTHORITIES
<i>Senior Manager of Capital Works & Engineering</i>	<ul style="list-style-type: none"> ▪ Provide project management coordination and contract management of all municipal work projects using municipal computer software ▪ Attend construction meetings when necessary ▪ Provide coordination of all capital projects by controlling project work scheduling, financing and effectively communicating project data ▪ Ensures requirements are met for storage, protection, retrieval, retention and disposition of documents ▪ Other duties as assigned 	<ul style="list-style-type: none"> ▪ Attend Council meetings as required ▪ Recommend changes to the QMS ▪ Recommends rehabilitation & renewal activities for annual budget ▪ Project Management
<i>Manager of Public Works and Water / Wastewater</i>	<ul style="list-style-type: none"> ▪ Preparation of budget and planning materials ▪ Works with supervisor on annual assessments of operator personnel performance ▪ Works with Water Compliance & Operations Tech to ensure QMS and Regulatory requirements are met ▪ Back-up Overall Responsible Operator for both water distribution and wastewater collection ▪ Secondary QMS Representative ▪ Administers and records all requests for vacation, time off, training schedules and work schedules of the supervisors of Public Works and Water / Wastewater ▪ Develop and implement maintenance programs and ensure compliance with the SDWA and DWQMS ▪ Review Risk Assessment with the Director, Senior Manager of Capitol Works & Engineering, Water Compliance & Operations Tech on an annual basis ▪ Coordination and participation in the QMS Management Review ▪ Other duties as assigned 	<ul style="list-style-type: none"> ▪ Financial, administrative and technical authority related to the distribution of safe drinking water ▪ Staffing within the guidelines of the municipality and its collective agreement ▪ Oversee adverse water quality incidents and responses ▪ Activity/program scheduling within Kingsville Water / Wastewater ▪ Identify and oversee staff training ▪ Attend council meetings as required ▪ Respond to public inquiries and complaints ▪ Alternate contact in the absence of the Director of Public Operations for Water / Wastewater ▪ Secondary QMS Representative ▪ Alternate ORO for Kingsville Water System as license permits
<i>Water Compliance & Operations Technician</i>	<ul style="list-style-type: none"> ▪ Lead representative in MECP inspections, internal and external DWQMS audits and communicate with auditors, management and internal staff ▪ Track operator training and coordinate operator training requirements in accordance with the regulations. ▪ Assist in the identification, recommendation, adoption and evaluation of the effectiveness of best management practices 	<ul style="list-style-type: none"> ▪ Primary QMS Representative ▪ Identify potential problems and recommend solutions ▪ Set up new employees into DWQMS system and coordinate the training ▪ Make changes to work instructions and procedures in DWQMS are required ▪ Ensure that current versions of required documents are being used ▪ Provide guidance to all water

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TITLE	RESPONSIBILITIES	AUTHORITIES
<i>Water Compliance & Operations Technician Continued</i>	<ul style="list-style-type: none"> ▪ Develop standard operating standards (SOP's) and maintain updates for the Water and Wastewater Department. Determines schedule for audit's and management review, infrastructure review, risk assessment review and develops and maintains action plans from audits ▪ Control of Operational Plan and Procedures Revisions Electronic Master File <p>Water and Wastewater Department</p>	<p>operators in the implementation of the Operational Plan and promote awareness to it</p> <ul style="list-style-type: none"> ▪ Ensure that personnel are aware of all applicable legislative & regulatory requirements that pertain to their job ▪ Alternate ORO for Kingsville Water System as license permits.
<i>Supervisor of Water / Wastewater</i>	<ul style="list-style-type: none"> ▪ Schedule and oversee the day-to-day activities relating to the water distribution system ▪ Supervision and completion of all work orders received, dispatch to appropriate departments, provide follow-up (as required) and provide on-site supervision of municipal employees until work order has been completed ▪ Gather information and records for the purposes of audits and inspections ▪ Other duties as assigned 	<ul style="list-style-type: none"> ▪ Direct operators in day-to-day operation and maintenance of the water distribution system ▪ Orders day-to-day supplies and equipment as needed ▪ Ensure that all work is performed in compliance with the OHS/A ▪ Alternate ORO for Kingsville Water System and Wastewater Collection System as license permits
<i>Water Distribution Operators</i>	<ul style="list-style-type: none"> ▪ Regular maintenance of the water distribution system ▪ Report any incidents of non-compliance ▪ Respond to repair directed from Director/Manager/Supervisor 	<ul style="list-style-type: none"> ▪ Maintenance of the water distribution system ▪ Respond to public complaints as relayed from the Director or Supervisor
<i>Public Operations Management Group</i>	<ul style="list-style-type: none"> ▪ Management Review Committee ▪ Infrastructure Review Committee ▪ Risk Assessment Review Committee 	

10. Competencies

The MECP classified the Town of Kingsville as “Water Distribution Subsystem Class II”. The following identifies the competencies required of staff whose performance may have a direct impact on drinking water quality.

Municipal Owners/Operating Authorities

Municipal Owners/Operating Authorities who have complete legal oversight of the Town of Kingsville Water Distribution System and the DWQMS are briefed on operating conditions and are provided updates by senior management to ensure that personnel are aware of the relevance of their duties and how they affect safe drinking water and shall maintain records of these activities. They may also attend relevant drinking water training courses, conferences, and seminars to assist in their overall knowledge pertaining to regulatory and legislative requirements.

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Director of Public Operations / ORO

The Director shall possess advanced theoretical and working knowledge of administrative skills expected of a senior level manager. In addition, the Director shall possess an intermediate theoretical and working knowledge of the Safe Drinking Water Act, 2002 and applicable regulations and legislations, and the Town of Kingsville drinking water distribution system. When necessary, will appoint a temporary Over All Responsible Operator (ORO) position, in absence of the designated ORO.

Manager of Public Works & Water / Wastewater

Shall possess advanced theoretical and working knowledge of administrative skills. The Manager of Public Works and Water / Wastewater shall also possess advanced theoretical and working knowledge of the Safe Drinking Water Act, 2002 and applicable regulations and legislation. The Manager should also have a good working knowledge of The Town of Kingsville drinking water distribution system and its components, while having the licensing and knowledge to be an alternate ORO.

Supervisor of Water / Wastewater

The Supervisor shall have experience as an operator with both theoretical and working knowledge of the safe drinking water act and applicable regulations specifically pertaining to water distribution infrastructure maintenance, repair and safe planning of these activities. The Supervisor should have the ability and knowledge to plan, schedule, prioritize, train and supervise the day-to-day operations of a water distribution systems and its operators. The Supervisor will have the licensing and knowledge to be an alternate ORO.

Water Operations and Compliance Technician

Shall possess and have the experience in order to implement and develop the DWQMS for water distribution and have working knowledge of the Safe Drinking Water Act and all of its associated regulations. This technician would also have experience in QMS auditing and the MECP inspection process for DWS.

New Operators in Training (OITs)

Must complete the Entry Level Course for Drinking Water Operators and OIT exam as per MECP O.Reg.128/04 requirements.

Class I Water Distribution Operators

The operator must successfully complete the Class I Water Distribution Exam and obtain the required training credits to become a Class I Water Distribution Operator as per MECP O.Reg.128/04 requirements.

Class II Water Distribution Operators

The Class I level operator can advance to a Class II Water Distribution operator by successfully completing the Class II Water Distribution Exam and obtaining the required training credits as per MECP O.Reg.128/04 requirements.

Class III Water Distribution Operators

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The Class II level operator can advance to a Class III Water Distribution operator by successfully completing the Class III Water Distribution Exam and obtaining the required training credits as per MECP O.Reg.128/04 requirements.

Water Operator Competencies

- Water Operators Shall possess an OIT or Class 1 Operating Certificate as per O.Reg. 128/04 requirements
- The ORO shall have a minimum Class I Water Distribution Certificate as per O.Reg. 128/04 requirements and deemed competent as such by the assigning person.

Water Operator Skills and Knowledge

- The Water operator performs a variety of skilled and semi-skilled tasks independently, or as part of the Water / Wastewater team, including water distribution infrastructure regular maintenance and repairs
- Safe operation of heavy machinery and locate/metering equipment.
- The Water Operator utilizes GIS mapping software and applies their working knowledge in interpreting blueprints/drawings to aide in the construction repair and maintenance of the water distribution system as well as various public buildings and facilities.
- Collaborates with private contractors as authorized and oversees and inspects the work to ensure projects are performed and completed as planned.
- Maintaining work and preventative maintenance records, addressing public inquires, completing infrastructure locates per Ontario One Call.
- On a regular basis the Water Operator liaises with municipal staff, contractors/suppliers, Ministry officials / inspectors, auditors and the public maintaining co-operative working relationships with all groups.
- To ensure compliance and conformance to current standards legislated by the Ministry of Environment, Conservation and Parks the Water Operator is required to maintain detailed and concise records and logs.

Methods to Develop, Assess and Maintain Competencies

The following methods develop, assess and maintain the required competencies for personnel performing duties directly affecting drinking water quality:

- i. Identify Training Requirements
The Manager, Water / Wastewater , ORO and Water Operators must meet the training requirements as per MECP O.Reg.128/04 requirements.
The required competencies include, but are not limited to the following:
 - Class I Water Distribution Operator Certificate
 - Understanding the Quality Management System
 - Familiarity with the Town's water distribution system
 - Knowledge of regulations and identifying, reporting and responding to adverse drinking water conditions as required by regulations.
- ii. Assess Competencies

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The Town of Kingsville may administer certain tests, conduct interviews, verify references and/or request specific documentation as part of the hiring process to verify skills, experience and knowledge.

To meet the ongoing changes to technology, software, the requirements of O.Reg. 128/04 and Water Services processes, Water Operators shall receive training as required by O. Reg. 128/04, at a minimum. The training may be provided on or off site by qualified employees or contracted subject matter experts. Training effectiveness is evaluated when appropriate through testing, or a demonstration of knowledge gained. At the time a licence upgrade is requested by an operator, the ORO in consultation with remaining Water / Wastewater Management will assess the requesting Operators competencies based on experience and knowledge to determine if the license upgrade request is authorized.

Training records are maintained by the Water Operations and Compliance Technician and / or the DWQMS Representative, stored in electronic form as proof that the required training has been successfully completed. The Manager of Public Works & Water / Wastewater is responsible for ensuring that all identified training requirements are completed.

iii. Maintain Competencies

The Supervisor of Water / Wastewater will ensure that the Standard Operating Procedures are reviewed every calendar year and the QMS rep will ensure the Quality Management System are reviewed every calendar year. Furthermore, the Water Operators will meet or exceed the training hours required by MECP O.Reg.128/04 to maintain Water Distribution Operator Certificates. Training hours and courses completed by the Water Operators are logged and tracked by the Water Operations & Compliance Technician and / or the DWQMS Representative and are documented electronically.

Water / Wastewater Water and Wastewater Department Water / Wastewater Water and Wastewater Department Water / Wastewater Water / Wastewater

11. **Personnel Coverage**

Refer to **Appendix A, Procedure 11:01** for Personnel Coverage.

12. **Communications**

Refer to **Appendix A, Procedure 12:01** Communications.

13. **Essential Supplies and Services**

Refer to **Appendix A, Procedure 13:01** Essential Supplies and Services.

14. Review and Provision of Infrastructure

Refer to **Appendix A, Procedure 14:01** Review and Provision of Infrastructure.

15. Infrastructure Maintenance and Rehabilitation

This Element summarizes the maintenance, rehabilitation and renewal programs that are in place for the infrastructure of the Kingsville WDS.

15.1 Planned Infrastructure Maintenance

The Manager of Public Works and Water / Wastewater for Kingsville in consultation with Water / Wastewater staff recommends and plans maintenance activities for the annual budget. The Director of Public Operations of Kingsville in consultation with the Manager of Public Works and Water / Wastewater authorizes planned maintenance activities. The planned maintenance activities are then communicated through routine meetings with staff.

Maintenance plans are developed according to the manufacturer's instructions, regulatory requirements and industry standards. Equipment Operation and Maintenance (O&M) manuals are accessible to staff at the locations specified in QMS Procedure 5:01 Document and Records Control.

15.2 Unplanned Infrastructure Maintenance

The Manager of Public Works and Water / Wastewater for Kingsville, in consultation with staff, authorizes unplanned maintenance, which is responded to on an as-needed or emergency basis. Water / Wastewater Unplanned maintenance is then documented through the appropriate work orders and maintenance records. It is then reviewed annually for trends. This is achieved through a review of Kingsville WDS annual statistics.

15.3 Infrastructure Rehabilitation and Renewal

Rehabilitation and renewal activities including capital upgrades and/or recommendations are determined at least once every calendar year (refer to QMS Procedure 14:01 Review and Provision of Infrastructure). A list of required replacement or desired new equipment is compiled and prioritized by the Director of Public Operations for Kingsville in consultation with the distribution staff. The Director of Public Operations for Kingsville then authorizes the planned rehabilitation and renewal activities. All major expenditures require the approval of the Owner. In addition to the short-term facility needs (i.e. current year), the list also provides a long-term (i.e. rolling five-year) list of major maintenance recommendations.

Planning with other departments, projected growths and the results of unplanned maintenance trends are also considered when planning rehabilitation activities.

The infrastructure needs and approved plans are communicated through management and staff meetings.

15.4 Program Monitoring

To assist in monitoring the effectiveness of the program the Director of Public Operations, Manager of Public Works and Water / Wastewater and Senior Manager of Capital Works & Engineering meet regularly to determine the status of the capital upgrades and/or recommendations, planned maintenance and unplanned maintenance activities.

Maintenance plans are developed for the distribution system according to a combination of the manufacturer's instructions, regulatory requirements, industry standards and equipment operating history. Equipment Operation and Maintenance (O&M) manuals are accessible to staff at the locations specified in QMS Procedure 5:01 Document and Records Control.

Maintenance activities are also reviewed annually for trends through a review of the Kingsville Environmental Service's annual statistics.

The Town of Kingsville's infrastructure maintenance, rehabilitation and renewal program is communicated to the Owner through council meetings. The Town's program is also communicated to the Owner at a minimum of at least once every calendar year through the submission of the capital upgrades recommendations report and through the results of the Management Review.

16. Sampling, Testing, and Monitoring

Refer to **Appendix A, Procedure 16:01** Sampling, Testing, and Monitoring.

17. Measurement and Recording Equipment Calibration & Maintenance

Refer to **Appendix A, Procedure 17:01** Measurement and Recording Equipment Calibration & Maintenance.

18. Emergency Management

Refer to **Appendix A, Procedure 18:01** Emergency Management.

19. Internal Audits

Refer to **Appendix A, Procedure 19:01** Internal Audits.

20. Management Review

Refer to **Appendix K, Procedure 20:01** Management Review.

21. Continual Improvement

Kingsville Water / Wastewater strives to continually improve the effectiveness of its QMS for this distribution system through the identification and implementation of corrective/preventive actions and, as appropriate, through review and consideration of applicable Best Management Practices (BMPs).

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1. Corrective Actions

- a. Non-conformances may be identified through an internal and/or external QMS audit(s) conducted for this drinking water system. They may also be identified as a result of other events such as:
 - an incident/emergency;
 - customer complaint; or
 - other review.
- b. The QMS Representative(s) investigates the need for a corrective action to eliminate the root cause(s) so as to prevent the non-conformance from reoccurring. The investigation may also include input from the operators and other stakeholders and the consideration of BMPs as appropriate.
- c. The QMS Representative(s) determines the corrective action needed based on this consultation and then assigns responsibility and a target date for resolution.
- d. The QMS Representative(s) ensures corrective actions are documented using the Kingsville Water / Wastewater NC-OFI Tracking form. The QMS Representative(s) monitors the progress of corrective actions(s) and provides status updates to Top Management.
- e. The implementation and effectiveness of corrective actions are verified during subsequent internal QMS audits and are considered during the Management Review. If there is evidence that the action taken was not effective, the QMS Representative(s) initiates further corrective action and assigns resources as appropriate until the non-conformance is fully resolved.

2. Preventive Actions


- a. Potential preventive actions may be identified through an internal and/or external QMS audit as Opportunities For Improvement (OFIs), during the Management Review or through other means such as:
 - staff/Owner suggestions;
 - regulator observations;
 - evaluation of incidents/emergency response/tests; and
 - a result of considering a BMP.
- b. The QMS Representative(s) considers whether a preventive action is necessary. The review may also include input from the operators and other stakeholders and the consideration of BMPs as appropriate.
- c. If it's decided that a preventive action is necessary, the QMS Representative(s) determines the action to be taken and assigns responsibility and a target date for implementation.
- d. The implementation of preventive actions is tracked by the QMS Representative(s) using the Kingsville Water / Wastewater NC-OFI Tracking form.

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- e. The implementation and effectiveness of preventive actions are verified during subsequent internal QMS audits and are considered during the Management Review. If there is evidence that the action taken was not effective, the Manager (or designate) may consider further preventive actions and assign resources as appropriate.
 - f. The QMS Representative(s) monitors ongoing corrective/preventative actions and reviews their status and effectiveness during subsequent Management Review meetings.
3. Best Management Practices (BMPs)
- a. The QMS Representatives(s) will review and consider applicable internal and/or external BMPs identified by internal and/or external sources as part of the Management Review and in the corrective and preventative action processes described above.
 - b. BMPs may include, but are not limited to:
 - Internally developed and adopted as a result of changes to legislative or regulatory requirements, trends from audit findings or drinking water system performance trends; 
 - Drinking water industry based standards/BMPs or recommendations; or Those published by the Ministry of the Environment, Conservation and Parks
 - c. At a minimum, applicable BMPs must be reviewed and considered once every 36 months.



Appendix A

	Kingsville Water / Wastewater Procedure 5:01 Documents and Records Control	Element: 5:01 Issued: 26-Jan-09 Rev.#: 9 Pages: 1 of 6
	Reviewed by: Water / Wastewater Supervisor	Approved by: Manager of Public Works and Water / Wastewater

DOCUMENTS AND RECORDS CONTROL

1.0 Purpose

The purpose of this procedure is to describe the methods for identification, storage, protection, retrieval, review, updating, retention time and disposition of Documents and Records

2.0 Scope

This procedure is applicable to Kingsville Water / Wastewater employees who manage or perform work related to Kingsville Water Distribution System operations. This procedure covers all QMS Documents and Records identified in Table 1.

3.0 Responsibilities

3.1. All employees of Kingsville Water / Wastewater are:

- Responsible for complying with this procedure
- Responsible for requesting changes to existing QMS Documents

3.2. QMS Representative(s) is(are):

- Responsible for activities related to maintaining control of and updating documents
- Responsible for ensuring that the requirements of this procedure are met for storage, protection, retrieval, retention time and disposition of documents and records
- To ensure independent review, the QMS representative reviewing a document will be a separate individual than the QMS representative approving that document.
- To ensure updated documents are current and employees are informed of all revisions.

4.0 Definitions

Document – includes a written page, sound recording, video tape, film, photograph, chart, graph, map, plan, survey, book of account and any other information recorded or stored by means of any device

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

QMS Document – any document required by the QMS as identified in this procedure

QMS Record – any record required by the QMS as identified in this procedure

Controlled – the method of tracking changes, revisions and implementation of the document

Retention Period – length of time that a document or record must be kept; see Table 2

5.0 Procedure

5.1 Documents and Records

- Documents are either internal QMS documents or external QMS documents.
- Documents and Records required by the QMS are listed in Table 1.

5.2 Currency & Legibility

- QMS records are stored in such a manner as to prevent deterioration.
- QMS records in retention are filed in the vault at the Kingsville municipal office
- Records older than the age noted in Table 2 are archived, on Laserfiche.
- Documents are edited in a timely manner, as changes occur, by the QMS representative responsible.
- Manager of Public Works and Water / Wastewater controls the master electronic copy documents and modifications to them.
- The Director of Public Operations or the Manager of Public Works & Water / Wastewater approves any and all updates to the QMS documents prior to distribution and use.
- Manager of Public Works and Water / Wastewater ensures distribution of hard copies of documents as updated for staff reference and review.
- All QMS documents are reviewed by the QMS representative on an annual basis, to ensure that the information is still correct and current.
- All manual documents and records shall be clearly visible and legible. Pencil or any other erasable marker shall not be used to record information or data.

5.3 Identification

- External Documents are identified and stored upon receipt and filing the document based on Table 1.
- Internal Documents and Records are prepared in a consistent format, similar to this procedure in format, and are all numbered and dated to assist in managing, locating and retrieving them.

5.4 Storage & Retrieval

- The QMS Document and Record Control Centre is the office of Kingsville Water and Wastewater Department, and control is the responsibility of the assigned QMS Representative(s)
- Originals of all active paper records are stored in the Town of Kingsville, Water and Wastewater Department.
- Copies of the Operational Plan and Procedures are maintained in the Town of Kingsville Water and Wastewater Department and Environmental Shop by the designated QMS representative
- Originals of all electronic records are stored in The Town of Kingsville's main server.

- All internal QMS documents are electronically controlled, with only the designated QMS representatives having electronic permission to modify them.
- Archived documents and records are stored in The Town of Kingsville, municipal office vault.

5.5 Protection

- Active paper documents and records are stored in filing cabinets, and are thus protected from damage, deterioration and loss.
- Master Operational Plan and Procedures is a controlled electronic document maintained by a designated QMS representative.
- Electronic records are stored in a “read-only” manner on a file server remote from Kingsville Water and Wastewater Department Offices and are backed up daily.
- Archived documents and records are stored on Town of Kingsville’s Laserfiche program.

5.6 Retention

- Records will be maintained for the length of time indicated in Table 2 below

5.7 Disposal

- Disposal of obsolete documents and records is the responsibility of the assigned QMS Representative
- Records older than the age noted in Table 2 are archived or destroyed as per the Town’s Record Retention Policy.

6.0 Related Documents & Records

A list of associated forms, procedures, work instructions, documents, and other records, is attached to this Procedure as Table 1.

7.0 Revision History

Date	Revision #	Reason for Revision
26-Jan-09	0	Procedure issued
28-Mar-11	1	Updates following Internal Audit
4-Apr-11	2	Updates following CGSB Systems Audit Report – 2010
2-Dec-13	3	Updates following SAI Global Audit 2013
26-Nov-19	4	Updated header and formatting
20-July-20	5	Updated to include new maintenance forms
14-Mar-22	6	Updated to include new department titles
01-Aug-23	7	Updated Table 1 Designated Document Control Location
08-Aug-24	8	Updated department titles
01-Dec-25	9	Updated department titles

Table 1: Designated location for documents and records required by the Operating Authority's QMS


Type of Document	Designated Document Control Location (HC = Hardcopy, E = Electronic)
Internal QMS Documents	
Standard Operating Procedures – related to QMS	HC – Director of Public Operations Office
Emergency/Essential Supplies and Services List	HC – Director of Public Operations Office
Master Operational Plan and Procedures	HC & E – Public Operations Office/DWQMS Electronic Folder
Operational Plan and Procedures	HC & E – Public Operations Office/ DWQMS Electronic Folder
Compliance Tracking Spreadsheet	E - DWQMS Electronic Folder
Annual Operational Budget and Capital Budget	E – Public Operations Electronic Folder
System Map	E – GIS layers
External QMS Documents	
Applicable Acts and Regulations	E – Public Operations Drive Electronic Folder
Maintenance manuals, equipment manuals	HC & E – Director of Public Operations Office
AWWA and other Standards	HC – Director of Public Operations Office
Municipal By-Laws	E – Town Company Drive By-law Folder /Website
Collective Agreement	HC & E - Director of Public Operations Office/ Town Company Drive Policy and Resource Manual Folder
Town of Kingsville – Policy Manual	E – Town Company Drive Policy and Resource Manual Folder
Town of Kingsville Emergency Response Plan	HC & E – Director of Public Operations Office/EOC Folder
QMS Records	
Completed Work Orders/City Works	E – Cityworks
Flushing Chlorine Residuals	HC & E – Director of Public Operations Office/ Public Operations Electronic Residuals Folder
Regulated Residuals	HC & E- UWSS Office/Server
Bacteriologic Samples	HC & E- UWSS Office/Server
Organic/Inorganic Testing	HC & E- UWSS Office/Server
Lead Testing	HC & E- UWSS Office/Server
Completed Hydrant Inspection Forms	HC & E – Director of Public Operations Office/ Infrastructure and Engineering Hydrants, Valves and Dead-end Flushing Electronic Folder

Type of Document	Designated Document Control Location (HC = Hardcopy, E = Electronic)
Communications related to QMS, Internal and external	E – Public Operations DWQMS Folder
Calibrations Certificates	E – Public Operations DWQMS Certification of Instruments and Materials Electronic Folder
Completed Management Review	E – Public Operations DWQMS Folder
Annual Operational Budget and Capital Budget	E – Town Company Drive Budget Electronic Folder/Webpage
Training records	HC & E – Public Operations Office/DWQMS Electronic Folder
Flushing Log	HC & E – Director of Public Operations Office/ Infrastructure and Engineering Hydrants, Valves and Dead-end Flushing Electronic Folder
External/Internal Audit Reports, Action Plans and Checklists	E – Public Operations DWQMS Folder
MECP Inspection Records	E – Public Operations DWQMS Folder
MECP Annual Reports	E- Town of Kingsville DWQMS Folder and Webpage
QMS Forms	
Hydrant Inspection Form	E –Public Operations Controlled Forms Electronic Folder
Dead-end Flushing Log	E – Public Operations Controlled Forms Electronic Folder
Valve Maintenance Log	E – Public Operations Controlled Forms Electronic Folder
Water Main Commissioning Form	E – Public Operations Controlled Forms Electronic Folder
Water Main Repair Report	E – Public Operations Controlled Forms Electronic Folder
Review of DWQMS and Emergency Procedures	E – Public Operations Controlled Forms Electronic Folder
Non Conformance Reporting Form	E – Public Operations Controlled Forms Electronic Folder

Table 2: Record Retention: Relevant regulatory and minimum retention periods

RECORD	RETENTION TIME / LOCATION	LEGISLATION
DWQMS Operational Plan	10 years / Electronic	Directors' Direction under SWDA
Documents/records required to demonstrate compliance with Ontario legislation	As per applicable regulations	SDWA O. Reg. 170/03 O. Reg. 128/04
Completed Work Orders/City Works	15years / Electronic	SDWA O. Reg. 170/03
Completed Chlorine Residuals	15 years / Electronic	SDWA O. Reg. 170/03
Communications related to QMS,	15 years / Electronic	SDWA O. Reg. 170/03

Internal and External		
Calibrations Certificates	15 years / Electronic	SDWA O. Reg. 170/03
Completed Management Review Documents	15 years / Electronic	SDWA O. Reg. 170/03
Annual Operational Budget and Capital Budget	6 years / Electronic	By-Law 62-2018
RECORD	RETENTION TIME / LOCATION	LEGISLATION
Training Records	5 years / Electronic	By-Law 62-2018
Dead-end Flushing Log	15 years / Electronic	SDWA O. Reg. 170/03
Hydrant Inspection Form	15 years / Electronic	SDWA O. Reg. 170/03
Flushing and Valve Maintenance Log	15 years / Electronic	SDWA O. Reg. 170/03
Water Main Commissioning Form	15 years / Electronic	SDWA O. Reg. 170/03
Water Main Repair Report	15 years / Electronic	SDWA O. Reg. 170/03
External/Internal Audit Reports, Action Plans and Checklists	15 years / Electronic	SDWA O. Reg. 170/03
MECP Inspection Records and Annual Reports	15 years / Electronic	SDWA O. Reg. 170/03
Completed Daily Time Sheets	6 years / Electronic	By-Law 62-2018
Monthly Overtime Summaries	5 years / Electronic	By-Law 62-2018

	Kingsville Water / Wastewater Procedure 7/8:01 Risk Assessment & Outcomes	Element: 7/8:01 Issued: 26-Jan-09 Rev.#: 6 Pages: 1 of 9
	Reviewed by: Water / Wastewater Supervisor	Approved by: Manager of Public Works and Water / Wastewater

RISK ASSESSMENT & OUTCOMES

1.0 Purpose

To define the process for conducting a drinking water risk assessment and for documenting and reviewing the results.

2.0 Scope

Applies to the Kingsville Water / Wastewater drinking water system and is limited to the assessment of potential drinking water health hazards. The approach to addressing other potential hazards is set out in QMS Procedure #18:01 Emergency Management.

3.0 Responsibilities

- All employees of Kingsville WDS
- QMS Representative(s)

4.0 Definitions

Critical Control Point (CCP) – an essential step or point in the subject 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

Hazardous Event – an incident or situation that can lead to the presence of a hazard

Hazard – a source of danger or a property that may cause drinking water to be unsafe for human consumption; may be biological, chemical, physical or radiological in nature

Control Measure - includes any processes, physical steps or other contingencies that have been put in place to prevent or reduce a hazard before it occurs

Likelihood – the probability of a hazard or hazardous event occurring

Consequence – the potential impact to public health and/or operation of the drinking water system if a hazard/hazardous event is not controlled

Threshold Number – numerical value assigned by the assessment team to a high risk event. Events ranked at or above this limit require further investigation to determine whether they are critical control points.

5.0 Procedure

- 5.1 The QMS Representative(s) ensures that a risk assessment is conducted at least once every thirty-six months and is also responsible for coordinating the risk assessment and ensuring that all documents and records related to the risk assessment activities are maintained.

- 5.2 For each of the system’s activities/process steps, potential hazardous events and associated hazards (possible outcomes) that could impact the system’s ability to deliver safe drinking water are identified. At a minimum, potential hazardous events and associated hazards as identified in the most current version of the Ministry of the Environment Conservation and Parks (MECP) document titled “Potential Hazardous Events for Municipal Residential Drinking Water Systems” (as applicable to the system type) must be considered.
- 5.3 For each of the hazardous events, specify control measures currently in place at the facility that eliminate the hazard or prevent it from becoming a threat to public health.
- Note: Some hazards/hazardous events may have step-by-step emergency plans associated with them. These emergency plans are further described in QMS Procedure #18:01 Emergency Management.
- 5.4 Taking into consideration existing control measures (including the reliability and redundancy of equipment), assign each hazardous event a value for the likelihood and a value for the consequence of that event occurring based on the following criteria:

Value	Likelihood of Hazardous Event Occurring
1	Little or no potential (rare, low risk, has not occurred) – more than every 25 years
2	Rare (infrequent, not likely, rare) - 5 to 25 years
3	Infrequent (moderate likely, occasional, possible) – 1 to 5 years
4	Frequent (often, highly likely, routinely, occasional) - monthly to a year
5	Routine (immediate, extremely likely, frequent) – daily to weekly

Value	Consequence of Hazardous Event Occurring
1	Insignificant – Little or no disruption to normal operations, no impact on public health
2	Minor – Significant modification to normal operations but manageable, no impact on public health
3	Moderate – Potentially reportable, corrective action required, potential public health impact, disruption to operations is manageable
4	Major – Reportable, system significantly compromised and abnormal operations if at all, high level of monitoring and corrective action required, threat to public health
5	Catastrophic – Complete failure of system, water unsuitable for consumption

Multiply the likelihood and consequence values to determine the risk value (ranking) of each hazardous event and record all values in Table 1. Hazardous events with a ranking of 9 or greater are considered high risk.

5.5 Review the hazardous events and rankings documented in Table 1 and identify your Critical Control Points. Critical Control Points must meet all the following criteria:

- ✓ The hazardous event has a ranking of 9 or greater
- ✓ The hazardous event can be prevented, eliminated or reduced
- ✓ The hazardous event can be monitored
- ✓ Control limits can be assigned to a hazardous event, and
- ✓ Control of a hazardous event is essential to ensure the safety of the drinking-water.

5.6 List identified CCPs in Table 2. Document critical control limits (e.g. chlorine residuals) for each CCP. List the procedures that are developed to:

- Monitor the critical control limits
- Respond to, report and record deviations from the critical control limits.

5.7 At least once every calendar year, the QMS Representative facilitates the verification of the currency of the information and the validity of the assumptions used in the risk assessment in preparation for the Management Review. When performing this review, the following may be considered:

- Process/equipment changes
- Reliability and redundancy of equipment
- Emergency situations/service interruptions
- CCP deviations
- Audit/inspection results

6.0 Related Documents

Standard Operating Procedures – related to QMS

Municipal Emergency Response Plan

System Map

AWWA/Industry Standards

Applicable Municipal Bylaws

Contract Agreement with UWSS

7.0 Revision History

Date	Revision #	Reason for Revision
26-Jan-09	0	Procedure issued
4-Apr-11	1	Updates following CGSB Systems Audit Report - 2010
2-Dec-13	2	Updates following SAI Global Audit 2013
26-Nov-19	3	Updated changes as per DWQMS version 2.0
14-Mar-22	4	Updated to include new department titles
17-Apr-25	5	Update to include new department titles and change to 5.4 To remove “Add” and replace with “Multiply”
1-Dec-25	6	Updated to include new department titles

Table 1: Risk Assessment Table

Activity/ Process Step	MECP Potential Event/Hazard Reference # (see Table 4)	Description of Hazardous Event	Possible Outcome (Hazards)	Existing Control Measures	Likelihood	Consequence	Risk Value	CCP?
Reservoirs, standpipes	6	Chemical/Biological contamination at tower/reservoir (vandalism/terrorism)	Potential for unsafe drinking water	<ul style="list-style-type: none"> Security – locked doors and fencing Under the responsibility of the UWSS 	1	5	5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Reservoirs, standpipes	N/A	Structural/mechanical failure at reservoir/standpipe causing low pressure	Potential for unsafe drinking water	<ul style="list-style-type: none"> Inspections conducted as per regulations routine checks by operations Under the responsibility of the UWSS 	1	4	4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Distribution	8	Low System Pressure	Potential for unsafe drinking water	<ul style="list-style-type: none"> Log & monitor through customer complaints SOP #3 Water Service - Low Pressure / Service Leaks SOP #14 Emergency Interconnect 	2	4	8	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Distribution	2, 8	Pipeline/watermain Break	Potential for unsafe drinking water	<ul style="list-style-type: none"> Competent Staff SOP#10, SOP#11, SOP# 12, SOP#13 - Watermain Break Emergency Plan AWWA Standards Essential Supplies and Services Contact List 	3	3	9	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Distribution	N/A	Adverse Water Result in Distribution (Adverse as defined in O. Reg. 170/03)	Potential for unsafe drinking water	<ul style="list-style-type: none"> Procedure 16:01 for Sampling, Testing and Monitoring (including AWQI) SOP#1 and SOP#6 for Flushing Essential Supplies and Services Contact List 	2	3	6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	N/A	Loss of Supply	Low pressure leading to potential contamination	<ul style="list-style-type: none"> Town of Kingsville Emergency Response Plan SOP#14 Emergency Interconnect Essential Supplies and Services List 	1	5	5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Activity/ Process Step	MECP Potential Event/Hazard Reference # (see Table 4)	Description of Hazardous Event	Possible Outcome (Hazards)	Existing Control Measures	Likelihood	Consequence	Risk Value	CCP?
Distribution	6	Vandalism and/or Terrorism	Potential for unsafe drinking water	<ul style="list-style-type: none"> SOP#1 and SOP#6 for Flushing Essential Supplies and Services Contact List 	1	4	4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Distribution	7	Cybersecurity Threats	Interruption of data recording leading to a loss of critical/ compliance data	<ul style="list-style-type: none"> Identify and access management that includes dual authentication. Firewall Data back-ups Procedure 12:01 Communications 	2	4	8	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Distribution	N/A	Aging Infrastructure	Potential for unsafe drinking water, reduced flows, pipeline breaks	<ul style="list-style-type: none"> Infrastructure rehabilitation and Renewal (Annual Operational and Capital Budgets) Essential Supplies and Services Contact List SOP#10, SOP #11, SOP # 12 #13 - Watermain Break 	4	2	8	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Distribution	9	Failure of Backflow Device	Potential for unsafe drinking water	<ul style="list-style-type: none"> Back Flow Prevention By Law requiring Annual inspections Essential Supplies and Services Contact List SOP#1 and SOP#6 for Flushing Procedure 16:01 for Sampling and Monitoring 	2	4	8	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Distribution	12	Failure to maintain target secondary disinfection	Potential for unsafe drinking water	<ul style="list-style-type: none"> SOP#1 and SOP#6 for Flushing Procedure 16:01 for Sampling and Monitoring Refer to UWSS Essential Supplies and Services Contact List 	3	3	9	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Activity/ Process Step	MECP Potential Event/Hazard Reference # (see Table 4)	Description of Hazardous Event	Possible Outcome (Hazards)	Existing Control Measures	Likelihood	Consequence	Risk Value	CCP?
Distribution	1, 4	Bio-film Formation	Potential for unsafe drinking water	<ul style="list-style-type: none"> Essential Supplies and Services Contact List SOP#1 and SOP#6 for Flushing Procedure 16:01 for Sampling and Monitoring 	3	2	6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Distribution	1, 3, 4	Increased average temperature during summer months as a result of climate change	Potential for unsafe drinking water	<ul style="list-style-type: none"> Essential Supplies and Services Contact List SOP#1 and SOP#6 for Flushing Procedure 16:01 for Sampling and Monitoring 	3	2	6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Distribution	1, 3, 4	Sustained extreme temperatures) deep freeze)	Potential for unsafe drinking water	<ul style="list-style-type: none"> Essential Supplies and Services Contact List SOP#1 and SOP#6 for Flushing Procedure 16:01 for Sampling and Monitoring 	2	3	6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Distribution	9	Cross Connection to Non-Municipal water	Potential for unsafe drinking water	<ul style="list-style-type: none"> Back Flow Prevention By- Law requires annual inspections Essential Supplies and Services Contact List SOP#1 and SOP#6 for Flushing Procedure 16:01 for Sampling, Testing and Monitoring (including AWQI) 	2	4	8	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Distribution	2, 5	Contamination of source water at the UWSS	Water supply shortfall	<ul style="list-style-type: none"> Town of Kingsville Emergency Response Plan SOP#14 Emergency Interconnect Essential Supplies and Services Contact List 	1	5	5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Activity/ Process Step	MECP Potential Event/Hazard Reference # (see Table 4)	Description of Hazardous Event	Possible Outcome (Hazards)	Existing Control Measures	Likelihood	Consequence	Risk Value	CCP?
Distribution	6	Unauthorized use of Fire Hydrants	Potential for unsafe drinking water	<ul style="list-style-type: none"> Observant staff 	3	2	6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Table 2: Identified Critical Control Points (CCPs)

CCP	Critical Control Limits	Monitoring Procedures	Response, Reporting and Recording Procedures
Failure to maintain target secondary disinfection	<u>UWSS (chlorination)</u> Trigger free Chlorine Residual 0.25 mg/L Target free Chlorine Residual 0.80 mg/L	Sampling & monitoring by UWSS & Municipal Operating Authority	SOP# 4 - Sampling Collection SOP# 1 & 6 - Flushing

Table 3: Record of Annual Review/36-Month Risk Assessment

The Drinking Water Quality Management Standard (DWQMS) requires that the currency of the information and the validity of the assumptions used in the risk assessment be verified at least once every calendar year. In addition, the risk assessment must be conducted at least once every thirty-six months.

Date of Activity	Type of Activity	Summary of Results
2019-09-11	36-Month Risk Assessment	All Activities/Process Steps were re-assessed and new hazardous events and hazards identified (including those in the MECP’s “Potential Hazardous Events for Municipal Residential Drinking Water Systems”) and ranked according to OP-07 (revision 0). Results captured in Revision 4 of this Summary of Risk Assessment Outcomes.
2020-09-11	Annual Review	Review was completed with supervisory staff and no deviations from CCP were found. A Risk Assessment Maintenance Schedule was created and the capital schedule for buried infrastructure was reviewed.

2021-09-08	Annual Review	Review was completed with supervisory staff and no deviations from CCP occurred. Staff updated the Risk Assessment Maintenance Schedule. The capital schedule for buried infrastructure was reviewed to ensure it incorporated the risk assessment outcomes.
2022-11-17	36-Month Risk Assessment	All Activities/Process Steps were re-assessed and new hazardous events and hazards identified including those in the MECP’s “Potential Hazardous Events for Municipal Residential Drinking Water Systems”.
2023-08-23	Annual Review	Review was completed and discussed at the Management Review meeting with no outcomes needing updates.
2024-06-12	Annual Review	Review was completed, addressed cyber security addition to RA, no other outcomes were identified as needing rescoring.
2025-04-17	36-Month Risk Assessment	Review was completed, addressed rescoring to 4 activities, remove “Add” and replace with “Multiply” in scoring instruction of procedure.

Table 4: Potential Hazardous Event/Hazard Reference Numbers (based on MECP’s “Potential Hazardous Events for Municipal Residential Drinking Water Systems” dated April 2022)


If the hazardous event/hazard is not applicable to this drinking water system (DWS), it will be noted in the first column of this table.

System Type (indicate all that apply to this DWS)		Reference Number	Description of Hazardous Event/Hazard
X	All Systems	1	Long Term Impacts of Climate Change
X	All Systems	2	Water supply shortfall
X	All Systems	3	Extreme weather events (e.g., tornado, ice storm)
X	All Systems	4	Sustained extreme temperatures (e.g., heat wave, deep freeze)
X	All Systems	5	Chemical spill impacting source water
X	All Systems	6	Terrorist and vandalism actions
X	All Systems	7	Cybersecurity Threats
X	Distribution Systems	8	Sustained pressure loss
X	Distribution Systems	9	Backflow
N/A	Treatment Systems	10	Sudden changes to raw water characteristics (e.g., turbidity, pH)
N/A	Treatment Systems	11	Failure of equipment or process associated with primary disinfection (e.g., coagulant dosing system, filters, UV system, chlorination system)
X	Treatment Systems and Distribution Systems providing secondary disinfection	12	Failure of equipment or process associated with secondary disinfection (e.g., chlorination equipment)

N/A	Treatment Systems using Surface Water	13	Algal blooms
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Revision History

Date	Revision #	Reason for Revision
26-Jan-09	0	Initial risk assessment conducted
28-Mar-11	1	Updates following Internal Audit
02-Dec-13	2	Updates following SAI Global Audit
26-Nov-19	3	Updated as per DWQMS version 2.0 and added Table 3 and 4
14-Mar-22	4	Updated to include new department titles
08-Aug-24	6	Update to include 2023 review and Cyber Security in Outcomes, update to reflect free chlorine
17-Apr-25	7	Update to include 2025 36 Month Review changes to scoring

	Kingsville Water / Wastewater Procedure 11:01 Personnel Coverage	Element: # 11:01 Issued: 26-Jan-09 Rev.#: 5 Pages: 1 of 2
Reviewed by: Water / Wastewater Supervisor		Approved by: Manager of Public Works and Water / Wastewater

PERSONNEL COVERAGE

1.0 Purpose

To describe the procedure for ensuring that sufficient and competent personnel are available for duties that directly affect drinking water quality.

2.0 Scope

Applies to operations personnel at Kingsville Water and Wastewater Department.

3.0 Responsibility

- All employees of Kingsville Water and Wastewater Department
- QMS Representative(s)

4.0 Definitions

Competence – The combination of observable and measurable knowledge, skills, and abilities which are required for a person to carry out assigned responsibilities.

Facility Log Book – The daily sign in book constitutes the facility log book.

5.0 Procedure


- 5.1 The Director of Public Operations ensures that personnel meeting the competencies identified in the Competency Requirements Table are available for duties that directly affect drinking water quality.
- 5.2 Kingsville Water / Wastewater is staffed by personnel Monday to Friday, 7:30 a.m. to 4:00 p.m.
- 5.3 The Director of Public Operations is the primary Overall Responsible Operator (ORO). The Manager of Public Works and Water / Wastewater is the alternate ORO in the absence of the Director. The designated ORO is recorded in the facility logbook along with the shift designated OIC/OIC's. In the absence of both of the above staffed positions the Owner may appoint an ORO or OIC based on License and competency.
- 5.4 The Supervisor of Water / Wastewater (or designate) receives after hours phone calls for service and assigns an operator based on the Overtime (OT) schedule during the time that the facility is un-staffed (i.e., evenings, weekends and Statutory Holidays).
- 5.5 In the event of a work stoppage, the Director of Public Operations and the Manager of Public Works and Water / Wastewater will perform or assign day-to-day operations and maintenance activities as licensing permits.

6.0 Related Documents

- Facility Logbook
- Overtime Schedule
- Vacation Schedule
- Collective Agreement

7.0 Revision History

Date	Revision #	Reason for Revision
26-Jan-09	0	Procedure issued
2-Dec-13	1	Updates following SAI Global Audit 2013
26-Nov-19	2	Updated template and format
14-Mar-22	3	Updated to include new department titles
08-Aug-24	4	Updated department titles, Procedure to include ORO/OIC assignment, updated log book description
1-Dec-25	5	Updated to include new department titles

	Kingsville Water / Wastewater Procedure 12:01 Communications	Element: #12:01 Issued: 26-Jan-09 Rev.#: 9 Pages: 1 of 2
Reviewed by: Water / Wastewater Supervisor		Approved by: Manager of Public Works and Water / Wastewater

COMMUNICATIONS

1.0 Purpose

To describe the Kingsville Water / Wastewater procedure for QMS-related communications between top management and the Owner, Operating Authority personnel, Suppliers and the public.

2.0 Scope

Applies to the internal and external communications regarding the Quality Management System (QMS) implemented at Kingsville Water / Wastewater

3.0 Responsibility

- QMS Representative(s)
- Operators

4.0 Definitions

Public – includes subject system consumers and stakeholders

5.0 Procedure

- 5.1 The status of the QMS and its effectiveness shall be communicated to the owner with the results from the Management Review.
- 5.2 The operational plan and procedures will be made available to all employees.
- 5.3 The Director of Public Operations will approve the QMS prior to being communicated to all employees as part of the implementation process.
- 5.4 The Water Compliance & Operations Technician will administer notifications and training as required on updates and versions of the QMS and operational plan.
- 5.5 New hires will receive QMS awareness training during orientation.
- 5.6 Daily communications occur with operators using the Electronic Service Management Request system of tracking and recording information. Either Electronic or Hard copies of the Service Requests are distributed to the operators and the operators provide feedback written on the documents or into the system, which is then either entered or reviewed in the master Electronic Service Management System
- 5.7 Communications with UWSS Operators and staff will be as required through email and telephone contact and are documented accordingly.
- 5.8 Where appropriate, information regarding the QMS, operation and maintenance of the drinking water system will be communicated by means of:
 - mail or email submissions to regulatory agencies
 - mail or email submissions to vendors and service providers included in the Essential Supplies & Services Contact List
 - Media releases, website posting and/or water/tax bill inserts

- Providing access to the current Kingsville Water Specifications on the Town website
- Updated tender and/or contract packages


5.9 The QMS policy will be posted on the Owner’s website and available upon request.

6.0 Related Documents

Management Review Documents

7.0 Revision History

Date	Revision #	Reason for Revision
26-Jan-09	0	Procedure issued
28-Mar-11	1	Updates following Internal Audit
28-Apr-11	2	Updates following CGSB Systems Audit Report – 2010
30-Sep-11	3	Updates following CAR Review
27-Feb-12	4	Updates following CAR Review
2-Dec-13	5	Updates following SAI Global Audit 2013
26-Nov-19	6	Updated template and format
14-Mar-22	7	Updated to add new department titles
08-Aug-24	8	Updated procedure to include Water Compliance & Operations Tech, Updated department titles
1-Dec-25	9	Updated to add new department titles

	<p style="text-align: center;">Kingsville Water / Wastewater Procedure 13:01 Essential Supplies & Services</p>	<p>Element: # 13:01 Issued: 26-Jan-09 Rev.#: 9 Pages: 1 of 4</p>
<p>Reviewed by: Water / Wastewater Supervisor</p>		<p>Approved by: Manager of Public Works and Water / Wastewater</p>

ESSENTIAL SUPPLIES & SERVICES

1.0 Purpose

To describe the Kingsville Water / Wastewater procedure for procurement and for ensuring the quality of essential supplies and services.

This procedure identifies the supplies and services deemed essential to the delivery of safe drinking water and how to ensure the quality of essential supplies and services that can affect water quality.

2.0 Scope

Applies to essential supplies and services pertaining to Kingsville Water / Wastewater , as identified in this procedure.

3.0 Responsibilities

- QMS Representative(s)
- Water / Wastewater Supervisor
- Operators


4.0 Definitions

Essential Supplies and Services – are goods and people coming in from outside of the drinking-water system that are essential for the quality and safety of drinking water.


Supplier – an organization or person that provides an essential supply product or service.

5.0 Procedure

- 5.1 Emergency/Essential Supplies & Services Contact List for Kingsville Water / Wastewater are listed Table 1 – following this procedure. The list is reviewed at least once every calendar year and is updated as required by the Director of Public Operations, or delegated QMS Representative.
- 5.2 An approved list of suppliers and contractors is maintained throughout the year. All suppliers and contractors must adhere to municipal policies and procedures.

Products and Services are obtained in accordance with the municipality’s procurement policy manual for contractors, equipment, supplies, and services.
- 5.3 Previous history and reliability of particular contractors and suppliers is used to ensure reliability of service. Selected Contractors have demonstrated commitment to the Town to be available for and to perform emergency services. All process components/equipment provided by the supplier must meet applicable regulatory requirements and industry standards for use in the drinking water system prior to their installation. 

Historical data regarding quality of supplies is also used to select suppliers and provide confidence in the reliability of product.

- 5.4 All third party drinking water services are provided by accredited and licensed laboratories. Sampling is performed by certified operators. 

All equipment utilized by Kingsville Water / Wastewater staff shall be maintained and calibrated as specified in the Manufacturers Specifications or provincial regulations. Only qualified personnel shall provide calibration services.

Certified operators supervise contracted services for water main work in accordance to the Towns Water Main Specifications, Development Standards Manual, and OPSS.MUNI 100 General Conditions of Contract.

- 5.5 The supplies and services requirements will be communicated to all relevant personnel in Kingsville Water / Wastewater .
- 5.6 Purchasing policies and requirements will be communicated to suppliers and service providers.

6.0 Related Documents

Town of Kingsville - Procurement Policy


7.0 Revision History

Date	Revision #	Reason for Revision
26-Jan-09	0	Procedure issued
28-Apr-11	1	Updates following CGSB Systems Audit Report – 2010
30-Sep-11	2	Update following CAR Review
2-Dec-13	3	Updates following SAI Global Audit 2013
3-Mar-19	4	Updates to Table 1
26-Nov-19	5	Updated template and format
14-Mar-22	6	Updated to add new department titles
01-Aug-23	7	Updated to include specifications for contracted services
08-Aug-24	8	Updated Table 1, updated department titles
1-Dec-25	9	Updated to add new department titles and suppliers

Table 1
Emergency/Essential Supplies Contact List

SERVICE PROVIDER CONTACT INFO		
SERVICE	PRIMARY	SECONDARY
Construction/ Excavation	Dimenna Excavating Contractors Ruthven ON, N0P 2G0 Office 519-322-4605 Dino Dimenna Cell 519-776-5109	SHEABROS Drainage 5085 Walker Road, Windsor, ON Office – 519-972-5552 After Hours – 519-990-2759
Trucking	Dimenna Excavating Contractors Ruthven ON, N0P 2G0 Office 519-322-4605 Dino Dimenna Cell 519-796-1359	SHEABROS Drainage 5085 Walker Road, Windsor, ON Office – 519-972-5552 After Hours – 519-990-2759
Construction/ Maintenance Vacuum Excavation/ pipe camera	Hurricane SMS 6930 6th Conc. N, Amherstburg, ON. N9V 2Y9 Shop 519-726-6388 Justin Cell 519-796-9259	Leamington Sanitation Inc (LSI) 3148 Olinda Side Rd, Ruthven, ON Office – 519-326-5844 (24hr)
OCWA – sampling service provider on behalf of UWSS	OCWA 1615 Union Ave Ruthven Ontario. N0P 2G0 Ken Penney 519-326-4447	
Lab Testing	Caduceon Environmental Laboratories 5 – 3201 Marentette Ave. Windsor, Ontario N8X 4G3 Tel: 519-966-9541 Email: Lmerko@caduceonlabs.com	SGS Canada Inc. 657 Consortium Court London, ON, N6E 2S8 519-672-4500
Meter Calibration	SCG Flowmetrix 2088 Jetstream Road London, ON	Advanced Meter Service Ingersoll, ON
Calibration of Portable Analyzers	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon SK S7K 1V7 Customer Service 1-800-387-7503 Email: orders@cleartech.ca	Hach Service Plus 3020 Gore Road London Ontario N5V 4T7 Tel: 1-800-665-7643 Email: techhelp@hach.com
Locate Service Providers	Priority Locate Services Chatham, ON Brandon Briscoe – 519-365-5222	
Police	OPP 41 Division Street Kingsville, Ontario N9Y 1P4 519-733-2345 administrative 1-888-310-1122 Reports 911 for emergencies	OPP 116 County Rd 34 W Cottam, Ontario N0R 1B0
Fire	1720 Division Rd North Kingsville, Ontario 519-733-2314 , Fire Hall 911 for emergencies	120 Fox Street Cottam, Ontario
Ambulance	911 for emergencies	

SUPPLIER CONTACT INFO		
SUPPLIERS	PRIMARY	SECONDARY
WECHU	1005 Ouellette Ave. Windsor, Ontario N9A 4J8 (D)519-258-2146 (AH)519-973-4510	
MECP	Spills Action Centre 1-800-268-6060	
Distribution Components Piping, hydrants, fittings, etc	Underground Specialties (Wolseley) 5340 Walker road Oldcastle ON. N0R 1L0 (519)-737-1263	EMCO Waterworks 5255 County Road 42 Windsor, ON. N8N 2M1 (519)-944-3626
Sodium Hypochlorite	Underground Specialties (Wolseley) 5340 Walker road Oldcastle ON. N0R 1L0 (519)-737-1263	Holland Cleaning Solutions Ltd 4590 Rhodes Dr Windsor Ontario N8W 5C2 519-948-4373
Miscellaneous Suppliers	Fastenal Company 2 Iroquois Rd. Unit # 4 RR#4 Leamington Ontario Office 519-322-1800	Windsor Factory Supply 213 Talbot St West Leamington, Ontario N8H 1N8 Counter 519-326-5767
	Queens Auto CARQUEST 2013 Division Rd Kingsville, ON 519-733-6554	

	Kingsville Water / Wastewater Procedure 14:01 Review and Provision of Infrastructure	Element: # 14:01 Issued: 26-Jan-09 Rev.#: 4 Pages: 1 of 2
Reviewed by: Water / Wastewater Supervisor		Approved by: Manager of Public Works and Water / Wastewater

REVIEW AND PROVISION OF INFRASTRUCTURE

1.0 Purpose

To describe Kingsville Water / Wastewater procedure for reviewing the adequacy of infrastructure necessary to operate and maintain the drinking water distribution system.

2.0 Scope

Applies to review and provision of infrastructure at Kingsville Water / Wastewater

3.0 Responsibility

- QMS Representative(s)

4.0 Definitions

Infrastructure – the set of interconnected structural elements that provide the framework for supporting the operation of the drinking water system, including buildings, workspace, process equipment, hardware and software and supporting services, such as transport or communication.

Rehabilitation – the process of repairing or refurbishing an infrastructure element.

Renewal – the process of replacing the infrastructure element with new elements.

5.0 Procedure


- 5.1 At least once every calendar year, the Director of Public Operations conducts a review of the drinking water system’s infrastructure to assess its adequacy for the operation and maintenance of the system.
- 5.2 The outcomes of the risk assessment documented as per Procedure 7/8:01 are also considered as part of this review.
- 5.3 A summary of maintenance and capital recommendations (Annual Maintenance Budget) will be submitted to the owner for review and comment. Upon authorization, timelines and responsibilities for implementation of items identified will be documented and scheduled.
- 5.4 The Director of Public Operations will include the results of the recommendations and proposed timelines at the Management Review.

6.0 Related Documents

Annual Operational Budget and Capital Budget
Management Review Documents

7.0 Revision History

Date	Revision #	Reason for Revision
26-Jan-09	0	Procedure issued
26-Nov-19	1	Updated as per DWQMS version 2.0
14-Mar-22	2	Updated to add new department titles
08-Aug-24	3	Updated department titles
1-Dec-25	4	Updated to add new department titles

	Kingsville Water / Wastewater Procedure 16:01 Sampling, Testing & Monitoring	Element: # 16:01 Issued: 26-Jan-09 Rev.#: 4 Pages: 1 of 2
	Reviewed by: Water / Wastewater Supervisor	Approved by: Manager of Public Works and Water / Wastewater

Sampling, Testing & Monitoring

1.0 Purpose

To describe the Kingsville Water / Wastewater procedure for sampling, testing and monitoring for process control and finished drinking water quality.

2.0 Scope

Applies to sampling, testing and monitoring for the Kingsville’s Environmental Service Department.

3.0 Responsibilities

- QMS Representative(s)
- Water / Wastewater Supervisor
- Operators

4.0 Definitions

None

5.0 Procedure


- 5.1 All sampling, monitoring and testing is conducted at a minimum in accordance with SDWA O. Reg. 170/03. Adverse water quality incidents are responded to and reported as per regulations.
- 5.2 Samples are submitted to an accredited and licensed laboratory. The sampling schedule is maintained by the UWSS. OCWA performs that service on behalf of the UWSS, electronic versions of the reports are sent to the Town of Kingsville as received. Both hard and electronic versions are also maintained at the UWSS. 
- 5.3 Samples, testing, and monitoring results are presented to the Owner by means of Annual and Summary Reports.
- 5.4 In-house sampling and flow monitoring activities are conducted on an as-needed basis by a certified operator and as shown in Table 1. The results of these tests are recorded on a Flushing form at the Kingsville Water and Wastewater Department.

Table 1 – In-House Sampling and Testing Schedule

<i>Parameter</i>	<i>Location</i>	<i>Frequency</i>
Target chlorine residual (Non regulatory) as per Table 2, CCP, in Procedure 7/8:01	Identified dead ends	As required by Kingsville Water / Wastewater SOP

- 5.5 Pressures and secondary disinfectant residuals are continuously monitored by UWSS.

-
- 5.6 Additional sampling for target chlorine residual is conducted in accordance with Table 1 above.
 - 5.7 Upstream adverse sample results at the UWSS Water Treatment Plant are communicated using the OCWA Adverse Sample Results Protocol on behalf of UWSS.
 - 5.8 Sampling, testing and monitoring results are readily accessible at the UWSS.

6.0 Related Documents

- SOPs
- Flush Log (Chlorine Residual)

7.0 Revision History

Date	Revision #	Reason for Revision
26-Jan-09	0	Procedure issued
26-Nov-19	1	Updated template and format
14-Mar-22	2	Updated to add new department titles
08-Aug-24	3	Updated Responsibilities, update recording into Flushing Form removing Flushing Log
1-Dec-25	4	Updated to add new department titles

	Kingsville Water / Wastewater Procedure 17:01 Measurement & Recording Equipment Calibration & Maintenance		Element: # 17:01 Issued: 26-Jan-09 Rev.#: 4 Pages: 1 of 2
	Reviewed by: Water / Wastewater Supervisor	Approved by: Manager of Public Works and Water / Wastewater	

MEASUREMENT & RECORDING EQUIPMENT CALIBRATION AND MAINTENANCE

1.0 Purpose

To describe the Kingsville Water / Wastewater procedure for the calibration and maintenance of measurement and recording equipment.

2.0 Scope

Applies to the measurement and recording equipment in the Kingsville Water and Wastewater Department.

3.0 Responsibility

- QMS Representative(s)
- Water / Wastewater Supervisor
- Operators

4.0 Definitions

None

5.0 Procedure

- 5.1 All measurement and recording equipment calibration and maintenance activities are performed by appropriately trained and qualified personnel of a third party, Town of Kingsville or OCWA staff.
- 5.2 Calibration and maintenance activities are carried out in accordance with procedures specified in the manufacturer's manual and frequency is documented in Table 1.

**Table 1 - Measurement and Recording Equipment
Calibration and Maintenance Information**

Sampling/Testing or Monitoring Parameter	Equipment	Method	Frequency	Schedule	Results
Chlorine Residuals	Hand held Hach	Manufacturer's Manual Recommendation	Annually	As per Work Order	MS Drive
Chlorine Residuals	Hand Held Hach	Kingsville Verification using HACH Standards	Quarterly	Per Compliance Calendar	Water / Wastewater Office


5.3 Calibration and maintenance records and maintenance/equipment manuals are maintained as per 5:01 Document and Records Control.

6.0 Related Documents

Calibration Certificates
Flush Log (Chlorine Residual)
Kingsville Verification Log

7.0 Revision History

Date	Revision #	Reason for Revision
26-Jan-09	0	Procedure issued
26-Nov-19	1	Updated template and format
14-Mar-22	2	Updated to add new department titles
08-Aug-24	3	Added Kingsville Verification Log, updated procedure 5.0
1-Dec-25	4	Updated to add new department titles, include frequency of calibration and verifications

	Kingsville Water / Wastewater Procedure 18:01 Emergency Management	Proc.: #18:01 Issued: 26-Jan-09 Rev.#: 5 Pages: 1 of 2
Reviewed by: Water / Wastewater Supervisor		Approved by: Manager of Public Works and Water / Wastewater

EMERGENCY MANAGEMENT

1.0 Purpose

To describe the Kingsville Water / Wastewater procedure for maintaining a state of emergency preparedness.

2.0 Scope

Applies to potential emergency situations or service interruptions identified for the water system operated by Kingsville Water / Wastewater .

3.0 Responsibility

- Owner
- QMS Representative(s)
- Water / Wastewater Supervisor
- Operators

4.0 Definitions

Municipal Emergency Plan – The emergency plan required by the Emergency Management and Civil Protection Act and adopted as a by-law by council, governing the provision of necessary services during and emergency and the procedures under and the manner in which employees of the municipality and other persons will respond to the emergency.

Emergency – 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.


Emergency Response – the effort to mitigate the impact of an emergency on consumers.

5.0 Procedure

- 5.1 The Director of Public Operations maintains the Emergency Response Plan and Emergency Management Procedure.
- 5.2 Table 1 describes the list of potential emergency situations or service interruptions. For each of these emergency situations/service interruptions, a step-by-step SOP defining the processes for response and recovery is in place.

TABLE 1

POTENTIAL EMERGENCIES	
Description of Emergency	Potential Outcome
Contamination of water either from the source or in the distribution system (i.e. low pressure, main break, loss of supply, etc.)	Health risk, contamination of treated water or environment, service disruption. Please refer to SOP Index to obtain appropriate SOP to be used.


- 5.3 Appropriate personnel are trained on this procedure and on specific emergency situations on an ongoing basis. Personnel are also trained by reviewing and testing the SOPs (used for emergencies). All training/testing is documented.
- 5.4 Operating Authority and Owner roles and responsibilities for Emergency Management are set out in the Roles and Responsibilities table in Element 9.
- 5.5 Relevant sections of the Town of Kingsville’s Emergency Plan, which may also contain additional information on emergency roles and responsibilities, for those situations which affect drinking water are contained in the Town of Kingsville Municipal Offices.
- 5.6 An emergency/essential supplies and services contact list is maintained and available to all staff and updated at least annually.
- 5.7 As appropriate, communications during emergency situations or service interruptions are set out in the Town of Kingsville Emergency Plan/ SOPs/ communication protocol.
- 5.8 Any and all communications relative to the QMS and water distribution system during an emergency situation or service interruption will be the responsibility of the Director of Public Operations or the ORO. 

6.0 Related Documents

- Municipal Emergency Response Plan
- Records of Training/testing/plan updates
- Emergency/Essential Supplies and Services Contact List
- SOPs – index for SOPs

7.0 Revision History

Date	Revision #	Reason for Revision
26-Jan-9	0	Procedure issued
28-Mar-11	1	Updates following Internal Audit
26-Nov-19	2	Updated template and format
14-Mar-22	3	Updated to add new department titles
08-Aug-24	4	Updated department titles
1-Dec-25	5	Updated to add new department titles

	Kingsville Water / Wastewater Procedure 19:01 Internal Audit	Proc.: #19:01 Issued: 26-Jan-09 Rev.#: 4 Pages: 1 of 2
	Reviewed by: Water / Wastewater Supervisor	Approved by: Manager of Public Works and Water / Wastewater

INTERNAL AUDIT

1.0 Purpose

To describe Kingsville's Water and Wastewater Department procedure for conducting internal audits at the facility level that evaluates the conformance to the requirements of the Drinking Water Quality Management Standard (DWQMS).

2.0 Scope

This procedure applies to the process of conducting internal audits at the Kingsville WDS.

3.0 Responsibility

- QMS Representative(s)

4.0 Definitions

Audit – a systematic and documented verification process that involves objectively obtaining and evaluating documents and processes to determine whether a quality management system conforms to the requirements of this Standard.

Non-conformance – the non-fulfillment of a DWQMS requirement

Opportunity for Improvement (OFI) – an opportunity to discuss, review and possibly implement a recommendation from an audit

5.0 Procedure

- 5.1 The Director of Public Operations or designate maintains the Internal Audit Procedure and schedules the internal QMS audit that addresses all DWQMS elements conducted for the facility at least once every calendar year. The Director of Public Operations selects personnel to perform the audit considering adequate skills, training and/or experience.
- 5.2 The auditor evaluates conformity of the QMS with the requirements of the DWQMS by asking questions which are designed to encompass all of the requirements of the DWQMS.
- 5.3 The auditor will use a checklist developed from MECP DWQMS and supporting documentation, to ensure all 21 elements of the DWQMS are addressed. Audits will include interviews with select staff of the Operating Authority, observation of operating practices, and review of documents. The auditor will document the audit findings in written reports to the Operating Authority.

- 5.4 The auditor reviews the facility’s approved policies and procedures, the results of previous internal and external QMS audits, the status of corrective and preventive actions and other QMS-related documentation prior to the audit.

- 5.5 When a nonconformity is identified through the internal audit process, an action plan to rectify the issue is developed by the Director of Public Operations, specifying responsibility and a target date for resolution. The Director of Public Operations monitors progress of the action plan related to the identified nonconformity until it is fully resolved.


- 5.6 The QMS Representative(s) ensures that results of the audit are included as input to the management review process.

6.0 Related Documents

Audit Reports
 Action Plans

7.0 Revision History

Date	Revision #	Reason for Revision
26-Jan-09	0	Procedure issued
26-Nov-19	1	Updated template and format
14-Mar-22	2	Updated to add new department titles
08-Aug-24	3	Updated new department titles
1-Dec-25	4	Updated to add new department titles
19-Jan-26		Added OFI to definitions

	Kingsville Water / Wastewater Procedure 20:01 Management Review		Element: # 20:01 Issued: 26-Jan-09 Rev.#: 6 Pages: 1 of 2
	Reviewed by: Water / Wastewater Supervisor	Approved by: Manager of Public Works and Water / Wastewater	

MANAGEMENT REVIEW

1.0 Purpose

To describe the Kingsville WDS procedure for a Management Review of the Quality Management System (QMS) at the facility level.

2.0 Scope

Applies to the review by Top Management for Kingsville Water / Wastewater of the QMS implemented for Kingsville WDS.

3.0 Responsibility

- QMS Representative(s)

4.0 Definitions

Management Review – a process where a higher level of managers in the operating authority considers various indicators within the QMS.

5.0 Procedure

- 5.1 The Director of Public Operations determines a suitable frequency for Management Review meetings for the drinking water system. As a minimum, reviews must be conducted at least once every calendar year.
- 5.2 The standing agenda for Management Review meetings is as follows:
 - a) Incidents of regulatory non-compliance;
 - b) Incidents of adverse drinking water tests;
 - c) Deviations from critical control limits and response actions;
 - d) The effectiveness of the risk assessment process;
 - e) Internal and third-party audit results (including any preventive actions implemented to address Opportunities for Improvement (OFI) or rationale as to why OFIs were not implemented);
 - f) Results of emergency response testing (including any OFIs identified);
 - g) Operational performance;
 - h) Raw water supply and drinking water quality trends;
 - i) Follow-up on action items from previous Management Reviews;

- j) The status of management action items identified between reviews;
- k) Changes that could affect the QEMS;
- l) Consumer feedback;
- m) The resources needed to maintain the QEMS;
- n) The results of the infrastructure review;
- o) Operational Plan currency, content and updates; and
- p) Staff suggestions.

The QMS Representative(s) coordinates the Management Review and ensures that the agenda with identified responsibilities is distributed to all participants in advance of the Management Review meeting along with any related reference materials.

- 5.3 The Management review participants review all data presented and make recommendations and/or initiate action plans to address identified deficiencies as appropriate.
- 5.4 The QMS Representative ensures that minutes of and action plans resulting from the Management Review meeting are prepared and distributed to the management in the Kingsville Water / Wastewater and to the owner.
- 5.5 The Director of Public Operations monitors the progress and documents the completion of action plans resulting from the Management Review.

6.0 Related Documents

Management Review Documents
 Audit Reports

7.0 Revision History

Date	Revision #	Reason for Revision
26-Jan-09	0	Procedure issued
28-Mar-11	1	Updates following Internal Audit
2-Dec-13	2	Updates following SAI Global Audit 2013
26-Nov-19	3	Updated template and format
14-Mar-22	4	Updated to add new department titles
08-Aug-24	5	Updated department titles
1-Dec-25	6	Updated to add new department titles