



Town of
East Gwillimbury

THE TOWN OF EAST GWILLIMBURY

DRINKING WATER QUALITY MANAGEMENT STANDARDS

OPERATIONAL PLAN

**HOLLAND LANDING/QUEENSVILLE/SHARON,
MOUNT ALBERT AND
YONGE/GREEN LANE**

CLASS I WATER DISTRIBUTION SYSTEMS

Online Copy

Revision Level: 7

Version Date: August 2014

Distribution List of this Operational Plan

MOE (The Ministry of Environment)

Appointed DWQMS Certification Body

The Town of East Gwillimbury

Controlled Digital (PDF) Copy Distribution List

1. Chief Administrative Officer
2. General Manager of Community Infrastructure & Environmental Services
3. Water/ Wastewater Technologist
4. Manager of Environmental Services
5. Supervisor of Water and Wastewater Operations
6. Environmental Compliance Technologist
7. Fire Chief, Holland Landing Fire Station 2-4

Un-Controlled Hard Copy Distribution List

1. Chief Administrative Officer (Copy 01)
2. General Manager of Community Infrastructure & Environmental Services (Copy 02)
3. Water/ Wastewater Technologist (Copy 05)
4. Manager of Environmental Services (Copy 03)
5. Supervisor of Water and Wastewater Operations, Waterworks Yard, 1914 B Mount Albert Road, Sharon, ON (Copy 04)
6. Environmental Compliance Technologist (Copy 05)
7. Fire Chief, Holland Landing Fire Station 2-4, 19314 Yonge Street, Holland Landing, ON, L9N 1L5 (distributed "Water Emergency Plan" only)

The Council Resolution (1) for this Operational Plan

Agenda Item # E.2.

CWC - March 23, 2009



Town of
East Gwillimbury

CWC 2009-920P1

COMMITTEE OF THE WHOLE COUNCIL

COMMUNITY PROGRAMS & INFRASTRUCTURE

MOVED BY *Wendy Johnston*

DATE: March 23, 2009

BE IT RESOLVED THAT Report CPI-2009-09, dated March 23, 2009, regarding updates for our Drinking Water Quality Management Standard and Municipal Drinking Water Licensing Program be received.

THAT Council adopt the Water Quality Management System Policy as a part of commitment to the Town's DWQMS.

THAT Council endorse the Quality Management System Representative and Roles and Responsibilities as stated in Report CPI-2009-09 as a part of commitment to the Town's DWQMS.

FURTHER THAT Council delegate authority for approval and submission of the application documents for Municipal Drinking Water Licenses to the General Manager of Community Programs and Infrastructure.

CARRIED	<input checked="" type="checkbox"/>
DEFEATED	<input type="checkbox"/>
TIED (LOST)	<input type="checkbox"/>

V. Hackson
Councillor V. Hackson, Chair

The Council Resolution (2) for this Operational Plan

Agenda Item # E.2.

CWC - July 13, 2009



Town of East Gwillimbury

COPY

C 2009-____

COUNCIL

COMMUNITY PROGRAMS AND INFRASTRUCTURE

MOVED BY

[Handwritten signature]

DATE: July 13, 2009

BE IT RESOLVED THAT Report CPI-2009-39, dated July 13, 2009, regarding updates for our Drinking Water Quality Management Standard and Municipal Drinking Water Licensing Program be received; and

THAT Council endorse the Operational Plan for the Town's drinking-water systems for submission to the MOE; and

FURTHER, THAT staff report back to the Council after the above noted submission and the Town has received a third-party audit.

CARRIED

DEFEATED

TIED (LOST)

[Handwritten signature]
Councillor V. Hackson, Chair

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List of Quality Management Standard Procedures and Associated Forms:

- QMS Procedure 01 – Procedure for Control of Documents
- QMS Procedure 02 – Procedure for Control of Records
- QMS Procedure 03 – Procedure for Risk Assessment
- QMS Procedure 04 – Procedure for Personnel Coverage
- QMS Procedure 05 – Procedure for Communications
- QMS Procedure 06 – Procedure for Review the Provision of Infrastructure
- QMS Procedure 07 – Procedure for Calibration
- QMS Procedure 08 – Procedure for Internal Audits
- QMS Procedure 09 – Procedure for Management Review
- QMS Procedure 10 – Infrastructure Maintenance and Renewal Procedure
- QNS Procedure 11 – Procedure for Drinking Water Works Permits Amendments
- QMS Form 01 – “Document Change Request” Form
- QMS Form 02 – “Document Transmittal” Sheet
- QMS Form 03 – “Town’s Water Distribution Systems – Risk Assessment” Table
- QMS Form 04 – “Internal Audit” Checklist
- QMS Form 05 – “Management Review” Form
- QMS Form 06 – “Essential Suppliers, Contractors and Consultants” Review Form
- QMS Form 07 – “Development and Approval of QMS Procedure Log” Form
- QMS Form 08 – “Essential Suppliers, Contractors and Consultants Contact Information” Form
- QMS Form 09 – “Corrective Action” Form
- QMS Form 10 – “Standard of Care Bulletin” Form

List of Appendices:

- Appendix 1: Town’s Documents Control Table
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- Appendix 3: A Summary of Town’s Drinking Water Systems
- Appendix 4: Outcomes of Town’s Water Distribution Systems – Risk Assessment
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- Appendix 7: A List of Government Agencies Contacts
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- Appendix 9: A List of the Northern Six Municipalities Emergency Contacts and Shared Resources
- Appendix 10: A List of Town’s Priority Water Customers
- Appendix 11: A List of Town’s Internal Water Emergency Contacts
- Appendix 12: QMS Activity Schedule

Town of East Gwillimbury Water Emergency Plan:

Response and Recovery Procedure 1 – Boil Water Advisory/Drinking Water Advisory

Response and Recovery Procedure 2 – Major Watermain Break and Repairs

Response and Recovery Procedure 3 – Adverse Laboratory Water Quality Results

Response and Recovery Procedure 4 – Street Flooding due to Major Watermain Break

Inter-Operating Authority Communication Protocols:

IMP 01 - “Operating Protocols between Newmarket, East Gwillimbury and Region of York” regarding Yonge/Green Lane Area developed by Town of Newmarket.

IMP 02 - “Inter-municipal communication protocol in response to operational and water quality issues” developed by the Region of York.

IMP 03 - “Inter-municipal Communication for Emergency / Urgent Valve Isolation Notification Protocol” developed by the Region of York.

IMP 01 FORM - “Inter-municipal communication protocol in response to operational and water quality issues” developed by the Region of York.

IMP 02 FORM - “Inter-municipal Communication for Emergency / Urgent Valve Isolation Notification Protocol” developed by the Region of York.

Purpose

The purpose of this Operational Plan is to describe the Drinking Water Quality Management Standards for the operation and maintenance of the three drinking-water distribution systems owned by the Corporation of the Town of East Gwillimbury.

This Operational Plan, the procedures, work instructions and other DWQMS documentation that are referenced herein are intended to meet the legislated requirements under the *Safe Drinking Water Act 2002* in the Province of Ontario.

Scope

This Operational Plan covers the activities and personnel associated with all of the operational aspects of the drinking-water distribution systems for the Town of East Gwillimbury. The three water distribution systems operated by the Town of East Gwillimbury are: Holland Landing-Queensville-Sharon (DWS #260001747), Mount Albert (DWS #260002265), and Yonge/Green Lane (DWS#280087685).

References

- Drinking Water Quality Management Standard, October 2006
- Safe Drinking Water Act, 2002
- Drinking Water Systems (*Ontario Regulation 170/03*) and their latest amendments
- Drinking Water Quality Standards (*Ontario Regulation 169/03*) and their latest amendments

Definitions

QMS	Quality Management System
DWQMS	Drinking Water Quality Management Standard
Distribution	Mains and related components (i.e. hydrants, valves, etc.)
The Town	The Town of East Gwillimbury
MOE	The Ministry of Environment
CCP	Critical Control Point
ORO	Overall Responsible Operator

Element 1 - Quality Management System

The Town of East Gwillimbury Community Infrastructure & Environmental Services Department, on behalf of the Corporation of the Town of East Gwillimbury, operates and maintains three drinking water distribution systems: Holland Landing/Queensville/Sharon (DWS# 260001747), Mount Albert (DWS# 260002265) and Yonge/Green Lane (DWS# 260087685). This Operational Plan documents the contents and activities of the QMS to meet the requirements of the DWQMS under the Safe Drinking Water Act, 2002.

Element 2 - Quality Management System Policy

This QMS Policy is applicable to all employees related to the Town's waterworks and is posted in several locations: Civic Centre, the waterworks yard as well as the municipal website.

Water Quality Management System Policy

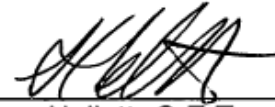
The Corporation of the Town of East Gwillimbury owns, operates and maintains three Class I Water Distribution Systems, namely: Holland Landing/Queensville/Sharon, Mount Albert and Yonge/Green Lane. The Town of East Gwillimbury shall:

- Comply with all relevant legislation and regulations for the consistent delivery of safe drinking water to the consumer
- Maintain and continually improve on its Quality Management System
- Communicate openly and effectively with the public concerning matters of drinking water quality



Mike Molinari, P. Eng
General Manager of Community
Infrastructure and Environmental
Services

Date: August 05, 2014



Larry Hollett, C.E.T.
Manager of Environmental
Services

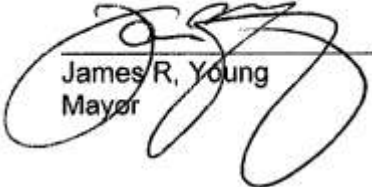
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Element 2 - Commitment and Endorsement**Owner Endorsement:**

At the March 23, 2009 Town of East Gwillimbury Council meeting, Council passed the resolution which endorses the roles, responsibilities and authorities defined for the QMS along with their commitment to the QMS as mandated by the Safe Drinking Water Act, 2002. A copy of the Council's Resolution is attached at the beginning of this Operational Plan.

At the July 13, 2009 Town of East Gwillimbury Council meeting, Council endorsed the Version 1 of the Operational Plan to fulfill the requirements of DWQMS. At the same time, the Town Council authorized the General Manager of Community Programs and Infrastructure [now Community Infrastructure & Environmental Services] to complete and submit, on their behalf, all required materials to the Ministry of Environment (MOE) for the Town's Municipal Drinking Water Licenses and Drinking Water Works Permits.

Endorsement by the Owner acknowledges the need for and provision of sufficient resources to maintain and continually improve the QMS:



James R. Young
Mayor

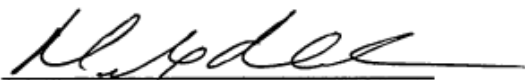
July 16/09
Date: _____

Element 3 - Commitment and Endorsement

Top Management Endorsement:

The Operational Plan documents the drinking water quality management standards for the Town of East Gwillimbury drinking-water distribution systems. Top Management endorsed the contents of the Operational Plan as well as the appointment of the Manager of Environmental Services as the QMS Representative.

Endorsement by the Top Management acknowledges the need for and provision of sufficient resources to maintain and continually improve the QMS:



Mike Molinari, P. Eng
General Manager of Community
Infrastructure and Environmental
Services

Date: August 05, 2014



Larry Hollett, C.E.T.
Manager of Environmental
Services

Date: August 05, 2014

Element 3 - Quality Management System Representative

The Manager of Environmental Services is appointed the role of Quality Management System Representative for Holland Landing/Queensville/Sharon, Mount Albert, and Yonge/Green Lane water distribution systems. The designated QMS Representative appointed two Alternate QMS Representatives: the Supervisor of Water/Wastewater Operations and the Environmental Compliance Technologist. The two Alternate QMS Representatives share the responsibilities of the Designated QMS representative required by the DWQMS. The roles and responsibilities of the Designated and Alternate QMS Representatives are listed in the table below. Should any member of the Team be unable to perform their duties then the other two Team members will ensure any requirements of that alternate are completed accordingly. These members make up the QMS Implementation Team:

Title	QMS Roles and Responsibilities
Designated QMS Representative (Manager of Environmental Services)	<ul style="list-style-type: none"> ▪ Reviews and approves QMS Documentation ▪ Liaises with External Audit ▪ Ensures that all relevant personnel are aware of all current legislation and regulatory requirements that are pertinent to the operation of the works. ▪ Appoints Alternate QMS Representatives ▪ Reports to Top Management on the effectiveness of the QMS and any need for improvement ▪ Promotes awareness of the QMS to Operating Authority, suppliers and contractors
Alternate QMS Representative (Supervisor of Water and Wastewater Operations)	<ul style="list-style-type: none"> ▪ QMS Implementation Lead ▪ Administers the Quality Management System by ensuring that processes and procedures needed for the QMS are established and maintained ▪ Develops QMS documentation ▪ Ensures that the current versions of documents required by the QMS are in use at all times ▪ Performs Internal Audits ▪ Performs roles delegated by the designated QMS Representative
Alternate QMS Representative (Environmental Compliance Technologist)	<ul style="list-style-type: none"> ▪ Assists with QMS implementation ▪ Ensures that QMS procedures are applied to routine operating and maintenance activities ▪ Assists with Internal Audits ▪ Promotes awareness of the QMS requirements to water/wastewater operators,

	<p>suppliers and contractors</p> <ul style="list-style-type: none">▪ Performs roles delegated by the designated QMS Representative
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Element 4 - Document and Records Control

The Town has developed a Procedure for Control of Documents (QMS Procedure 01) and a Procedure for Control of Records (QMS Procedure 02). These two procedures define how QMS documents and records are controlled.

The documents and records contained within the Town's Document Control Table, located in Appendix 1, and the Town's Record Control Table, located in Appendix 2, were identified by the QMS Implementation Team as documents and records applicable to the QMS requirements for the Town.

Element 5 - Drinking Water System

Town's Water Supply Process Flow Chart:

The following Town's Water Supply Process Flow Chart illustrates water sources and water supply boundaries for each of the Town's drinking water distribution systems.

The Town of East Gwillimbury has three Class I water distribution systems: Holland Landing/Queensville/Sharon, Mount Albert, and Yonge/Green Lane. All of them are two-tier systems. Water sources for Mount Albert are ground wells only. But, water sources for Holland Landing/Queensville/Sharon and Yonge/Green Lane are ground wells blended with Lake Ontario-based surface water. The Regional Municipality of York owns and operates the ground wells, the water treatment plants and water storage facilities supplying the Town's drinking water systems as well as the transmission mains interconnecting the distinct areas. Surface water is treated and supplied by the City of Toronto and the Region of Peel. The Town owns and operates the water distribution systems that receive water from the Regional Municipality of York. The Town's responsibilities are to operate and maintain the watermains, valves, hydrants, meters and service connections to the end users that comprise the distribution systems. Each of the Town's Drinking Water Systems is in a single Pressure Zone relative to that system.

A Summary of the Town's Drinking Water Systems:

A Summary of Town's Drinking Water Systems can be found in Appendix 3. It lists:

- Updated information of areas and numbers of households & population serviced by each system
- Water sources for each system and their treatment methods
- Water storage facilities and the components in each system
- Length of watermains in each system
- Pipe age and pipe type within each system

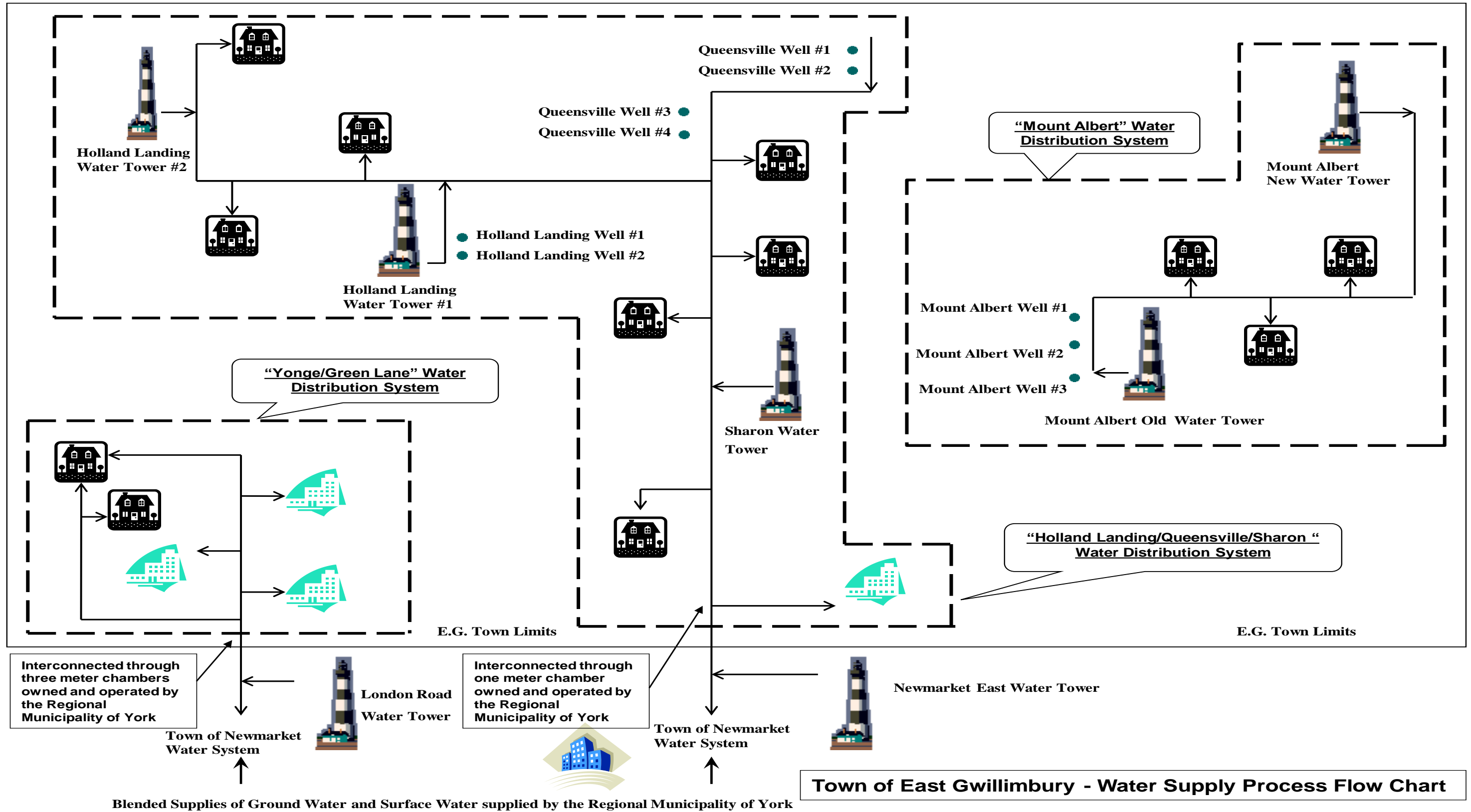
Description of Water Sources and Water Storage Facilities:

All water sources and storage facilities are owned and operated by the Regional Municipality of York. The Town does not add any chemicals to the water neither flowing through the distribution systems, nor own nor operate any booster stations. The water treatment process in more detail and the chemicals used in the process can be obtained from the Operational Plan developed by the Regional Municipality of York.

The general characteristics of the raw water supply, common event-driven fluctuations and any resulting operational challenges and threats can be obtained from the Operational Plan developed by the Regional Municipality of York.

Description of Critical Upstream and Downstream Processes:

The Town's drinking water systems strongly rely on the water sources and water storage facilities owned and operated by the Regional Municipality of York. The Town does not supply to any downstream water system.



Element 6 - Risk Assessment

The Town has developed a Procedure for Risk Assessment (QMS Procedure 03). The procedure defines the method used for assessing risk and defines the mechanism to review and update the risk assessment outcomes.

Hazards and hazardous events were identified and documented in the Town's Water Distribution Systems - Risk Assessment Table (QMS Form 03). Each hazard and hazardous event was assessed in terms of Likelihood, Consequence and Detection. The details of the ranking scheme are included in the Procedure for Risk Assessment (QMS Procedure 03).

The outcomes of the risk assessment helped with the determination of the Critical Control Points.

Element 7 - Risk Assessment Outcomes

The outcomes of the risk assessment for the Town's water distribution systems are located in Appendix 4. Where there is an identified CCP, a control procedure or measure has been developed to report and record deviations from Critical Control Limits.

Element 8 - Organizational Structure, Roles, Responsibilities, Authorities

The Owner and the Operating Authority:

The Town's Organization Chart for Water Distribution System below illustrates the Town organizational structure for the waterworks.

The Corporation of the Town of East Gwillimbury is identified as the Owner of the Town drinking water systems. The Mayor and Council is the representative of the Owner of the Town drinking water systems and has the ultimate responsibility for the quality of the water delivered to the residents.

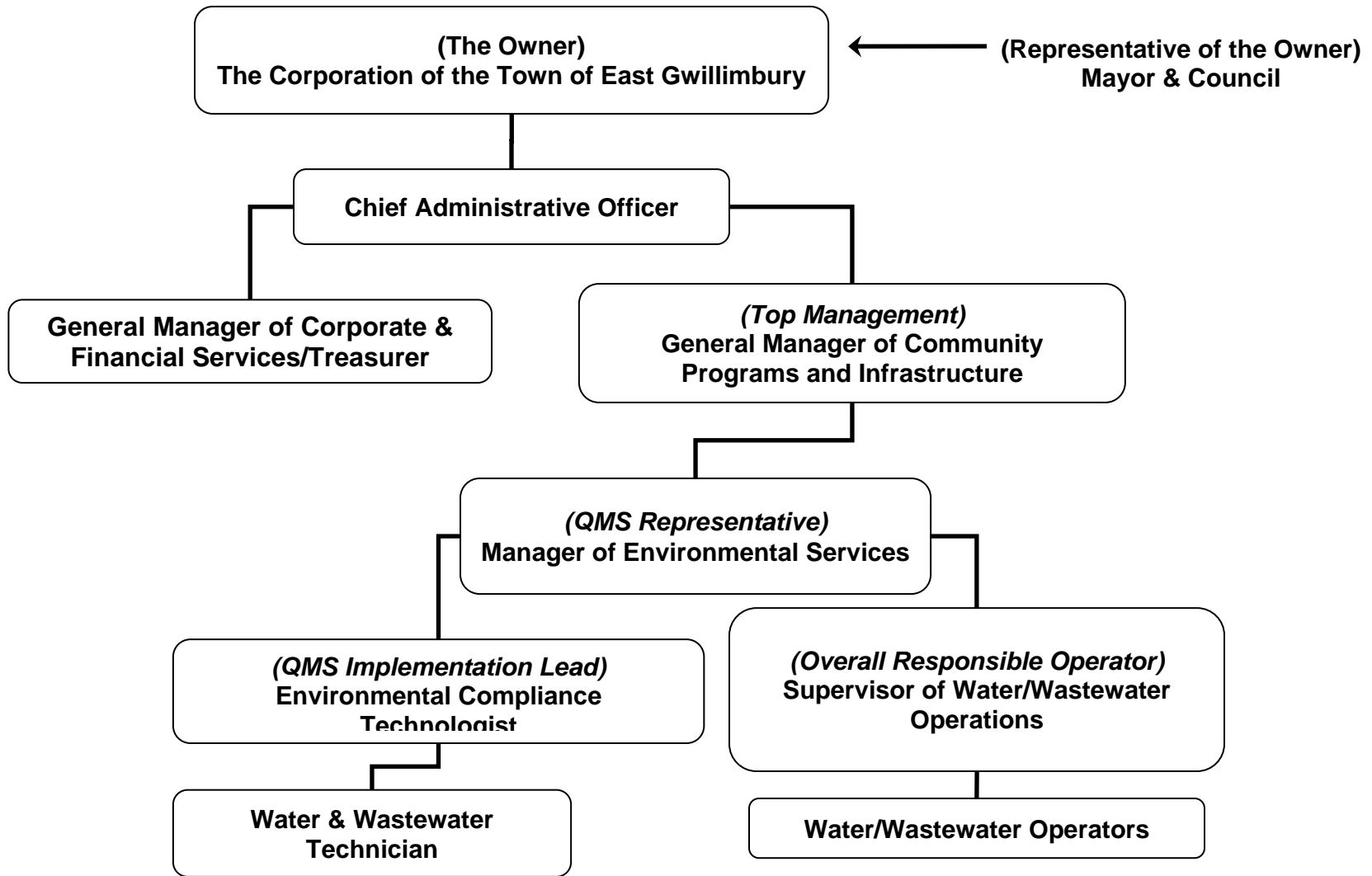
The municipality of the Town of East Gwillimbury is the Operating Authority for the Town drinking water systems.

List of Organizational Roles, Responsibilities and Authorities:

Appendix 5 contains a detailed list of organizational roles, responsibilities and authorities.

The Manager of Environmental Services shall ensure that the organizational structure, roles, responsibilities and authorities is kept current and shall update the Owner and Top Management on any changes in the roles and responsibilities associated with the QMS.

Town's Organization Chart for Water Distribution Systems



Element 10 - Competencies

Competencies Table:

The Corporation of Town of East Gwillimbury has developed a Competency Table (see Appendix 6) outlining competency requirements for personnel performing duties directly affecting water quality. This table is reviewed when there are changes in:

- Responsibilities and Authorities of the personnel
- Technology
- Legislation or Regulations
- Drinking Water Quality Management Standards

The Manager of Environmental Services is responsible to conduct this review as required to ensure that the competencies of management and operation personnel are in line with the requirements for the safe and effective operation of the Town's three drinking-water systems.

Development and Maintenance of Competencies:

The Town of East Gwillimbury provides training in their annual budget process for all waterworks employees. At a minimum, the training budget includes funding for legislated and required training to maintain water operator certification in accordance with O.Reg.128/04 and O. Reg 129/04.

As a part of annual performance evaluation for each waterworks employee, the related supervisors will review training/knowledge needs with their waterworks employees and compile a list of recommended training based upon discussions with the waterworks employees and a review of any applicable legislation or regulations.

The Environmental Compliance Technologist, in conjunction with the Human Resources Department, arranges training courses or sessions for each waterworks employee based on the list of recommended training for each individual.

Training or knowledge gain may take the form of on or off-site training sessions, seminars, on-the-job training, distance learning or courses of study.

New Waterworks Employee:

Potential waterworks employees shall submit proof of relevant post-secondary education.

Newly hired waterworks employees undergo a New Employee Orientation. The orientation consists of a review of the following:

- Health and Safety Policy and Procedures
- QMS Policy and Procedures
- Operational Overview for Waterworks
- Overview of the DWQMS
- Responsibilities and Authorities

Awareness of Waterworks Employees

Through regular DWQMS meetings, the Town of East Gwillimbury ensures each waterworks employee is aware of the relevance of their duties and how they affect safe drinking water.

Training Records

All training the waterworks employee received will be tracked on our Town's Waterworks Personnel Training Record and kept in the Competencies file as per the Procedure for Records Control (QMS Procedure 02).

Element 11 – Personnel Coverage

A Procedure for Personnel Coverage (QMS Procedure 04) has been developed. The procedure outlines the working hours of the staff and identifies the on-call water/wastewater operator and the alternative ORO (Overall Responsible Operator).

Element 12 - Communication

A Procedure for Communications (QMS Procedure 05) has been developed. The purpose of this procedure is to identify the method of communicating the Quality Management System to the Mayor and Council, Top Management, Town staff, suppliers and contractors, as well as the general public.

Element 13 - Essential Supplies and Services

A List of Town's Essential Suppliers, Contractors and Consultants

All suppliers, contractors and consultants providing services important for the Town's delivery of safe drinking water have been identified and are being maintained on a list updated on an annual basis.

All suppliers, contractors and consultants that may affect drinking water quality are selected on their ability to meet and sustain the Town's Community Program & Infrastructure Department criteria as follows:

- Selection is based upon the following principals:
 - Financials
 - Insurance (where appropriate)
 - Bonding (where appropriate)
 - Reference checks
 - Industry reputation
 - Ability to meet product quality specifications

- Ongoing assessments are based on the following principals:
 - Performance to requirements (contractors)
 - Accept/reject (product suppliers)
 - On-time delivery (where appropriate)
 - Responsiveness to inquires and complaints

Performance Review

The QMS Implementation Team assesses their performance annually on the existing List of Town's Essential Suppliers, Contractors and Consultants (Appendix 8). Any new Suppliers or Services providers will be added using "Essential Suppliers, Contractors and Consultants Review" Form (QMS Form 06). The assessment result will be reflected in the updated version of A List of Town's Essential Suppliers, Contractors and Consultants (Appendix 8).

The vendors on the list will be issued a QMS Awareness Memo outlining the purpose of our QMS and how it affects them. Along with this memo, the vendors are given an update form to fill out. This form confirms the contact information of the vendor and helps ensure the Town's ability to access those services and products contained in the list when the need arises. This update form will be issued annually to ensure that the Town can procure the items and services listed when needed.

Element 14 - Review of Provision of Infrastructure

The Town of East Gwillimbury conducts a review of the status of the water distribution system infrastructure including its current and future service abilities and needs/demands of the communities under the Town's jurisdiction on an annual basis.

The Town of East Gwillimbury has developed the Procedure for Review of Provision of Infrastructure (QMS Procedure 06). The procedure details the reviewing process, documenting the output of the review and communicating as well as implementing the findings.

Top Management is responsible for communicating the findings of the review and its implementation plans to the Council, which is the representative of the owner.

Element 15 - Infrastructure Maintenance, Rehabilitation and Renewal

Maintenance:

Scheduled:

The Town of East Gwillimbury has scheduled inspection and maintenance activities required for maintaining or improving infrastructure elements. The frequency and description of these activities are documented in the Town's Standard Operating Procedures for Water Distribution Systems.

All of the scheduled inspection and maintenance activities are recorded on the related maintenance forms and in the Town's facility log book.

Unscheduled:

The Town of East Gwillimbury reacts to the unscheduled maintenance activities on a case by case basis (i.e. watermain breaks).

Unscheduled inspection and maintenance activities are recorded on the related maintenance forms and in the Town's facility log book.

Monitoring the effectiveness of the maintenance program:

On an annual basis, the scheduled and unscheduled maintenance activities are summarized during the annual budgeting process. The Environmental Compliance Technologist is responsible for this summary. The results of this summary will be compared from year to year to provide an indication of their effectiveness and determine whether additional resources are necessary for the water systems' maintenance.

All records are maintained according to the Procedure for the Control of Records (QMS Procedure 02).

Rehabilitation and Renewal:

In conjunction with the Town's asset management program, the condition of the Town's water systems is assessed on an ongoing basis. When appropriate, upgrades and rehabilitation for the Town's water systems are considered and added to the Town's water operational activities or capital program.

Expansion of the water distribution systems is a coordinated effort between Development Services Division, Operations and Fleet Division within the Community Infrastructure & Environmental Services Department. Identified water expansion projects will be included in the Town's water capital program.

All water capital projects are communicated to the Mayor and Council during the annual budget approval process.

The Town's annual water capital programs are maintained in the "DWQMS-Infrastructure Maintenance, Rehabilitation and Renewal" file as per the Procedure for Records Control (QMS Procedure 02).

Element 16 -Sampling, Testing and Monitoring

The Town's Community Infrastructure & Environmental Services Department conducts the sampling, testing and monitoring of the Holland Landing/Queensville/Sharon, Mount Albert and Yonge/Green Lane water distribution systems as regulated by the Safe Drinking Water Act, 2002.

Sampling and Testing:

The Holland Landing/Queensville/Sharon, Mount Albert and Yonge/Green Lane water distribution systems are sampled in the amount and at the frequency regulated by O.Reg 170/03. All testing parameters required by O.Reg 170/03 are tested by an accredited testing laboratory. The water quality sampling and monitoring procedures can be found in Section 4 "Water Quality Sampling" of the Town's Operations and Maintenance Manual for Water Distribution Systems:

Activity 4.1: MOE Water Sampling Program

Activity 4.2: MOE Lead Sampling Program

Activity 4.3: Adverse Water Quality Reporting and Corrective Actions

Activity 4.4: After-hour Procedure for Adverse Water Quality Sample Results

Where possible, the sampling and testing are conducted at conditions most challenging to the systems, such as: dead-ends, low demand zones etc.

Flushing:

Flushing helps address challenging conditions such as dead ends and system fluctuations. Activity 2.1: Flushing Hydrants and Blowoffs Procedure can be found in Section 2 "Watermain Cleaning" of the Town's Operations and Maintenance Manual for Water Distribution Systems.

Monitoring:

The Town monitors the Holland Landing/Queensville/Sharon, Mount Albert and Yonge/Green Lane water distribution systems through:

- Visual inspection
- Sampling
- Testing
- Flushing
- Consumer Complaints

Where possible, the monitoring is conducted at conditions most challenging to the systems, such as: unstable chlorine residual level and etc.

Any minor problems with the water distribution systems are reported to the Environmental Compliance Technologist by immediate verbal notification from administrative staff. The Supervisor of Water/Wastewater Operations follows up with the appropriate corrective action.

Any major problems with the water distribution systems are reported to the Supervisor of Water/Wastewater Operations by immediate verbal notification from administrative staff. The Supervisor of Water/Wastewater Operations leads the appropriate corrective action and final resolution.

Monitoring Upstream of the Town's Drinking Water Systems:

Sampling and testing of the treated water supply at the wells and the water storage facilities is conducted by the Region of York. The wells and water storage facilities are monitored by a SCADA system. Details of the sampling, testing and monitoring processes for these facilities are available from the Operational Plan developed by the Region of York.

Inter-Operating Authority Communication Protocol:

If there is any operational and water quality issues related to other operating authorities, follow the two inter-municipal communication protocols below:

IMP 01 - "Operating Protocols between Newmarket, East Gwillimbury and Region of York" regarding Yonge/Green Lane Area developed by Town of Newmarket.

IMP 02 - "Inter-municipal communication protocol in response to operational and water quality issues" developed by the Region of York.

IMP 03 - "Inter-municipal Communication for Emergency / Urgent Valve Isolation Notification Protocol" developed by the Region of York.

Reporting:

The Annual Water Quality Report for the Holland Landing/Queensville/Sharon, Mount Albert and Yonge/Green Lane water distribution systems includes a summary all sample test results and any adverse testing results with the corrective actions and resolutions. These reports are posted to the Town's website by February 28 of the following year for which the report is developed as per regulations. Copies of these reports are also available to residents at the Civic Centre

The Annual Summary Report is communicated to the Owner at the end of March as regulated by the MOE. Both the Annual Water Quality Reports and the Annual Water Summary Report are available for Public viewing on the Town's website and at the Municipal Office in the Community Infrastructure & Environmental Services Department.

Records Control:

All of the Town's annual sampling plans, completed lab chain-of-custody submission forms, lab testing results, completed daily chlorine residual testing log books and new watermain testing results are kept as per the Procedure for Control of Records (QMS Procedure 02).

Element 17- Measurement and Recording Equipment Calibration and Maintenance

A procedure has been developed for the calibration of devices used to ensure water quality, Procedure for Calibration (QMS Procedure 07).

All of the Town's equipment calibration and maintenance records are maintained as per the Procedure for Control of Records (QMS Procedure 02).

Element 18 - Emergency Management

Water Emergency Plan

The Town of East Gwillimbury has an Emergency Plan in place in accordance with the prevailing legislation and regulations.

However, some emergency situations/service interruptions that would particularly affect the Town's ability to sustain normal waterworks operations over a particular period of time have been identified through the risk assessment process (see QMS Procedure 03 - Procedure for Risk Assessment)

The Town of East Gwillimbury has established, implemented and maintained a Water Emergency Plan.

In addition to the above, the Town's Community Infrastructure & Environmental Services Department in conjunction with other municipalities has formed a Northern Six Municipalities DWQMS Working Group. It includes Newmarket, Aurora, Georgina, Whitchurch-Stouffville, East Gwillimbury and King, and has developed a list of Northern Six Municipality Emergency Contacts and Shared Resources (See Appendix 8) to address specific emergency conditions.

The Town's Water Emergency Plan can be found as an attachment to this Operational Plan.

Town staff will conduct table-top exercises every year and a field exercise in every third year.

Communications

A list of Water Emergency Contacts is posted in each functional area along with the List of Essential Suppliers, Contractors and Consultants (Appendix 8).

During a water distribution emergency situation, the Manager of Environmental Services is responsible for communications on behalf of the Operating Authority and will contact the Owner and regulatory agencies as necessary. Communications with media will be coordinated with the Owner.

The Owner is represented by the Community Infrastructure & Environmental Services Department to address specific emergency conditions relating to the water distribution systems.

Communication protocols for responding to a water distribution emergency are outlined in each individual water emergency response and recovery procedure.

Water Emergency Contact Lists

- A List of Government Agencies Contacts is included as Appendix 7 of this Operational Plan.

- A List of Town's Essential Suppliers, Contractors and Consultants is included in Appendix 8 of this Operational Plan.

- The Northern Six Municipalities Emergency Contact List and Shared Resources are in Appendix 9 of this Operational Plan.
- A List of Town's Priority Water Customers is included as Appendix 10 of this Operational Plan.
- A List of Town's Internal Water Emergency Contacts is included as Appendix 11 of this Operational Plan.

Keeping the lists of Water Emergency Contacts up-to-date is the responsibility of the QMS Implementation Team and the Environmental Compliance Technologist.

Element 19 - Internal Audits

The Town of East Gwillimbury has established Procedure for Internal Audits (QMS Procedure 08).

The Procedure for Internal Audits has been implemented and maintained to conform to the requirements of the Ministry of the Environment's DWQMS.

Results of each Internal Audit are an integral input to the Management Review process.

Records of Internal Audits are maintained in the Town's Internal Audits files, as per the Procedure for Control of Records (QMS Procedure 02).

Element 20 - Management Review

A Management Review is used to evaluate the continuing suitability, adequacy and effectiveness of the QMS. The Procedure for Management Review (QMS Procedure 09) has been established and is implemented on an annual basis.

Any outcomes from Management Review activities are documented in the "Management Review" Form (QMS Form 05) and followed-up with a timeframe and kept in the Town's Management Review files, as per the Procedure for Control of Records (QMS Procedure 02).

Element 21 - Continual Improvement

The Town of East Gwillimbury has committed to the continual improvement of the Drinking Water Quality Management System through the use of the Quality Management System Policy, Internal and External Audits, Corrective Actions, Management Reviews, Infrastructure Renewal and Improvement, Customer Feedback, monthly DWQMS/Tailgate meetings and the analysis of Performance Measurement Data. All those activities for Continual Improvement are recorded and kept in the Town's DWQMS-Continual Improvement files as per the Procedure for Control of Records (QMS Procedure 02).

When appropriate, the Town will modify/update/adjust processes and procedures (while remaining in compliance with applicable regulations) to better improve management and operation of the drinking water systems as well as overall customer satisfaction.

Change History

Revision Level	Date	Change	Developed By
0	January 30, 2009	New Document	R.F.
1	July 13, 2009	After Internal Audit and Council meeting on July 13, 09	R.F.
2	March 20, 2012	Response to CGSB "On-Site Verification Audit Report-2011" issued on September 22, 2011	J.V.
3	August 2013	Update of Department Names and Titles following corporate reorganization.	D.D.
4	April 2014	Updated QMS Policy and Commitment and Endorsement with signatures of current Manager/ General Manager	D.D.
5	June 24, 2014	Element 10, the wording was changed to more accurately describe the monthly DWQMS tailgate meetings	D.D.
6	August 05, 2014	Updated Endorsement by new General Manager of CIES	D.D.
7	August 19, 2014	Updated Element 13 to make reference to Form 6 only being utilized when adding to Essential Suppliers and Services list	D.D.