



THE MUNICIPALITY OF  
**LAMBTON SHORES**

Operations Management International Canada Inc.



## **DWQMS Operational Plan**

For the:

East and West Lambton Shores  
Distribution System

#049-401

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## 1.0 Quality Management System (QMS)

This Operational Plan documents the Quality Management System for the East Lambton Shores Distribution System Number 260006568, and the West Lambton Shores Distribution System Number 260006581 and meets the requirements of the Ministry of Environment, Conservation and Parks' (MECP's) Drinking Water Quality Management Standard (DWQMS 2.0).

The Quality Management System for the East Lambton Shores Distribution System and West Lambton Shores Distribution System covers the transmission and distribution of potable drinking water to consumers within the Municipality of Lambton Shores.

Treated potable drinking water is purchased from the Lake Huron Primary Water Supply System (LHPWSS) Number 210000791 and the Lambton Area Water Supply System (LAWSS) Number 210000906.

The water enters the East Lambton Shores Distribution System from three connection points to the LHPWSS. The primary supply point is a 600mm connection on the B Line in the Municipality of South Huron and one secondary/emergency 300mm supply point at the north boundary of Lambton Shores at Grand Bend, Hwy 21 as well as one secondary/emergency 150mm supply point from the North Middlesex Number (26006529) system at the Ausable River between North Middlesex and Lambton Shores.

The water enters the West Lambton Shores Distribution System through a 300mm connection at the intersection of Townsend Line and Lakeshore Road. The Municipality of Lambton Shores is a member of the Joint Board of Management for the LHPWSS and the LAWSS.



Ministry of the Environment,  
Conservation and Parks

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

Fields marked with an asterisk (\*) are mandatory.

Owner of Municipal Residential Drinking Water System \*  
[The Corporation of the Municipality of Lambton Shores](#)

#### Subject Systems

Name of Drinking Water System (DWS) *	Licence Number *	Name of Operating Subsystems (if applicable)	Name of Operating Authority *	DWS Number(s) *
1. East Lambton Shores Distribution System	049-101		Operations Management International Canada	260006568
2. West Lambton Shores Distribution System	049-101		Operations Management International Canada	260006581

#### Contact Information for Questions Regarding the Operational Plan

##### Primary Contact

Last Name *	First Name *	Middle Initial
Marsh	Rick	
Title *	Telephone Number *	Email Address *
Area Manager	519-490-5576 ext.	richard.marsh@jacobs.com

##### Secondary Contact

Last Name	First Name	Middle Initial
Wright	Dale	
Title	Telephone Number	Email Address
Project Manager	519-490-5582 ext.	dale.wright1@jacobs.com

## 2.0 Quality management system (QMS) policy

The Operating Authority for the East and West Lambton Shores Distribution System is committed to comply with all water legislative requirements and regulations, to supply clean safe drinking water to meet the consumers' requirements and understands the importance of the maintenance and continual improvement of the Quality Management System.

The following policy statement is posted on the municipal website (at [Water and Sewers - Lambton Shores](#)), Community Services Department and at the operating authority Water Department.

*The Water Operating Authority, Operations Management International Canada Inc., is committed to providing safe drinking water to all residents. The Quality Management System (QMS) guides the operations and programs undertaken throughout the distribution systems which are owned by the Municipality of Lambton Shores.*

*The Water Operating Authority is committed to:*

- *The maintenance and continual improvement of the QMS,*
- *The consumer, to providing safe drinking water,*
- *Comply with applicable legislation and regulations,*
- *Communicating these policy commitments to all Operating Authority personnel, the Owner and the public,*
- *Maintain and improve a QMS that is consistent with the Policy.*



March 8, 2021

**Rick Marsh**, Area Manager  
 OMI Canada Inc. Top Management

Date

## 3.0 Commitment and endorsement

This Operational Plan documents the quality management system (QMS) established for the East and West Lambton Shores Distribution System and is endorsed by the Owner and the Operating Authority's Top Management.

Top Management's commitment to an effective QMS is evidenced by:

- a) Ensuring that a QMS is in place that meets the requirements of the DWQMS,
- b) Ensuring that the Operating Authority is aware of the applicable legislative and regulatory requirements,
- c) Communicating the QMS (according to Element 12 Communications and Element 20 Management Review), and
- d) Determining, obtaining or providing the resources needed to maintain and continually improve the QMS (and in accordance with Element 14 Review and Provision of Infrastructure).

The Owner and Top Management will re-endorse the Operational Plan when there is a major change in the plan's intent or when signing parties change.

## EAST AND WEST LAMBTON SHORES DISTRIBUTION SYSTEM COMMITMENT & ENDORSEMENT

This Operational Plan documents the quality management system (QMS) established for the East and West Lambton Shores Distribution System and is endorsed by the Owner and the Operating Authority's Top Management. The Owner's commitment to an effective Quality Management System (QMS) is evidenced by the resources provided during implementation and maintenance of the Operational Plan and the QMS.

The Owner and Top Management of the Operating Authority are committed to the implementation, maintenance, and continual improvement of a QMS that meets the requirements of the Drinking Water Quality Management Standard (DWQMS 2.0).

Endorsement by the Owner and Top Management acknowledges the need for and supports the provision of sufficient resources to maintain and continually improve the QMS. Top Management demonstrates their endorsement of the Operational Plan through reporting to the Owner on the results of the Management Review and by key signatures included below.

Top Management's commitment to an effective QMS is evidenced by:

- a) Ensuring that a QMS is in place that meets the requirements of the DWQMS,
- b) Ensuring that the Operating Authority is aware of the applicable legislative and regulatory requirements,
- c) Communicating the QMS (according to Element 12 Communications and Element 20 Management Review), and
- d) Determining, obtaining or providing the resources needed to maintain and continually improve the QMS (and in accordance with Element 14 Review and Provision of Infrastructure).

The Owner and Top Management will re-endorse the Operational Plan when there is a major change in the plan's intent or when signing parties change.



**Steve McAuley**, CAO  
Owner Representative

March 7, 2022

Date



**Rick Marsh**, Area Manager  
OMI Canada Inc. Top Management

March 7, 2022

Date

## 4.0 QMS Representative

The QMS Representative roles and responsibilities are carried out by the Administrative Assistant, with support of a contracted QMS Representative and other staff (as indicated under s.9.0 of this document). The alternate QMS Representative is the Project Manager.

The QMS Representative's responsibilities include:

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

**Refer to:**

- s.9.0 Organizational roles, responsibilities, and authorities

## 5.0 Document and records control

All records to demonstrate compliance and/or conformance shall be maintained per the Safe Drinking Water Act.

All documents and records received are reviewed, acted upon if needed, and retained as per Appendix "A".

Operational Plans that are the subject of an audit by an auditor for the accrediting body shall be retained for 10 years by the owner of the Operational Plans and Accredited Operating Authority for the subject system to which the Operational Plans apply.

The Municipal Drinking Water Licence specifies that records related to the Licence and/or the Drinking Water Works Permit are retained for 5 years, unless otherwise specified – such as for Form 1's, Form 2's and Form 3's – which are to be retained for 10 years.

**Refer to:**

- Appendix "A" QMS Document and Records Control procedure



## 6.0 Drinking water systems

The Corporation of the Municipality of Lambton Shores is the owner and Operations Management International Canada Inc. is the operating authority for the East and West Lambton Shores Distribution System. This section provides an overview of each.

### 6.1 EAST LAMBTON SHORES DISTRIBUTION SYSTEM

The East Lambton Shores Distribution System is owned by the Municipality of Lambton Shores and is operated under contract by Operations Management International Canada Inc (OMI). Due to the heavy influx of tourists and the summer season use, the Lambton Shores water consumption increases by approximately 230% during the months of June, July and August as compared to the winter months.

The north and easterly part of Lambton Shores is supplied by water from the Lake Huron Primary Water Supply System (LHPWSS) through its connection to the twin 1200mm lines at the B Line in the municipality of South Huron (LHPWSS). The LHPWSS is owned by the Joint Management Board and operated by Ontario Clean Water Agency (OCWA).

The Municipality of Lambton Shores obtains its drinking water supply from the Lake Huron Primary Water Supply System (LHPWSS). The raw source water already meets the Ontario drinking water standards when it enters the Lambton Shores Distribution System.

The LHPWSS Water Treatment Plant (WTP) employs pre-chlorination, screening, powder activated carbon addition (seasonally on an as-required basis), coagulation, flocculation, sedimentation, dual-media filtration, post-chlorination, and pH adjustment using sodium hydroxide to treat raw water obtained from Lake Huron. The WTP intake crib and raw water intake pipe has an estimated gross capacity of 454.6 Megalitres/day (MLD). The WTP rated capacity is 340.0 MLD.

The drinking water system is monitored at various locations throughout the system via a Supervisory Control and Data Acquisition (SCADA) system. Common event-driven fluctuations can include rough lake conditions which can increase turbidity levels, weather-related events, storm runoff, zebra mussels and lake turnover. The LHPWSS treatment plant is responsible for responding to any operational challenges or threats posed by event-driven fluctuations. For site-specific information refer to [www.watersupply.ca](http://www.watersupply.ca).

The Lambton Shores line is 600mm and is connected to a Pressure Reducing Valve (PRV) Chamber and a Metering Chamber approximately 110m from the connection point. The PRV in this chamber is set at approximately 850 kPa (125 psi) and can be adjusted by (LHPWSS) operations staff. The 600 mm main runs south on B Line, west on Hwy 81, south along the Mollard Line before going across country and crossing the Ausable River to connect into a 600mm line and Control Valve (set at a certain speed and monitors for flow in L/s), just south of the entrance to the Huron Woods Subdivision on Hwy 21. The Control Valve modulates the flow based on the water level in the Northville Tower. The 600mm line also connects to a 350mm line and PRV chamber running north to serve Grand Bend and area. This PRV is set at approximately 441 kPa (64 psi). From this point on all lines serve as both transmission and distribution lines with direct service connections tied in. The south bound 600mm line continues to Northville at the intersection of Hwy 21 and Port Franks Road where a 450mm line runs south on Port Franks Road to the Northville Elevated Tower. On Hwy. 21, the 450mm line continues southwest from Northville to serve the Ipperwash area. This 450mm line is connected in a chamber at Ravenswood to the 300mm line extending

northeast along Hwy. 21 from the Lambton Area Water Supply System (LAWSS) which originates in Point Edward.

From the Northville Elevated Tower, a 300mm line runs south along Northville Road delivering water at approximately 275 kPa (40 psi) to a Booster Pump Station at the intersection of Ravenswood Line. From the Booster Pump Station, a 300mm line runs at approximately 990 kPa (143 psi) when the pump is running, south on Northville Road and then east on Townsend Line into Arkona. When the pump shuts off, the Arkona Standpipe maintains the Zone pressure at approximately 655 kPa (95 psi) back at the Booster Pump Station. At the Booster Pump Station, there is a 250mm bypass line that runs east on Ravenswood Line to Thedford where it fills the underground reservoir at Gordon Rd. through a control valve.

The East Lambton Shores Distribution System can also be supplied with water from the Lambton Area Water Supply System (LAWSS) through the normally closed interconnection to the LHPWSS at Ravenswood. Through this interconnection, the Northville Elevated Tower can be filled and can in turn supply the East Lambton Shores Distribution System in case of an emergency. The LAWSS system is owned by the LAWSS Joint Management Board and is operated by OCWA.

The OA maintains disinfection residuals throughout the system by flushing dead ends and hydrant flushing. The OA verifies the disinfection residuals by routinely checking the residuals manually as well as calibration checking the online analyzers and collecting weekly bacteriological samples.

**Refer to:**

- Appendix “B” System Schematic

**Northville Elevated Tower**

The Northville Elevated Tower is filled from the LHPWSS as described above. The level of the elevated tower is used to activate the control valve at the Hwy 21 chamber at Huron Woods to maintain the tower level. This Huron Woods control valve is controlled by a Supervisory Control and Data Acquisition (SCADA) system that also allows online status monitoring and manual operation from remote locations. The SCADA system computer is located in the base of the tower which gives excellent off-site backup facilities and is supported by an auto start generator in the case of a power failure.

The Northville Elevated Tower provides secondary disinfection with a chlorine injection and a recirculation system that keeps the chlorine residual in the tower at an adequate range to meet regulations. The Northville Elevated Tower supplies the pressure zone (Zone 1) from the Hwy 21 chamber at Huron Woods to Ipperwash, Port Franks and the Northville Booster Pump Station.

**Thedford Reservoir and Pump Station**

The Thedford reservoir is filled by gravity from the Northville Elevated Tower or the Arkona Standpipe through a 250mm line with a control valve in a chamber just ahead of the reservoir. There is a four pump system across Gordon Road from the reservoir which supplies the pressure for the Thedford distribution system. The pumps are staged to run as the pressure decreases with the fourth pump coming on for fire rated flows. The operating pressure is maintained in a range from approximately 350 kPa (51psi) to approximately 475 kPa (69psi) in the Thedford system and is metered on the discharge line. The Thedford Pump System has an auto start diesel generator which will supply adequate power to operate the complete pumping system.

The Thedford system can also be supplied with water from the LHPWSS through a 150mm line coming from the Parkhill, North Middlesex distribution system. This system is owned by the Municipality of North



Middlesex and operated by OCWA. This can be used as an emergency supply source but the valve into the reservoir is normally in a closed position. There are a few Lambton Shores customers supplied from this line and a constant flow is maintained to the reservoir through a 19 mm connection in order to sustain water quality in the transmission main.

### Arkona Standpipe

The Arkona standpipe is located on Townsend Line at the east side of Arkona and provides level control signals to the Northville Booster Pump Station.

There is also an automated chlorine residual monitor connected to the municipal SCADA System on the municipal water supply at the Arkona Sewage Treatment Plant which is at the north end of the Arkona distribution system.

### Other Possibilities

The East Lambton Shores Distribution System is very flexible in that it can be controlled to supply water to the West Lambton Shores Distribution System (WLSDS) in emergency situations. Arkona water can be supplied to West Lambton Shores through three interconnect valves. During this time of emergency feed to Forest, the existing 50mm inlet valve would be opened into the Thedford Reservoir from Parkhill which would supply the Thedford Distribution System and would increase the supply available for the other areas.

The original 300mm transmission main coming into Grand Bend from South Huron can also be used for additional supply in case of emergency or if the B Line connection is taken out of service for any reason. This line can also be used to push water north back into South Huron and further into Bluewater if necessary. The Municipality of South Huron is the owner and operator of the South Huron Drinking Water System. The Municipality of Bluewater is the owner and Ontario Clean Water Agency (OCWA) is the operator of the Bluewater Drinking Water System. This 300 mm line valve is normally closed at the Grand Bend boundary and is metered coming into Lambton Shores but is not metered for service back into South Huron.

## 6.2 WEST LAMBTON SHORES DISTRIBUTION SYSTEM

The West Lambton Shores Distribution System is owned by the Municipality of Lambton Shores and is operated under contract by OMI.

The western part of Lambton Shores includes the former Town of Forest as well as the area from Fuller Road to Lake Huron and as far north as Kettle Point. This system receives its drinking water supply from LAWSS which is owned by Joint Board of the Lambton Area Water Supply System (LAWSS) and operated by Ontario Clean Water Agency (OCWA).

The Municipality of Lambton Shores obtains its drinking water supply from the Lambton Area Water Supply System (LAWSS). The Lambton Area Water Supply System (LAWSS) is a direct filtration facility with a maximum rated capacity of 181,844 m<sup>3</sup>/day. The Water Treatment Plant (WTP) uses chemically assisted filtration with disinfection. The facility consists of an intake system, a low lift pumping system, a treatment system and distribution pumping system that supplies water to seven different drinking water systems. Water is drawn into the plant (a zebra mussel chemical control system is available when needed) via a 1,675 mm intake pipe, located approximately 100 m into the St. Clair River at a depth of 15 m. The water passes through travelling screens prior to entering the surge wells and pre-disinfection is utilized. Water flows to the low lift pump wet wells where a total of 4 vertical turbine pumps are located and used as

needed. The water is then pumped to a common discharge header where a coagulant is added and then flash mixed. Powdered activated carbon (PAC) is also applied at this location when needed to control taste and odour problems. The water is then flocculated with polymer being added when needed. Polymer can be added to any and all of the following as required: to the flocculation trains, filter inlet channels and each filter. Water from the flocculators is then sent to be filtered by dual media filters (10 filters in total). The filter effluents combine into two clearwells via gravity where sodium hypochlorite is added. To increase the chlorine contact time, the treated water is diverted to two baffled reservoirs (in series with total capacity of 67,460 m<sup>3</sup>). The water is fluoridated upon exiting the reservoirs. Six vertical turbine pumps are available for supplying water to the distribution system.

The water treatment process and distribution components are controlled by a dedicated supervisory control and data acquisition (SCADA) computer system and are monitored by a certified operator 24 hours a day. Emergency generators powered by diesel are available at the WTP to keep the plant in operation should a power failure occur. Backwash from the dual media filters is treated using a high-rate clarification process (ACTIFLO). The clarified water is dechlorinated and then discharged to the St. Clair River and the settled material is sent to the Sarnia Water Pollution Control Plant for final treatment and disposal. This system is served by a 300mm PVC line which enters Lambton Shores at the corner of Townsend Line and Lakeshore Road that records water going into the standpipe as well as any water going back into the LAWSS to provide a pressure zone in neighbouring Plympton/Wyoming municipality. There is a meter chamber immediately southwest of this intersection on Lakeshore Road which records all usage coming into this area. The main waterline on Townsend Line from Lakeshore to the Water Storage Standpipe as well as the standpipe in Forest is owned by LAWSS.

The meter chambers, Townsend Line water main and the Standpipe storage is maintained and controlled by the LAWSS contract operator Ontario Clean Water Agency (OCWA). The OA has SOP's to check chlorine disinfectant residuals and act as required.

The West Lambton Shores Distribution System can also be supplied potable water from the East Lambton Shores Distribution System by opening the normally closed isolation valves at the intersection of Lakeshore Road and West Ipperwash Road interconnect. Through this interconnection point water can be supplied from the East Lambton Shores system to maintain the Standpipe at an acceptable level to serve the West Lambton Shores system. This interconnection would only be used in emergency situations since the East Lambton Shores System was not designed for peak demands in the West Lambton Shores System.

The OA maintains disinfection residuals throughout the system by flushing dead ends and hydrant flushing. The OA verifies the disinfection residuals by routinely checking the residuals manually as well as calibration checking the online analyzers and collecting weekly bacti samples.

**Refer to:**

- Appendix “B” System Schematic

## 7.0 Risk assessment

Top Management, the QMS Representative and Operators make up the team to identify potential hazards and hazardous events that could affect the water system, the control measures to address the hazards, identify the Critical Control Points and Critical Control Limits (CCL's), associated methods of monitoring, recording and responding to CCL deviations and reporting on them.

The risk assessment process considers potential hazardous events and associated hazards identified in MECP's document titled "[Potential Hazardous Events for Municipal Residential Drinking Water Systems](#)", dated April 2022 as it may be amended. The process also considers any additional potential hazardous events and associated hazards.

Hazardous events and hazards are assessed on the basis of likelihood, severity and detectability, the total of which gives a ranking. The reliability and redundancy of equipment is considered in the process. The assessment criteria is summarized in the following table and values are combined to give an overall level of risk in the outcomes.

Likelihood	Severity	Detectability	Rating
<u>Rare</u> : May occur in exceptional circumstances and has not occurred in the past.	<u>Insignificant</u> : impact, little public exposure, little or no health risk.	<u>Very detectable</u> : Easy to detect, visual.	1
<u>Unlikely</u> : Could occur at some time, historically has occurred less than once every 5-10 years.	<u>Minor</u> : Limited exposure, minor health risk.	<u>Moderately detectable</u> : Increased flow rates.	2
<u>Possible</u> : Has occurred or may occur once or more per year.	<u>Moderate</u> : Minor public exposure, minor health risk.	<u>Normally detectable</u> : Visually detectable, but not on rounds or regular basis.	3
<u>Likely</u> : Has occurred or may occur on a monthly to quarterly basis.	<u>Major</u> : Large population at risk.	<u>Poorly detectable</u> : Visually detectable, but not inspected on a regular basis.	4
<u>Very likely</u> : One or more occurrences on a monthly or more frequent basis.	<u>Catastrophic</u> : Major impact for large population, complete failure of systems.	<u>Undetectable</u> : Cannot detect.	5

Top Management, QMS Representative and Operators conduct the full risk assessment at least once every Calendar Year and conduct the review on the same occasion to ensure that the information and assumptions used in this process for all hazardous events and hazards listed in risk assessment outcomes remain current and valid.

## 8.0 Risk assessment outcomes

The outcome of the risk assessment process is summarized in the risk assessment records that document:

- a) the identified potential hazardous events and associated hazards,
- b) the assessed risks associated with the occurrence of the hazardous events,

- c) the ranked hazardous events,
- d) the identified control measures to address the potential hazards and hazardous events,
- e) the identified critical control points (CCP's) and their respective critical control limits (CCL's),
- f) procedures and/or processes to monitor the CCL's,
- g) procedures to respond to deviations from CCL's, and
- h) procedures for reporting and recording deviations from CCL's.

Procedures or processes to monitor CCL's; procedures to respond to deviations from CCL's and for reporting and recording deviations from CCL's are identified in the risk assessment outcomes documents.

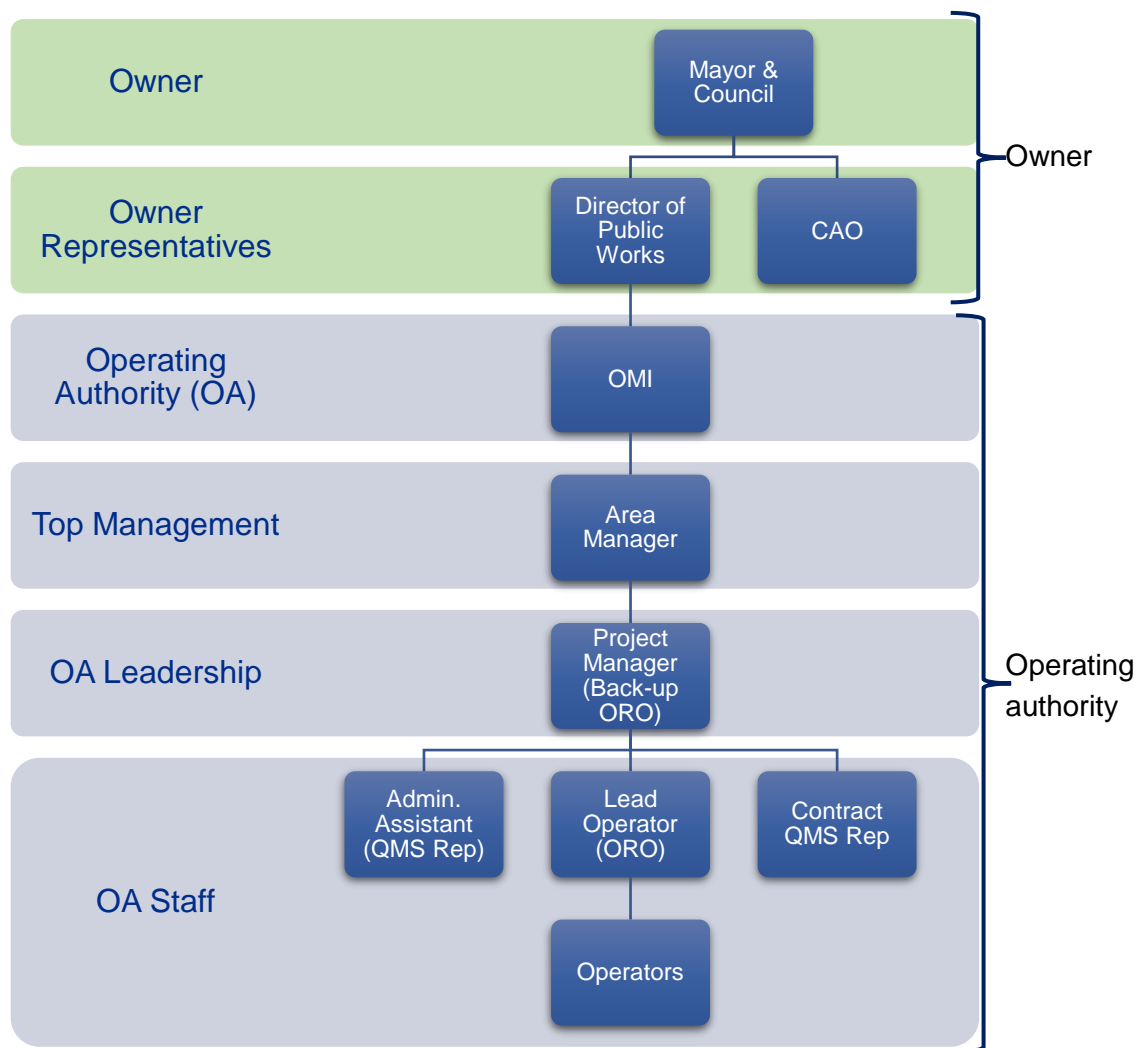
**Refer to:**

- East Lambton Shores Distribution System Risk Assessment Outcomes
- West Lambton Shores Distribution System Risk Assessment Outcomes

## 9.0 Organizational roles, responsibilities, and authorities

Top Management shall keep the operational structure, respective roles, responsibilities and authorities current, and shall communicate this information to the owner and personnel.

### EAST AND WEST LAMBTON SHORES DISTRIBUTION SYSTEM



\***ORO** – Overall Responsible Operator

Roles, responsibilities and authorities related to provision of safe drinking water are described below:

Role	Responsibilities	Authorities
<b>Owner – Mayor &amp; Council</b>	<ul style="list-style-type: none"> <li>– Ultimate responsibility for the provision of safe drinking water</li> <li>– Ensure compliance with applicable legislation and regulations</li> <li>– Provide resources</li> </ul>	<ul style="list-style-type: none"> <li>– Financial, administrative authority related to the distribution of safe drinking water</li> </ul>
<b>Owner Representative – CAO</b>	<ul style="list-style-type: none"> <li>– Communication with Mayor and Council about the QMS and the distribution system</li> <li>– Recommendations for system improvements</li> <li>– Presentation of budgets to council</li> </ul>	<ul style="list-style-type: none"> <li>– Financial, administrative authority related to the distribution of safe drinking water</li> </ul>
<b>Owner Representative – Director of Public Works</b>	<ul style="list-style-type: none"> <li>– Complete oversight of the distribution system</li> <li>– Determine and obtain resources for the QMS and necessary infrastructure and resources to operate and maintain the drinking water system safely and effectively</li> <li>– Preparation of budget and planning materials</li> <li>– Ensure the system is operated in accordance with all applicable legislation and regulations</li> <li>– Monitor and administer the OMI contract</li> <li>– Communicate with Top Management</li> <li>– Follow-up on any incidences of non-compliance conduct monthly progress meetings with contract operator</li> <li>– Submit annual reports for review</li> </ul>	<ul style="list-style-type: none"> <li>– Financial, administrative and technical authority related to the distribution safe drinking water</li> <li>– Recommend changes to the QMS</li> <li>– Staffing-within the guidelines of the Municipality and contract agreements</li> <li>– Monitor and communicate day-to-day needs with contract operator</li> <li>– Ensure response to any adverse water quality issue</li> <li>– Recommend changes to the QMS</li> </ul>
<b>Area Manager – Top Management</b>	<ul style="list-style-type: none"> <li>– Complete oversight of distribution system</li> <li>– Ensure the system is operated in accordance with all applicable legislation and regulations</li> <li>– Supervise the operation, repair, and maintenance of water facilities</li> <li>– Appoint and authorize a QMS Representative</li> <li>– Responsible for Management Reviews</li> <li>– Prepare required reports and maintain record keeping procedures</li> </ul>	<ul style="list-style-type: none"> <li>– Approve the QMS Operational Plan</li> <li>– Administrative and technical authority related to the distribution of safe drinking water to the Municipality of Lambton Shores</li> <li>– Perform employee evaluations</li> <li>– Scheduling within the department</li> </ul>

Role	Responsibilities	Authorities
	<ul style="list-style-type: none"> <li>– Supervise employees and provide training and plans for emergency response</li> <li>– Develop procedures and processes for ensuring water quality</li> <li>– Assist and conduct ongoing safety programs</li> <li>– Determine remedial actions in emergencies</li> <li>– Preparation of budget and planning materials</li> <li>– Prepare reports and maintain records</li> <li>– Prepares work schedules and CMMS</li> </ul>	<ul style="list-style-type: none"> <li>– Oversee adverse water quality incidences and responses</li> <li>– Recommend changes to the QMS</li> </ul>
<p><b>Project Manager (Back-up ORO and alternate QMS Rep)</b></p>	<ul style="list-style-type: none"> <li>– Communication / liaison with Area Manager, Owner and Operators</li> <li>– Prepare work schedules</li> <li>– Oversee the day-to-day activities relating to the distribution system</li> <li>– Prepare reports and maintain records</li> <li>– Act on and report any incidents of non-compliance</li> <li>– Communication during emergencies</li> <li>– Participate in monthly safety meetings</li> <li>– Respond to and document public complaints</li> <li>– Ensure that personnel are aware of the applicable legislative and regulatory requirements that pertain to their duties for the operation of the subject system</li> <li>– Ensure that current versions of documents required by the QMS are being used at all times</li> </ul>	<ul style="list-style-type: none"> <li>– Identify and oversee staff training needs</li> <li>– Administrative and technical authority related to the distribution of safe drinking water to the Municipality of Lambton Shores</li> <li>– Scheduling within the department</li> <li>– Oversee adverse water quality incidences and responses</li> <li>– Recommend changes to the QMS</li> </ul>
<p><b>Lead Operator (ORO)</b></p>	<ul style="list-style-type: none"> <li>– Oversee the day-to-day activities relating to the distribution system</li> <li>– Act on and report any incidents of non-compliance</li> <li>– Communication during emergencies</li> <li>– Participate in monthly safety meetings</li> <li>– Ensure that personnel are aware of the applicable legislative and regulatory requirements that pertain to their duties for the operation of the subject system</li> </ul>	<ul style="list-style-type: none"> <li>– Identify and oversee staff training needs</li> <li>– Technical authority related to the distribution of safe drinking water to the Municipality of Lambton Shores</li> <li>– Scheduling within the department</li> <li>– Direct operators in the day-to-day operation and</li> </ul>



Role	Responsibilities	Authorities
	<ul style="list-style-type: none"> <li>– Ensure that current versions of documents required by the QMS are being used at all times</li> </ul>	<ul style="list-style-type: none"> <li>– maintenance of distribution system</li> <li>– Maintain parts and chemical supplies</li> </ul>
<b>Operators</b>	<ul style="list-style-type: none"> <li>– Weekly testing of water system</li> <li>– Regular maintenance</li> <li>– Report any incidents of non-compliance</li> <li>– Response to repairs directed from Area Manager or Project Manager</li> <li>– Participate in monthly safety meetings</li> <li>– Determine /adjust chemical flow rates</li> </ul>	<ul style="list-style-type: none"> <li>– Recommend changes to the QMS</li> <li>– Monitor processes and equipment</li> <li>– OIT's operate under the direction of OIC's or ORO's</li> <li>– Respond to public complaints as directed by the Area Manager, Lead Operator, or Administrative Assistant</li> </ul>
<b>Administrative Assistant (QMS Rep)</b>	<ul style="list-style-type: none"> <li>– Document public complaints</li> <li>– Participate in monthly safety meetings</li> <li>– Administer the QMS by ensuring that processes needed for the QMS are established and maintained</li> <li>– Promote awareness of the QMS throughout the Operating Authority</li> </ul>	<ul style="list-style-type: none"> <li>– Recommend changes to the QMS</li> </ul>
<b>Contracted QMS Rep.</b>	<ul style="list-style-type: none"> <li>– Report to Top Management on the performance of the QMS (through internal audits and management reviews) and any need for improvement</li> </ul>	<ul style="list-style-type: none"> <li>– Recommend changes to the QMS</li> <li>– Update and document changes to the QMS</li> </ul>

## 10.0 Competencies

The following table illustrates the competencies required by personnel whose duties **directly** affect drinking water quality.

Function	Required Competencies	Desired Competencies
Area Manager (Top Management)	Class III Water Distribution & Supply Operators Certification Knowledge of the principles and practices of water distribution, operating principles of valves, pumps and motors Knowledge of principles and methods of bacteriological analyses	First Aid including CPR Training Confined Space Training WHMIS Leadership Training

Function	Required Competencies	Desired Competencies
	<p>Demonstrated expertise in the principles of supervision and training; principles of budget preparation and expenditure control; and safe work practices</p> <p>Valid Driver's Licence</p>	<p>DWQMS Provincial Workshop training</p>
Project Manager	<p>O. Reg. 128 duties</p> <p>Class II Water Distribution &amp; Supply Certification</p> <p>Knowledge of principles and practices of water distribution, operating principles of valves, pumps and motors</p> <p>Knowledge of legislative requirements and the DWQMS.</p> <p>Valid Driver's Licence</p>	<p>First Aid including CPR Training</p> <p>Confined Space Training</p> <p>WHMIS</p> <p>Leadership Training</p> <p>DWQMS Provincial Workshop training</p> <p>Internal auditing training</p>
Lead Operator / Overall Responsible Operator	<p>O. Reg. 128 duties</p> <p>Class III Water Distribution Certification</p> <p>Knowledge of principles and practices of water distribution, operating principles of valves, pumps and motors</p> <p>Knowledge of legislative requirements and the DWQMS.</p> <p>Valid Driver's Licence</p>	<p>First Aid including CPR Training</p> <p>Confined Space Training</p> <p>WHMIS</p> <p>Leadership Training</p>
OIC	<p>O. Reg. 128 duties</p> <p>Minimum Class I Water Distribution &amp; Supply Certification</p> <p>Knowledge of the principles and practices of water distribution, operating principles of valves, pumps and motors</p> <p>Valid Driver's Licence</p>	<p>Class 1 Certification</p> <p>First Aid including CPR Training</p> <p>Confined Space Training</p> <p>WHMIS</p>
Operators	<p>Minimum OIT Water Distribution &amp; Supply</p> <p>OIT's are authorized by the ORO to make logbook entries</p> <p>Knowledge of the principles and practices of water distribution, operating principles of valves, pumps and motors</p> <p>Valid Driver's Licence</p>	<p>Class 1 Certification</p> <p>First Aid including CPR Training</p> <p>Confined Space Training</p> <p>WHMIS</p>

Function	Required Competencies	Desired Competencies
Administrative Assistant (QMS Rep)	Knowledge of legislative requirements and the DWQMS	DWQMS training

Activities to develop and/or maintain competencies for personnel performing duties directly affecting drinking water quality include the following:

Certified Operators are responsible for completing the annual number of required training hours as per applicable regulations. See the table that follows taken from O. Reg. 128/04 Certification of Drinking Water System Operators and Water Quality Analysts, s.29 regarding the minimum annual training hours for operators, based on the highest class of system they work in.

For the East and West Lambton Shores Distribution Systems, the highest class of drinking water system is Class III – therefore **annual training** for operators consists of a minimum of 14 hours of continuing education (CEU's) with remaining 26 hours as on-the-job practical training.

Type and Class of Subsystem Where the Operator is Employed	Training Requirements	Minimum Total Hours
Limited Groundwater or Limited Surface Water	7 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	20
Class I Water Treatment or Class I Distribution or Class I Distribution and Supply	7 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	30
Class II Water Treatment or Class II Distribution or Class II Distribution and Supply	12 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	35
Class III Water Treatment or Class III Distribution or Class III Distribution and Supply	14 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	40
Class IV Water Treatment or Class IV Distribution or Class IV Distribution and Supply	14 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	50

O. Reg. 128/04, s. 29, Table.

This training consists of both continuing education and on-the-job training and is delivered using a combination of methods (e.g. classroom courses and custom courses/sessions). All certified operators are required to complete once every calendar year review of the Operational Plan, East and West Operations Manuals and complete emergency testing and training to ensure that personnel are aware of the relevance of their duties and how they affect safe drinking water. Certified operators are also required to complete the mandatory drinking water course to the requirements for licence renewal.

Applications for operator certification / licence renewals are made at least 30 days prior to expiry and a copy of the application is retained until the certification / licence has been issued.

The Area Manager takes reasonable steps to ensure that every operator has the opportunity to attend meaningful training to meet requirements. Individual employee records are maintained and training records are controlled in accordance with QMS Operational Plans Item 5.0 Document and Record Control.

## 11.0 Personnel coverage

The water department is staffed from Monday to Friday 8:00 am to 4:30 pm five days per week. The Lead Operator is the primary overall responsible operator (ORO) and the back-up ORO (Project Manager) is

communicated through a letter to the owner and the ORO is documented through East and West Lambton Shores Drinking Water Log books.

The 24/7 personnel coverage procedure shows how after-hour emergencies are handled. Competent OMI personnel can be available from nearby projects in times of potential staff shortages such as emergency situations, staff shortage scenarios (e.g. pandemics or labour disruptions), and/or peak holiday seasons. The auto dialer dials directly to the on-call cell phone carried by the On Call OMI staff person.

O. Reg. 128/04 and O. Reg. 129/04 amendments were enacted by the Ministry to help ensure continuity of operations for staff shortage scenarios (such as in pandemics), which are summarized in [OnWARN's Continuity of Operations protocol](#).

OIT's (operators-in training) can work on their own with an OIC (operator-in-charge) being readily available by phone.

Employees not certified cannot make any operational changes to the system.

Sub-contractors (not performing operational duties), if required, are prequalified and used at the discretion of the OIC.

The table that follows describes personnel coverage 24/7:

Regular hours	After hours
Residents will call the Lambton Shores Office: 1-866-953-1400 – or – 519-243-1400	Residents will call the Lambton Shores Office: 1-866-953-1400 – or – 519-243-1400 ...and follow message prompts for Drinking Water and Sanitary Sewer, the system will automatically connect to the answering service.
Community Services staff will contact the OA at 1-866-786-2421	On-call person receives call and must respond within a one (1) hour time frame. The operator on-call schedule is located on the OA SharePoint.

## 12.0 Communications

Relevant aspects of the QMS are communicated to and from Top Management and the owner, operating authority personnel, suppliers that have been identified as essential and the public.

Top Management designates the QMS Representative to communicate to and from when needed:

Provide the Owner with a current copy of the Operational Plan, keep the owner informed of any changes to the QMS, the adequacy of infrastructure requirements, the outcome of management reviews and other issues about the QMS. Any updates are provided through regular reports to the owner.

Inform the Operating Authority personnel of any changes or updates through staff meetings. A current version of the Operational Plan and Operations & Maintenance Manuals are available for review by staff at the Water Department Office.

Essential suppliers identified by the OA or Owner receive communications about products or services' quality, quantity, timeframes, certification or accreditation requirements through the procurement and purchase order process.

Consumers are informed of the QMS and any significant changes through the website, [www.lambtonshores.ca](http://www.lambtonshores.ca)

## 13.0 Essential supplies and services

Where applicable, supplies must meet or be equal to AWWA specifications.

Annex C is a list of suppliers and contractors that has been developed. This list is reviewed once every Calendar Year by the QMS Representative to ensure that it is current and up-to-date.

Contractors are selected based on their qualifications and ability to meet the facility's needs without compromising operational performance and compliance with applicable legislation and regulations.

Contracted personnel including suppliers may be requested or required to participate in additional relevant training/orientation activities to confirm conformance to requirements.

If necessary, appropriate control measures are implemented while contracted work is being carried out and communicated to all relevant parties to minimize the risk to the integrity of drinking water system and the environment.

All third-party drinking water testing services are provided by accredited and licensed laboratories.

Calibration services are provided by qualified personnel.

Chemicals purchased for use in the drinking water disinfection process must meet AWWA Standards and be ANSI/NSF certified.

Proof of certification requirements met (i.e. NSF 60 for chemicals, NSF 61 for parts and NSF 372 for parts that can contain lead) for products that come into contact with water are kept as records in the DWQMS cabinet.

### Refer to:

- Appendix "C" Essential Suppliers and Services Contact List

## 14.0 Review and provision of infrastructure

The Owner Representative and the Operating Authority will once every Calendar Year tour all the facilities and review the Inventory List (Item 8.2) in the East and West Lambton Shores Operations Manuals to determine that the proper infrastructure is in place to operate and maintain the subject systems, in addition, considers the current outcomes of the Risk Assessment documented to ensure the adequacy of the infrastructure necessary to operate and maintain the system.

This review will be completed once every Calendar Year and reported at the Management Review. CMMS report data review to be included in the once every Calendar Year infrastructure tour to ensure no items identified in the system are missed to be communicated to the Municipality. This review will also determine the need of replacement parts within the infrastructure and add them to the capital replacement plan.

The Operating Authority will communicate with the Owner Representative once every Calendar Year the results of the review to ensure that the adequate infrastructure needs are added to the Capital Plan to maintain the subject systems and that the proper funding is available.

## 15.0 Infrastructure maintenance, rehabilitation and renewal

The Water Operating Authority has a water distribution planned maintenance program which includes regular flushing of dead-end system main lines, system pressure regulator valve testing, and valve exercising program. Records will be kept at the Water Department. Notice of activities that may affect customers are posted on the Municipal website, i.e. flushing.

The maintenance of equipment within the distribution system is completed as stated in the East and West Lambton Shores Operations Manuals Item 8.1.

Unplanned maintenance is conducted as required and is completed by licensed operators under the direction of the Overall Responsible Operator. All maintenance is completed within government regulations and AWWA standards.

Monthly operating reports are provided to the Director of Public Works and CAO that summarizes the repairs and maintenance of the drinking water system for review.

At least once every Calendar Year during the Management Review, the long-term forecast included in the Owner's Capital Program, Water System Report, will be reviewed by the Owner and OA to ensure both parties have opportunity to provide input.

## 16.0 Sampling, testing and monitoring

There are five on-line continuous Chlorine Analyzers at strategic locations in the Municipality.

Sterile sample bottles are received from the laboratories and qualified operators are required to take samples using procedure SOP 7.1 in the Operations Manuals.

Relevant sampling, testing and monitoring is done upstream by LHPWSS and LAWSS and North Middlesex. They ensure that the water supplied meets the Ontario Drinking Water Quality Standards (ODWQS) and has a minimum free chlorine residual of 0.20 mg/L. They have on-line chlorine residual analyzers, pressure gauges flow monitoring on the treated water leaving the plant.

Eight (8) water samples are taken from various locations throughout the Municipality weekly and tested at the accredited SGS Canada Inc. - London laboratory for E. coli, Heterotrophic (HPC) and total coliform. SGS Canada Inc. – Lakefield laboratory does our testing for haloacetic acid (HAA) and trihalomethanes (THM's) quarterly and lead as required by O Reg 170/03.

The chlorine residuals are also checked manually by the operator at these sites at the same time that the microbiological samples are taken.

Results of testing from the labs are entered into the WaterTrax programs by the laboratory. The laboratory will notify the operating authority immediately, orally, of any adverse readings the operating authority will reference SOP 7.4, Adverse Water Quality Response.

The operating authority in turn will orally notify and record the name of the local Medical Officer of Health and the MECP Spills Action Centre person spoken to. Within twenty-four hours of this notification, the lab will



send Section 1 of Notice of Adverse Test Results to operating authority and operating authority will complete Section 2 (a) indicating the corrective action to be taken by the operating authority. These forms will be faxed (or can be e-mailed) to the Medical Officer of Health, MECP Spills Action Centre and Owner. Once the sample has been re-tested and the results received, Section 2 (b) will be completed and sent to the Medical Officer of Health and the MECP Spills Action Centre and Owner within 7 days of resolution.

These papers will then be filed in the East or West Lambton Shores Distribution System Binders and retained as per regulations. The annual report will show any adverse readings and will be available to the owners and public.

**Refer to:**

- SOP 7.1 Microbiological Sampling
- SOP 7.4 Adverse Water Quality Response
- SOP 7.5 Microbiological Sampling Schedule & Location

## 17.0 Measurement and recording equipment calibration and maintenance

The portable and online chlorine analyzers are calibration checked according to the manufacturers' procedure monthly and recorded in related calibration spreadsheets in SharePoint (for colorimeters and online analyzers).

**Refer to:**

- SOP 9.1 Calibration Check of Handheld Chlorine Analyzer
- SOP 9.2 Calibration Check of Online Chlorine Analyzer

## 18.0 Emergency management

Some causes of emergency situations would consist of loss of power, contamination, line breaks or interruptions in pressure. The Risk Assessment outcomes for the East and West Lambton Shores Distribution System, contained in the QMS Operational Plan, can be referenced for emergency procedures or contingency plans.

The Municipality of Lambton Shores has an emergency plan in accordance to the current legislation and regulations which are updated once every Calendar Year at the municipal office and is kept with the 24/7 Operational Procedure in place for the distribution system at the Water Department Office. A list of emergency contacts and essential suppliers and services are also kept with the emergency plan. This list is updated once every calendar year.

Emergency response testing and training will be completed once every Calendar Year and meeting minutes for the emergency response and testing on record for review.

The emergency contacts and essential suppliers and services list will be kept current by the QMS Representative.

The responsibilities of all positions within the municipality during an emergency are listed in the municipal emergency plan.

If there is a water problem after hours, the resident will call any Lambton Shores office and follow the prompts to OMI after hours number. The call will be directed to the On Call Person and the problem will be investigated within one (1) hour of being notified.

**Refer to:**

- Contingency and Emergency Plan
- Appendix “C” Essential Suppliers and Services Contact List

## 19.0 Internal audits

Internal audits are conducted to ensure that the QMS conforms to the requirements of the DWQMS. These requirements include ensuring that the QMS has been effectively implemented and properly maintained.

The internal audit shall be performed for the East Lambton Shores and West Lambton Shores Distribution Systems once every Calendar Year by personnel with adequate skills, training and/or experience. All internal auditors must have successfully completed the DWQMS internal auditing training. The methodology taught in Walkerton Clean Water Centre’s internal auditor for the DWQMS course is followed.

The audit dates shall be determined between the QMS representative and the internal auditor.

Qualified consultants used to carry-out the internal audit may use their own audit report formats and checklists that meet the DWQMS requirements. The auditor shall review QMS documented information including previous internal and external audit results and the action register for updates on actions taken. The auditor shall observe activities, review records and interview personnel as necessary to ensure that the status of the audited elements of the QMS has been effectively covered.

Written reports of internal audits shall be distributed to all top management members within 7 business days of audit completion. The report summarizes audit findings such as opportunities for improvement and non-conformities (which require corrective actions). Corrective actions shall be communicated to the responsible individual and included as part of Management Review input.

An electronic copy of the audit report shall be available on the Water Operating Authority SharePoint site.

## 20.0 Management review

Top Management conducts management reviews with the Owner Representatives once every Calendar Year to evaluate the continuing stability, adequacy and effectiveness of the QMS.

The QMS Representative provides information/agenda and data concerning the following categories, for the review:

- a) Incidents of regulatory non-compliance
- b) Incidents of adverse drinking water tests
- c) Deviations from critical control point limits and response actions
- d) The effectiveness of the risk assessment process – outcomes of the risk assessment to determine the adequacy of the infrastructure necessary to operate and maintain the water system
- e) Internal and 3<sup>rd</sup> party audit results
- f) Results of emergency response testing
- g) Operational performance
- h) Raw water and drinking water quality trends

- i) Follow-up actions items from previous management reviews – refer to action register report
- j) Status of management action items identified between reviews – refer to action register report
- k) Changes that could affect the Quality Management System
- l) Consumer feedback
- m) The resources needed to maintain the Quality Management System
- n) Results of the infrastructure review and long term forecast
- o) Operational Plan currency, content and updates
- p) Staff suggestions
- q) Corrective actions, preventive actions and best management practices review – refer to action register

## Review Process

Management Review is a planned event. An appropriate amount of time is set aside by participants to ensure a thorough review of the QMS is conducted (ensuring items a) to q) above are fully reviewed and discussed).

Each input category shall be reviewed in order to identify if, where and when improvement to the QMS and its procedures are required.

The QMS Representative or designate shall make note of any changes or action items required during the course of the review. All action items will be recorded on the action register report.

## Review Output

The Management Review output will include the results of the review, identified deficiencies, decisions and action items and distributed by the QMS Representative and emailed to the Owner Representative and Top Management within 30 days of the meeting.

The Owner Representatives will receive the outcomes of the Management Review by email.

## **21.0 Continual improvement**

The Water Operating Authority shall strive to continually improve the effectiveness of its Quality Management System through the use of corrective actions. On-going Management Reviews and resulting corrective actions will be the basis for further improvement.

Corrective Actions, Preventative Actions and Best Management Practices are recorded on the Action Register Reports. Sources may include:

### **Corrective Actions**

Internal or external audits, opportunity for improvement, result of other events such as an incident/emergency, community/owner complaint, other/staff reviews, operational checks, inspections or audits, emergency response training outcomes/training sessions, management reviews.

### **Preventative Actions**

Internal or external audits as OFI's, during a management review or through other means such as staff/owner suggestions, MECP inspections, evaluation of incidents/emergency response/tests, analysis of data/trends, non-conformances identified at other drinking water systems, considering a BMP, staff suggestions/feedback, risk assessment outcomes, emergency response training outcomes/training sessions, management reviews.

## Best Management Practices (BMP)

Changes to legislative or regulatory requirements and BMP's published by the MECP, audit findings and staff reviews, MECP inspections, drinking water industry-based standards, staff suggestions/feedback, emergency response training outcomes/training sessions, management reviews, best practices with neighbouring systems.

Best Management Practices – Reviewing and considering applicable Best Management Practices, including any published by the Ministry of Environment Conservation and Parks and available on [www.ontario.ca/drinkingwater](http://www.ontario.ca/drinkingwater), at least once every thirty-six months.

The Action Register Reports review will be completed during the once every Calendar Year Management Review to ensure the actions recorded are implemented and are effective in corrective and preventing a re-occurrence of the non-conformity. Additionally the effectiveness of these items shall be reviewed at the time of the Management Review by reviewing the number of MECP non compliances, internal and external audit results , consumer complaints etc.

### Refer to:

- Action Register Report (W05-04)
- MECP Inspection Report – WLS Action Register Report (W21-01)
- MECP Inspection Report – ELS Action Register Report (W21-02)

## Revision History

#	yyyy-mm-dd	Description	By
00	2023-03-11	Operational Plan format update to include a single revision date and revision history table (with minor content updates as identified in the latest internal audit report).	D. Wright
01	2024-01-16	Updated header date; s.4 alternate QMS Rep as Project Manager; s.8 references procedures re: CCL's are identified in risk assessment outcomes; s.9 updated Project Manager as alternate QMS Rep and added under "Operators" that OIT's operate under the direction of OIC's and ORO's; Appendix A – QMS records added; Appendix C – added quality requirements by category (as applicable for drinking water), updated LHPWSS contact, corrected Eramosa Eng. E-mail error; removed Appendix D + E (internal audit and management review) copied procedures to front of OP.	B. Roth
02	2024-02-13	Updated Annex C information or G-tel, Chemtrade, Milburn Electric, and added E-Generac.	B. Roth

## Appendix “A” QMS Document and Records Control procedure

This procedure is applicable to the following QMS documents:

- Operational Plan
- Operations & Maintenance Manuals and SOP’s
- Equipment Manuals
- As Built Drawings
- Forms and checksheets

### Creating New or Updating Existing Documents

The need for document changes or for new documents or procedures may be identified through audits, management reviews or staff reviews. The QMS Representative will delegate the task of creating the new document.

Any employee or contract operator may request a change to an existing QMS document.

1. The request must include the following information:
  - Reason for new or changed document - must belong in one or more of these categories:
    - Required by the DWQMS
    - Enhances process control or may improve operational efficiency
    - Reduces risk
    - Supports regulatory requirements
2. Outline of document change or new document content
  - Narrative format is acceptable
  - The requester shall develop the new/revised document and submit it to Top Management for approval.
  - Document changes or the need for new documents or procedures may be identified through audits or management reviews.
  - Electronic versions of the new/changed documents will be created by the Administrative Specialist and approved by Top Management.
  - Electronic documents are available on a shared web-based network, secured by username and password. Documentation record control list is located on the SharePoint site. The network is subjected to daily backups.

### Approving Documents

- All QMS related documents shall be approved by Top Management.
- The QMS Representative shall be responsible for ensuring that copies of the new or changed document show the revision number and date modified and are distributed. Obsolete documents (due to changes) shall be collected and destroyed.

**Reviewing Documents** – The Operational Plan, Operations & Maintenance Manuals and procedures shall be reviewed once every Calendar Year for applicability and relevance. This review process is documented through meeting minutes.

### Document Availability

- All procedures, instructions, forms, checklists are retained in the QMS binders at the Water Dept.
- Council meeting minutes regarding DWQMS are retained in the QMS binder at the Water Dept.
- Original sets of equipment manuals and specifications are kept at the Water Department.
- As appropriate, copies are kept at the reservoirs and pumping stations.

## QMS Record Control

This procedure is applicable to all records that pertain to DWQMS requirements. All records that demonstrate compliance are covered by the Ontario Safe Drinking Water Act. Documents and records must have designated minimum retention times, which must comply with applicable legislated requirements, and conform to the DWQMS. The action registers and revision table documents results achieved and activities performed throughout the QMS.

Record Retention – all are retained in electronic format except logbooks & other record keeping mechanisms	Time	Requirement
Operator certification and training records	5 years	O. Reg. 128/04 under SDWA, 2002
Annual Reports and Summary Reports prepared by the owner	5 years	O. Reg. 170/03 under SDWA, 2002
Logbooks and other record-keeping mechanisms (hard copy only)	5 years	O. Reg. 128/04 under SDWA, 2002
Lab analyses of water samples for chemical tests	15 years	O. Reg. 170/03 under SDWA, 2002
Lab analyses of water samples for microbiological, chlorine and turbidity tests, and fluoride tests where fluoridation is provided	5 years	O. Reg. 170/03 under SDWA, 2002
Municipal Drinking Water Licence-related records	5 years	Municipal Drinking Water Licence
Drinking Water Works Permit Form 1, Form 2, Form 3	10 years	Drinking Water Works Permit
QMS-related: O&M Manuals (including SOP's and emergency response procedures), audited Operational Plan, Risk Assessment Outcomes, Emergency Training & Test Exercises, Internal & External Audit Reports, Management Reviews, Continual Improvement Action Register, etc.	10 years	Director's Directions for Operational Plans

## Disposing of Records

- Hard copy documents will be shredded and disposed of by a secure document destruction service.
- Electronic information may be deleted and/or filed away in archived folders in SharePoint.

## Manual Records

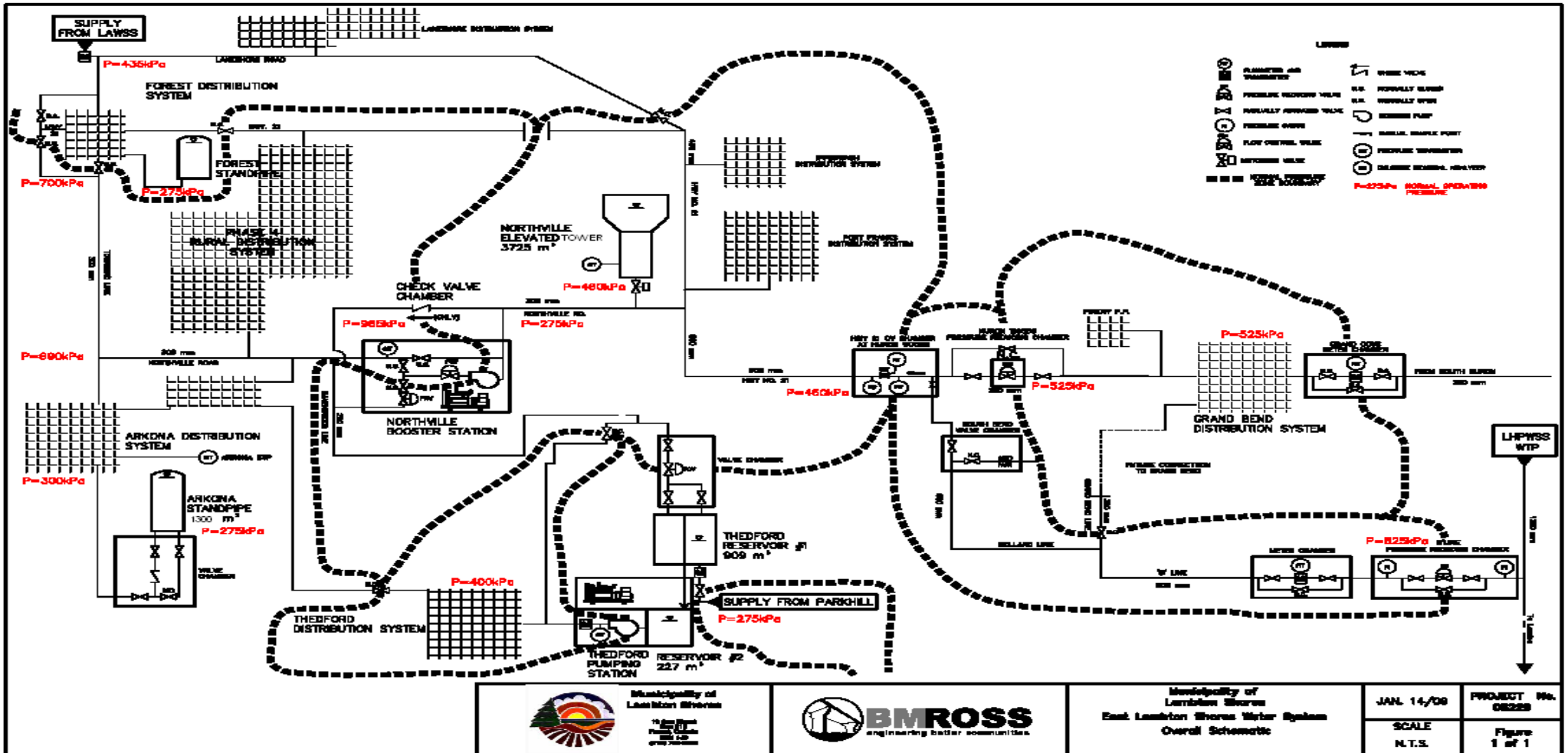
- The record title shall be clearly visible and legible.
- Manual records shall be legible. Pencil or any other erasable marker shall not be used to record process or product information or data.
- QMS records shall be filed by type by date.
- QMS related distribution records will be available at the Water Department.
- QMS records shall be stored in such a manner as to prevent deterioration.
- All manual records shall show the name or initials of the recorder and the date (and time if appropriate) the record was generated.

## WaterTrax

- Weekly sampling data and chlorine residuals are entered into the Water Trax program.
- Annual reports can be generated through Water Trax.
- Water Trax information is maintained by the service provider.



## Appendix "B" System Schematic



## Appendix “C” Essential Supplies and Services Contact List

<b>E - ESSENTIAL</b> - The remaining contacts are non-essential	
<b>Water Suppliers</b> – water suppliers must meet SDWA, all applicable regulations and Ontario Drinking Water Quality Standards.	
<b>Lake Huron Primary Water Supply System</b> Andrew Henry – Division Manager - Regional Water Supply	Office 519-930-3505 Ext 1335 Fax 519-474-0451 Cell 519-854-2459 Email <a href="mailto:ahenry@huronelginwater.ca">ahenry@huronelginwater.ca</a>
<b>E - LHPWSS Water Treatment Plant</b> 71155 Bluewater Hwy, Grand Bend NOM 1T0 Regional Hub Manager: Vacant	Office 519-238-8466 Fax 519-238-5396 Cell Email
Operations Manager – Denny Rodrigues	Cell 226-377-4229 Email <a href="mailto:d Rodrigues@ocwa.com">d Rodrigues@ocwa.com</a>
Operations Manager – Randy Lieber	Cell 226-377-7240 Email <a href="mailto:rlieber@ocwa.com">rlieber@ocwa.com</a>
<b>E - Lambton Area Water Supply System</b> LAWSS General Manager – Clinton Harper	Office 519-344-7429 Ext 250 Cell 519-312-5502 Email <a href="mailto:clinton.harper@lawss.org">clinton.harper@lawss.org</a>
<b>LAWSS Water Treatment Plant</b> 1215 Fort St, Sarnia N7V 1M1	Office 519-344-7429 Fax 519-344-4337
OCWA Senior Operations Manager – Jodi Stradeski	Office 519-344-7429 Ext 251 Cell 519-312-3768 Email <a href="mailto:jstradeski@ocwa.com">jstradeski@ocwa.com</a>
OCWA Team Lead – Distribution – Phil Soden	Office 519-344-7429 Ext 246 Cell 519-331-0371 Email <a href="mailto:psoden@ocwa.com">psoden@ocwa.com</a>
<b>Communications</b>	
<b>E – Eramosa – SCADA and IT Systems</b> <b>Eramosa Engineering Inc.</b> Andy Pope	Office 519-266-6994 Direct 226-780-2303 Cell 226-343-1675 Email <a href="mailto:andy.pope@eramosa.com">andy.pope@eramosa.com</a>
<b>E - I.T. Municipality of Lambton Shores - Microage Basics</b> Network communications, IT – equipment support Erik Peeters	Office 519-524-9863 Ext 220 Email <a href="mailto:Erik@microagebasics.com">Erik@microagebasics.com</a>
Susan Curran	Office 519-524-9863 Ext 221 Email <a href="mailto:service@microagebasics.com">service@microagebasics.com</a>
Janet Ferguson – Treasurer, Municipality of Lambton Shores	Email <a href="mailto:jferguson@lambtonshores.ca">jferguson@lambtonshores.ca</a>
<b>Contractors / Services</b> – Chemicals and materials that come into contact with water must meet as applicable: NSF/60, NSF/61 and NSF/372.	
<b>E - Anchem Sales Chemical Supply - Chlorine</b>	Toll Free 1-800-387-9799 Office 519-451-1614 After Hrs 519-319-5056 After Hrs 519-281-7060 Email <a href="mailto:orders@anchemsales.com">orders@anchemsales.com</a>
<b>E - Jutzi Water Technology - Chlorine</b>	Office 519-271-9831 Fax 519-271-1246 Email <a href="mailto:water@jutzi.com">water@jutzi.com</a>
Chemtrade - Alum	Office 1-800-561-1078 Email <a href="mailto:cssorders@chemtradelogistics.com">cssorders@chemtradelogistics.com</a>
<b>E - Milburn Electric - Electrical repairs</b> Tom Harrower	Office 519-786-5405 Cell 519-384-4994 Email <a href="mailto:tcharrower9094@gmail.com">tcharrower9094@gmail.com</a>
Goertz Electric - Bill Forbes	Office 519-828-3668
<b>E - Pierce Services &amp; Solutions - Backflow inspections</b> Greg Pierce	Office 519-820-4853 Email <a href="mailto:gpierce@pierceservices.ca">gpierce@pierceservices.ca</a>

<b>Contractors / Services</b> – Chemicals and materials that come into contact with water must meet as applicable: NSF/60, NSF/61 and NSF/372.		
Sisler Electric	Office	519-828-3418
ESA – Electrical Safety Authority	Office Fax	1-877-372-7233 519-824-9402
Ampro Electric – Kirk Skinner	Office Email	519-344-3393 <a href="mailto:kirks@amproelectric.com">kirks@amproelectric.com</a>
Karl Robinson	Office Email	519-777-7300 <a href="mailto:rfd@isp.ca">rfd@isp.ca</a>
Kingdon Sand & Gravel – Chris Kingdon	Office	519-384-4048
Bruce Poland Trucking & Excavating (use for emergency only)	Office Cell	519-296-5528 519-870-9796
Joel Moloy	Office	519-296-4637
Ernie Herrington Construction	Office Cell Pager	519-828-3210 519-641-9465 519-430-0206
MKC (Xavier) Boogemans	Office Cell	519-238-2083 519-872-2099
<b>E - All Seasons Excavating – Jeremy VanHaaren</b> Backhoe services, watermain repairs Rob Stevens	Office Cell Email	519-384-2994 519-490-4646 <a href="mailto:jeremy@allseasonexcavating.com">jeremy@allseasonexcavating.com</a>
<b>E – Iconix Waterworks – London</b> Watermain repair parts, water meters/parts Andres Montero	Office Fax Email	1-888-866-8485 519-668-6095 <a href="mailto:andresmontero@iconixww.com">andresmontero@iconixww.com</a>
<b>E - Devine &amp; Associates</b> Valve repairs and parts Peter Sucharda (Valve Control)	Office Cell Email	905-479-2130 416-617-1479 <a href="mailto:psucharda@devineassoc.com">psucharda@devineassoc.com</a>
Aggreko – Generator Rental	Office	1-888-642-5442
<b>E - Evans Utilities</b> Watermain repair parts, water meters/parts	Office Fax Email	1-800-268-8309 519-453-7756 <a href="mailto:skavanagh@evansupply.com">skavanagh@evansupply.com</a>
Desco Plumbing and Heating Supply Inc	Toll Free Office Fax	1-800-265-5179 519-524-2669 519-524-5192
Wolsley Canada Watermain and sanitary repair parts	Office Fax	519-336-0102 519-336-6899
<b>E - Omega Contractors</b> Watermain repairs Chris Dixon	Office Fax Cell Email	519-652-6188 519-652-5568 519-872-2200 <a href="mailto:chrisd@omegacontractors.ca">chrisd@omegacontractors.ca</a>
<b>E - Sommers Generator Service</b> Generator repairs and inspections	Office Office Email	519-655-2396 1-800-690-2396 <a href="mailto:amber.shantz@sommersgen.com">amber.shantz@sommersgen.com</a>
<b>E - Generac</b> Generator repairs and inspections	Office	888-436-3722
Ingersoll Rand	Office Fax	519-681-9900 519-681-9755
Potter's Towing	Office	519-786-2923
Clark's Towing	Office	519-296-4773
Van Gorp Welding	Office Cell	519-296-4205 519-878-1001
Nevtro Pumps & Mechanical Jason Heene	Office Cell	519-451-0930 519-870-9010

<b>Lab / Testing Services</b> – for drinking water testing, must be accredited and licensed laboratories.		
GAP EnviroMicrobial Services Ltd	Office Fax	519-681-0571 519-681-7150
<b>E – SGS Lakefield Research</b> Water quality testing	Office Fax Email	705-652-2038 705-652-6441 <a href="mailto:carrie.greenlaw@sgs.com">carrie.greenlaw@sgs.com</a>
<b>E - SGS London Lab</b> Water quality testing After Hours	Office Fax Cell Email	877-848-8060 519-672-4500 519-870-7345 <a href="mailto:angela.stott@sgs.com">angela.stott@sgs.com</a>
<b>Utilities</b>		
Eastlink	Office	1-888-345-1111
Stubbs Communications	Office	1-800-263-0626
Execulink Telephone	Office Email	1-888-296-4997 <a href="mailto:localservices@execulink.com">localservices@execulink.com</a>
<b>E - Hay Communications</b> System equipment support/repairs	Office Email	519-236-4333 <a href="mailto:hay@hay.net">hay@hay.net</a>
<b>E - Hydro One – Beachville</b> Wyoming	Toll Free Office	1-800-434-1235 519-845-3374
Hydro One – Locates	Toll Free Toll Free	1-888-664-9376 (Mon-Fri 7:30am - 8pm) 1-800-434-1235 (After Hours)
One Call Locates Emergency locates	Toll Free Email	1-800-400-2255 ID 32854 <a href="mailto:memberservices@on1call.com">memberservices@on1call.com</a>
Union Gas – Gas Related Emergencies	Toll Free	1-877-969-0999
<b>E - G- Tel</b>	Office Email	1-866-692-0208 <a href="mailto:customerservice@gtel.ca">customerservice@gtel.ca</a>
Next Era – Jericho Wind Farm Dennis Desloges – Wind Site Manager	Cell	519-520-8924
Next Era – Jericho Wind Farm Cedric Feliz – Lead Wind Technician	Cell	519-679-0597
Next Era – Jericho Wind Farm Derek Dudek - Environmental Specialist Canada	Cell	519-318-0237
<b>Wastewater / Sanitary Pumpers</b>		
Badger	Office Office	519-332-7011 1-800-465-4273
CT Environmental	Forward #	519-236-7401 If no answer call: 519-236-7390
Grand Bend Sanitation (For emergency only)	Office Fax Cell	519-238-2291 519-237-3807 519-671-6304
Central Sanitation	Office	1-800-386-4538
Bartels Environmental Greg Males	Office Cell	1-866-417-7722 226-448-4734
Itech Spill Response Environmental Services	Office	1-877-324-4402
<b>Fuel Suppliers</b>		
Dave Moore Fuels Ltd	Office	519-235-0583
<b>E - Dudman Fuels Ltd</b> Diesel fuel and tank inspections	Office Email	519-786-5921 <a href="mailto:dudmanfuels@eastlink.ca">dudmanfuels@eastlink.ca</a>
Dowler Karn Propane Supply	Office	519-336-8600