

Attachment-1 Guelph Water Services' Operational Plan

Operational Plan

Guelph Drinking Water System

Owner: The Corporation of the City of Guelph

Operating Authority: The Corporation of the City of Guelph

MDWL Number: 017-101



Gazer Mooney Subdivision Distribution System

Owner: The Corporation of the Township of Guelph/Eramosa

Operating Authority: The Corporation of the City of Guelph

MDWL Number: 104-403



Version 2 – 2023-04-25

Document Number: EDMS-126299

As per the Accessibility for Ontarians with Disabilities Act (AODA), this document is available in an alternate format by e-mailing waterservices@guelph.ca or by calling 519-837-5627; TTY: 519-837-5688 or text 226-821-2132.

Figure 1: Schedule C - Director's Directions for Operational Plans (Subject System Description Form) for Guelph Drinking Water System



Ministry of the Environment,
Conservation and Parks

[Print Form](#)

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

Fields marked with an asterisk (*) are mandatory.

Owner of Municipal Residential Drinking Water System *
the Corporation of the City of Guelph

Subject Systems

Name of Drinking Water System (DWS) *	Licence Number *	Name of Operating Subsystems (if applicable)	Name of Operating Authority *	DWS Number(s) *
1. Guelph Drinking Water System	017-101		the Corporation of the City of Guelph	220000095

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

Contact Information for Questions Regarding the Operational Plan 

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

Figure 2: Schedule C - Director's Directions for Operational Plans (Subject System Description Form) for Gazer Mooney Subdivision Distribution System



Ministry of the Environment,
Conservation and Parks

[Print Form](#)

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

Fields marked with an asterisk (*) are mandatory.

Owner of Municipal Residential Drinking Water System *
the Corporation of the Township of Guelph/Eramosa

Subject Systems

Name of Drinking Water System (DWS) *	Licence Number *	Name of Operating Subsystems (if applicable)	Name of Operating Authority *	DWS Number(s) *
1. Gazer Mooney Subdivision Distribution System	104-103		the Corporation of the City of Guelph	260057967

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

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

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Table 1: Index of referenced QMS documents in the Operational Plan.

Document Name	Document Number¹
QMS 02 – Quality Management System Policy	
QMS 02 City of Guelph Water Quality Policy (Poster)	SD-000295
QMS 02-01 Water Quality Policy - blank	SD-000293
QMS 02-01 Water Quality Policy - signed	SD-000294
QMS 03 – Commitment and Endorsement	
QMS 03-01 Commitment and Endorsement by Top Management blank	EDMS-123299
QMS 03-01 Commitment and Endorsement by Top Management signed	SD-102837
QMS 03-02 Commitment and Endorsement by Guelph City Council – Resolution	SD-000296
QMS 03-02 Commitment and Endorsement by Guelph/Eramosa Council – Resolution	SD-000281
QMS 04 – QMS Representative	
QMS 04-01 Compliance with Regulations and Legislation	SD-104335
QMS 05 – Document and Records Control	
QMS 05-01 Document Master List	SD-000303
QMS 05-02 Record Master List	SD-000304
QMS 05-03 Complying with Guelph’s Records Retention Bylaw	SD-103338
QMS 05-04 Table of Essential Documents	SD-104334
QMS 06 – Drinking Water System	
QMS 06-01 Treatment System Process Schematics	SD-000306
QMS 06-01 Treatment System Process Schematics (editable format)	SD-104274
QMS 06-02 Water Supply Sources	SD-000307
QMS 06-03 Gazer Mooney Subdivision Distribution System	SD-102855
QMD 06-04 Listing of Water Services’ Programs	SD-103431

¹ The document number is the Content ID Number assigned by the Electronic Document Management System (EDMS). Version numbers and revision dates of each document are maintained by the EDMS.

QMS 07 – Risk Assessment	
QMS 07-01 Risk Assessment Rating	SD-000309
QMS 07-02 Hazard Identification and Risk Assessment Template	SD-104272
QMS 08 – Risk Assessment Outcome	
QMS 08 – Risk Assessment Outcome Table	SD-000311
QMS 08-02 Summary of Critical Control Points and Critical Control Limits	SD-000313
QMS 08-03 Control and Response Measure Descriptions	SD-103032
QMS 09 – Organizational Structure, Roles, Responsibilities and Authorities	
QMS 09-01 Organizational Structure (org chart)	SD-000315
QMS 09-01 Organizational Structure (org chart) – no employee names	EDMS-115698
QMS 09-02 QMS Roles, Responsibilities and Authorities Table	SD-000316
QMS 10 – Competencies	
QMS 10-01 Employee Orientation Training Form	SD-000419
QMS 10-02 Distribution Operator On-The-Job Training Form	SD-103460
QMS 10-03 Treatment Operator On-The-Job Training Form	SD-103461
QMS 10-04 Administration On-The-Job Training Form	EDMS-106093
QMS 10-07 On-the-job Practical Training Record	SD-103391
QMS 10-08 Employee Orientation	SD-102868
QMS 12 – Communications	
QMS 12-02 Internal Communications	SD-000420
QMS 12-03 Renewing the Municipal Drinking Water Licence	SD-104465
QMS 13 – Essential Supplies and Services	
QMS 13-01 Essential Supplies and Services Table	SD-000322
QMS 14 – Review and Provision of Infrastructure	
QMS 14-01 Annual Infrastructure Review Process	EDMS-126099
QMS 16 – Sampling Testing and Monitoring	
QMS 16-01 Sample Locations Map	SD-000326
QMS 18 – Emergency Management	
QMS 18-01 Guelph-WDGPH Water Advisory Protocol	SD-104275

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QMS 19-03 Internal Process Audit Checklist	SD-104223
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Introduction

This Operational Plan documents the Quality Management System (QMS) developed for the Guelph Drinking Water System and the Gazer Mooney Subdivision Distribution System to meet the requirements of the Ontario Drinking Water Quality Management Standard (DWQMS) v. 2.0, dated February 2017 and to comply with the requirements of the Safe Drinking Water Act, 2002.

Municipal Drinking Water Licence

In order to operate a drinking water system in Ontario, the Safe Drinking Water Act requires Owners of drinking water systems to have a Municipal Drinking Water Licence. In order to obtain a Municipal Drinking Water Licence, the following must be in place:

- A Drinking Water Works Permit,
- Permits to Take Water,
- An accredited Operating Authority,
- An accepted Operational Plan, and
- An approved Financial Plan.

In order for a municipality to be accredited and licenced to provide drinking water, it must have a Quality Management System in place that meets the requirements of the Drinking Water Quality Management Standard. A Quality Management System consists of a set of policies, procedures and objectives that direct and control an organization with respect to quality. Water Services' QMS is documented in this Operational Plan.

Operating Authorities are accredited by a third-party accreditation body against the requirements of the DWQMS. City of Guelph Water Services, the Operating Authority for the Guelph Drinking Water System and the Gazer Mooney Subdivision Distribution System, has been accredited to the DWQMS since 2009.

QMS 01 – Quality Management System

Purpose

To document a Quality Management System (QMS) that meets the requirements of the Province of Ontario's Drinking Water Quality Management Standard (DWQMS).

Definitions

Drinking Water Quality Management Standard (DWQMS) - has the same meaning as Quality Management Standard for Drinking Water Systems approved under section 21 of the Safe Drinking Water Act, 2002.

Operational Plan - means the Operational Plan required by the Province of Ontario's Ministry of the Environment Conservation and Parks Director's Directions.

Quality Management System - has the same meaning as "Quality Management System" defined in the Terms and Definition Section of the Drinking Water Quality Management Standard. Quality Management System - a system to:

- a) Establish a policy and objectives, and to achieve those objectives, and
- b) Direct and control an organization with regard to quality.

Procedures

1. Documenting the QMS

- 1.1 The Guelph Drinking Water System is owned and operated by the Corporation of the City of Guelph (the City of Guelph). Although the owner and operator of the system are the same entity, the owner has assigned Operating Authority roles, responsibilities and authorities to its Environmental Services department, Water Services division (Water Services). As such, Water Services is responsible for the operation, management, maintenance or alteration of the system.
- 1.2 The Gazer Mooney Subdivision Distribution System is owned by the Corporation of the Township of Guelph/Eramosa (Township of Guelph/Eramosa). The City of Guelph has been contracted through agreement with the Township of Guelph/Eramosa as the Operating Authority for the system and the City has assigned the Operating Authority roles, responsibilities and authorities for the system to Water Services.

- 1.3 The Operational Plan is a written documentation of Water Services' Quality Management System to meet the requirements of the Drinking Water Quality Management Standard. It establishes policies and procedures for the effective management and operation of the drinking water systems. It also provides an understanding of the Guelph Drinking Water System and the Gazer Mooney Subdivision Distribution System, the responsibilities of the system Owner(s) and Operating Authority, and a commitment to the provision of safe drinking water.
- 1.4 The Operational Plan enables the City of Guelph and the Township of Guelph/Eramosa to continue to plan, implement, check, and continually improve the systems, thereby ensuring ongoing confidence and security in the drinking water systems.
- 1.5 The Operational Plan was created by Water Services to ensure that safe, reliable drinking water is provided to all the citizens, businesses, and visitors of Guelph and the Gazer Mooney subdivision.

2. Availability of the Operational Plan

- 2.1 The Operational Plan is available for viewing by the public at Service Guelph, located at Guelph City Hall, or upon request at the Township of Guelph/Eramosa office.
- 2.2 The Operational Plan is readily available to Water Services personnel and to the Business Services and Compliance and Performance personnel that support Water Services in Guelph's Electronic Document Management System (EDMS).

Applicable QMS Documents

None applicable.

Reference Documents

[Director's direction – minimum requirements for operational plans](#) (Director's Directions)

[Drinking Water Quality Management Standard](#)

[Safe Drinking Water Act, 2002](#)

QMS 02 – Quality Management System Policy

Purpose

To document a Quality Management System Policy that provides the foundation for the Quality Management System, and:

- a) Includes a commitment to the maintenance and continual improvement of the Quality Management System,
- b) Includes a commitment to the Consumer to provide safe drinking water,
- c) Includes a commitment to comply with applicable legislation and regulations, and
- d) Is in a form that can be communicated to all Operating Authority personnel, the Owner and the Public.

Definitions

Consumer (or customer): the drinking water end user. The term consumer and customer are used interchangeable in the Operational Plan.

Responsibilities

Quality Management Specialist – responsible for ensuring that QMS 02-01 is updated within 6 months of a change in Top Management.

Top Management – responsible for signing QMS 02-01 Quality Management System Policy – blank, which documents their commitments required by the Drinking Water Quality Management Standard.

Procedures

1. Documenting a Quality Management System Policy

- 1.1 Water Services, the Operating Authority for the Guelph Drinking Water System and the Gazer Mooney Subdivision Distribution System, is committed to maintaining a high level of trust, commitment and accountability by consistently delivering high quality and safe drinking water.

- 1.2 Water Services' Quality Management System demonstrates the commitment to the Quality Policy, as stated below:

City of Guelph Water Quality Policy

Water Services is committed to:

Trusted supply of safe and reliable drinking water for the consumer

Achieving compliance with applicable legislation and regulations

Providing necessary resources for the maintenance and continual improvement of the Quality Management System

- 1.3 Members of Water Services' Top Management have documented their commitment to the Water Services' Quality Policy by signing QMS 02-01 Water Quality Policy. This document will be updated within six months of changes in Top Management.

2. Communicating the Quality Policy

- 2.1 The Water Quality Policy is communicated and available to all Operating Authority personnel and the public in the Council Chambers office and through the City's [Water Quality and Testing Reports webpage](#). Hard copies of the Water Quality Policy are also available to Operating Authority personnel at various locations throughout Water Services.

Applicable QMS Documents

QMS 02 City of Guelph Water Quality Policy (Poster) (SD-000295)

QMS 02-01 Water Quality Policy - blank (SD-000293)

QMS 02-01 Water Quality Policy - signed (SD-000294)

Reference Documents

None applicable.

QMS 03 – Commitment and Endorsement

Purpose

To provide a written endorsement of the Operational Plan and its contents by Top Management and the Owner.

Responsibilities

Quality Management Specialist – responsible for ensuring that QMS 03-01 Commitment and Endorsement by Top Management is updated within six months of a change in Top Management; and for ensuring that this Operational Plan is endorsed by the Owner within one year of a new council, or after significant changes to the Operational Plan are made.

Top Management – responsible for signing the QMS 03-01 Commitment and Endorsement by Top Management, which documents their endorsement of the Operational Plan and its contents.

Procedures

The Owners 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). The QMS for the drinking water systems is documented in this Operational Plan.

1. Commitment and Endorsement by the Owners

1.1 The drinking water system Owners (the City of Guelph and the Township of Guelph/Eramosa) endorse this Operational Plan through a Council Resolution within one year following the election of a new council, or following significant changes to the Operational Plan. A copy of the endorsement provided by each of the system Owners is maintained in EDMS.

In addition, a copy of the minutes for each council meeting, including council resolutions are available on the system Owners public website:

- City of Guelph council minutes available at, <https://guelph.ca/city-hall/mayor-and-council/city-council/agendas-and-minutes/>

- Township of Guelph/Eramosa council minutes available at, <https://www.get.on.ca/township-services/committee/mayor-and-council/meetings>.

1.2 The Owners' commitment to an effective Quality Management System (QMS) is evidenced by the resources provided for the implementation, maintenance and continual improvement of this Operational Plan and QMS.

2. Commitment and Endorsement by Top Management

2.1 Top Management's endorsement of the Operational Plan and the QMS is provided through the signatures found in QMS 03-01 – Commitment and Endorsement by Top Management.

2.2 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 Operating Authority staff are aware of all applicable legislative and regulatory requirements,
- c) Communicating the QMS according to procedures outlined in QMS 12 - Communications, and
- d) Determining, obtaining or providing the resources needed to maintain and continually improve the QMS.

2.3 By signing QMS 03-01 – Commitment and Endorsement by Top Management, members of Top Management are documenting their commitment to an effective QMS as stated above and their endorsement of the Operational Plan. This document will be updated within six months of changes in Top Management.

Applicable QMS Documents

QMS 03 Commitment and Endorsement by Guelph City Council – Resolution (SD-000296)

QMS 03 Commitment and Endorsement by Guelph/Eramosa Council – Resolution (SD-000281)

QMS 03-01 Commitment and Endorsement by Top Management blank (EDMS-123299)

Reference Documents

None applicable.

QMS 04 – QMS Representative

Purpose

To identify a Quality Management System (QMS) Representative and outline their specific responsibilities.

Responsibilities

Quality Management Specialist – responsible for administering the Quality Management System, as described in the procedures section below.

Top Management – responsible for appointing a Quality Management System Representative; and ensuring that personnel are aware of all applicable legislative and regulatory requirements that pertain to their duties for the operation of the drinking water system.

Procedures

1. Appointing a Quality Management System Representative

- 1.1 Top Management for the Operating Authority (Water Services) at the City of Guelph has appointed the Quality Management Specialist to be the Quality Management System (QMS) Representative.

2. Responsibilities of the QMS Representative

- 2.1 The QMS Representative's authorities, roles and responsibilities are outlined in QMS 09 – Organizational Structure, Roles, Responsibilities and Authorities. Irrespective of other responsibilities, the QMS Representative shall:
 - a) Administer the QMS by ensuring that 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) With Top Management, ensure that personnel are aware of all applicable legislative and regulatory requirements that pertain to their duties for the operation of the Guelph Drinking Water System and Gazer Mooney Subdivision Distribution System;
- e) Promote awareness of the QMS throughout the Operating Authority; and
- f) Coordinate and lead the annual Management Review on the continuing suitability, adequacy and effectiveness of the QMS, and ensure that the results of the annual review are conveyed to the system Owners (Guelph City Council and Guelph/Eramosa Township Council).

Applicable QMS Documents

QMS 04-01 Compliance with Legislation and Regulations (SD-105335)

QMS 05 - Document and Records Control

QMS 09 - Organizational Structure, Roles, Responsibilities and Authorities

QMS 09-01 Organizational Structure (SD-000315)

QMS 09-02 QMS Roles, Responsibilities and Authorities Table (SD-000316)

QMS 12 - Communications

QMS 20 Management Review

Reference Documents

None applicable.

QMS 05 – Document and Records Control

Purpose

To document a procedure that describes how:

- a) Documents required by the quality management system (QMS) are:
 - i. kept current, legible, and readily identifiable
 - ii. retrievable
 - iii. stored, protected, retained and disposed of, and
- b) Records required by the quality management system (QMS) are:
 - i. kept legible and readily identifiable
 - ii. retrievable
 - iii. stored, protected, retained and disposed of.

Definitions

Document - has the same meaning as “document” defined in s. 2(1) of the SDWA. Document - includes a sound recording, video, film, photograph, chart, graph, map, plan, survey, book of account, and information recorded or stored by means of any device.

Inactive record - A record that is referred to infrequently but is required to be kept as per the retention schedule of the City’s Record Retention By-law. They may be kept in another location other than the department or service area they pertain to.

Procedure - A Form, Checklist, Standard Operation Procedure (SOP), Work Instruction (WI), etc. that is used to complete work at Water Services.

Record - has the same meaning as “record” defined in the Terms and Definition Section of the Drinking Water Quality Management Standard. Record - a document stating results achieved or providing proof of activities performed.

Reference Document (RD) - A document that provides specific information (but no instructions) such as contact lists, licences, permits, account information, etc. This will also be used for important technical bulletins or reports created by other agencies.

Retention period - The period of time during which a specific record series must be kept before they can be disposed of. The full retention period is made up of the total active and inactive time periods listed for a record.

Standard Operating Procedure (SOP) - A high-level document outlining responsibilities, procedures, processes, hazards and reference documents. SOP's do not describe how to use specific equipment but the overall process. SOP's will list related Work Instructions and/or Reference Documents if applicable.

Work Instruction (WI) - A step-by-step instruction on site specific processes, pieces of equipment or tool and computer software. Work instructions should include simple step by step, user friendly directions and may include pictures or screen shots.

Responsibilities

All Staff – responsible for following the City's Records and Information Policy and the Records Retention by-law; and ensuring that documents and records are kept current, legible, readily identifiable, retrievable, stored, protected, retained and disposed of.

Procedures

The City of Guelph has a Records and Information Management (RIM) Policy to ensure consistent standards and practices for the life cycle management of records. Further to the Policy, the City has a Records and Information Management (RIM) Strategy and a Records Retention Bylaw. The RIM Policy, RIM Strategy and Records Retention Bylaw can be found on the City of Guelph's intranet site.

Documents

1. Documents Required by the QMS

- 1.1 Documents required by the QMS are listed in QMS 05-01 Document Master List, which includes their document number (if applicable), location where they are stored, and the person responsible for them. A list of Essential Documents is outlined in QMS 05-04 Table of Essential Documents.
- 1.2 Examples of controlled documents are the Operational Plan and its associated policies, procedures, including applicable Standard Operating Procedures (SOPs), Work Instructions (WIs), Reference Documents (RDs), forms, checklists, or other documents that are subject to revision. These are maintained on the City of Guelph's Electronic Document Management System (EDMS).

2. Policies and Procedures

- 2.1 Water Services' policies and procedures (e.g., SOPs, WIs, RDs) are created using the WS-RD Procedure Template and as per the WS-SOP Procedure Creation, Update and Review.
- 2.2 Policies and procedures are subject to review minimally every 3-years by the appropriate staff to ensure they are kept current. Any updates to a policy or procedure is done as per the WS-SOP Procedure Creation, Update and Review. Staff sign the WS-RD Procedure Review Form to acknowledge that they have read and understood the information contained in the document. Further, they will provide any required edits or comments to ensure the document is kept up-to-date.
- 2.3 Policies and procedures are stored in Guelph's Electronic Document Management System (EDMS). Staff are directed to access policies and procedures directly from the EDMS to ensure they are accessing the most recent version of a document. The EDMS maintains version control of each document and assigns a unique number to each document. The Content Info for each document contains the revision number along with a description of changes made since the last revision.
- 2.4 The Water Services Procedures Folio (EDMS-115498) stores all of the policies and procedures in one place so they are easily accessible by staff.

3. Ensuring Documents are kept current, legible and readily identifiable

- 3.1 In order to ensure documents are kept current, any employee can make a request for the creation or a change to a QMS document or procedure. Reasons for changes to documents can include: general update, annual or 3-year reviews, a change in procedure, results of an audit or suggestion for improvement. Prior to processing QMS document changes, the Quality Management Specialist is responsible for ensuring that the changes will not affect the integrity of the QMS or the processes.
- 3.2 The Operational Plan is reviewed and updated minimally once per year by the Quality Management Specialist, with assistance from other Water Services staff, if required. Any updates made to the Operational Plan are summarized and sent to Top Management in an email and approves the changes using WS-RD Procedure Review Form.

- 3.3 All staff members are responsible to ensure that documents remain legible and readily identifiable. If a document has been damaged or made illegible, staff will inform the Quality Management Specialist or appropriate staff, and can request a replacement copy.

4. Retrieving, Storing and Protecting Documents

- 4.1 Staff are directed to retrieve documents right from their source (i.e. EDMS, the City of Guelph's intranet site, manufacturer websites, etc.) to ensure they are obtaining the most recent version. Operations and Maintenance Manuals are printed for each well facility and are maintained and updated by the Water Operations Technician.
- 4.2 Controlled documents of internal origin (those created by Water Services, Business Services or Compliance and Performance) are stored as listed on the QMS 05-01 Document Master List. To ensure documents are protected, the network drive and EDMS are backed up daily by the City's Information Technology Department.
- 4.3 Electronic documents stored on EDMS are "read only" for most staff. Different levels of access can be given to various staff based on their needs. For example, the Water Operations Technicians have "Read" and "Write" access. The Quality Management Specialist or a member of the IT Department can add/delete users or modify their permission levels, as required.
- 4.4 Documents stored in EDMS are assigned a unique document number (Content ID). EDMS also tracks other content information such as revision number, document type, author, folder and a comments section that includes a description of what has changed since the last revision.
- 4.5 If a document is printed from EDMS, it is considered uncontrolled and not subject to revision. Staff are directed to access documents directly from their source (i.e. EDMS, City of Guelph's intranet site, etc.) to ensure they are obtaining the most recent version.
- 4.6 Documents that are only available in hard copy are to be kept in a safe, dry location that will ensure no damage or deterioration. These documents should eventually be digitized and stored in EDMS for safekeeping and back-up. For example: Final Reports for a project.

5. Accessible Document Guidelines

- 5.1 All documents posted on Guelph's corporate website (e.g., Annual Report, Summary Report) must be accessible as per the Accessibility for Ontarians with Disabilities Act (AODA), 2005. A statement must appear on all public-facing documents to inform the public that all documents are available in alternate formats upon request.
- 5.2 The City provides internal training and resources to ensure that public-facing documents meet AODA requirements.

Records

1. Records Required by the QMS

- 1.1 Records required by the QMS are listed in QMS 05-02 Record Master List, which also includes the Retention Category, Filing Method, Location, Retention Period and who the record is maintained by.
- 1.2 Examples of records include, but are not limited to the results of internal and external audits, management reviews, Annual Reports, Summary Reports, log books and other record-keeping mechanisms, Continual Improvement tracking, maintenance records.

2. Ensuring Records are kept legible and readily identifiable

- 2.1 The person completing or entering a record into a log book, worksheet, etc. must ensure the record is legible, accurate and complete with regard to recording requirements.
- 2.2 Blank forms, such as compliance sheets, watermain maintenance report, generator maintenance log, etc. are kept in EDMS.

3. Retrieving, Storing and Protecting Records

- 3.1 Records may be electronic and/or hard copy. Electronic records are stored on the network drive, EDMS or WAM. To ensure records are protected, these are backed up by the City's Information Technology Department.
- 3.2 Hardcopy storage and management of active/inactive records are maintained at Water Services in filing cabinets or in the records room. When hard copy records

are considered inactive, they are to be identified, packed in suitable containers and stored in Water Services' records retention room – a safe, dry location that will ensure no damage or deterioration until they have reached their retention time.

4. Retaining and Disposing of Documents and Records

- 4.1 Documents and Records created by or for the City of Guelph in connection with City business are the property of the Corporation of the City of Guelph and are retained and disposed of as per the Records Retention By-law.
- 4.2 If documents and records are believed to be beyond their retention period, the Quality Management Specialist (or assigned staff) will follow the City of Guelph's Records Destruction Standard Operating Procedure and complete the Records Destruction Form. Prior to the destruction of any document or record, destruction shall be authorized in writing through the Records Destruction Form by the appropriate department manager. The form must include a listing of record types and dates of records to be destroyed. The records may only be destroyed upon the approval of the Records Destruction Form by the City Clerk or designate.
- 4.3 Methods of disposition include shredding for hard copy records and deletion from electronic storage locations for electronic records.

Applicable QMS Documents

QMS 05-01 Document Master List (SD-000303)

QMS 05-02 Records Master List (SD-000304)

QMS 05-03 Complying with Guelph's Records Retention Bylaw (SD-103338)

QMS 05-04 Table of Essential Documents (SD-104334)

Reference Documents

Water Services Procedures Folio (EDMS-115498)

WS-RD Procedure Template (SD-000302)

WS-SOP Procedure Creation, Update and Review (SD-000421)

WS-RD Procedure Review Form (SD-000422)

The following documents are found on the City of Guelph's intranet site:

- Records and Information Management Policy
- Records Destruction Form
- Records Destruction Standard Operating Procedure
- Records Retention Bylaw
- Records Retention Bylaw – Schedule 1

QMS 06 – Drinking Water System

Purpose

To provide a description of the Guelph Drinking Water System and the Gazer Mooney Subdivision Distribution System that includes:

- a) For the Subject System:
 - i. The name of the Owner and Operating Authority.
 - ii. If the system includes equipment that provides Primary and/or Secondary Disinfection:
 - A description of the system including all applicable Treatment System processes and Distribution System components
 - A Treatment System process flow chart
 - A description of the water source, including:
 - general characteristics of the raw water supply,
 - common event-driven fluctuations, and
 - any resulting operational challenges and threats.
 - iii. If the system does not include equipment that provides Primary Disinfection or Secondary Disinfection:
 - a description of the system including all distribution system components, and
 - a description of any procedures that are in place to maintain disinfection residuals.
- c) If the Subject System is an Operational Subsystem, a summary description of the Municipal Residential Drinking Water System it is a part of including the name of the Operating Authority(ies) for the other Operational Subsystems.
- d) If the Subject System is connected to one or more other Drinking Water Systems owned by different Owners, a summary of those systems which:
 - i. Indicates whether the Subject System obtains water from or supplies water to those systems,
 - ii. Names the Owner and Operating Authority(ies) of those systems, and
 - iii. Identifies which, if any, of those systems that the Subject System obtains water from are relied upon to ensure the provision of safe drinking water.

Responsibilities

Water Compliance Specialist – responsible for ensuring that any modifications to the drinking water system are communicated to the Quality Management Specialist to ensure this procedure is kept up-to-date.

Quality Management Specialist (in consultation with Water Services personnel) – responsible for maintaining the accuracy of system descriptions in this procedure.

Procedures

Gazer Mooney Subdivision Distribution System Description

1. Name of the Owner and Operating Authority

- 1.1 The Gazer Mooney Subdivision Distribution System is owned by the Corporation of the Township of Guelph/Eramosa (Township of Guelph/Eramosa). The City of Guelph has been contracted as the Operating Authority for the system and the City has assigned the Operating Authority roles, responsibilities and authorities for the system to Water Services.
- 1.2 Water Services ensures operations of the Gazer Mooney Subdivision Distribution System are performed according to the contract between the Corporation of the Township Guelph/Eramosa and the Corporation of the City of Guelph. A copy of the contract (Agreement Regarding Water Services for the Gazer-Mooney Subdivision, 2019) is available in EDMS.

2. Description of the System and Distribution System Components

- 2.1 The Gazer Mooney Subdivision Distribution System serves approximately 72 households and is located in the Township of Guelph/Eramosa immediately north of the City of Guelph, between Speedvale Avenue East and Wellington County Road #124 (Eramosa Road). QMS 06-03 Gazer Mooney Subdivision Distribution System includes a map of the Gazer Mooney Subdivision Distribution System.
- 2.2 Water is provided to the Gazer Mooney Subdivision Distribution System from the Guelph Drinking Water System (described later in this procedure) through three watermain.
- 2.3 The Gazer Mooney Subdivision Distribution System is comprised (approximately) of the following infrastructure:

- 650 meters of 200mm diameter cement lined ductile iron watermain
- 600 meters of 150mm diameter cement lined ductile iron watermain
- 6 watermain valves
- 6 fire hydrants
- Service laterals to 72 residential parcels and 1 wastewater pumping station
- One chlorine analyzer
- One sampling station

3. Monitoring and Maintaining Disinfection Residuals

- 3.1 Secondary disinfection in the Gazer Mooney Subdivision Distribution System is continuously monitored with an operational chlorine analyzer equipped with alarming.
- 3.2 Operational checks and sampling are performed as per the T-SOP Monitoring and Recording In-Process Parameters of the Drinking Water System and the T-RD Water Quality Monitoring Requirements Summary. In response to low chlorine residuals, Distribution staff will flush the watermain as per D-SOP Mains – Flushing.

Guelph Drinking Water System Description

1. Name of the Owner and Operating Authority

- 1.1 The Corporation of the City of Guelph is the Owner and the Operating Authority of the Guelph Drinking Water System. Although the Owner and Operating Authority of the system are the same entity, the Owner has assigned the Operating Authority roles, responsibilities and authorities to its Environmental Services department, Water Services division (Water Services). As such Water Services is responsible for the operation, management, maintenance or alteration of the system.
- 1.2 The Water Services' Programs in place to operate and maintain the Drinking Water System are listed in QMS 06-04 – Listing of Water Services' Programs.

2. Description of the System and Treatment System Processes

- 2.1 The treatment processes used to treat Guelph's drinking water include:

- Primary Disinfection - chlorination or Ultraviolet (UV) Disinfection with chlorination at some locations;
- Iron Sequestering – by adding Sodium Silicate (Queensdale and Helmar);
- Filtration – Greensand filtration system at the Burke Treatment Plant;
- Secondary Disinfection - monitoring chlorine residuals at the point of entry into the distribution system, as well as throughout the system; and
- Re-chlorination (as needed) at Robertson, Paisley and Clair Booster Stations.

2.2 SCADA (Supervisory Control and Data Acquisition) programming and Programmable Logic Control (PLC) is used at all facilities to monitor the treatment and flow processes. Some of the things that are monitored through the SCADA system include: Ultraviolet (UV) dosage, chlorine residuals, well and booster pump flows, well levels, pressures, reservoir and tower levels, etc.

Some examples of the programming that is done to operate the system includes: well pump start/stop setpoints, booster pump start/stop setpoints, and various alarms when the established operating parameters are not met. Examples of alarming include: chlorine levels (high or low), reservoir and tower levels (high or low), intrusion alarms, pump alarms (fail to start or fail to stop), etc.

Arkell-Glen Collector-Carter-Woods System

Aqueduct

2.3 The Aqueduct is a large concrete gravity transmission watermain (36" and 42" in size) connecting the Arkell and Carter Sources to the F.M. Woods Pumping Station. It contains the Scout Camp Valve Chamber approximately half-way along its six kilometer length.

Arkell Spring Grounds and Glenn Collector System

2.4 The Arkell Spring Grounds is a City-owned property within Puslinch Township and is adjacent to the Eramosa River. The property is approximately 280 hectares in size. The Glen Collector and Recharge system, along with Arkell Wells 1, 6, 7, 8, 14 and 15 are located on this property and are often collectively referred to as the Arkell Spring Grounds.

2.5 Arkell Wells 6, 7, 8 & 14 are drilled groundwater wells ranging in depth from 31-44 meters and are considered true groundwater sources. These wells are each equipped with pumps, flow meters and discharge piping that connects to the Aqueduct.

- 2.6 Arkell Well 1 is a 14m deep drilled groundwater well located in the shallow overburden. Arkell Well 15 is a drilled groundwater well, approximately 30m deep. Arkell Well 1 and Arkell Well 15 are classified as Groundwater Under the Direct Influence of surface water With Effective in-situ Filtration (GUDI WEF). Arkell Well 1 and Arkell Well 15 are equipped with pumps, flow meters and discharge piping that connects to the Aqueduct.
- 2.7 Arkell Wells 6, 7, 8, 14 and 15 have dedicated on-site back-up diesel generators. The generator at Arkell 7 can also be used to power Arkell 1.
- 2.8 The Glen Collector System is a GUDI WEF source and consists of shallow infiltration galleries that discharge into the Aqueduct. The Glen Collector system includes a flow meter, turbidity meter and infrastructure that can allow this water to be diverted to waste either automatically (through SCADA programming) or manually.
- 2.9 The Recharge System consists of a pump, flow meter and piping. Water is pumped from the Eramosa River and is discharged into an infiltration pit (recharge pit) and trench system on the property. This water is used to artificially recharge the Glen Collector System seasonally.

Carter Well 1 and 2

- 2.10 Carter Well 1 and Carter Well 2 are classified as GUDI WEF water sources, which are run seasonally and are located on a separate twenty-hectare property in the Township of Puslinch. These wells are each equipped with a pump, flow meter, turbidity meter and discharge into a common header that connects to the Aqueduct at the Scout Camp Facility.
- 2.11 Carter has infrastructure that allows the temporary hook up of a portable generator.

Scout Camp

- 2.12 Arkell Sources and Carter Sources discharge into Scout Camp chamber and continue to flow through the Aqueduct by gravity to the F.M. Woods' Pumping Station where the water is treated. Turbidity is monitored at Scout Camp in the valve chamber by a turbidity meter via SCADA. The Scout Camp facility has infrastructure that permits water to be diverted to waste, if necessary.

F.M. Woods' Pumping Station

- 2.13 F.M. Woods' Station is the operations centre, principal pumping station and SCADA hub for the City of Guelph. It is located on Waterworks Place at the terminus of the Aqueduct. F.M. Woods receives water from all the Arkell and Carter Sources and consists of the following:
- Infrastructure that permits water to be diverted to waste from the Aqueduct prior to it entering the UV Treatment Facility, if necessary.
 - Ultraviolet Disinfection along with Chlorination as a multi-barrier Primary Disinfection System.
 - The UV Treatment Facility contains three UV reactors (one or two "duty" reactors treat the water with a third on standby), three flow meters and valving to operate in various configurations. This facility also contains an Uninterruptible Power Supply (UPS) to power the UV reactors and associate equipment during temporary power outages.
 - The Chlorination Facility contains three 19 cubic meter (approximate) chemical storage tanks and four chemical feed pumps.
 - Underground Storage Reservoirs consisting of three underground concrete tanks which normally operate in series. Infrastructure exists such that any single or combination of these reservoirs can be used. Total underground storage is approximately 32,000 cubic meters.
 - The Pump Room has valving infrastructure and piping that allow for water to be drawn from any single or combination of these reservoirs. This infrastructure includes five pumps, which discharge water to the distribution system.
 - The F.M. Woods Station has a dedicated on-site back up diesel generator.
- 2.14 Under normal operating conditions, water is processed to F.M. Woods via the Aqueduct. The water is treated with UV treatment and chlorine is added to the water as it enters Reservoir 1. Through valving, water is then directed into Reservoir 2 and then into Reservoir 3. The well pumps at the Spring Grounds and at Carters are programmed to start/stop based on the level of water in Reservoir 1 to ensure adequate storage.
- 2.15 Water is pumped into the Zone 1 distribution system from F.M. Woods through a series of booster pumps in two wet wells fed by the three reservoirs. The booster pumps at F.M. Woods are programmed to start/stop based on the level of water in either Verney Tower or Clair Tower.

- 2.16 The chlorine residual is monitored at Reservoirs 1, 2 and 3 via chlorine analyzers and again at the point of entry (POE) into the distribution system.
- 2.17 Turbidity is monitored throughout this process at: the Glen Diversion Chamber, Scout Camp, Woods UV Inlet, Reservoir 1, 3 and Woods POE. If turbidity in the Glen Collector System rises beyond a pre-determined limit (as set by Operational staff), the water from the Glen Collector System will automatically be diverted to the river and not processed to the drinking water system.

Calico, Dean, and Downey Wells

- 2.18 Calico Well is located on Woodlawn Road, just outside of Guelph city limits in Guelph Eramosa Township. The well is a drilled groundwater well, approximately 64 meters deep.
- 2.19 Dean Well is located on Dean Avenue in the City of Guelph and is a drilled groundwater well, approximately 57 meters deep.
- 2.20 Downey Well is located on Downey Road in the City of Guelph and is a drilled groundwater well, approximately 74 meters deep. Downey Well is equipped with a back-up portable diesel generator.
- 2.21 All of these wells have a well pump, flow meters, sodium hypochlorite treatment system, contact chamber, chlorine analyzer and a booster pump. Water is pumped from the well into a contact chamber where chlorine is added. After the water has been properly disinfected (CT has been met), water is pumped into the distribution system via a booster pump. A chlorine analyzer monitors the POE chlorine residual and auto-shutdown programming is in place to ensure CT requirements are always met based on a minimum allowable chlorine residual.

Burke Well and Treatment Plant

- 2.22 Burke Well is located on Arkell Road in the City of Guelph and is a drilled groundwater well, approximately 79 meters deep. Burke well is equipped with a back-up natural gas generator.
- 2.23 Water is pumped out of the well and is treated with sodium hypochlorite. A chlorine analyzer monitors the chlorine residual and auto-shutdown programming is in place to ensure adequate chlorine levels pre-filtration. The water is then processed through three (in-parallel) green sand filters. Post-filtration, three turbidimeters monitor the turbidity levels at each filter unit and a chlorine analyzer monitors the chlorine residual post-filtration.

- 2.24 Trim chlorination occurs based on the post-filtration chlorine levels prior to the water entering the contact chamber to ensure adequate disinfection (CT has been met). Water is then pumped into the distribution system through one of two variable frequency drive booster pumps. A chlorine analyzer monitors the POE chlorine residual and auto-shutdown programming is in place to ensure CT requirements are always met based on a minimum allowable chlorine residual.
- 2.25 Two backwash pumps are in place to clean the filters when required. Wastewater from the backwash process is contained in a dedicated chamber, where one of two pumps can pump the water to the sanitary sewer.

Emma Well

- 2.26 Emma Well is located on Emma Street in the City of Guelph and is a drilled groundwater well, approximately 47 meters deep. Emma station has a well pump, sodium hypochlorite treatment system, flow meter and two chlorine analyzers.
- 2.27 Water is pumped out of the well and is treated with sodium hypochlorite. The water then enters a contact chamber to ensure adequate disinfection (CT has been met). Water then flows into the distribution system. Two chlorine analyzers monitor the chlorine residual; one downstream of treatment and one at the end of the contact chamber.
- 2.28 Auto-shutdown programming is in place to ensure CT requirements are always met based on a minimum allowable chlorine residual at either of the chlorine analyzers.
- 2.29 Emma has infrastructure that allows for the temporary hook up of a portable generator.

Water Street Well

- 2.30 Water Street Well is located on Water Street in the City of Guelph and is a drilled groundwater well, approximately 64m deep. Water Street station has a well pump, UV treatment system (currently not required for disinfection), sodium hypochlorite treatment system, flow meter and two chlorine analyzers.
- 2.31 Water is pumped out of the well and is treated with sodium hypochlorite. The water then enters a contact chamber to ensure adequate disinfection (CT has been met). Water then flows into the distribution system. Two chlorine analyzers

monitor the chlorine residual; one downstream of treatment and one at the end of the contact chamber.

- 2.32 Auto-shutdown programming is in place to ensure CT requirements are always met based on a minimum allowable chlorine residual at either of the chlorine analyzers.
- 2.33 Water Street Well has infrastructure that allows for the temporary hook up of a portable generator.

Helmar and Queensdale Wells

- 2.34 Helmar Well is located on Woodlawn Road in the City of Guelph and is a drilled groundwater well, approximately 78 meters deep. Although Helmar Well is described in this section, the well is currently out-of-service until future upgrades at the site are complete.
- 2.35 Queensdale Well is located on Queensdale Crescent in the City of Guelph and is a drilled groundwater well, approximately 64 meters deep.
- 2.36 Both Helmar and Queensdale Wells have a well pump, sodium silicate treatment system (for iron sequestering), a sodium hypochlorite treatment system, contact chamber, booster pump, flow meters and chlorine analyzer. Water is pumped from the well into the contact chamber where sodium silicate and sodium hypochlorite are added. After the water has been properly disinfected (CT has been met), water is pumped into the distribution system via a booster pump. A chlorine analyzer monitors the POE chlorine residual and auto-shutdown programming is in place to ensure CT requirements are always met based on a minimum allowable chlorine residual.

Membro Well 2

- 2.37 Membro Well 2 is located on Water Street in the City of Guelph and is a drilled groundwater well, approximately 75 meters deep.
- 2.38 Membro Well 2 has a well pump, sodium hypochlorite treatment system, contact chamber, booster pump, UV treatment system, flow meters and a chlorine analyzer. Water is pumped from the well into the contact chamber where sodium hypochlorite is added. After the water has been properly disinfected, water is pumped out of the contact chamber via the booster pump and is treated with UV for a multi-barrier primary disinfection. A chlorine analyzer monitors the POE

chlorine residual and auto-shutdown programming is in place to ensure CT requirements are always met, based on a minimum allowable chlorine residual.

- 2.39 Membro Well 2 has infrastructure that allows for the temporary hook up of a portable generator.

Paisley Well and Booster Pumping Station

- 2.40 Paisley Well and Booster Pumping Station is located on Ryde Road in the City of Guelph and is a drilled groundwater well, approximately 72 meters deep.
- 2.41 The Paisley Well and Booster Pumping Station consists of a well pump, contact chamber, sodium hypochlorite treatment system, flow meters, a Zone 1 fill-line from the distribution system, two reservoirs with 4 booster pumps that draw from the reservoir and 3 booster pumps that pump directly from the distribution system (Zone 1) into Zone 2.
- 2.42 Water is pumped from the well, and water is also brought in through the Zone 1 fill-line from the distribution system into the contact chamber, where sodium hypochlorite is added. Fill-line water may also be directed to the booster pumps that pump water directly from the Zone 1 distribution system into Zone 2.
- 2.43 Under normal operating conditions, water from the contact chamber, is directed into Reservoir 1 and then via valving into Reservoir 2 followed by the wet well, where it is pumped via a booster pump into the Zone 2 distribution system.
- 2.44 The underground storage reservoirs consist of two baffled concrete tanks, which normally operate in series.. Total underground storage is approximately 14,000 cubic meters.
- 2.45 The chlorine residual is monitored at the Zone 1 inlet, contact chamber, Reservoir 2 and the POE. The chlorine analyzer at the contact chamber monitors the chlorine residual and auto-shutdown programming is in place to shut down the well to ensure CT requirements are always met, based on a minimum allowable chlorine residual.
- 2.46 The Paisley Well and Booster Pumping Station is equipped with an on-site diesel generator.

Park Wells 1 and 2

- 2.47 Park Wells 1 and 2 are located on Metcalfe Street in the City of Guelph and consist of an approximately 56 meters and 58 meters (respectively) deep drilled groundwater wells.
- 2.48 The Park Wells consist of 2 well pumps, a sodium hypochlorite treatment system, flow meters, 2 cells, 2 booster pumps and a chlorine analyzer. Water is pumped from each well and enters a common discharge pipe, where sodium hypochlorite is added at its terminus and prior to entering the two contact chambers. The design, through valving, allows for the station to operate with one well and booster pump and one contact chamber cell if/when a cell requires maintenance. After the water has been properly disinfected (CT has been met), water is pumped into the distribution system via one or both booster pumps. A chlorine analyzer monitors the POE chlorine residual and auto-shutdown programming is in place to ensure CT requirements are always met based on a minimum allowable chlorine residual.
- 2.49 Park Well is equipped with an on-site diesel generator.

University Well and Booster Station

- 2.50 University Well is located on Edinburgh Road in the City of Guelph and is a drilled groundwater well, approximately 64 meters deep.
- 2.51 University Well and Booster Station consists of a well pump, Zone 1 fill-line, sodium hypochlorite treatment system, flow meters, contact chamber and reservoir, 2 booster pumps and a chlorine analyzer. Water is pumped from the well, and/or brought in through the fill-line from the Zone 1 distribution system into the contact chamber where sodium hypochlorite is added. Water then flows into the reservoir. After the water has been properly disinfected (CT has been met), water is pumped into the distribution system via one or two booster pumps. A chlorine analyzer monitors the POE chlorine residual and auto-shutdown programming is in place to ensure CT requirements are always met based on a minimum allowable chlorine residual.
- 2.52 University Well is equipped with an on-site diesel generator.

3. Water Distribution System and Distribution System Components

- 3.1 The Guelph Drinking Water System distribution system is approximately comprised of the following infrastructure:
- five underground storage reservoirs (including Woods) with a combined approximate capacity of 48,000 cubic meters (48 million litres);
 - three water towers with a combined approximate capacity of 11,200 cubic meters (11.2 million litres);
 - four booster pumping stations;
 - 560.8 kilometers of buried watermain with a diameter < 900 millimeters;
 - 4,325 watermain valves;
 - 2,835 fire hydrants; and
 - approximately 47,000 water services and water meters.
- 3.2 The distribution subsystem system components are statistically described and annually updated in the Summary Report and presented to the Owner. Distribution system components for both the Guelph Drinking Water System and the Gazer Mooney Subdivision Distribution System are updated on an ongoing basis and are electronically available in the Infrastructure Map in the Guelph Internal GeoDataHub.

Water Storage, Booster Stations and Pressure Zones

- 3.3 Once pumped into the distribution system, water is stored in three elevated storage tanks (Verney, Clair and Speedvale) and six reservoirs (3 at Woods; 2 at Paisley; and 1 at University). These storage facilities help to meet changes in water demand requirements, reduce pressure fluctuations within the distribution system and provide extra water storage for times of emergencies. Verney and Speedvale Towers have small portable back-up generators on site to maintain SCADA communication during a power outage. Clair Tower is equipped with a dedicated on-site diesel generator.
- 3.4 There are three pressure zones in the distribution system. The majority of the city is located in Zone 1, where the Verney and Clair Towers help to regulate the pressure. Booster pumps at F.M. Woods pump water into Zone 1, using start/stop set points based on the amount of water in either Verney Tower or Clair Tower to ensure optimal storage levels and system pressure. Water, Membro, Dean, University, Downey, Queensdale, Paisley, Burke, Park 1 & 2 and Emma Wells are located in Zone 1.

- 3.5 Zone 2 is located in the north part of Guelph, where Speedvale Tower helps to regulate the pressure. To ensure optimal storage levels and system pressure in Zone 2, Paisley, Robertson and Clythe Booster Stations move water from Zone 1 into Zone 2 by boosting the water pressure. Helmar and Calico wells, located in Zone 2, also provide water for this pressure zone.
- 3.6 Zone 3 is located in the south west section of Guelph and is regulated by the Clair Booster Station. The booster pumps at this station are programmed to start/stop to ensure optimal pressure in Zone 3. The dedicated on-site diesel generator at the Clair Tower will power the Clair Booster Station during a power interruption.

Robertson Booster Station

- 3.7 Robertson Booster Station is designed to transfer water from Zone 1 to Zone 2. Water is discharged to Zone 2 by a series of horizontal centrifugal pumps.
- 3.8 A dedicated re-chlorination system exists on-site for use when the booster pumps are in operation. This dedicated system consists of two chlorine analyzers (inlet and POE), a chemical feed pump and chemical storage tank.
- 3.9 Robertson Booster Station has infrastructure that allows for the temporary hook up of a portable generator.

Clythe Booster Station

- 3.10 Clythe Booster Station is designed to transfer water from Zone 1 to Zone 2. Water enters the station through a flow modulation valve and is retained temporarily in an on-site underground reservoir. Water is discharged to Zone 2 by a series of 3 vertical turbine pumps and the POE chlorine residual is monitored by a chlorine analyzer.
- 3.11 Clythe Booster station is equipped with an on-site diesel generator.

Clair Booster Station

- 3.12 Clair Booster Station is designed to transfer water from Zone 1 to Zone 3. Water is discharged to Zone 3 by a series of horizontal centrifugal pumps. The pumps work to maintain a set pressure for Zone 3; excess pressure is relieved back into Zone 1.
- 3.13 A dedicated re-chlorination system exists on-site to increase the chlorine residuals in Zone 3. This dedicated system consists of two chlorine analyzers

(inlet and POE), two chemical feed pumps and two chemical storage tanks. One chlorine pump is standby.

- 3.14 The Clair Booster Station is equipped with an on-site generator that also powers Clair Tower.

4. Treatment System Process Flow Chart

- 4.1 Treatment System Schematics are presented in QMS 06-01 Treatment System Process Schematics and identify the process flow and treatment for each facility from source to distribution.
- 4.2 QMS 06-02 Water Supply Sources identifies the location of each production well, reservoir, booster pumping station, water tower and pressure zone boundaries.

5. General Characteristics of the Raw Water Supply

- 5.1 The source of Guelph's drinking water is groundwater from 21 operating wells and a shallow groundwater collector system, called the Arkell Springs (Glen) Collector System. The Glen Collector System is augmented by a Recharge System, where seasonally, water is pumped from the Eramosa River to a trench system, where the water infiltrates into the ground and artificially recharges the Glen Collector System.
- 5.2 The groundwater supplies are predominantly drawn from deep bedrock aquifers (e.g., Gasport and Guelph formations), but are also derived from overburden deposits (e.g., outwash sands and gravels) and a mixture of overburden and weathered/shallow bedrock.
- 5.3 Out of the 21 operating wells, Arkell Wells 1 and 15 and Carter Wells 1 and 2 have been identified as GUDI WEF (Groundwater Under the Direct Influence of Surface Water with Effective In-Situ Filtration) water sources. The Glen Collection System is also classified as a GUDI WEF source. The remaining wells are classified as true groundwater sources.
- 5.4 As required under the Safe Drinking Water Act, Water Services monitors both the raw and treated water quality of the source water supplied. This monitoring is performed for both regulatory compliance and due diligence and is expected to identify any changes within the treated water, as well as, in raw waters. Results of water quality testing are monitored by the Water Compliance Specialist and

the Water Operations Technician. Water quality results are presented to the Owner and the public in the Annual Report.

6. Common Event Driven Fluctuations

Water Quality and Quantity

- 6.1 Guelph's groundwater wells, including the GUDI WEF wells do not experience event driven fluctuations that affect water quality.
- 6.2 Water quantity and water supply capacity could become a concern during prolonged periods of drought. The 2022 Water Supply Master Plan Update identifies alternatives to ensure that there is enough water available to meet the City of Guelph's future water demand and is described in section 7.9 Operational Challenges and Threats (below).

Turbidity

- 6.3 Historically, the Glen Collector system saw elevated turbidity after periods of heavy rain or snow melt. This was rectified with upgrades made to the Glen Collector System. Further to that, upgrades were made to the infrastructure at the Diversion Chamber that monitors for turbidity.
- 6.4 Infrastructure at the Glen Collector, Scout Camp and at the inlet of Woods Station allows for the bypassing of water during high turbidity events.
- 6.5 If high turbidity is experienced at the Glen, the water is automatically diverted to the Eramosa River through SCADA programming until further analysis can be done to determine the cause of the turbidity event.

Glen Collector Flows

- 6.6 The Glen Collector system flows experience high seasonal variability, with elevated flows in the spring and early summer and also when the Recharge Pump is in operation (April to October). Through the winter months, the Glen Collector system flows are significantly reduced. Prolonged periods of drought may also affect the usability of the recharge pump (based on Permit to Take Water requirements) and correspondingly, the amount of water collected through the Glen Collector System.

7. Operational Challenges and Threats

Water Treatment

- 7.1 The source water for the Guelph Drinking Water System is supplied from both true groundwater and GUDI WEF sources. This requires the system to utilize two treatment technologies to protect end users from potential pathogens. Where required, a multi-barrier Primary Disinfection System is implemented (using chlorination along with UV treatment) and verification of adequate Contact Time (CT) is in place and will shut-off and/or alarm treatment stations if not met. Additional controls include: daily site and equipment checks; redundant infrastructure; remote continuous monitoring/alarming; and re-chlorination sites.
- 7.2 If a failure of UV at F.M. Woods occurs, the system loses primary disinfection for GUDI WEF water (Arkell 1 & 15, Carters 1 & 2, and the Glen Collectors). Water Services has worked with the MECP and MOH to provide a response protocol and redundancy in UV Reactors (two duty, one standby). During a power interruption, there is an Uninterrupted Power Supply (UPS) to ensure that UV treatment remains continuous by bridging power through a utility power interruption until the emergency diesel generator takes over.

Water Distribution System

- 7.3 Lower than optimal chlorine residuals at watermain dead ends in the distribution system may pose an additional operational challenge. Some dead end watermain locations have an existing appurtenance that allows for flushing activity. Looping watermains to mitigate dead-ends is also considered in watermain reconstruction projects.

Water Quality

- 7.4 The City maintains a comprehensive water quality monitoring program to help ensure water quality parameters meet the Ontario Drinking Water Quality Standards and to identify water quality trends.
- 7.5 Naturally occurring water quality issues in the groundwater supply include: elevated hardness, fluoride, organic nitrogen, hydrogen sulphide (Clythe Well) iron and manganese concentrations and colour.
- 7.6 Water quality issues that are not considered to be naturally occurring include: elevated concentrations of nitrate, chloride, sodium, trichlorethylene (TCE),

tetrachloroethene (PCE). The City's sampling and monitoring program is tracking this and other parameters to determine their levels and identify any upward trends in their concentration that would warrant further treatment or discontinuing use of the source.

- 7.7 Although the majority of water quality threats to Guelph's water supply are related to the groundwater supply and well network that provides the majority of the supply, there are threats to the Eramosa River surface water intake from:
- possible upstream spills at or near river crossings;
 - urban land use in the Villages of Rockwood and Eden Mills; and
 - rural land uses throughout the upper portions of the Eramosa-Blue Springs watershed.
 - Drinking water threats as outlined in the Clean Water Act, 2006.
- 7.8 Furthermore, the City's groundwater supplies are recharged by precipitation both within the City and in the adjacent townships. The primary recharge areas that comprise the sources of groundwater supplies for the long term lie within and beyond City limits. Source Water Protection Plans for the Grand River Source Protection Area are helping to mitigate these risks and are managed by County of Wellington staff outside of the municipal boundary.

Water Supply and the Water Supply Master Plan

- 7.9 The City of Guelph has an award-winning Water Supply Master Plan (WSMP), which is updated approximately every five years and provides short-term, mid-term and long-term water supply options to ensure that the City of Guelph continues to meet the demands of its growing population.

The 2022 WSMP confirmed that the existing water supply capacity for the City of Guelph will not meet future demands during prolonged drought conditions and set out a strategy for meeting future demand to 2051. The Plan identifies priorities, including sustainable municipal water supply options, from now until 2051.

A copy of the City of Guelph's award-winning WSMP is available on the City's website, <https://guelph.ca/plans-and-strategies/water-supply-master-plan/>.

Source Water Protection

- 7.10 The City's Wellhead Protection Areas and Intake Protection Zone as defined by the Clean Water Act extend beyond the City's municipal boundaries into adjacent municipalities.
- 7.11 The Grand River Source Protection Plan includes an Assessment Report (2015). This report is a science-based document that includes:
- Identification of vulnerable areas related to drinking water sources
 - Identifies the types and number of drinking water threats to water quality and quantity
 - Ranks the potential drinking water threats from low to significant.

The Grand River Source Protection Plan provides policies to protect existing and future drinking water sources from existing and future drinking water threats as outlined in the Clean Water Act

- 7.12 The Guelph Tier Three Water Budget and Local Area Risk Assessment was completed to evaluate the sustainability of the City's water supply system from a quantity perspective and to identify potential threats to that sustainability. This study and the Tier Three computer model of Guelph's municipal aquifer system (in and outside the City) provide valuable insights into reviewing the current water supply system and its reliability now and into the future.

Applicable QMS Documents

- QMS 06-01 Treatment System Process Schematics (SD-000306)
- QMS 06-01 Treatment System Process Schematics (editable format) (SD-104274)
- QMS 06-02 Water Supply Sources (SD-00307)
- QMS 06-03 Gazer Mooney Subdivision Distribution System (SD-102855)
- QMS 06-04 Listing of Water Services' Programs (SD-103431)

Reference Documents

Agreement Regarding Water Services for the Gazer-Mooney Subdivision, 2019 (SD-104595)

[City of Guelph Source Protection Project, 2010](#)

D-SOP Mains – Flushing (SD-103030)

Infrastructure Map, located in the Guelph Internal GeoDataHub

[Drinking Water Source Protection Plan, 2016](#)

[Guelph Tier Three Water Budget and Local Area Risk Assessment](#)

O. Reg. 169/03: [Ontario Drinking Water Quality Standards](#)

[Source Water Protection Assessment Report, 2015](#)T-RD Water Quality Monitoring
Requirements Summary (SD 102900)

T-SOP Monitoring and Recording In-Process Parameters of the Drinking Water System
(SD 000386)

[Water Supply Master Plan](#)

QMS 07 – Risk Assessment

Purpose

To document a risk assessment process that:

- a) Considers potential hazardous events and associated hazards, as identified in the Ministry document titled Potential Hazardous Events for Municipal Residential Drinking Water Systems,
- b) Identifies additional potential hazardous events and associated hazards,
- c) Assesses the risks associated with the occurrence of the hazardous events,
- d) Ranks the hazardous events according to the associated risk,
- e) Identifies control measures to address the potential hazards and hazardous events,
- f) Identifies Critical Control Points,
- g) Identifies a method to verify, at least once every calendar year, the currency of the information and the validity of the assumptions used in the risk assessment,
- h) Ensures that the risks are assessed at least once every thirty-six months, and
- i) Considers the reliability and redundancy of equipment.

Definitions

Critical Control Limit (CCL) – the point at which a Critical Control Point response procedure is initiated.

Critical Control Point (CCP) – an essential step or point in the system at which control can be applied by the Operating Authority to prevent or eliminate a drinking water health hazard or to reduce it to an acceptable level.

Hazard – is a biological, chemical, physical or radiological agent that has the potential to cause harm.

Hazardous event – is an incident or situation that can lead to the presence of a hazard.

Risk – is the likelihood of identified hazards causing harm in exposed populations in a specified time frame, including the magnitude of that harm, or the consequences.

Responsibilities

Top Management – responsible for reviewing and approving the annual risk assessments at least once per calendar year.

Quality Management Specialist – responsible for conducting the Risk Assessment Evaluation meetings with the appropriate staff, conducting the Risk Assessment Outcome meeting with Top Management and maintaining all records associated with the process at least once per calendar year.

Procedures

1. Review Process

- 1.1 On an annual basis, the identified risks (from the previous year's risk assessment) are evaluated by the Quality Management Specialist along with the applicable staff from the applicable functional areas of Water Services, Business Services or Compliance and Performance.
- 1.2 The Quality Management Specialist sets up meetings with the appropriate staff to assess the identified risks, verify the currency of information and validity of assumptions used in the risk assessment and to discuss any new risks that should be added, or to discuss any risks that should be removed.
- 1.3 When reviewing the currency of the risk assessment information, the following may be considered:
 - a) process changes;
 - b) reliability and redundancy of equipment;
 - c) emergency situations;
 - d) critical control point deviations; or
 - e) QMS non-conformances related to standard operating procedures.
- 1.4 After the risks are evaluated by the appropriate staff, the Quality Management Specialist will schedule a Risk Assessment Outcome meeting with Top Management. In this meeting, Top Management will conduct a secondary review

of the identified priority risks (score of 10 or more), any risks that have changed score +/- 2 points, and any new risks that have been added or risks that should be removed since the last risk assessment.

- 1.5 Top Management is responsible for reviewing and approving the risk assessment at least once every calendar year. They are also responsible for ensuring that relevant changes to procedures or training requirements are implemented for their functional area as a result of the risk assessments.
- 1.6 The Quality Management Specialist is responsible for ensuring that documents are updated and records are maintained related to the risk assessment activities (e.g. minutes, risk assessment outcomes, changes to this procedure or related forms).

2. Risk Assessment Methodology

- 2.1 For ease of review and updates, the QMS 07-02 Hazard Identification and Risk Assessment was created to represent each row in the full risk assessment table.
- 2.2 The output of this process is the QMS 08 Risk Assessment Outcome Table. Additionally, identified hazards and Critical Control Limits are summarized in QMS 08-02 Summary of Hazards and Critical Control Limits.
- 2.3 The risk assessment is completed by using the previous years' risk assessment as a template during the annual review: newly identified hazards are inserted and the columns are completed and updated as described below.
- 2.4 QMS 07-02 Hazard Identification and Risk Assessment (HIRA) incorporates the requirement to consider potential hazardous events and associated hazards, as identified in the Ministry's document titled, Potential Hazardous Events for Residential Municipal Drinking Water Systems.
- 2.5 Each identified risk/hazardous event is assessed based on the following criteria and documented in QMS 08 – Risk Assessment Outcomes Table:
 - Process Step - This column includes the process steps or distribution system components.
 - Aspect of Process Step - This column includes the breakdown of that process to aid in the identification of potential hazardous events.
 - Hazardous Event - The events that potentially can result in hazards related to Poor Water Quality or Insufficient Water Quantity.

- Contributing Factors of the Hazardous Event Occurring - This section is used to identify what could lead to or contribute to the hazardous event occurring.
- Possible Consequences if the Hazardous Event Occurred - This section is used to identify what could be a consequence of the hazardous event if it happened.
- Risk Ratings:
 - Likelihood; Consequence; Capability to respond - The likelihood (L), consequence (C), and capability of responding (Cap) ratings related to the hazard or hazardous events are assessed using QMS 07-01 Risk Assessment Rating.
 - Risk = L + C + Cap - The risk is then assigned for each hazard or hazardous event based on the calculation of the likelihood of occurring (L) + the consequences (C) + the capability to respond (Cap).
- Critical Control Point (CCP) - This column indicates the critical control points (with letters CCP) of the drinking water system processes and programs.
- Control & Response Measures: (Refer to QMS 08-03 Control Measure Descriptions for more information.)
 - Source Water
 - Operational – Water Treatment and Maintenance
 - Operational – Water Distribution
 - Engineering and Physical
 - Management

3. Determination of Critical Control Points (CCP's)

- 3.1 The Ministry has mandated disinfection CCP's related to primary and secondary disinfection. Water Services Critical Control Points are: primary disinfection; secondary disinfection; and backflow prevention.
- 3.2 Potential hazardous events that relate to the CCPs are identified in QMS 08 – Risk Assessment Outcome Table and are summarized in QMS 08-02 Summary of Critical Control Points and Critical Control Limits.

4. Thirty-Six Month Review Process

- 4.1 Water Services carries out a full risk assessment annually, which exceeds the DWQMS requirement to assess risks at least once thirty-six months.

5. Document and Records Management

- 5.1 The updated QMS 08 Risk Assessment Outcomes Table is presented at the Risk Assessment Outcome meeting for review and approval by Top Management.
- 5.2 The Quality Management Specialist ensures minutes are taken during the risk assessment outcome meeting and makes any necessary document changes/updates related to this procedure.
- 5.3 Completed copies of QMS 07-02 Hazard Identification and Risk Assessment (HIRA) Template from the risk assessment evaluation meetings are kept in the DWQMS --> Risk Assessment folder on the Network Drive. QMS 08 Risk Assessment Outcome Table and a copy of the meeting minutes for the risk assessment outcome meeting with Top Management are available in EDMS.

Applicable QMS Documents

QMS 07-01 Risk Assessment Rating (SD-000309)

QMS 07-02 Hazard Identification and Risk Assessment (HIRA) Template (SD-104272)

QMS 08 Risk Assessment Outcome Table (SD-000311)

QMS 08-02 Summary of Critical Control Points and Critical Control Limits (SD-000313)

QMS 08-03 Control and Response Measure Descriptions (SD-103032)

Reference Documents

Potential Hazardous Events for Municipal Residential Drinking Water Systems

QMS 08 – Risk Assessment Outcomes

Purpose

To document the outcome of the risk assessment, including:

- a) The identified potential hazardous events and associated hazards,
- b) The assessed risks associated with the occurrence of 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 and their respective Critical Control Limits,
- f) Procedures and/or processes to monitor the Critical Control Limits,
- g) Procedures to respond to deviations from the Critical Control Limits,
- h) Procedures for reporting and recording deviations from the Critical Control Limits.

Definitions

Critical Control Limit (CCL) – the point at which a Critical Control Point response procedure is initiated.

Critical Control Point (CCP) – an essential step or point in the system at which control can be applied by the Operating Authority to prevent or eliminate a drinking water health hazard or to reduce it to an acceptable level.

Hazard – is a biological, chemical, physical or radiological agent that has the potential to cause harm.

Hazardous event – is an incident or situation that can lead to the presence of a hazard.

Risk – is the likelihood of identified hazards causing harm in exposed populations in a specified time frame, including the magnitude of that harm, or the consequences.

Procedures

1. Risk Assessment Process

- 1.1 Risk assessments are completed annually, as per QMS 07 – Risk Assessments.
- 1.2 The identified potential hazardous events and associated hazards, the assessed risks associated with the occurrence of hazardous events, the ranked hazardous events, and the identified control measures to address the potential hazards and hazardous events are assessed using copies of the QMS 07-02 Hazard Identification and Risk Assessment (HIRA) Template that were completed in the previous risk assessment. The final outcomes are presented in the QMS 08 - Risk Assessment Outcome Table.
- 1.3 Control and Response Measures used to respond to, eliminate, control, reduce or mitigate the identified risks are described in QMS 08-03 Control and Response Measures Descriptions.

2. Critical Control Points (CCPs) and Critical Control Limits (CCLs)

- 2.1 Water Services has identified three Critical Control Points: Primary Disinfection; Secondary Disinfection; and Backflow Prevention.
- 2.2 For each CCP, a description of the Critical Control Limits, procedures and processes to monitor the CCLs and procedures for reporting and recording deviations from the CCLs are described in detail in QMS 08-02 Summary of Critical Control Points and Critical Control Limits.

Applicable QMS Documents

QMS 07 – Risk Assessments

QMS 07-02 Hazard Identification and Risk Assessment (HIRA) Template (SD-104272)

QMS 08 – Risk Assessment Outcome Table (SD-000311)

QMS 08-02 Summary of Critical Control Points and Critical Control Limits (SD-000313)

QMS 08-03 Control and Response Measure Descriptions (SD-103032)

Reference Documents

None applicable.

QMS 09 – Organizational Structure, Roles, Responsibilities and Authorities

Purpose

To:

- a) Describe the organizational structure of the Operating Authority including respective roles, responsibilities and authorities,
- b) Delineate corporate oversight roles, responsibilities and authorities in the case where the Operation Authority operates multiple Subject Systems,
- c) Identify the person, persons or group of people within the management structure of the organization responsible for undertaking the Management Review described in QMS 20 – Management Review,
- d) Identify the person, persons or group of people, having Top Management responsibilities required by this Standard, along with their responsibilities, and
- e) Identify the Owner of the Subject System.

Definitions

Operating Authority – in respect to a Subject System, the person or entity that is given responsibility by the Owner for the operation, management, maintenance or alteration of the Subject System.

Owner – in respect to a drinking water system, every person who is a legal or beneficial owner of all or part of the system (City Council).

Subject System – a municipal residential drinking water system where the system is operated by one Operating Authority.

Top Management – a person, persons or group of people at the highest management level within an Operating Authority that makes decisions respecting the QMS and recommendations to the Owner respecting the Subject System.

Procedures

1. Organizational Structure, Respective Roles, Responsibilities and Authorities

- 1.1 QMS 09-01 Organizational Structure describes the organizational structure for Water Services and the partnership divisions' staff who support Water Services (Compliance and Performance and Business Services).
- 1.2 The owner of the Guelph Drinking Water System (The Corporation of the City of Guelph council) and the owner of the Gazer Mooney Subdivision Distribution System (The Corporation of the Township of Guelph/Eramosa council) are identified in QMS 09-01 Organizational Structure.
- 1.3 QMS 09-02 Roles, Responsibilities and Authorities Table identify and describe the roles, responsibilities and authorities related to the provision of safe drinking water in the drinking water systems. Additional duties of the various roles are documented in City of Guelph Job Postings (maintained by the Human Resources Department), in the Operational Plan and in the QMS programs and procedures referenced in the Operational Plan.

2. People Responsible for Undertaking the Management Review

- 2.1 Management Review is held at least once every calendar year. As per QMS 04 - QMS Representative, the Quality Management Specialist is responsible for compiling all of the necessary data and information for items a) to p) of QMS 20 – Management Review.
- 2.2 The Quality Management Specialist is responsible for leading the Management Review Meetings and maintaining the records of the Management Review Meeting, as described in QMS 20 – Management Review.
- 2.3 Top Management is responsible for attending and participating in Management Review, as outlined in QMS 20 – Management Review.

3. Top Management

- 3.1 The members of Top Management are identified in QMS 09-01 Organizational Structure and they include:
 - Division Manager, Water Services
 - Manager, Water Operations

- Manager, Technical Services Water
- Supervisor of Water Distribution
- Supervisor of Water Treatment
- Manager, Business Services
- Manager, Compliance and Performance

3.2 Irrespective of other responsibilities described in the Operational Plan or supporting documents, Top Management is responsible for the following:

- Endorsing the contents of the Operational Plan, in accordance with QMS 03 – Commitment and Endorsement;
- Appointing and authorizing a Quality Management System representative, in accordance with QMS 04 – Quality Management System Representative;
- Communicating relevant aspects of the Quality Management System, in accordance with QMS 12 – Communications; and
- Ensuring the Management Review for the Quality Management System is completed, in accordance with QMS 20 – Management Review.

3.3 Each member of Top Management has additional responsibilities, which are described in QMS 09-02 QMS Roles, Responsibilities and Authorities Table.

Applicable QMS Documents

QMS 03 – Commitment and Endorsement

QMS 04 – Quality Management System Representative

QMS 06-03 Gazer Mooney Subdivision Distribution System (SD-103431)

QMS 09-01 Organizational Structure (SD-000315)

QMS 09-02 QMS Roles, Responsibilities and Authorities Table (SD-000316)

QMS 12 – Communications

QMS 20 – Management Review

Reference Documents

City of Guelph Job Postings

QMS 10 – Competencies

Purpose

To document a procedure that identifies:

- a) competencies required for personnel performing duties directly affecting drinking water quality,
- b) activities to develop and maintain competencies for personnel performing duties directly affecting drinking water quality, and
- c) activities to ensure that personnel are aware of the relevance of their duties and how they affect safe drinking water.

Procedures

1. Minimum Competencies required for Staff performing duties directly affecting Drinking Water Quality

1.1 Top Management ensures the provision of safe drinking water by:

- a) Determining the competencies required for their employees;
- b) Ensuring each employee is competent;
- c) Ensuring that appropriate certification, training, procedures and resources are provided to employees, and;
- d) Ensuring that any person authorized to carry out work on or to operate any aspect of the drinking water system has been informed of the Safe Drinking Water Act and related regulations, the Drinking Water Works Permit and the Municipal Drinking Water Licence, and taking all reasonable measures to ensure any such person complies with the same, by ensuring actions are carried out that may include, but not limited to:
 - i. Training and testing
 - ii. Meetings
 - iii. Direct and indirect supervision
 - iv. Report, record and document review
 - v. Internal auditing

- 1.2 All personnel that perform duties that directly affect drinking water quality (i.e., personnel that perform operational duties) must hold a valid operator certificate for the subsystem (Water Treatment or Distribution) that they operate. The minimum requirement is an Operator-In-Training (OIT) certificate.
- 1.3 The minimum competencies required for an Overall Responsible Operator (ORO) are described in section 1.4 of QMS 11 – Personnel Coverage (below).
- 1.4 The minimum competencies required for an Operator-In-Charge (OIC) are described in section 2.1 of QMS 11 – Personnel Coverage (below).
- 1.5 Personnel must hold a valid Class I Water Treatment or Distribution certificate (as applicable) to be considered in the on-call rotation.
- 1.6 Personnel that perform duties that directly affect drinking water quality work towards obtaining the highest class of certificate that is attainable for the subsystem (Water Treatment or Distribution) that they work in.
- 1.7 An Operator-In-Training (OIT) may perform the same duties as a Class I Operator when under the direction of an Operator-In-Charge (OIC), however cannot gain Operator-In-Charge (OIC) experience and cannot sign-off on logged data for compliance purposes, unless authorized by the Owner, the Operating Authority, the Overall Responsible Operator (ORO), or an Operator-In-Charge (OIC).
- 1.8 OITs and other new employees complete QMS 10-01 Employee Orientation Training Form, as well as the applicable QMS 10-X On-the-Job Training form, as it applies to their job.
- 1.9 Competency requirements are also outlined in the respective City of Guelph Job Posting (kept by Human Resources) and competencies are reviewed annually during performance reviews conducted by the appropriate Supervisor or Manager.

2. Health and Safety Program

- 2.1 In satisfying the requirements of the Occupational Health and Safety Act to document, provide information and training on how to adequately control actual or potential job hazards related to their work, Water Services and Human Resources have developed a health and safety program to protect employee health and safety.

2.2 The Health and Safety Program includes the following:

- a) ongoing corporate health & safety training provided by the City of Guelph;
- b) ongoing job-specific and health & safety training specific to Water Services;
- c) the development and communication of Job Hazard Analyses (JHA) by job type;
- d) the development and communication of standard operating procedures that include a section on hazard identification and control;
- e) the completion of the applicable QMS 10 form; and
- f) ongoing Health and Safety communications at daily operational and monthly full-staff meetings (see QMS 12-02 Internal Communications).

3. Developing Competencies for Staff performing duties directly affecting Drinking Water Quality

- 3.1 The Training and Licensing Specialist (in consultation with Manager, Water Operations, Supervisor, Treatment, Supervisors Distribution and Manager, Business Services (or designate), as applicable), updates and maintains the QMS 10-01, QMS 10-02, QMS 10-03 and QMS 10-04 forms.
- 3.2 The Manager or Supervisor ensures the appropriate QMS 10 form is given to each new employee for completion when they are hired. It is the responsibility of the Manager or Supervisor to ensure that a “buddy” trainer is assigned to deliver on-the-job training for the various topics included on QMS 10-01, QMS 10-02, QMS 10-03 and QMS 10-04 forms, as it applies to the new employee. The Manager or Supervisor is responsible for the forms until they are completed.
- 3.3 Once the forms are completed, the Manager or Supervisor will submit them to the Training and Licensing Specialist for record-keeping. The Training and Licensing Specialist will follow up with the Managers and Supervisors every June and December to obtain any completed QMS 10 forms. The Training and Licensing Specialist will file completed QMS 10 forms in the Employee’s database.

4. Maintaining Competencies for Staff that perform duties that directly affecting Drinking Water Quality

- 4.1 Certified operators are responsible for completing the annual number of hours of training required by Section 29, O. Reg. 128/04: Certification of Drinking Water System Operators and Water Quality Analysts.
- 4.2 The Training and Licensing Specialist identifies new training opportunities for staff directly affecting drinking water quality and communicates the opportunities to Manager, Water Operations, Supervisor, Water Treatment and Supervisor Distribution for approval, at least annually. Once a training opportunity is approved, the Training and Licensing Specialist schedules the training and communicates the offering (in consultation with Supervisor, Water Treatment and Supervisor Distribution) to staff that directly affect drinking water quality.
- 4.3 On an ongoing basis, Manager, Water Operations, Supervisor Distribution or Supervisor Treatment may also identify additional competencies required by their staff and these are discussed with the Training and Licensing Specialist to set-up the appropriate courses. The need for new or updated training may be determined based on the following:
 - a) comparison of the person's skills and abilities with the requirements of the job description and qualifications;
 - b) corrective action (e.g., resulting from non-conformances or non-compliances, major issues, etc.) if the need for training is found to be a corrective or preventive action;
 - c) changes due to updates to the risk assessment outcomes (Element 08); and
 - d) changes in legislative/regulatory requirements.
- 4.4 The Training and Licensing Specialist records the completed training hours in the Training database for each employee that directly affects drinking water quality. Training Records are maintained as per QMS 05 Document and Records Control.

5. Quality Management System (QMS) Orientation

- 5.1 Quality Management Specialist (or designate) prepares and provides a QMS Orientation for new employees. The QMS Orientation serves as an awareness and promotion of Water Services' Quality Management System (QMS). If required, this session can be given as a refresher for current employees. The following types of information are included in the QMS Orientation:

- a) general overview of the Guelph Drinking Water System and the Gazer Mooney Distribution Subsystem;
- b) introduction to the QMS and QMS Representative;
- c) review of pertinent regulations; and
- d) review of QMS policy and ensuring that personnel are aware of the relevance of their duties and how they affect safe drinking water.

6. Training Methods

- 6.1 Competency requirements can be satisfied through the use of in-house, off-site, or online training, attendance at seminars or conferences, presentations by subject matter experts or on-the-job training.
- 6.2 On-the-job training may include a job shadowing system to demonstrate and monitor how to perform various job duties using the appropriate documented procedures and the relevant sections from the QMS 10 forms (as they are applicable).
- 6.3 QMS 10-07 On-the-job Practical Training Record can be used to document structured on-the-job training sessions or in-house training courses.

7. Mandatory Attendance

- 7.1 Training is scheduled during times that employees are normally scheduled to work and all employees must attend training for which they are scheduled.
- 7.2 Cancellations – Supervisor, Distribution and Supervisor, Water Treatment are responsible for verifying that an employee is not scheduled for training prior to approving a vacation request. In situations where an employee can not attend a training session, the Training and Licensing Specialist will try and substitute another employee to take the training in their stead.
- 7.3 The following are the only acceptable reasons for missing training:
 - a) a Water Services Emergency that requires Operator/staff intervention;
 - b) authorized out-of-office (on vacation or sick).

Applicable QMS Documents

QMS 05 Document and Records Control

QMS 08 Risk Assessment Outcomes

QMS 10-01 Employee Orientation Training Form (EDMS-122499)

QMS 10-02 Distribution Operator On-The-Job Training Form (SD-103460)

QMS 10-03 Treatment Operator On-The-Job Training Form (SD-103461)

QMS 10-04 Administration On-The-Job Training Form (EDMS-106093)

QMS 10-07 On-the-job Practical Training Record (SD-103391)

QMS 10-08 Employee Orientation (SD-103391)

Reference Documents

New Employee/QMS Orientation Training Slideshow (SD-105273)

[Occupational Health & Safety Act](#) and related Regulations

O. Reg. 128/04: Certification of Drinking Water System Operators and Water Quality Analysts

QMS 11 – Personnel Coverage

Purpose

To document a procedure for ensuring that sufficient personnel (meeting competency requirements) are available for duties directly affecting drinking water quality.

Procedures

1. Overall Responsible Operator (ORO)

- 1.1 Manager, Water Operations, and Supervisor, Water Treatment are designated as ORO Treatment. Only one ORO Treatment acts, at any one time. Manager, Water Operations develops the ORO Treatment schedule annually, updates it as necessary and ensures that the current schedule is available to personnel that directly affect drinking water quality in the Microsoft Outlook Shared Calendar.
- 1.2 Manager, Water Operations and Supervisors, Distribution are designated as ORO Distribution. Only one ORO Distribution acts, at any one time. Manager, Water Operations develops the ORO Distribution schedule annually, updates it as necessary and ensures that the current schedule is available to personnel that directly affect drinking water quality in the Microsoft Outlook Shared Calendar.
- 1.3 The Division Manager, Water Services (or designate) may designate an alternate ORO for each subsystem (water treatment or distribution), as needed.
- 1.4 The ORO must hold a certificate for that type of subsystem of the same class or higher. The ORO for the Water Treatment subsystem (Guelph Drinking Water System) requires a Class II Water Treatment certificate, or equivalent and the ORO for the Distribution subsystems (Guelph Drinking Water System and Gazer Mooney Subdivision Distribution System) require a Class IV Distribution certificate, or equivalent. Exceptions may be applied, in accordance with O. Reg. 128/04: Certification of Drinking Water System Operators and Water Quality Analysts. (Note: ORO for distribution covers ORO responsibilities for the Guelph Drinking Water Distribution subsystem and the Gazer Mooney Subdivision Distribution System, at the same time).
- 1.5 The ORO fulfils the duties specified in O. Reg. 128/04: Certification of Drinking Water System Operators and Water Quality Analysts.

2. Operator-in-Charge (OIC)

- 2.1 All personnel that directly affect drinking water quality (identified in QMS 09-01 - Organizational Structure) that hold a valid Class I certificate or higher at Water Services for the subsystem that they operate (water treatment or distribution) are also deemed Operators-in-Charge (OIC).
- 2.2 The OIC fulfils the duties specified in O. Reg. 128/04: Certification of Drinking Water System Operators and Water Quality Analysts.

3. Regular Hours

- 3.1 Certified operators are available to operate the Guelph Drinking Water System and Gazer Mooney Subdivision Distribution System during regular business hours.
- 3.2 Water Services provides a 24-hour answering service, which is staffed from 8:00 am to 4:00 pm by Business Services' staff and is transferred over to a contracted service during off hours, which includes weekends and holidays.

4. On-Call Hours

- 4.1 The Operator On-Call Lists are developed, distributed, posted (and updated as required) by the appropriate Lead Hands and/or Supervisor every calendar year. The on-call lists consist of a regular staff rotation for all staff competent to perform on-call duties.
- 4.2 The Supervisor On-Call List is developed, distributed, and updated as required by the Supervisors of Water Services.
- 4.3 A contracted answering service receives all after-hours emergency calls from customers.
- 4.4 Water treatment process-related alarms that occur afterhours are communicated via cell phone to the on-call treatment personnel by the Teledac Alarm System.
- 4.5 The ORO is contacted during any abnormal operation, when additional management support is required, when the on-call management representative (other than the ORO) is unfamiliar with the scenario or at request of the ORO.

5. Staff Shortage

- 5.1 During a staff shortage, management positions can fill in operator duties (as skill sets allow).
- 5.2 Management personnel (includes Managers and Supervisors within Water Services) may retain contractors during staff shortage to perform operational duties (e.g., sampling) or to provide maintenance services for the drinking water systems. Any contractors retained for this purpose must meet the minimum certification requirements necessary to operate the subsystem(s) that are in accordance with O. Reg. 128/04: Certification of Drinking Water System Operators and Water Quality Analysts.
- 5.3 Water Services Emergency Response Plan includes an "Essential Functions and Key Personnel" table that helps identify how to prioritize activities and assess critical staffing needs in an emergency or major incident, and to:
 - a) meet the needs of staff and prevent burnout,
 - b) facilitate a faster return to work for staff affected by the incident.
- 5.4 Water Services Emergency Response Plan includes an Emergency Situation and Response Plan for Staff Shortage with possible response actions identified.
- 5.5 Water Services has agreements in place with the municipalities in Wellington County and with municipalities that participate in OnWARN that allow for sharing of personnel in an emergency.

Applicable QMS Documents

None applicable.

Reference Documents

O. Reg. 128/04: Certification of Drinking Water System Operators and Water Quality Analysts

Water Services Emergency Response Plan (SD-103112)

QMS 12 – Communications

Purpose

To document a procedure for communications that describes how the relevant aspects of the Quality Management System (QMS) are communicated between Top Management and:

- a) the Owner,
- b) Operating Authority personnel,
- c) suppliers, and
- d) the public.

Definitions

Operating Authority – in respect to a Subject System, the person or entity that is given responsibility by the Owner for the operation, management, maintenance or alteration of the Subject System.

Owner – in respect to a drinking water system, every person who is a legal or beneficial owner of all or part of the system (City Council).

Top Management – a person, persons or group of people at the highest management level within an Operating Authority that makes decisions respecting the QMS and recommendations to the Owner respecting the Subject System.

Procedures

1. Communications to and from the Owner (Mayor and Councillors)

- 1.1 Relevant aspects of the Quality Management System are communicated to and from the Guelph Drinking Water System Owner primarily at council meetings through the delivery/presentation of the Operational Plan, the Water Services Annual Report, the Water Services Summary Report (includes a copy of the Management Review meeting minutes), and the Water Services budget. A current printed copy of the Operational Plan is accessible by the Owner at any time by contacting Water Services.

- 1.2 Relevant aspects of the Quality Management System are communicated to and from the Gazer Mooney Subdivision Distribution System Owner (Guelph/Eramosa Township) primarily through the Water Services Annual Report, the Water Services Summary Report (includes a copy of the Management Review meeting minutes), and through endorsement of the Operational Plan.
- 1.3 Other communication to the Owner from Water Services Top Management is achieved through various means, including: emails, the use of staff reports, information memos or presentations to Council following established corporate communication protocols.
- 1.4 The M-SOP Incident Notification Procedure identifies who is responsible for communicating information to Top Management and the Owner when various incidents occur.
- 1.5 The Owner can communicate directly to Top Management through formal Council meeting minutes and/or Council resolutions and confirming through a by-law. The Owner may also directly email or phone the General Manager, Environmental Services or any member of Top Management.

2. Communications to and from Operating Authority Personnel

- 2.1 Relevant aspects of the Quality Management System are communicated to Operating Authority Personnel primarily by the Quality Management Specialist, usually through emails and updates at full-staff meetings. Operating Authority Personnel are encouraged to communicate directly with the Quality Management Specialist regarding the Quality Management System.
- 2.2 Generally, the process for relaying information to Operating Authority Personnel from Top Management related to the drinking water system and drinking water issues is achieved through:
 - Regular operational meetings,
 - Regular full-staff meetings,
 - Written documentation,
 - Emails,
 - Verbal discussions,
 - Training sessions, and
 - Circulation of applicable procedures and other QMS documentation.

- 2.3 Members of Top Management have an open door policy that encourages direct communication between Top Management and Operating Authority Personnel.
- 2.4 Generally, the process for relaying information from Operating Authority Personnel to Top Management related to the drinking water system and drinking water issues is achieved through:
- Phone calls,
 - Emails,
 - Verbal discussions,
 - Written documentation, and
 - Regular operational meetings.
- 2.5 Further information is provided in QMS 12-02 Internal Communications.

3. Communication to and from Suppliers (including Contractors and Consultants)

- 3.1 Relevant aspects of the Quality Management System are communicated to all suppliers and services providers identified as essential in QMS 13-01 – Essential Supplies and Services Table and listed in WS-RD Ensuring Adequate Equipment and Materials to Deal with Emergencies through WS-RD Water Services Quality Requirements and WS-RD Letter to Accompany Water Services Quality Requirements.
- 3.2 The Quality Management Specialist (with support from Business Services personnel) ensures that WS-RD Water Services Quality Requirements and WS-RD Letter to Accompany Water Services Quality Requirements are sent to essential suppliers and service providers (as identified in WS-RD Ensuring Adequate Equipment and Materials to Deal with Emergencies) by registered mail, annually (January).
- 3.3 When a Supplier is used who is providing an essential service, as identified in QMS 13-01 – Essential Supplies and Services Table, but is not listed in WS-RD Ensuring Adequate Equipment and Materials to Deal with Emergencies, it is the responsibility of the member of Top Management or Project Manager purchasing the goods or services to ensure that WS-RD Water Services Quality Requirements is given to the Supplier and the WS-FORM Supplier Approval Form is completed, as per QMS 13 – Essential Supplies and Services.

- 3.4 Communication to Suppliers from Top Management or other Operating Authority personnel is also done through the issuance of tenders, contracts, purchase orders or directly with suppliers. Specifications for materials used and procedures to be followed are detailed in tenders and contracts.
- 3.5 Communication to and from Suppliers can also be made through written correspondence, email, phone calls, the purchasing process or directly with Operating Authority staff.
- 3.6 If an issue (substandard service, poor performance, substandard parts supplied, etc.) arises with a Supplier, Operating Authority personnel will contact the Supplier directly to resolve the issue. For suppliers under a service agreement (PO, contract, etc.), contact shall be made by the member of Top Management or Project Manager who is responsible for the service agreement. If ongoing or major issues arise, Operating Authority personnel in conjunction with the Finance Department (Procurement Division), may complete the corporate General Vendor Performance Evaluation form. This form may also be used to document excellent service.

4. Communications to and from the Public

- 4.1 Relevant aspects of the Quality Management System are communicated to the Public for both the Guelph Drinking Water System and the Gazer Mooney Subdivision Distribution Subsystem primarily through the Annual Report and the Summary Report. The Operational Plan is also available for viewing at Service Guelph.
- 4.2 Communication (related to water issues) from Top Management to the public is outlined in the M-SOP Customer Notification Process and can be achieved through:
- Newspaper notification and/or media advisories,
 - Hand delivered letters or door knockers,
 - Mobile signs,
 - Posting on the City of Guelph website and social media accounts,
 - Educational activities through special events (e.g. water wagon),
 - Public meetings, and
 - emails.

- 4.3 For larger scale, emergency or sensitive issues, Corporate Communications may be engaged by Top Management to assist in dealing with public communications. Refer to Water Services Emergency Response Plan for information on communications during emergencies.
- 4.4 The public can communicate with Top Management or Operating Authority personnel water-related issues or queries through:
- Calling Water Services directly,
 - Calling the after-hours number, which is directed to the answering service who relays the information immediately to either the On-Call Operator or On-Call Supervisor and sends a summary email to Water Services,
 - Calling Service Guelph, who re-directs the call to Water Services,
 - Emails sent to the City via links on the City of Guelph’s website,
 - Emails and/or phone calls directly to Councillors and City staff,
 - Messages on the City of Guelph’s social media accounts, managed by Corporate Communications and directed to Water Services,
 - Letters , and
 - Speaking with Water Wagon event facilitators.
- 4.5 Business Services’ administration staff and the answering service receive the majority of the public water-related queries. Service Requests are created by Administration Staff to track any consumer concerns, as per the WS-SOP Call Logging, Directing and Service Requests Protocol.
- 4.6 Ongoing communications between Operating Authority personnel and regulatory agencies (such as the Ontario Ministry of the Environment, Conservation and Parks) can be achieved through:
- Agency inspections and follow-up correspondence (as required),
 - Regulatory reporting (as required),
 - Regulatory permit and licencing applications (as described in QMS 12-03 Renewing the Municipal Drinking Water Licence),
 - Documented (email) or verbal discussions (phone)
 - Participation at regulatory training and information sessions, and
 - Regular review of regulatory requirements and updates on agency websites.

Applicable QMS Documents

Operational Plan

Printed documents are uncontrolled. This document can be accessed electronically by searching the title or the document number on Guelph’s Electronic Document Management System (EDMS). EDMS is for internal use only.

QMS 13 - Essential Supplies and Services

QMS 12-02 Internal Communications (SD-000420)

QMS 12-03 Renewing the Municipal Drinking Water Licence (SD-104465)

Reference Documents

Annual Report (guelph.ca/water-testing)

Summary Report (guelph.ca/water-testing)

M-SOP Customer Notification Process (SD-104485)

M-SOP Incident Notification Procedure (SD-105288)

Water Services Emergency Response Plan (SD-103112)

WS-FORM Supplier Approval Form (EDMS-120099)

WS-RD Letter to Accompany Water Services Quality Requirements (EDMS-120699)

WS-RD Water Services Quality Requirements (EDMS-120100)

WS-RD Ensuring Adequate Equipment and Materials to Deal with Emergencies (SD-000385)

WS-SOP Call Logging, Directing and Service Request Protocol (SD-104152)

General Vendor Performance Evaluation form (available through the City's Finance Department)

QMS 13 – Essential Supplies and Services

Purpose

To document a procedure that:

- a) identifies all supplies and services essential for the delivery of safe drinking water and the means to ensure its procurement; and
- b) outlines how Water Services will ensure the quality of essential supplies and services, in as much as they may affect drinking water quality.

Under the **Agreement Regarding Water Services for the Gazer-Mooney**

Subdivision (effective March 1, 2019), Guelph Water Services is responsible for the operation and maintenance of the infrastructure in the Gazer Mooney Subdivision. This procedure does not include any special considerations of the Township of Guelph/Eramosa's procurement policies, since Guelph Water Services is not responsible for construction and renewal of Township owned capital infrastructure. Any essential supplies and services used by Guelph/Eramosa Township for capital infrastructure work is the responsibility of Guelph/Eramosa Township.

Procedures

1. Essential Supplies and Services

- 1.1 The supplies and services that are essential for the delivery of safe drinking water and the means for their procurement are listed in QMS 13-01 Essential Supplies and Services Table.
- 1.2 A list of the companies normally used to provide essential supplies and services is documented in WS-RD Ensuring Adequate Equipment and Materials to Deal with Emergencies (Emergency Contacts List). This document lists the essential supplies and services and each company's related contact information. It is reviewed at least annually by the responsible Supervisor along with the Water Operations Technicians to ensure that the information is up-to-date.

2. Procurement Process

- 2.1 The acquisition of goods and services related to the provision of drinking water is addressed by the Purchasing Bylaw, which is administered by the Finance Department (Procurement Division).
- 2.2 The Procurement Division and Legal Services obtains requirements for specifications and/or certification of product for supplies and services from Water Services and Engineering and Transportation Services project managers prior to issuance of new and/or renewal of tenders, Request for Proposals (RFPs), contracts, etc. These requirements may include reference to standards in the "Region of Waterloo and Area Municipal Design Guidelines and Supplemental Specifications for Municipal Services (DGSSMS)" and the "City of Guelph Part B Specifications", AWWA disinfection requirements and ANSI/NSF requirements, etc. depending on the supply and service required. These above-noted documents are posted for contractor and public reference on the City's website.
- 2.3 The Purchasing Bylaw includes a low-value threshold for single/sole sourcing works for construction works and professional services. As such, some supplies (below the threshold) may be purchased directly by Water Services staff from local sources in absence of a public tender or request for proposals (RFP) process. All essential supplies and services procured outside of a formal tender or RFP must be checked for quality, as described in Section 3 (Ensuring the Quality of Essential Supplies and Services), below.
- 2.4 For the provision of essential supplies and/or services during emergency situations, Top Management has the delegated authority to purchase the necessary supplies and/or services. Any essential supply and/or service that is obtained in an emergency must be checked for quality, as described in Section 3 (Ensuring the Quality of Essential Supplies and Services), below.

3. Ensuring the Quality of Essential Supplies and Services

- 3.1 In order to ensure the quality of the essential supplies and services, the member of Top Management or Project Manager that is responsible for retaining an essential supplier or service provider, completes WS-FORM Supplier Approval Form.

- 3.2 Water Services will communicate with providers of essential supplies and services the relevant aspects of the Quality Management System and what our quality expectations are, as per QMS 12 Communications.
- 3.3 Upon delivery of essential supplies and services, Water Services staff will ensure that the supplies and services received meet Water Services requirements and specifications (e.g. checking for NSF certifications, overseeing contractors to ensure disinfection plans are followed, etc.).
- 3.4 If an issue (substandard service, poor performance, substandard parts supplied, etc.) arises with a Supplier, Water Services personnel will contact the Supplier directly. For suppliers under a service agreement (PO, contract, etc.), contact shall be made by the member of Top Management or Project Manager who is responsible for the service agreement. If ongoing or major issues arise, Water Services staff in conjunction with the Finance Department (Procurement Division), may complete the corporate General Vendor Performance Evaluation form. This form may also be used to document excellent service.

4. Ensuring Adequate Essential Supplies

- 4.1 Essential supplies that are kept in stock (e.g., repair clamps, pipes, fittings, analyzers, pumps, etc.) are maintained by Water Services at F.M. Woods Pumping Station, off site, or at our Suppliers.
- 4.2 Water Treatment and Maintenance
 - a) Equipment and supplies are tracked and maintained by the Water Operations Technicians along with the Lead Hands and/or maintenance staff.
 - b) T-RD Water Treatment Critical Equipment Inventory identifies all assets and components that are essential to the system and require timely access to. This critical inventory is to either be kept on site at Water Services or guaranteed to be in stock at a specified supplier. The list includes storage locations and minimum stock levels. Stocking of the storage locations are evaluated against the budget.
 - c) The Critical Inventory Count Sheet contains current stock numbers and is reviewed monthly by maintenance staff, as per the assigned work order. The count sheet is then submitted to the Water Operations Technician who supports maintenance and maintains the document on the network drive.

4.3 Water Distribution

- a) Equipment and supplies are tracked and maintained by the Distribution Lead Hands. Throughout the year, the Distribution Lead Hands confirm inventory levels to determine if inventory needs to be re-ordered. Quarterly, the Distribution Lead Hands perform an inventory count to ensure adequate supplies are available. Business Services personnel support this process by entering the count numbers and completing a reconciliation, which is required by the Finance Department.

Applicable QMS Documents

QMS 12 – Communications

QMS 13-01 Essential Supplies and Services Table (SD-000322)

Reference Documents

Agreement Regarding Water Services for the Gazer/Mooney Subdivision (SD-104595)

T-RD Water Treatment Critical Equipment Inventory (EDMS-101001)

Purchasing Bylaw (<https://guelph.ca/wp-content/uploads/Purchasing-Bylaw.pdf>)

Region of Waterloo and Area Municipal Design Guidelines and Supplemental Specifications for Municipal Services and Part B Specifications
(<https://guelph.ca/business/bids-and-tenders/>)

WS-FORM Supplier Approval Form (EDMS-120099)

WS-RD Water Services Quality Requirements document (EDMS-120100)

WS-RD-Ensuring Adequate Equipment and Materials to Deal with Emergencies (SD-000385)

General Vendor Performance Evaluation form (available through the City's Finance Department)

QMS 14 – Review and Provision of Infrastructure

Purpose

To document a procedure for reviewing the adequacy of the infrastructure necessary to operate and maintain the Subject System that:

- a) Considers the outcomes of the risk assessment documented under QMS 08 – Risk Assessment Outcomes, and
- b) Ensures that the adequacy of the infrastructure necessary to operate and maintain the Subject System is reviewed at least once every calendar year.

The review of infrastructure considers the outcomes of the annual risk assessment as well as outcomes of formal linear and vertical asset management studies and other pertinent information from field operations. This procedure also describes how the findings of the review are communicated to Council through the budget process.

Under the **Agreement Regarding Water Services for the Gazer Mooney Subdivision** (effective March 1, 2019), the Township of Guelph/Eramosa is responsible for alterations, capital upgrades and infrastructure replacements relating to the Water Distribution System at its expense. QMS 14 – Review and Provision of Infrastructure does not include any procedures related to the review and provision of infrastructure for the Gazer Mooney Subdivision Distribution System as this is not within the responsibility of the Corporation of the City of Guelph.

Procedures

The review and provision of the Guelph Drinking Water System infrastructure needs is completed on both existing infrastructure and on new infrastructure needs through the annual capital and operating budget processes.

New distribution system infrastructure must meet the Standard Contract Specifications (which include the City of Guelph Part “B” Standard Contract Specifications and the Region of Waterloo and Area Municipalities’ Design Guidelines and Supplemental Specifications for Municipal Services). These Standard Specifications are maintained and updated annually by Engineering and Capital Infrastructure Services (Engineering) with input from Water Services.

The City retains professional engineering consultants (qualified persons) to conduct detailed engineering design of facilities in accordance with Ministry standards, the Ontario Building Code and industry best practices.

As part of the annual Corporate non-tax budget development process, the following is completed:

1. Review of Existing Infrastructure

1.1 Existing Linear Infrastructure (watermains and appurtenances)

- a) On a monthly basis, the Engineering and Transportation Services department, Design and Construction division (Engineering) and Water Services representatives meet to coordinate works between teams and share issues and project needs coming from infrastructure condition observations and sources of issues experienced by staff through operation of the distribution system infrastructure.
- b) Engineering provides Water Services with recommendations for watermain replacement and upgrades as per the Corporate Asset Management Plan and Water and Wastewater Linear Servicing Master Plan.
- c) As described in QMS 14-01 Annual Infrastructure Review Process, Water Services creates a list of potential projects. Water Services staff review this listing and apply system and operational knowledge, such as maintenance and inspection activities, as well as the QMS 08 - Risk Assessment Outcomes to determine what projects will make up the Water Services priority list. Priorities are then reviewed with Engineering and Senior Management in finalizing recommended project forecasts through the annual non-tax capital budget.

1.2 Existing Vertical Infrastructure (water facilities)

- a) The Water Services Facilities Asset Management Plan and regular operator facility inspections are used on an annual basis to identify infrastructure reinvestment priorities to sustain service levels.
- b) The Water Services Facilities Asset Management Plan is updated every five years by qualified persons to confirm asset priority replacements through detailed field inspections. The risk assessment outcome (i.e., QMS 08 – Risk

Assessment Table) are also considered in the development of the Water Services Facilities Asset Management Plan.

- c) Infrastructure needs are also identified for consideration through information provided by Water Services staff through the completion of preventative and reactive maintenance and facility inspection activities. This information is provided to management staff through maintenance requests and is used to inform the evaluation of service risk through Corporate Asset Management planning.
- d) Division Manager, Water Services (in consultation with Manager, Technical Services Water and Manager, Water Operations) meet annually to confirm the priority projects identified in the Water Services Facilities Asset Management Plan that will be brought forward to Senior Management for inclusion in the annual non-tax capital budget process.

2. New Linear and Vertical Infrastructure

- 2.1 Long-term planning for growth-related infrastructure starts with the development and updating of the Official Plan (OP), which provides the policy framework to guide the provision of infrastructure within the City of Guelph. The OP focuses on population projections and land use.
- 2.2 With reference to anticipated community growth outcomes of the OP, Water Services and Engineering and Transportation Services work to develop formal Master Plans under the Municipal Class EA process which prioritize new supply facilities, linear infrastructure investments and sequence project timing.
- 2.3 Upon completion, these Master Plans and associated investment needs are presented to the Owner for approval. Upon approval of these Master Plans, associated project recommendations are formally staged in the Corporate non-tax capital budget forecast. These Master Plans are formally updated on a 5-year basis and presented to the Owner for approval upon completion, with new recommendations working to amend the growth-based capital infrastructure investment forecasts accordingly.
- 2.4 Key Master Plans for Water Services include:
 - a) Water Supply Master Plan
 - b) Water and Wastewater Linear Servicing Master Plan, and;

c) Water Efficiency Strategy.

3. Provision of Infrastructure

- 3.1 Through the aforementioned processes, Engineering and Water Services jointly update the operating and capital budget forecast. The list of projects is presented to Senior Management for review and approval. Once Senior Management reviews and approves the Water Services operating and budget forecast, it is presented to Council (Owner) for approval.
- 3.2 Variance Reports provide a review on status of project related to expenditures in both operating and capital budgets are prepared for the General Manager and presented to Council by Finance on a regular frequency. Furthermore, Council may also receive regular updates on high priority corporate projects as part of the City's corporate project management standards. In the context of Water Services project portfolio this generally includes projects of significant dollar value, perceived risk and/or high public visibility (such as renewal of FM Woods Pumping Station).
- 3.3 Engineering and Transportation Services and Water Services maintain records of projects that were removed or delayed from the priority list as a result of internal consultation or the introduction of new information from interim technical studies. These projects are reviewed through the Water Services operating and capital budget forecast coordination meetings and are taken into consideration through formal updates of respective master plans (where appropriate).
- 3.4 In concert with capital budget needs forecasting, the forecasting of annual operating budgets is also used to identify future infrastructure and maintenance investment needs as well as future operating costs to be incurred as a result of new capital infrastructure (for example, increased energy costs as a result of new UV treatment system). Forecasted operating and capital costs are presented to Council for approval via the Water Services Long Range Financial Plan once every 5 years to provide the owner and community stakeholders with perspective of future utility cost drivers and associated user rate investments required to sustain system needs.

Applicable QMS Documents

QMS 08 – Risk Assessment Outcomes

QMS 08 – Risk Assessment Outcome Table (SD-000311)

Printed documents are uncontrolled. This document can be accessed electronically by searching the title or the document number on Guelph's Electronic Document Management System (EDMS). EDMS is for internal use only.

QMS 14-01 Annual Infrastructure Review Process (EDMS-126099)

Reference Documents

Agreement Regarding Water Services for the Gazer/Mooney Subdivision (March 1, 2019) (SD-104595)

City of Guelph Part "B" Standard Contract Specifications

Corporate Asset Management Plan

Official Plan

Region of Waterloo and Area Municipalities' Design Guidelines and Supplemental Specifications for Municipal Services

Water and Wastewater Long Range Financial Plan

Water and Wastewater Linear Servicing Master Plan

Water Efficiency Strategy

Water Services operating and capital budget forecast

Water Services Facilities Asset Management Plan

Water Supply Master Plan

Water Efficiency Strategy

QMS 15 – Infrastructure Maintenance, Rehabilitation and Renewal

Purpose

To document:

- a) a summary of the Operating Authority's infrastructure maintenance, rehabilitation and renewal programs for the Subject System, and
- b) a long term forecast of major infrastructure maintenance, rehabilitation and renewal activities.

The Operating Authority shall:

- a) keep the summary of the infrastructure maintenance, rehabilitation and renewal programs current,
- b) ensure that the long term forecast is reviewed at least once every Calendar Year,
- c) communicate the programs to the Owner, and
- d) monitor the effectiveness of the maintenance program.

Procedures

1. Preventative or Scheduled Maintenance – Vertical Infrastructure (water facilities)

- 1.1 Maintenance Lead Hand and Supervisor, Water Treatment plan equipment and maintenance requirements based on legislation and the manufacturer's recommendations and is documented in the annual Water Treatment Work Plan.
- 1.2 The Work-Asset Maintenance (WAM) system is a tool used to schedule maintenance activities based on manufacturer recommendations, industry best practices, etc. Treatment staff may also identify work required in their daily routines and submit a work request through the WAM system.
- 1.3 Based on the printed work orders from the WAM system, provided by the Maintenance Technician, the Maintenance Lead Hand issues Work Orders for completion to the applicable Maintenance staff.

- 1.4 Maintenance Lead Hand distributes Work Requests and Work Orders to Maintenance staff (Electrician/Operator and Maintenance Mechanic/Operator) on a regular basis. When the assigned work is complete, the Work Order is closed by the person that was assigned to complete the work.
- 1.5 Maintenance personnel meet regularly to review the status of what maintenance work is outstanding and what will be done next. Work Requests that are outstanding are located in WAM. The WAM system produces a report of outstanding work orders and work requests.
- 1.6 Standard Operating Procedures (SOPs) exist for some maintenance activities and these are available to Water Services staff, when required, to complete the maintenance activities. Instructions are also included in work orders.
- 1.7 Some maintenance activities (e.g., generator repairs) are contracted out to a third-party. The third-party contractor sends in a field report to staff to identify repairs that will need to be done.
- 1.8 The UV treatment system is maintained by a contractor and if minor maintenance (e.g., bulb change) is completed by an Operator, this is recorded in the on-site Operational Logbook. If the Operator notices a problem, or a SCADA alarm occurs, a Work Request is completed and submitted electronically to the Maintenance Lead Hand and Supervisor of Water Treatment.
- 1.9 SCADA performance is monitored by the Supervisor, SCADA and Water SCADA Specialist, who are responsible for coordinating the maintenance of the SCADA system. In some cases, external contractors are used to assist with SCADA maintenance. Treatment personnel (e.g., applicable Supervisor, Lead Hands and Operators) are informed of all SCADA process changes through email and the regularly scheduled meetings. If Treatment personnel notice an issue with the SCADA system, they call, email or fill out a Work Request (depending on severity of the issue) for the Supervisor, SCADA and/or Water SCADA Specialist to resolve the issue.

2. Unscheduled Maintenance – Vertical Infrastructure (water facilities)

- 2.1 Treatment Operators use Work Requests to identify any issues or repairs that may be required on equipment, water facilities, etc. The Work Request is sent electronically to the Maintenance Lead Hand and the Supervisor, Water Treatment for distribution to the appropriate staff.

- 2.2 Operationally relevant information is recorded in the logbooks on the repairs that were completed on the facility and/or equipment (e.g., analyzer maintenance).
- 2.3 The completed Work Requests are filed electronically in WAM with supervisor monitoring through the point of completion.

3. Scheduled and Inspection Programs – Linear Infrastructure (watermains and appurtenances)

- 3.1 The Supervisors, Distribution establish a schedule for annual infrastructure maintenance and repairs and provide this to the Distribution Lead Hand to assign to the appropriate staff.
- 3.2 The Supervisors, Distribution establish a schedule for appurtenance maintenance activities (e.g. valves, hydrants, flushing/swabbing). The schedule is provided to the applicable Distribution Lead Hand to assign to appropriate staff. In addition, some of the program activities are also provided to contractors.
- 3.3 Inspection programs (valve exercising, leak detection and hydrant checks) may create unscheduled maintenance work. See Section 4 (Unscheduled Maintenance) below, which describes the process.

4. Unscheduled Maintenance – Linear Infrastructure (watermains and appurtenances)

- 4.1 Distribution Operators identify issues or repairs that may be required on the infrastructure. A Work Request (job planning form) is completed, which then generates the Work Order. A Work Order is then created by the Maintenance Lead Hand and forwarded to Distribution Operators for completion.
- 4.2 Maintenance information is recorded on the appropriate job form or Distribution Operator logbook describing the repairs that were completed on the distribution infrastructure.
- 4.3 The completed job forms are returned to the Supervisors, Distribution for review and then scanned and sent to the Water Operations Technician. The Water Operations Technician attaches a copy of the job sheet to the work order and the Supervisors, Distribution file the hard copy in the Distribution file cabinet.

5. Effectiveness of Maintenance

- 5.1 Maintenance Lead Hands and Water Operations Technicians track maintenance activities electronically to determine the number of Work Requests that are outstanding.
- 5.2 The effectiveness of maintenance is also identified by Maintenance Lead Hands and Water Operations Technicians through: reviewing the time taken to complete maintenance requests (by Maintenance staff or contractors); and the number of unscheduled maintenance activities. Concerns relating to the effectiveness of maintenance activities are reported to Supervisors (Water Treatment and Distribution) for consideration in the annual review of infrastructure.

6. Rehabilitation and Renewal

- 6.1 The rehabilitation and renewal of linear and vertical infrastructure needs are met through the budgeting process. Some of the projects are capital works and follow the budget process outlined in QMS 14 - Review and Provision of Infrastructure. Other projects may be included in operating and capital budget forecasts on an annual basis.
- 6.2 The renewal and rehabilitation for linear and vertical infrastructure needs are developed based on:
- capital asset prioritization done by both Engineering and Transportation Services and Water Services Management, as outlined in QMS 14 – Review and Provision of Infrastructure;
 - field observations by Operational and Maintenance staff;
 - identified risks from the Risk Assessment Outcomes, identified in QMS 08 Risk Assessment Outcomes; and
 - condition assessments and best management practices, where applicable, are used to identify renewal and rehabilitation needs of Water Services infrastructure. For example, water tower maintenance.
- 6.3 For linear renewal projects, projected growth is factored in to determine if upsizing of watermain is required in the area. If upsizing of the watermain is recommended, then Engineering and Transportation Services determines the priority and required upgrades to the infrastructure. Engineering and Transportation Services also determines if Supply facilities need to be upgraded to meet servicing requirements.

- 6.4 The renewal and rehabilitation for vertical infrastructure needs are developed based on:
- reviewing problems that occur during the year (operations and maintenance) and the efficiency of the work;
 - yearly Water Supply Master Plan requirements and needs;
 - identified compliance issues; and
 - SCADA alarm issues.
- 6.5 If an identified renewal and/or rehabilitation project is not completed during the year, the project is carried forward to the following year as a candidate for the next budget cycle.

7. Long-term Forecast of Major Infrastructure Maintenance, Rehabilitation and Renewal Activities

- 7.1 Water Services prepares an operating and capital budget forecast and submits it to the Owner for approval through the budget process.
- 7.2 Engineering (in consultation with Water Services) develops an operating and capital budget forecast respecting outcomes of the annual linear infrastructure review and submits it to the Owner for approval.

Applicable QMS Documents

QMS 08 - Risk Assessment Outcomes Table

QMS 14 - Review and Provision of Infrastructure

Reference Documents

Water Services operating and capital budget forecast

Engineering and Transportation Services operating and capital budget forecast

Distribution Job Forms

WAM - Work Requests/Work Orders

Water and Wastewater Linear Servicing Master Plan

Water Supply Master Plan Update

Water Treatment Work Plan

QMS 16 – Sampling, Testing and Monitoring

Purpose

To document:

- a) a sampling, testing and monitoring procedure for process control and finished drinking water quality including requirements for sampling, testing and monitoring at the conditions most challenging to the Subject System,
- b) a description of relevant sampling, testing or monitoring activities, if any, that take place upstream of the Subject System, and
- c) a procedure that describes how the sampling, testing and monitoring results are recorded and shared between the Operating Authority and the Owner, where applicable.

Definitions

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

Monitoring - consists of on-site data collection (e.g., SCADA instrumentation or handheld equipment) and analysis.

Sampling - is defined as the process of collecting water samples for laboratory analysis.

Testing - is considered to be the laboratory analysis.

Procedures

1. Sampling & Testing

- 1.1 Sampling, testing and monitoring is completed on supplied and distributed water to:
 - a) ensure compliance with applicable Ontario Drinking Water Regulations,
 - b) provide Operators with knowledge required to operate the drinking water system and make adjustments, as required,
 - c) ensure water quality is maintained as water travels through the distribution system, and

- d) identify trends in water quality and emerging issues.
- 1.2 Sample locations are shown in QMS 16-01 Sample Locations Map.
 - 1.3 Regulatory sampling requirements outlined in O. Reg. 170/03 are implemented by the Supervisor, Water Treatment and Supervisors Distribution and scheduled by the Water Operations Technicians and/or applicable Treatment and/or Distribution Lead Hands (in consultation with Water Compliance Specialist).
 - 1.4 In addition to the regulatory sampling requirements, additional sampling may be conducted for a variety of reasons, including water quality monitoring (VOC, chlorine residual, turbidity, etc.) and to better understand water quality trends.
 - 1.5 An enhancement to sampling protocols above and beyond the requirements under O. Reg. 170/03 are described in M-SOP – Water Supply Enhanced Sampling Plan.
 - 1.6 Capital projects that may impact water quality in the distribution system may require additional sampling to ensure that the project does not impact the safety of the water. For example, water tower recoating projects.
 - 1.7 The Water Operations Technicians ensure that analyses are completed for the appropriate samples. The Chains of Custody are partially pre-filled for each sampling program with the remainder completed by the Certified Operator assigned to perform the sampling. Chains of Custody are available in EDMS under the titles, Compliance Sheets – Distribution and Compliance Sheets – Source.
 - 1.8 The Water Operations Technicians (in consultation with the Water Compliance Specialist), is responsible for facilitating the Regulatory and Operational sampling program. The sampling program is outlined in T-SOP Regulated and Operational Water Quality Monitoring Responsibilities.
 - 1.9 The Water Operations Technicians maintain the water quality database.

2. Sampling & Testing Results

- 2.1 Analytical results are compared to the Ministry's Ontario Drinking Water Standards (ODWS, O. Reg. 169/03). The analytical results are compiled annually and listed along with the Maximum Acceptable Concentration (MAC) for each parameter that is tested in the Annual Report.

- 2.2 A Chain of Custody is completed by the Operator, and the following sampling details are recorded: date, time, free chlorine residual, and temperature. The Chain of Custody is sent with the samples to an accredited laboratory.
- 2.3 The laboratory uploads completed sample results into Water Services water quality database. Treatment Operators enter the results of required in-field samples (turbidity, chlorine residuals and ultraviolet transmittance (UVT)) into the water quality database. If values are missing, or outside of established ranges, an alert will be generated by the water quality database and sent to the applicable personnel at Water Services to respond.
- 2.4 The Water Operations Technicians and the Water Compliance Specialist are responsible for verifying the results and running reports through this database.
- 2.5 Adverse conditions may be identified directly by Operators and adverse water quality samples are identified by lab notification, as per O. Reg. 170. Should the analytical results indicate adverse conditions, the M-SOP - Reporting Adverse Test Results and other problems under O. Reg. 170 and the Ontario Watermain Disinfection Procedure is followed.
- 2.6 Sampling and testing records are managed in accordance with QMS-05 Document and Record Control System procedure.

3. Monitoring

- 3.1 In the water treatment facilities, SCADA monitors: chlorine residuals, chlorine pump speed, chlorine tank levels, turbidity, flows, reservoir levels, well levels, pressure, UVT and UV dosage, temperature, where applicable. Ranges are set for each of these parameter and the SCADA system will alert Operators when these ranges are exceeded.
- 3.2 Values from the SCADA system are recorded on the historian server and can be viewed in real time through the iFix screens. Operators view, monitor and adjust values through SCADA on the iFix screens. Daily checks are undertaken at the water treatment facilities to verify equipment is working properly. Operators record values in the station log and make note of any adjustments that were made to monitoring equipment.
- 3.3 SCADA instrumentation and handheld equipment are used to monitor finished drinking water quality in the water treatment facilities and distribution system.

- 3.4 The Supervisor, SCADA and Water SCADA Specialist maintain the SCADA system.
- 3.5 As per the Municipal Drinking Water License, Water Services tests for Photosynthetic pigment bearing algae on the Glen Collector System and the Arkell Recharge Pit (or river intake).
- 3.6 Chlorine residual monitoring is done on dead-ends in the distribution system to ensure compliance with O. Reg. 170 as per D-SOP Mains-Flushing.

4. Reporting to the Owner

- 4.1 Owners are provided with an annual summary of sampling, testing and monitoring results through the Section 11, O. Reg. 170/03 (Annual reports), Schedule 22, O. Reg. 170/03 (Summary reports for municipalities) and through the Management Review process outlined in QMS 20 – Management Review.
- 4.2 Adverse test results are reported to the system owner, in accordance with Schedule 16, O. Reg. 170/03.

Applicable QMS Documents

QMS 05 Document and Records Control

QMS 16-01 Sample Locations Map (SD-000326)

Reference Documents

Annual Report (guelph.ca/water-testing)

Summary Report (guelph.ca/water-testing)

Compliance Sheets – Source (EDMS-097601)

Compliance Sheets – Distribution (EDMS-106893)

D-SOP Mains-Flushing (SD-103030)

M-SOP – Water Supply Enhanced Sampling Plan

M-SOP Reporting Adverse Test Results and other problems under O. Reg. 170 and the Ontario Watermain Disinfection Procedure (SD-104353)

Municipal Drinking Water Licence (SD-000389)

O. Reg. 169/03: Ontario Drinking Water Quality Standards

O. Reg. 170/03: Drinking Water Systems

T-RD Water Quality Monitoring Requirements Summary (SD-102900)

T-SOP Regulated and Operational Water Quality Monitoring Responsibilities (SD-104270)

WaterTrax / EQUIS databases

QMS 17 – Measurement and Recording Equipment Calibration and Maintenance

Purpose

To document the procedure for the calibration and maintenance of measurement and recording equipment.

Procedures

1. Calibration and Maintenance Frequency and Schedule

- 1.1 A list of all monitoring equipment that needs to be calibrated and/or verified and the schedule at which this is completed, is located in WAM, which produces Work Orders. This is also kept in the calibration binder kept by the Maintenance Lead Hand. Each piece of equipment requiring calibration and/or verification is labelled with the facility name in the title. The Work Order includes the ID Tag Number and might include the serial number of the equipment.
- 1.2 The frequency for calibration and/or verification and maintenance of each equipment type is done as per manufacturers' specifications, best practices, as required by O. Reg. 170/03, the Municipal Drinking Water Licence or the Drinking Water Works Permit. Work Orders are sent monthly to maintenance staff. The Maintenance Lead Hand verifies the Work Orders against the calibration schedule in the calibration binder. Emails are sent by the Maintenance Lead Hand to notify staff of what equipment is being calibrated, when and by whom.
- 1.3 The list of equipment is kept up-to-date by the Maintenance Lead Hand. When a new piece of equipment is added or if a new piece of equipment replaces an old one, the Maintenance Lead Hand fills out a Form 2 and an Asset Change Form. The Maintenance Technician makes the required changes in WAM based on the Asset Change Form.

2. Responsible Person for Verification and/or Calibration

- 2.1 Hand-held colorimeters are verified by Treatment Operators or Water Operations Technicians three times per year and outside contractors perform the annual calibration, as per WS-SOP Calibration/Verification of Handheld Colorimeters.

- 2.2 Outside contractors are used for the verification and/or calibration of all other monitoring equipment (flow meters, analyzers, hand-held turbidimeters, UV Reference Sensors, pressure transmitters, etc.), as per the schedule described outlined in section 1.
- 2.3 The Maintenance Lead Hand schedules the verifications and/or calibrations with an outside contractor based on the schedule.

3. Calibration and Verification Records

- 3.1 For colorimeters used by Water Treatment personnel (Supervisor, Water Treatment, Treatment Lead Hand, Treatment Operator, Maintenance Lead Hand, Electrician/Operator and Maintenance Mechanic/Operator, or Manager, Water Operations), the records of the verification of the hand-held colorimeters are kept in the Woods logbook.
- 3.2 For colorimeters used at the stations, the records of the verification are kept in the on-site logbook.
- 3.3 For colorimeters used by Distribution personnel (Supervisors Distribution, Distribution Lead Hand and Distribution Operators, or Manager, Water Operations), the Water Operations Technician (supports Distribution) uploads the verification record to EDMS and also emails the verification record to the Maintenance Lead Hand.
- 3.4 For all other equipment that requires calibration/verification, the outside contractor sends a calibration report to the applicable contact at Water Services (typically the Maintenance Lead Hand or person that scheduled the work) when the calibration and/or verification is completed. This report is uploaded into WAM and attached to the Work Order. A hardcopy record is kept in the calibration binder. When the calibration and/or verification work is complete, maintenance staff complete the work order and close it.

4. Operational Checks and Reporting of Issues

- 4.1 All chlorine analyzers in the system are verified at least three times per week by the Treatment Operators, who may make adjustments, as per manufacturers' specifications and/or as required by O. Reg. 170/03. Other maintenance on the chlorine analyzers is done by Treatment Operators when needed, for example, changing the electrolyte and cap. These procedures are found in Treatment

Standard Operating Procedures and Work Instructions and are listed in the Reference Documents section. Other monitoring equipment is checked by the Treatment Operators, such as flow meters, pressure gauges, etc., as outlined in T-SOP-Monitoring and Recording "In-Process" Parameters of the Drinking Water System.

- 4.2 SCADA alarms may alert a Treatment Operator if a piece of monitoring equipment has failed. If any monitoring equipment is deemed to not be working properly, then the Treatment Operator completes a Work Request Form and forwards this to the Maintenance Lead Hand and the Supervisor, Treatment. The Maintenance Lead Hand assigns the maintenance work required for the equipment to the applicable maintenance staff. Treatment Operators are made aware of maintenance activities during the morning and/or end of day information sessions between staff or through emails.
- 4.3 Based on the criticality of the instrument or equipment, the Treatment Operator may phone or email the Maintenance Lead Hand (or designate) or Supervisor, SCADA (or designate) right away to troubleshoot the problem. A contractor may be used to complete the repair and/or to ensure that the equipment is verified or calibrated properly before being put back into service.
- 4.4 When facilities are offline, measurement devices are checked by the Treatment Operators to ensure that all calibrations and/or verifications are up-to-date prior to bringing the facility back on-line. If it is identified that measurement devices need to be calibrated or verified, the equipment is verified and/or calibrated by an outside contractor prior to bringing the facility back online. The procedure for this is outlined in the T-WI Returning Supply, Treatment and Storage Sites to Service.

5. Notifications to Staff

- 5.1 Once per year, the Maintenance Lead Hand sends out a request for all regulatory hand-held colorimeters and turbidimeters to be returned for the annual calibration. An outside contractor performs the calibration and sends the calibration report to maintenance staff. For hand-held turbidimeters and colorimeter calibrations, the Maintenance Lead Hand notifies the appropriate staff when the calibrations are complete and they can pick up their units.
- 5.2 For all other monitoring equipment, the Maintenance Lead Hand emails the appropriate staff when the calibrations and/or verifications are occurring in order

to prepare Treatment Operations for SCADA alarms, or to shut down facilities, as needed.

6. Monthly Review

- 6.1 The Maintenance Lead Hand reviews the calibration, verification and maintenance schedules monthly to ensure the information is up-to-date.
- 6.2 As part of the monthly compliance inspection data review, the Water Compliance Specialist reviews the previous months' calibration and verification records to ensure that all calibrations were completed as per the schedule.

Applicable QMS Documents

QMS-05 Document and Records Control

Reference Documents

Calibration Binder

T-SOP Monitoring and Recording "In-Process" Parameters of the Drinking Water System (SD-000386)

T-SOP-Operation and Maintenance of Monitoring Equipment (SD-000387)

T-SOP-Procedure Reporting Woods UV Failure Alarms (SD-104587)

T-WI Returning Supply, Treatment and Storage Sites to Service (SD-103835)

WAM/Work Orders/Work Request Forms

WS-SOP Calibration/Verification of Handheld Colorimeters (EDMS-119298)

QMS 18 – Emergency Management

Purpose

To document a procedure to maintain a state of emergency preparedness that includes:

- a) A list of potential emergency situations or service interruptions,
- b) Processes for emergency response and recovery,
- c) Emergency response training and testing requirements,
- d) Owner and Operating Authority responsibilities during emergency situations,
- e) Reference to municipal emergency planning measures as appropriate, and
- f) An emergency communication protocol and an up-to-date list of emergency contacts.

Definitions

CERP – City Emergency Response Plan, which also includes City of Guelph BEACON security codes.

EOC – Emergency Operations Centre

EOCG – Emergency Operations Control Group – the City of Guelph’s corporate-level EOC.

ERP – Water Services’ Emergency Response Plan.

IMS – Incident Management System

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

WDGPH – Wellington-Dufferin-Guelph Public Health

Responsibilities

Corporate Communications Team (CCT) is responsible for preparing communications with the media and public during a City-wide Emergency, Water Services Major Incident or Emergency. In an Emergency Operations Centre (EOC), all communications materials are approved by the EOC Director prior to release to the public.

Head of Council (Mayor or designate) is responsible for declaring an emergency and may be the official spokesperson for the City during an incident or declared emergency.

Quality Management Specialist ensures that the Water Services Emergency Response Plan (ERP) is up-to-date, emergency testing and training activities take place, and that records are maintained of testing, training and actual emergency events.

Top Management may activate the ERP when they believe circumstances constitute an emergency or major incident. Top Management are responsible for notifications (internal and external) regarding emergencies to agencies and other departments.

Training and License Specialist keeps records of staff training.

Water Services' Emergency Operations Centre (EOC) team members ensure they carry-out the roles and responsibilities of their respective position checklists as per the Water Services Emergency Response Plan.

Water Services staff must be aware of the contents of the ERP and must be trained on how to carry out their assigned roles and responsibilities as outlined in the ERP. All staff are responsible for documenting their own actions and progress of response activities for which they are responsible.

Wellington-Dufferin-Guelph Public Health communications team is responsible for any media communications related to public health, illness, and/or illness prevention.

Procedures

1. Potential Emergency Situations or Service Interruptions

- 1.1 During the annual risk assessment process, the risk assessment outcomes (QMS 08) identify potential hazards to the drinking water system and what control and response measures are in place to mitigate or respond to the emergency.
- 1.2 The highest risks identified in the risk assessment are related to the following hazardous events:
 - failure of critical infrastructure,
 - contamination of raw water sources,
 - water supply shortfall (raw or treated),
 - contamination of water within the distribution system (i.e. watermain breaks or backflow/cross-connections),

- power failures,
- failure of primary disinfection equipment,
- loss of secondary disinfection within the distribution system, and
- inadequate chemical or fuel supplies.

- 1.3 The Water Services Emergency Response Plan Appendix A: Emergency Situation and Action Plans lists emergency situations including what would trigger the emergency, the risks if the emergency happened, possible response actions and the possible notifications required.

2. Processes for Emergency Response and Recovery

- 2.1 Full details of emergency response and recovery are documented in the Water Services Emergency Response Plan. The Water Services Emergency Response Plan works in conjunction with the City of Guelph Corporate Emergency Response Plan.

- 2.2 Water Services' Five Modes of Operations:

i. Normal Operations

During Normal Operations, water supply and water quality are good. The distribution system is functioning normally. Minor events like main breaks may be occurring, but are not seriously disrupting the provision of safe water. Water Services aims to maintain normal operations at all times.

ii. Alert

There has been a change in operations possibly due to a threat, such as a severe weather warning. No severe adverse effects have resulted. Water Services' Management Team has been notified and are actively monitoring the situation and starting to prepare for an incident. Activation of the Emergency Response Plan may or may not be required.

iii. Major Incident

Normal operations have been seriously affected by an incident. As a result, the Emergency Response Plan has been activated. Activation of the Emergency Operations Centre (EOC) may be required to manage the incident. Corporate Communications will be involved to lead communications with the media and the public. Internal communications is done by members of Water Services' Management Team. Examples of a major incident may include: a

precautionary “Don’t Drink the Water” or “Boil Water” advisory; alternate supply of water is required; severe water use restrictions, etc.

iv. Water Services Emergency

Normal operations have been severely impacted by an incident. Emergency management activities require the activation of an EOC. Both the Water Services’ Emergency Response Plan and the City’s Emergency Response Plan (CERP) are activated. The Head of Council (Mayor or designate) may declare an emergency. Corporate Communications is involved. Examples of a water services emergency may include incidents where: mutual aid and assistance agreements are activated; assistance from outside agencies is required; critical infrastructure has shut down; an extensive service interruption has occurred, etc.

v. City Emergency

An event like a natural disaster has caused severe damage throughout the city. The Head of Council (Mayor or designate) has declared an emergency. The CERP has been activated. Corporate Communications is involved. The Emergency Response Plan may or may not be activated, depending on whether Water Services has been affected. An example of a City emergency that could involve Water Services is a major fire, tornado, flooding, pandemic, etc.

The decision to officially declare an emergency or a state of emergency is the sole responsibility of the Head of Council (Mayor or designate).

2.3 Responding to Incidents and Activating the Emergency Response Plan

- a) Most incidents at Water Services can be dealt with through following Standard Operating Procedures, Work Instructions, Forms and Checklists. Up-to-date procedures can be found on Guelph’s Electronic Document Management System (EDMS) in the Water Services Procedures Folio.
- b) If the circumstances of an incident constitute an emergency or major incident, the Water Services’ Emergency Response Plan may be activated by the Division Manager, Water Services (or designate), or by the Corporate Emergency Operations Control Group (EOCG). Communications and decisions regarding activating the Emergency Response Plan should be documented in detail.

c) Considerations for Activation:

- Does the situation require a response that exceeds, or threatens to exceed the capabilities of Water Services?
- Does the situation impact public health, or could impact public health?
- Is the event attracting significant media and/or public interest?
- Is the situation creating a large area of impacted consumers/residents?
- Will the response be of such duration that additional personnel and resources may be required to maintain the continuity of operations?
- Does the situation require support from other agencies: government, utilities, etc.?
- Is the situation a large-scale or complex incident?
- Does the situation require, or have the potential to require evacuation and/or shelter of people or animals?
- Does the situation pose a large-scale disruption to transportation patterns?
- Is the event likely to have a long term negative impact of the department's resources or reputation?
- Declaration of a provincial or municipal emergency that directly affects Water Services.

2.4 Emergency Operations Centre (EOC)

- a) When the Emergency Response Plan has been activated, an Emergency Operations Centre (EOC) will be set up. An EOC is a pre-designated meeting place for those responding to an emergency. Water Services has a primary and a backup EOC. The primary location is any boardroom at Water Services. The backup locations are a boardroom at Solid Waste Services or at Wastewater Services. Depending on the emergency, a joint EOC may be established with Wellington-Dufferin-Guelph Public Health. A virtual EOC may be established based on the type of emergency (i.e. pandemic, epidemic, large natural disaster, etc.)
- b) The main boardroom at Water Services has an emergency cabinet that contains the Emergency Response Plan, office supplies, procedures on USB sticks, forms, etc.

2.5 Continuity of Operations

- a) As a water utility with many legislative requirements and public expectations, there are some activities that still need to be carried out, even in the event of

an emergency. Continuity of Operations refers to the essential operations Water Services will perform during an emergency situation or long-term disruption, which may last from several hours to several weeks.

- b) Section 7 of the Water Services Emergency Response Plan list the essential services that need to be performed during an emergency and the services that would be suspended for each work area. It also identifies alternate work locations if Water Services main building is not available as a result of an emergency.

2.6 Response and Recovery Planning

- a) During an emergency, each Section Lead (described in the Water Services Emergency Response Plan) is responsible for ensuring long term response and recovery planning is considered. The purpose of response and recovery planning is to identify needs beyond the first 24 to 72 hours of the emergency. Response and recovery considerations could include:
 - Continuity of Operations strategies to ensure water quality and water quantity needs are met;
 - Assessment of potential financial and public relations impacts;
 - Determine long term emergency response needs;
 - Identify recovery and rehabilitation needs; and
 - Evaluation of the effectiveness of plans and strategies.
- b) Section 9 of the Emergency Response Plan provides more detail on the transition to recovery.

2.7 Deactivating the Emergency Response Plan

- a) Once the Emergency Plan has been activated, the EOC Director (described in the Water Services Emergency Response Plan) is responsible for determining when the EOC is no longer needed and can be terminated.
- b) Considerations for Deactivation:
 - Individual EOC functions are no longer required.
 - State of Emergency has been lifted.
 - Coordination of response activities and/or resources is no longer required.
 - Event has been contained and emergency personnel have returned to their regular duties.

2.8 After Incident Review and Debrief

- a) The after incident review and debrief process is a critical part of emergency management and serves to provide improvement to our emergency planning and response activities. This process also serves to recognize the efforts of those involved in the incident, while avoiding placing blame on individuals or organizations. Debriefs help improve coordination and communication with all stakeholders and contribute to improved emergency management.
- b) Debriefings should not be limited to just emergency response. Non-emergency event planning and annual training and exercises also benefit from debriefs.
- c) Section 10 of the Emergency Response Plan provides more detail of the debrief process and the after-action report.

3. Emergency Response Training and Testing Requirements

- 3.1 The Quality Management Specialist, in conjunction with the members of Water Services' Management Team (includes Division Manager, Water Services, Manager, Technical Services Water, Manager, Water Operations, Supervisors Distribution and Supervisor Treatment) are responsible for ensuring the Emergency Response Plan is up-to-date and that staff receive training on the plan. Training may consist of presentations, videos, discussion-based activities and table-top exercises.
- 3.2 As part of the emergency training, the Emergency Response Plan may be tested alone or with other agencies, such as the Ministry and Wellington-Dufferin-Guelph Public Health (WDGPH). Building relationships with other government agencies prior to an emergency is vital to ensure an effective emergency response during actual emergencies.
- 3.3 Emergency preparedness and response is a process of continuous improvement and all Water Services' staff have a role in ensuring its success. Feedback from real and test emergencies will be used to help improve the Water Services Emergency Response Plan and any relevant Water Services procedures or processes.

4. Owner and Operating Authority Responsibilities during Emergency Situations

- 4.1 During emergency situations, the head of Council (Mayor or designate) is responsible for declaring an emergency or state of emergency and may be the official spokesperson for the City during an incident or declared emergency. The Owner (Mayor and Council) may also be responsible for approving the purchase of required resources to deal with the emergency.
- 4.2 Responsibilities for Operating Authority personnel are listed in the various procedures (SOPs and WIs). When an EOC is established, Water Services follows the Justice Institute of British Columbia's Incident Management System (IMS) structure. Water Services' EOC Members will work together to make emergency management decisions and to facilitate completion of their respective tasks.
- 4.3 It is recognized that typical staffing assignments are not necessarily consistent with the standardized IMS organizational structure. Knowledge, training, authority and/or experience should be the primary factors in determining the individuals who are assigned to specific response functions.
- 4.4 Staff designated to EOC positions are likely to change over the course of an emergency to accommodate the demands of the EOC work schedule. Designated alternates for all EOC positions are recommended.

Emergency Operations Centre Roles and Responsibilities

- 4.5 Detailed information about each EOC position and checklists can be found in Section 6 and Appendix B of the Water Services Emergency Response Plan.

5. Corporate Emergency Response Planning

- 5.1 As required under the Emergency Management and Civil Protection Act, the City of Guelph has an Emergency Management Program and Emergency Response Plan. The plan outlines the manner in which the City will respond to an emergency to provide a timely and effective mobilization of community resources in order to protect the health, safety, welfare and property of the people of Guelph.
- 5.2 The City of Guelph has formed the Emergency Operations Control Group (EOCG), whose membership includes the Mayor, CAO, all DCAOs, General Manager of Emergency Services, Fire Chief, Paramedic Chief, Police Chief, Chief Operating

Officer of Alectra Utilities, Medical Officer of Health, and County of Wellington Social Services Administrator. Other City departments, the General Hospital, Community Care Access Centre, Canadian Red Cross, St. John ambulance, volunteers, utilities such as Union Gas and Bell Telephone would all support the City in an emergency situation. As well, Provincial and Federal government agencies would provide support as required.

- 5.3 Staff from Water Services and Compliance and Performance work with the City's Community Emergency Management Coordinator (CEMC) to ensure that the processes Water Services has established for emergency response are consistent with the Corporate Emergency Response Program.

6. Emergency Communications Protocol and Contact Lists

- 6.1 In an emergency situation, information and speculation can spread on social media within minutes of an incident. Timely and accurate communication is critical for the safety and well-being of Environmental Services staff and the community. Honesty and speed are critical in a crisis and it is vital to speak with accuracy about what we know and not speculate about what we don't know.
- 6.2 Water Services will work with Corporate Communications to ensure timely, accurate and effective communications with the public. Corporate Communications can be reached at extension 3444 after hours.
- 6.3 Further to notifying the public, it is critical that staff are kept updated throughout the emergency. Staff may be deployed to different areas of the city, or may not be able to come into work at all, so it is very important that communication is frequent so that staff are kept informed. Much like the public, if staff are not informed, rumors about the emergency may start to spread within the department.
- 6.4 Section 8 – Emergency Communications of the Water Services Emergency Response Plan outlines further emergency communications such as determining a media spokesperson, key messaging, commonly asked questions in an emergency, methods to reach the general public and media interviews.
- 6.5 Appendix D: Emergency Notification Templates in the Water Services Emergency Response Plan contains ready-made templates for a Boil Water Advisory or a Do-not-Drink the Water Advisory. QMS 18-01 Guelph-WDGPH Water Advisory Protocol contains information to guide Water Services and WDGPH when there is

an adverse water quality incident and issuing/rescinding Boil Water Advisories and Drinking Water Advisories.

- 6.6 The M-SOP Reporting Adverse Test Results and other problems under O. Reg. 170 and the Ontario Watermain Disinfection Procedure outlines the procedure for reporting incidents and the M-SOP Incident Notification Procedure outlines the internal notification process.

7. Contact Lists

- 7.1 Business Services maintains and regularly updates the Cell Phone List (includes desk extension numbers) for Water Services staff and supporting staff from the partnership divisions. The Quality Management Specialist ensure that a copy of the phone lists prepared by Business Services is made available in EDMS. When there is an incident, Management will follow the M-SOP Incident Notification Procedure.
- 7.2 For Essential Supplies and Services, the Water Operations Technicians maintain and regularly update the WS-RD Ensuring Adequate Equipment and Materials to Deal with Emergencies (Emergency Contacts List).

Applicable QMS Documents

QMS 08 – Risk Assessment Outcomes

QMS 18-01 Guelph-WDGPH Water Advisory Protocol (SD-104275)

Reference Documents

Cell Phone List (EDMS-124099)

[City of Guelph Emergency Response Plan](#)

M-SOP Incident Notification Procedure (SD-105288)

M-SOP Reporting Adverse Test Results and other problems under O. Reg. 170 and the Ontario Watermain Disinfection Procedure (SD-104353)

Water Services Emergency Response Plan (SD-103112)

Water Services Procedures Folio (EDMS-115498)

WS-RD Ensuring Adequate Equipment and Materials to Deal with Emergencies
(Emergency Contacts List) (SD-000385)

QMS 19 – Internal Audits

Purpose

To document a procedure for Internal Audits that:

- a) evaluates conformity of the QMS with the requirements of the Drinking Water Quality Management Standard (DWQMS) 2.0;
- b) identifies internal audit criteria, frequency, scope, methodology and record-keeping requirements;
- c) considers previous internal and external audit results; and
- d) describes how the QMS corrective actions are identified and initiated.

Procedures

1. Audit Team Structure and Roles

1.1 The audit team roles are as follows:

- a) The QMS Representative is the Lead Auditor and is responsible for overseeing the internal audit process and ensuring qualified auditors conduct internal audits.
- b) Internal Auditor(s) work with the Lead Auditor to prepare for and conduct internal audits.

2. Auditor Qualifications and Selection

2.1 The Lead Auditor and other Internal Auditor(s) must meet the following criteria:

- have knowledge of the Drinking Water Quality Management Standard (DWQMS) and Water Services' Quality Management System (QMS);
- are independent of the work that is going to be audited;
- have the ability to make objective observations and record the results; and
- possess an internal auditing certificate for DWQMS that was obtained by completing a Director Approved course (i.e., a continuing education course approved by the Director of the Ministry).

3. Audit Process

3.1 Audit Frequency

- a) Internal audits must be conducted at least once every calendar year.
- b) Additional audits can be scheduled based on the importance of the process or area, or in response to previous audits results (internal and external).
- c) The Water Services Programs that may be audited are listed in QMS 06-04 Listing of Water Services' Programs.
- d) The Lead Auditor creates an audit plan using the example provided in QMS 19-01 Sample Internal Audit Plan. The Lead Auditor ensures that Internal Auditors do not audit their own work.
- e) The Lead Auditor schedules (at least two weeks in advance) the applicable Water Services or other City employees based on the audit plan. The Lead Auditor also answers any questions the auditees may have about the audit process.
- f) In advance of the internal audit, the Lead Auditor schedules and leads a meeting with the internal audit team to review the elements of the DWQMS, the internal audit plan, as well as past internal and external audit results to ensure that the internal auditors are prepared.

3.2 Audit Criteria and Scope

- a) Each element of the DWQMS should be included in the audit scope. Any DWQMS elements missed from an audit should be included in the next year's audit plan.
- b) Typically, the internal audit focuses on the previous twelve months, or the period since the last internal audit.
- c) The Internal Auditors utilize the applicable checklist, either: QMS 19-02 Internal Audit Summary and Checklist or QMS 19-03 Internal Process Audit Checklist, depending on the auditor's preference. Both checklists use process auditing to identify areas of potential improvement.

3.3 Audit Methodology

- a) The audit should be conducted in accordance with the "Internal Auditing for the DWQMS" course presented by the Walkerton Clean Water Centre.

4. Audit Findings

- 4.1 During the audit, the Internal Auditor(s) complete the checklists (as required) and submits the audit notes made on the Internal Audit Checklists (QMS 19-02 and/or QMS 19-03) to the Lead Auditor for record-filing purposes and to complete the Internal Audit report.
- a) The cover page of QMS 19-02 Internal Audit Summary and Checklist summarizes the audit notes. The identified strengths, staff suggestions, opportunities for improvement and non-conformances are included in the Internal Audit report and presented to Top Management at the Internal Audit Closing Meeting.
- 4.2 After the audit is complete, the Audit Team will participate in an Audit Findings Meeting. During this meeting, the Lead Auditor and the Internal Auditors review the audit findings and ensure they are succinct and comprehensive. This meeting serves to ensure that the audit findings are easily understood by others receiving the findings. At this time, further investigation of the audit findings may be done by the Internal Audit team to ensure their accuracy and conformance to the DWQMS.

5. Internal Audit Report

- 5.1 The Internal Audit Report is prepared by the Lead Auditor and includes:
- a) Section 1.0 – Introduction that includes details from the QMS 19-01 Internal Audit Plan;
- b) Section 2.0 – Audit Findings (positive, non-conformances, opportunities for improvement and/or follow-up items) that are results from QMS 19-02 and/or QMS 19-03 checklists;
- c) Section 3.0 – Conclusions; and
- d) Appendices that include the following: staff suggestions, audit criteria, detailed audit schedule, interview records, interview checklist template, auditor training certificates, glossary and auditor notes.
- 5.2 Once complete, the draft Internal Audit report is sent to the Internal Audit team and Top Management for review. The final report is then presented to Top Management at the Internal Audit Closing Meeting.

- 5.3 After the closing meeting, the Internal Audit Report is sent to the Water Services, Business Services and Compliance and Performance personnel that are identified in QMS 09-01 Organizational Structure. The Quality Management Specialist also provides a copy of the report to the internal auditors and the applicable Guelph/Eramosa Township staff.

6. Audit Records, Follow-up and Review

- 6.1 Instances of non-conformance will undergo a Root Cause Analysis, as per QMS 21 Continual Improvement. Opportunities for improvement and staff suggestions are logged into the Continual Improvement Database for follow-up with the respective Continual Improvement Team Members.
- 6.2 The Lead Auditor ensures that follow-up is carried out by tracking the progress of action items resulting from internal and external audits during the Continual Improvement Meetings.
- 6.3 Completed internal audit reports are filed on EDMS according to QMS 05 Document and Records Control.
- 6.4 The Lead Auditor ensures that future internal audits consider results of previous internal and external audits. During the internal audits, the effectiveness of previous actions items are reviewed with the auditees.
- 6.5 Results from the internal audit are also discussed at Management Review and are presented to the system Owners through the Summary Report.

Applicable QMS Documents

QMS 05 Document and Records Control

QMS 19-01 Sample Internal Audit Plan (SD-000331)

QMS 19-02 Internal Audit Summary and Checklist (SD-000332)

QMS 19-03 Internal Process Audit Checklist (SD-104223)

QMS 20 Management Review

QMS 21 Continual Improvement

Reference Documents

[Drinking Water Quality Management Standard](#)

Internal Audit Plan (SD-103699)

Internal Audit Report (SD-103698)

Annual Report (guelph.ca/water-testing)

Summary Report (guelph.ca/water-testing)

QMS 20 – Management Review

Purpose

To document a procedure for management review that evaluates the continuing suitability, adequacy and effectiveness of the Quality Management System and that includes consideration of:

- 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,
- e) Internal and third-party audit results,
- f) Results of emergency response testing,
- g) Operational performance,
- h) Raw water supply and drinking water quality trends,
- i) Follow-up on action items from previous management reviews,
- j) The status of management action items identified between reviews,
- k) Changes that could affect the Quality Management System,
- l) Consumer feedback,
- m) The resources needed to maintain the Quality Management System,
- n) The results of the infrastructure review,
- o) Operational Plan currency, content and updates, and
- p) Staff suggestions.

Procedures

1. Management Review

- 1.1 Management Review is held at least once every calendar year, lead by the Quality Management Specialist (QMS Rep) to review the overall suitability, adequacy and effectiveness of the QMS with Top Management. All items a) through p) that are documented in the purpose section of this procedure (above) are discussed at Management Review.
- 1.2 The members of Top Management are identified in QMS 09 Organizational Roles, Responsibilities and Authorities.
- 1.3 A quorum of Management Review must include at least four (4) members of Top Management that belong to Water Services as identified in QMS 09-01 Organizational Structure.
- 1.4 The QMS Representative is responsible for:
 - a) Establishing the date for the Management Review meeting,
 - b) Forwarding notification of the meeting to participants,
 - c) Creating and forwarding the agenda and Management Review Information Package for the meeting to the participants,
 - d) Recording the minutes (may assign designate or use video recording), and
 - e) Circulating the minutes to participants.

2. Management Review Input

- 2.1 The Quality Management Specialist (in consultation with Water Services, Business Services and Compliance and Performance personnel, as applicable) collects the information (items a) through p) referred to above) that must be considered by Top Management in Management Review.
- 2.2 Once the necessary information is collected, the Quality Management Specialist consolidates the information into a package (i.e., the Management Review Information Package) and sends it to Top Management for review at least one week prior to the scheduled Management Review meeting.
- 2.3 During the Management Review Meeting, staff who helped provide the information (or their delegates) present their sections and answer any questions that Top Management may have.

3. Management Review Output

- 3.1 Management review outputs, in the form of Management Review meeting minutes, include:
- a) results of management review,
 - b) identification of deficiencies and action items to address deficiencies,
 - c) recording of any decisions and action items related to the management review including the personnel responsible for delivering the action items and the proposed timelines for their implementation,
 - d) reporting the results of the management review, the identified deficiencies and action items to the Owner.
- 3.2 The Quality Management Specialist ensures that the Management Review meeting minutes are appended to the Water Services Summary Report, which is prepared in accordance with Schedule 22, O. Reg.170/03 (Summary reports for municipalities).
- 3.3 Both Owners, the City of Guelph and the Township of Guelph/Eramosa receive the Water Services Summary Report (summarizing management review, other compliance items and other updates) on an annual basis.

Applicable QMS Documents

QMS 05 Document and Records Control

QMS 09 Organizational Roles, Responsibilities and Authorities

QMS 20-01 Management Review Agenda (SD-000355)

Reference Documents

[Water Services Summary Report](#)

QMS 21 – Continual Improvement

Purpose

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To describe the procedure for tracking and measuring continual improvement of the Quality Management System (QMS) and the Drinking Water System (DWS) by:

- a) reviewing and considering applicable best management practices, including any published by the Ministry [when published], available at www.ontario.ca/drinkingwater at least once every thirty-six months;
- b) documenting a process for identification and management of corrective actions; and
- c) documenting a process for identifying and implementing preventative actions to eliminate the occurrence of potential issues of non-compliance or non-conformity to the QMS.

Definitions

Best Management Practices (BMPs) – methods that have been determined to be the most effective and practical means to help achieve the goals of the QMS.

Corrective Action – action taken to eliminate the cause of a detected non-compliance, non-conformity, or other undesirable situation that considers legislative, Drinking Water Quality Management Standard (DWQMS), and other requirements.

Non-Compliance – the failure to adhere to an Act (i.e. Safe Drinking Water Act), or its Regulations.

Non-Conformance – the failure to comply with a requirement of the Drinking Water Quality Management Standard, or a Water Services procedure.

Preventative Action – action taken to eliminate or prevent the cause of a potential non-compliance or non-conformity, or other undesirable situation that considers legislative, DWQMS, and other requirements.

Root-Cause Analysis – a method of problem solving used for identifying the *root causes* of issues of non-compliance, non-conformity, or other problems. The '5-why' technique may be used to determine the root-cause, where the question 'why?' is asked five (or more/less) times, and the answer to the last 'why?' is usually the root cause.

Responsibilities

Water Compliance Specialist/Top Management/Water Operations Technicians
– will notify the Quality Management Specialist of any issues of non-compliance, non-

conformance, and opportunities for improvement as identified by anything listed under "Procedures" section 2.

Continual Improvement Team Members – will work with the Quality Management Specialist to assess and prevent future non-compliance or non-conformities by meeting regularly to discuss the continual improvement items in the Continual Improvement Database.

Manager Water Operations/Supervisors Distribution/Supervisor Water Treatment – will discuss if there have been any issues of non-compliance, non-conformance or opportunities for improvement in their weekly Management Team Meeting and report any issues back to the Quality Management Specialist to log in the Continual Improvement Database.

Quality Management Specialist – will log continual improvement items stemming from issues of non-compliance, non-conformity, audit findings, opportunities for improvement, emergency debriefs, staff suggestions, other undesirable outcomes (e.g., an Adverse Water Quality Incident), etc. into the Continual Improvement Database. The Quality Management Specialist schedules regular meetings or communicates via email or phone with the Continual Improvement Teams to ensure that continual improvement items are addressed and that Water Services is striving to continually improve the effectiveness of the QMS.

Procedures

1. Best Management Practices

- 1.1 The Quality Management Specialist will review and consider applicable Best Management Practices (BMPs) at least once every thirty-six months. This could include:
- a) considering any BMPs [when] published by the Ministry;
 - b) attending the annual DWQMS workshop facilitated by the Walkerton Clean Water Centre, when feasible, to learn any BMPs from other utilities;
 - c) communicating with peers about BMPs through reviewing and contributing to discussions on the Municipal Water Wastewater Regulatory Committee (MWWRC) online forum, as appropriate;
 - d) attending the quarterly MWWRC meeting, when feasible, to discuss any emerging issues and BMPs with other utilities;

- e) discussing best management practices with neighbouring municipalities through attending, when feasible, the quarterly Wellington County Water Wastewater Regulatory Committee meetings; and
 - f) any other means (e.g. manufacturer recommendations, staff suggestions, etc.).
- 1.2 Any best management practices identified through one of the above methods will be added to the Continual Improvement Database by the Quality Management Specialist, under the Issue Source: Best Management Practice.

2. Identifying and Managing Corrective and Preventive Actions

- 2.1 Issues of non-compliance, non-conformance, and opportunities for improvement could be presented through:
- a) Ministry Compliance Inspections
 - b) Adverse Water Quality Incidents (documented as per M-SOP Reporting Adverse Test Results and other problems under O. Reg. 170 and the Ontario Watermain Disinfection Procedure)
 - c) External DWQMS Accreditation Audits
 - d) Internal Audits
 - e) Management Review or Management Update Meetings
 - f) Staff Suggestions (presented verbally, in writing, through audits, etc.)
 - g) Customer Calls (as logged in Water Services' Customer Call Database)
 - h) Actions requiring longer-term projects
 - i) Best Management Practices review
 - j) Debriefs from emergencies, incidents or project completion
 - k) Other means (e.g. near-misses, Water Services' historical or other utilities' non-compliance/non-conformance)
- 2.2 Any issues of non-compliance, non-conformance, or any other major issues, as deemed by the management team, will undergo a root-cause analysis by the Quality Management Specialist and/or the Water Compliance Specialist, along

with the appropriate members of top management and the appropriate staff. All root cause analysis' will be scheduled a minimum of 10 working days after the discovery of a non-compliance, non-conformance or other major issue in order for the appropriate Supervisor/Manager to investigate the incident, if necessary.

2.3 The QMS 21-01 Root Cause Analysis Form will be used to document the root-cause analysis. During the root-cause analysis, the following will be identified:

- a) Name and description of the issue:
- b) Date(s) the issue occurred or approximate timeline:
- c) Type of issue:
 - i. Compliance
 - ii. Conformance
 - iii. Drinking Water System
 - iv. Feedback
- d) Date of the Root Cause Analysis:
- e) Root Cause Analysis team members:
- f) Priority:
 - i. High
 - ii. Medium
 - iii. Low
- g) Immediate Actions/Containment:
- h) Root Cause Analysis:
 - i) Root Cause identified:
 - j) Corrective Action(s):
 - i. Assigned to:
 - ii. Logged in CIR Database?
- k) Preventative Action(s):
 - i. Assigned to:
 - ii. Logged in CIR Database?

- 2.4 Each corrective or preventative action stemming from the root-cause analysis will be inputted into the Continual Improvement Database as a separate Continual Improvement Item and assigned a CIR number, as described below. The on-going status of these items are discussed and documented at the Continual Improvement Team meetings.
- 2.5 Corrective and Preventive actions taken to correct or prevent a non-conformity, non-compliance or other major issue may be reviewed during the internal and external audit processes as well as through spot checks by the Quality Management Specialist or the Water Compliance Specialist.

3. Continual Improvement

- 3.1 Opportunities for continual improvement will be inputted into the Continual Improvement Database by the Quality Management Specialist.
- 3.2 Through regular Continual Improvement Team meetings, the Continual Improvement Team will report on the status of each Active Continual Improvement Item by reviewing open items in the Continual Improvement Database. The Continual Improvement Database will be updated by the Quality Management Specialist based on feedback received by the Continual Improvement Team members.
- 3.3 In the first scheduled Continual Improvement Meetings of the year, the Quality Management Specialist will review any "Pending" items with the appropriate teams to determine if they should be moved to "Active" status, remain in "Pending" or be "Closed".
- 3.4 Twice per year, the Quality Management Specialist will run a report from the Continual Improvement Database of any Active CIRs that are older than 1 year. This report is then sent to the Managers at Water Services for review and follow-up with their staff.

Applicable QMS Documents

QMS 21-01 Root Cause Analysis Form (SD-104278)

Reference Documents

Water Services' Customer Call Database

Water Services' Continual Improvement Database

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Revision History

Version	Date	Nature of Revisions	By
1	2021-09-08	Newly compiled and updated Operational Plan to meet AODA requirements and the new Director's Directions for Operational Plans, dated May 2021. Full details of each individual document that made up previous versions of the Operational Plan are found archived by QMS # in Guelph's Electronic Document Management System.	AM
2	2023-04-25	Reviewed for content accuracy. Added: clarification on name of the operating authority for the systems, current version of the Ministry's Subject Description Form (Schedule C), including updated contact information, new Water Quality Policy statement, definitions (including, Drinking Water Quality Management Standard, Operational Plan, Quality Management System, Consumer), reference documents (including, Director's direction – minimum requirements for operational plans, General Vendor Performance Evaluation form, EQUIS databases), websites for council resolutions for each system owner (previously snippets of council resolution were included respecting endorsement of the Operational Plan), Top Management uses WS-RD Procedure Review Form to approve changes to the Operational Plan, added term intranet site (previously referred to Infonet), hydrogen sulphide to list of naturally occurring water quality issues, additional threats to Eramosa River surface water intake, reference to mapping tool GeoDataHub (previously, GIS), clarification on where responsibilities for each role in the organizational structure can be found, list of Top Management responsibilities, clarification on name of QMS Orientation (previously referred to as new employee orientation); clarification on Overall Responsible Operator (ORO) (which roles are designated as ORO, who has the authority to designate ORO, which subsystems are covered by ORO Water	DM

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		Treatment and ORO Distribution and which regulation applies to designation and duties of ORO), description that personnel that directly affect drinking water quality are identified in QMS 09 – 01 Organizational Structure, regulation that applies to duties of Operator-In-Charge (OIC), clarification on who can retrain contractors to perform operational duties during staff shortages, clarification on the annual mail-out of QMS information to suppliers, description that public can communicate with Water Services via Water Wagon events, Water Services in-stock supplies may be maintained off-site, clarification on vertical infrastructure review process, consistent use of term operating and capital budget forecast, clarification on Variance Reports, reference to new Water Supply Enhanced Sampling Plan, clarification on how sampling, testing and monitoring results are shared between the Operating Authority and Owner, clarification on how contact list is maintained, clarification on how information for Management Review is prepared and communicated, Modified: definitions (document, record), description of how Water Quality Policy is communicated with operating authority personnel, roles to be consistent with roles listed in QMS 09-01 Organizational Structure, description of operational challenges for the distribution system (clarified flushing for watermain dead-ends with appurtenances), description of Water Supply Master (new information added for 2022), description of Source Water Protection, description of minimum competencies required by personnel directly affecting drinking water, description on maintaining competencies for staff that perform duties directly affecting drinking water, frequency of inventory counts by Water Distribution, term used for linear and vertical infrastructure (previously referred to as distribution system and treatment infrastructure, respectively) and minimum number of members of Top Management required for Management review (reflective of updates made to QMS 09-01 Organizational Structure); Removed: definitions (Operator-In-Charge and Overall Responsible Operator), reference to QMS documents	
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		(QMS 08-01 Hazard Identification and Risk Assessment Worksheet, QMS 09-03 Departmental Interactions Diagram for Water Services Programs, QMS 10-05 Meter Installer Training Form, QMS 10-06 Locates Training Form, QMS 12-01 Communications with the Owner), option for public to view copy of Operational Plan and communicate with Water Services at Water Services physical location (a copy of the Operational Plan continues to be available for viewing at Service Guelph and emails/phone calls can be made directly to Water Services), the list of folders that are contained within the Water Services Procedure Folio in EDMS (these folders are subject to change), a select number of roles from Top Management (roles no longer included QMS 09-01 Organizational Structure or not required to be in Top Management), comment that summary of Operational Plan changes are included in the Summary Report (they are provided in revision history of the Operational Plan), the list of primary classifications and retention categories identified in TOMRMS (these continue to be identified in TOMRMS), reference to private water softener treatment systems (not applicable to the quality management system), duplicate section for Paisley Booster Station in system description (already described in Paisley Well and Booster Pumping Station section), use of QMS 10-01 Employee Orientation Form for QMS Orientation (QMS 10-07 On-the-job practical training form is used), comment that training providers notify the Specialist if employees are not in attendance (not applicable), reference to QMS Communications bulletin in the lunchroom (lunchroom will be affected by upcoming construction), reference to faxes (faxes are generally obsolete), list of priority capital projects (the information continues to be available in the operating and capital budget forecast), reference to Watertrax (water quality database continues to be referenced), description of Emergency Operations Centre roles and responsibilities (these continue to be described in Water Services Facility Emergency Response Plan) and the list of fields in the Continual Improvement database (some fields are subject to change).	
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QMS 02-01 – Quality Management System Policy

Document Number: SD-000293

Water Services, the Operating Authority for the Guelph Drinking Water System and the Gazer Mooney Subdivision Distribution System, is committed to maintaining a high level of trust, commitment and accountability by consistently delivering high quality and safe drinking water.

Water Services' Quality Policy states:

Water Services is committed to:

Trusted supply of safe and reliable drinking water for the consumer.

Achieving compliance with applicable legislation and regulations.

Providing necessary resources for the maintenance and continual improvement of the Quality Management System.

By signing below, members of Top Management are documenting their commitment to the Guelph Water Services' Quality Policy.

This document will be updated within six months of changes in Top Management.

Title	Signature	Date
Division Manager, Water Services		
Manager, Water Operations		
Manager, Technical Services Water		
Supervisor, Distribution (Construction)		

QMS 02-01 – Water Quality Policy

SD-000293

Supervisor, Distribution (Programs)		
Supervisor, Water Treatment		
Manager, Business Services		
Manager, Compliance and Performance		

Revision Date: 2023-05-01

Printed documents are uncontrolled. This document can be accessed electronically by searching the title or the document number on Guelph's Electronic Document Management System (EDMS).

QMS 03-01 – Commitment and Endorsement by Top Management

Document Number: SD-000297

The Owners 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). The QMS for the drinking water systems is documented in this Operational Plan. Top Management's endorsement of the Operational Plan and the QMS is provided through the signatures 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 Operating Authority staff are aware of all applicable legislative and regulatory requirements,
- c) Communicating the QMS according to procedures outlined in QMS 12 - Communications, and
- d) Determining, obtaining or providing the resources needed to maintain and continually improve the QMS.

By signing below, members of Top Management at Water Services are documenting their commitment to an effective QMS as stated above and their endorsement of the Operational Plan. This document will be updated within six months of changes in Top Management.

Title	Signature	Date
Division Manager, Water Services		
Manager, Water Operations		
Manager, Technical Services Water		
Supervisor, Distribution		

QMS 03-01 – Commitment and Endorsement by Top Management

SD-000297

(Construction)		
Supervisor, Distribution (Programs)		
Supervisor, Water Treatment		
Manager, Business Services		
Manager, Compliance and Performance		

Revision Date: 2023-05-01

Printed documents are uncontrolled. This document can be accessed electronically by searching the title or the document number on Guelph's Electronic Document Management System (EDMS).

February 12, 2019

Amy Martin
Quality Assurance Coordinator
Water Services, Environmental Services
City of Guelph

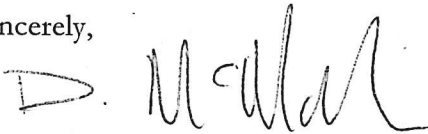
Dear A. Martin,

RE: Water Services Operational Plan Endorsement

At the meeting of Guelph City Council held on January 28, 2019 the following resolution was adopted:

That City Council endorse the Water Services Operational Plan, as required as part of the Ontario Municipal Drinking Water Licencing Program.

Sincerely,



Dylan McMahon, Manager, Legislative Services / Deputy City Clerk
City Clerk's Office, **Corporate Services**
1 Carden St. Guelph, ON. N1H 3A1

T 519-822-1260 x2811
E dylan.mcmahon@gmail.com

File # IDE-2019-11

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Committee of the Whole Meeting Agenda

Monday, January 14, 2019 – 1:30 p.m.
Council Chambers, Guelph City Hall, 1 Carden Street

Please turn off or place on non-audible all electronic devices during the meeting.

Please note that an electronic version of this agenda is available on
guelph.ca/agendas.

Guelph City Council and Committee of the Whole meetings are streamed live on
guelph.ca/live.

Call to Order – Mayor

Disclosure of Pecuniary Interest and General Nature Thereof

Authority to move into Closed Meeting

That the Council of the City of Guelph now hold a meeting that is closed to the public, pursuant to The Municipal Act, to consider:

IDE-2019-12

Water Services Operational Plan Endorsement (Section 8)

Section 239 2(a) of the Municipal Act relating to the security of city property.

IDE-2019-04

Hanlon Creek Business Park Phase I – Updated Development Strategy and Financials

Section 239 2(c) of the Municipal Act relating to a proposed or pending acquisition or disposition of land by the municipality or local board.

Open Meeting - 2:00 p.m.

Mayor in the Chair

Closed Meeting Summary

Staff Recognitions

1. Municipal Law Enforcement Officer Certified Designation
Jennifer Jacobi, Zoning Inspector/Legal Process Coordinator

2. Voting Member of the Radon Mitigation Committee for the Canadian General Standards Board (CGSB), Government of Canada
Appointment of Nicholas Rosenberg, Building Inspector III
 3. Association of Municipal Managers, Clerks and Treasurers of Ontario
Executive Diploma in Municipal Management
Antti Vilkkö, General Manager, Facilities Management
-

Ten-Minute Break for Service Area Change

Consent Agenda – Infrastructure, Development and Enterprise

Chair – Councillor Gibson

The following resolutions have been prepared to facilitate Council's consideration of various matters and are suggested for consideration. If Council wishes to address a specific report in isolation of the Consent Agenda, please identify the item. It will be extracted and dealt with separately as part of the Items for Discussion.

IDE-2019-11

Water Services Operational Plan Endorsement

Recommendation:

That City Council endorse the Water Services Operational Plan, as required as part of the Ontario Municipal Drinking Water Licensing Program.

IDE-2019-03

Farm Barn at 2093 Gordon Street – Proposed Removal from Municipal Register of Cultural Heritage Properties

Recommendation:

That Council approve the removal of all references to 2093 Gordon Street from the Municipal Register of Cultural Heritage Properties as presented in report IDE-2019-03.

IDE-2019-05

Sign By-law Variances – 160 Chancellors Way

Recommendation:

1. That the request for variances from Section 2(2) and Section 7(1)(f) of the City of Guelph Sign By-law (1996)-15245, as amended, to permit one (1) illuminated freestanding sign with a sign face area of .77m² and a height of 1.77m above the adjacent roadway within a 7m by 5m driveway sightline triangle at west driveway of 160 Chancellors Way, be approved.
2. That the request for variances from Section 2(2) and Section 7(1)(f) of the City of Guelph Sign By-law (1996)-15245, as amended, to permit one (1) illuminated freestanding sign with a sign face area 3.79m² (changeable copy of 1.08m²) with a height of 2.6m above the adjacent roadway at 160 Chancellors Way, be approved.

3. That the request for variances from Section 2(2) and Section 7(1)(f) of the City of Guelph Sign By-law (1996)-15245, as amended, to permit one (1) illuminated freestanding sign with a sign face area of .77m² and a height of 1.83m above the adjacent roadway within a 7m by 5m driveway sightline triangle at east driveway of 160 Chancellors Way, be approved.

IDE-2019-06

Sign By-law Variances – 32 Clair Road East

Recommendation:

1. That the request for variances from Table 2, Row 1 of Sign By-law Number (1996)-15245, as amended, to permit one (1) illuminated freestanding with a sign face area of 6.99m² to be located 1m away from an adjacent property line at 32 Clair Road East, be approved.
2. That the request for a variance from Table 1, Row 6 of Sign By-law Number (1996)-15245, as amended, to permit one (1) illuminated building sign with a sign face area of 3.5m² to be located on the first storey of a building face fronting an adjacent property at a distance of .82m from the property line at 32 Clair Road East, be approved.

Items for Discussion – Infrastructure, Development and Enterprise

The following items have been extracted from Consent Agenda and will be considered separately. These items have been extracted either at the request of a member of Council or because they include a presentation and/or delegations.

IDE-2019-01

Comprehensive Zoning Bylaw Review – Project Initiation

Presentation:

Natalie Goss, Project Manager, Comprehensive Zoning Bylaw Review

Recommendation:

That the Comprehensive Zoning Bylaw Review project charter attached to Infrastructure, Development and enterprise Services Report (IDE-2019-01), dated Monday, January 14, 2019 be approved.

IDE-2019-13

Red Light Camera Program Review

Presentation:

Steve Anderson, Supervisor, Traffic Engineering

Recommendation:

1. That staff be directed to formalize a Community Road Safety Program that includes mitigation measures to reduce the likelihood of frequent traffic infractions as well as red light violations and that funding support for this program be referred to in the 2019 budget process.
2. That the City of Guelph not proceed with implementation of the Red Light Camera program at this time.

Bill 66, Restoring Ontario's Competitiveness – City of Guelph Response**Presentation:**

Melissa Bauman, Senior Policy Advisor, Policy and Intergovernmental Relations

Report to be included as part of the consolidated agenda.

Service Area Chair and Staff Announcements

Please provide any announcements, to the Chair in writing, by 12 noon on the day of the Council meeting.

Ten-Minute Break for Service Area Change

Items for Discussion – Public Services**Chair – Councillor Hofland**

The following items have been extracted from Consent Agenda and will be considered separately. These items have been extracted either at the request of a member of Council or because they include a presentation and/or delegations.

PS-2019-01**Parkland Dedication By-law Review****Presentation:**

Luke Jefferson, Manager, Open Space Planning
Jyoti Pathak, Park Planner

Correspondence:

Susan Watson

Recommendation:

That Council approve the proposed parkland dedication bylaw included as ATT-1 to Report # PS-2019-01 dated January 14, 2019.

Service Area Chair and Staff Announcements

Please provide any announcements, to the Chair in writing, by 12 noon on the day of the Council meeting.

Adjournment

Staff Report

To **Committee of the Whole**

Service Area Infrastructure, Development and Enterprise Services

Date Monday, January 14, 2019

Subject **Water Services Operational Plan Endorsement**

Report Number IDE-2019-11

Recommendation

That City Council endorse the Water Services Operational Plan, as required as part of the Ontario Municipal Drinking Water Licencing Program.

Executive Summary

Purpose of Report

To obtain Council's endorsement of the Water Services' Operational Plan (OP), as required under the *Safe Drinking Water Act (2002)*. The OP is the written documentation that confirms that the Water Services' quality management system meets the requirements of the Drinking Water Quality Management Standard (DWQMS), which is legislated to be completed under the *Safe Drinking Water Act*.

The OP is a document that provides an understanding of the drinking water systems, the responsibilities of both the Owner and the Operating Authority of the systems, and a commitment to the provision of safe drinking water. The OP enables the City of Guelph to continue to plan, implement, check, and continually improve its systems, thereby ensuring ongoing confidence and security in the drinking water systems.

The OP was first endorsed by Council in 2009 and requires periodic re-endorsement within one year of appointment of each new term of council, when significant changes to the OP have been made, or when renewing the Municipal Drinking Water Licence.

Key Findings

Water Services as an operating authority has been accredited to the DWQMS since 2009. Accreditation is the verification by a third-party accreditation body that an operating authority has a quality management system in place that meets the requirements of the DWQMS as required by the *Safe Drinking Water Act*. By achieving and maintaining accreditation, Water Services has demonstrated that they have an effective drinking water quality management system and are committed to the provision of safe drinking water, sound operational practices, and

continual improvement of the programs and processes that affect the drinking water system.

Financial Implications

All financial implications related to developing and implementing the Operational Plan are accounted for in the Council approved 2018 and proposed 2019 Water Services Non Tax Operating and Capital Budgets as well as the 2014 Water and Wastewater Long-Range Financial Plan. This Financial Plan is currently being updated and will be presented to council for endorsement in March 2019.

Report

In response to Justice O'Connor's recommendations made in the **Report of the Walkerton Inquiry** in 2002, the Municipal Drinking Water Licensing (MDWL) Program was established under the *Safe Drinking Water Act (2002)*. The Municipal Drinking Water Licence (MDWL) is an approval to operate a municipal drinking water system. All municipal residential systems must be licensed under the Municipal Drinking Water Licensing Program. Licences are valid for 5 years as long as Water Services:

- Maintains their status as an accredited operating authority to the Drinking Water Quality Management Standard (DWQMS), including having the operational plan endorsed by municipal council,
- Prepares a financial plan and has it approved by municipal council,
- Has valid permits to take water, and
- Operates the drinking water system according to the conditions in the licence.

Water Services' is currently in the process of renewing their Municipal Drinking Water Licence, which expires on August 17, 2019.

As one aspect of the MDWLP, Operating Authorities must be accredited to the Drinking Water Quality Management Standard (DWQMS), version 2.0. The DWQMS was released in 2006 and updated in 2017 and is the standard upon which drinking water system operational plans are developed and operating authorities are accredited. It is legislated under the *Safe Drinking Water Act (2002)*. The requirements of the DWQMS, when implemented, assist owners and operators of municipal drinking water systems to develop sound operational procedures and controls.

The DWQMS approach emphasizes the importance of:

- A proactive and preventative approach to management strategies that identify and manage risks to public health,
- Establishing and documenting management procedures,
- Clearly identifying roles and responsibilities,
- Continual improvement of the management system.

The Operational Plan is made up of 21 sections that mirror the 21 Elements of the DWQMS. The 21 DWQMS Elements are:

1. Quality Management System

2. Quality Management System Policy
3. Commitment and Endorsement
4. QMS Representative
5. Document and Records Control
6. Drinking Water System
7. Risk Assessment
8. Risk Assessment Outcome (included in the closed council report)
9. Organizational Structure, Roles, Responsibilities and Authorities
10. Competencies
11. Personnel Coverage
12. Communications
13. Essential Supplies and Services
14. Review and Provision of Infrastructure
15. Infrastructure Maintenance, Rehabilitation and Renewal
16. Sampling, Testing and Monitoring
17. Measurement and Recording Equipment Calibration and Maintenance
18. Emergency Management
19. Internal Audits
20. Management Review
21. Continual Improvement

Water Services' Operational Plan is the written documentation of the quality management system developed to meet the requirements of the Drinking Water Quality Management Standard (DWQMS). The operating authority (Water Services) must receive the owner's (City Council) written endorsement of the drinking water system's operational plan as part of the Municipal Drinking Water Licence Renewal Program within one year of a new council or in cases where there have been significant updates to the Operational Plan.

Financial Implications

All financial implications related to development and implementation of the Operational Plan are accounted for in the Council approved 2018 Water Services Non Tax Operating and Capital Budgets and the 2014 Water and Wastewater Long-Range Financial Plan. The Water and Wastewater Long-Range Financial Plan is currently being updated and will be presented to council for endorsement in March 2019.

Consultations

Collaboration and feedback from Water Services staff (Water Services' senior management, supervisors, compliance, conformance, technicians, coordinators and operators) was requested on the contents of the Operational Plan. Corporate Communications and Engineering staff were also consulted. Their comments and feedback have been incorporated into the Operational Plan.

Corporate Administrative Plan

Overarching Goals

Service Excellence

Service Area Operational Work Plans

Our Services - Municipal services that make lives better

Our People- Building a great community together

Our Resources - A solid foundation for a growing city

Attachments

ATT-1 <https://guelph.ca/wp-content/uploads/Guelph-Water-Services-Operational-Plan.pdf>

Departmental Approval

Wayne Galliher

Division Manager, Water Services

Report Author

Amy Martin

Quality Management Specialist, Water Services



Approved By

Peter Busatto

General Manager

Environmental Services

519-822-1260, ext. 3430

peter.busatto@guelph.ca



Recommended By

Scott Stewart, C.E.T.

Deputy CAO

Infrastructure, Development and Enterprise

519-822-1260, ext. 3445

scott.stewart@guelph.ca

I hereby certify the above copy to be a true copy of

Jan 28, 2019 Council Minutes

of the City of Guelph.

IN TESTIMONY WHEREOF are hereunto set the seal
of The Corporation of the City of Guelph and the
hand of the Deputy Clerk of the said Corporation
this 7 day of February, 2019



Minutes of Guelph City Council
Held in the Council Chambers, Guelph City Hall on
January 28, 2019 at 5:00 p.m.

Attendance

Council: Mayor C. Guthrie
Councillor P. Allt
Councillor B. Bell
Councillor C. Billings
Councillor C. Downer
Councillor D. Gibson
Councillor J. Gordon
Councillor J. Hofland
Councillor M. MacKinnon
Councillor D. O'Rourke
Councillor M. Salisbury

Absent: Councillor R. Goller
Councillor L. Piper

Staff: Mr. C. Cooper, General Manager, Legal, Realty and Court Services/City Solicitor
Mr. S. O'Brien, City Clerk
Ms. D. Black, Council and Committee Coordinator

Call to Order (5:04 p.m.)

Mayor Guthrie called the meeting to order.

Authority to Resolve into a Closed Meeting of Council

1. Moved by Councillor O'Rourke
Seconded by Councillor Hofland

That Council of the City of Guelph now hold a meeting that is closed to the public, pursuant to Section 239 (2) (b),(d), (e) and (f) of the Municipal Act with respect to personal matters about an identifiable individual, including municipal or local board employees; labour relations or employee negotiations; litigation or potential litigation, including matters before administrative tribunals affecting the municipality or local board; and advice that is subject to solicitor client privilege, including communications necessary for that purpose.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O' Rourke and Salisbury (11)

Voting Against: (0)

Carried

Closed Meeting (5:06 p.m.)

Disclosure of Pecuniary Interest and General Nature Thereof

There were no disclosures.

The following matters were considered:

Minutes – Council as Striking Committee Closed Session December 10, 2018, Council Closed Session December 17, 2018 and Committee of the Whole Closed Session January 14, 2019

Chief Administrative Officer Contract

CS-2019-34 2019-2022 Public Appointments to the Downtown Guelph Business Association Board of Management

CS-2019-35 Downtown Zoning By-law LPAT Appeal - Update

Rise and recess from Closed Meeting (6:07 p.m.)

Open Meeting (6:32 p.m.)

Mayor Guthrie called the meeting to order.

Attendance

Council:	Mayor C. Guthrie	Councillor J. Gordon
	Councillor P. Allt	Councillor J. Hofland
	Councillor B. Bell	Councillor M. MacKinnon
	Councillor C. Billings	Councillor D. O'Rourke
	Councillor C. Downer	Councillor L. Piper
	Councillor D. Gibson	Councillor M. Salisbury

Absent: Councillor R. Goller

Staff:

- Mr. D. Thomson, Chief Administrative Officer
- Ms. C. Clack, Deputy CAO Public Services
- Mr. T. Lee, Deputy CAO Corporate Services
- Mr. S. Stewart, Deputy CAO Infrastructure, Development and Enterprise Services
- Mr. C. Cooper, General Manager, Legal, Realty and Court Services/City Solicitor
- Mr. T. Salter, General Manager, Planning and Building Services
- Mr. C. DeVriendt, Manager, Development Planning
- Ms. M. Aldunate, Manager, Policy Planning and Urban Design
- Ms. H. Flaherty, General Manager, Parks and Recreation
- Ms. K. Dedman, General Manager, Engineering and Transportation, City Engineer
- Ms. K. Nasswetter, Senior Development Planner
- Ms. L. Sulatycki, Senior Development Planner
- Mr. S. O'Brien, City Clerk
- Ms. D. Black, Council and Committee Coordinator

Closed Meeting Summary

Mayor Guthrie spoke regarding the matters addressed in closed and identified the following:

Minutes – Council as Striking Committee Closed Session December 10, 2018, Council Closed Session December 17, 2018 and Committee of the Whole Closed Session January 14, 2019
These minutes were adopted by Council.

Chief Administrative Officer Contract

Mayor Guthrie, along with external legal counsel, were given direction.

CS-2019-34 2019-2022 Public Appointments to the Downtown Guelph Business Association Board of Management

Motions will be introduced as part of the open meeting report on this item.

CS-2019-35 Downtown Zoning By-law LPAT Appeal - Update

Staff were given direction.

Disclosure of Pecuniary Interest and General Nature Thereof

There were no disclosures.

Mayor's Announcements:

The Mayor announced that the City is currently advertising vacancies on various advisory committees requiring public appointments and provided details about obtaining further information or applying.

Confirmation of Minutes

2. Moved by Councillor Billings
Seconded by Councillor Hofland

That the minutes of the Council Meetings held December 3, 5, 6, 10, 12 and 13, 2018 and January 10, 2019, the Council as Striking Committee meeting held December 10, 2018, the open Council and Council as Shareholder of Guelph Municipal Holdings Inc. meeting held December 17, 2018, and the Committee of the Whole meeting held January 14, 2019 be confirmed as recorded and without being read.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O' Rourke, Piper and Salisbury (12)

Voting Against: (0)

Carried

Committee of the Whole and Council Consent Agenda

3. Moved by Councillor Downer
Seconded by Councillor O'Rourke

That the January 28, 2019 Committee of the Whole and Council Consent Agenda as identified below, be adopted:

IDE-2019-11**Water Services Operational Plan Endorsement**

That City Council endorse the Water Services Operational Plan, as required as part of the Ontario Municipal Drinking Water Licencing Program.

IDE-2019-05**Sign By-law Variances – 160 Chancellors Way**

1. That the request for variances from Section 2(2) and Section 7(1)(f) of the City of Guelph Sign By-law (1996)-15245, as amended, to permit one (1) illuminated freestanding sign with a sign face area of .77m² and a height of 1.77m above the adjacent roadway within a 7m by 5m driveway sightline triangle at west driveway of 160 Chancellors Way, be approved.
2. That the request for variances from Section 2(2) and Section 7(1)(f) of the City of Guelph Sign By-law (1996)-15245, as amended, to permit one (1) illuminated freestanding sign with a sign face area 3.79m² (changeable copy of 1.08m²) with a height of 2.6m above the adjacent roadway at 160 Chancellors Way, be approved.
3. That the request for variances from Section 2(2) and Section 7(1)(f) of the City of Guelph Sign By-law (1996)-15245, as amended, to permit one (1) illuminated freestanding sign with a sign face area of .77m² and a height of 1.83m above the adjacent roadway within a 7m by 5m driveway sightline triangle at east driveway of 160 Chancellors Way, be approved.

IDE-2019-06**Sign By-law Variances – 32 Clair Road East**

1. That the request for variances from Table 2, Row 1 of Sign By-law Number (1996)-15245, as amended, to permit one (1) illuminated freestanding with a sign face area of 6.99m² to be located 1m away from an adjacent property line at 32 Clair Road East, be approved.
2. That the request for a variance from Table 1, Row 6 of Sign By-law Number (1996)-15245, as amended, to permit one (1) illuminated building sign with a sign face area of 3.5m² to be located on the first storey of a building face fronting an adjacent property at a distance of .82m from the property line at 32 Clair Road East, be approved.

CAO-2019-05**Bill 66, Restoring Ontario's Competitiveness Act, City of Guelph Response**

1. That Report CAO-2019-05 dated January 14, 2019 regarding Bill 66, Restoring Ontario's Competitiveness Act be received.
2. That the City of Guelph identifies it will not support the Proposed Amendments to the Planning Act as set out in Bill 66, Restoring Ontario's Competitiveness Act, based on the information currently available and the perceived threat to the City's drinking water.

3. That Committee of the Whole recommends the province remove from the proposed Bill 66 amendments to the Planning Act in regards to exemptions from water quality and quantity protection under the Clean Water Act, 2006 and that all relevant sections of the Clean Water Act continue to apply to all municipal development applications.
4. That the response prepared by staff, dated January 9, 2019, included in Attachment 1, as amended, be endorsed and submitted to the Ministry of Economic Development, Job Creation and Trade and the Ministry of Municipal Affairs and Housing for consideration.
5. That the comments received by City of Guelph residents and stakeholders received and/or presented at the Council meeting be forwarded to the Province of Ontario for consideration.
6. That the City request to meet with provincial staff to further discuss the City of Guelph's comments regarding Bill 66 and become a partner in any further review and amendments of the Bill.
7. That the province engage in a formal consultation with municipalities and hold a public consultation in Guelph on potential changes to the Act.

IDE-2019-07

Grant Applications for Baker District Redevelopment

1. That staff be directed to work with Windmill Development Group Ltd. and their affiliates to develop a sustainable neighbourhood action plan (SNAP) for the Baker District Redevelopment that will outline the project's sustainability goals, specific targets, actions, and an implementation and monitoring strategy.
2. That \$40,000 be allocated for the implementation of the SNAP for the Baker District Redevelopment to be funded from the \$500,000 capital budget approved by Council at the July 16 2018 special Council meeting for the purposes of advancing the Baker District planning and implementation process as set out in report IDE-2018-106.
3. That staff be directed to work with Windmill Development Group Ltd. and their affiliates to apply for grant funding from the Federation of Canadian Municipalities' (FCM) Green Municipal Fund (GMF) to offset the costs to develop and implement the SNAP for the Baker District.
4. That staff be directed to work with Windmill Developments and their affiliates to explore and apply for any additional grants or incentives applicable to any part of the Baker District Redevelopment and report back to Council with how any funding received would be applied towards the project.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (12)

Voting Against: (0)

Carried

Items for Discussion

IDE-2019-03 Farm Barn at 2093 Gordon Street – Proposed Removal from Municipal Register of Cultural Heritage Properties

4. Moved by Councillor Billings
 Seconded by Councillor Gibson

That Council approve the removal of all references to 2093 Gordon Street from the Municipal Register of Cultural Heritage Properties as presented in Report IDE-2019-03.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Hofland, MacKinnon and O'Rourke (9)

Voting Against: Councillors Gordon, Piper and Salisbury (3)

Carried

IDE-2019-01 Comprehensive Zoning Bylaw Review – Project Initiation

5. Moved by Councillor Bell
 Seconded by Councillor O'Rourke

That the word "boardwalk" be inserted in the definition of exceptions of structures within Section 3, page 21 of the Zoning by-law.

Point of Order

Councillor Downer raised a point of order regarding whether the motion was related to the actual Zoning by-law that will eventually come forward and not the comprehensive zoning by-law review – project initiation report. Mayor Guthrie ruled the motion was not in order.

6. Moved by Councillor Piper
 Seconded by Councillor Hofland

That the Comprehensive Zoning Bylaw Review project charter attached to Infrastructure, Development and Enterprise Services Report (IDE-2019-01), dated Monday, January 14, 2019 be approved.

Voting in Favour: Mayor Guthrie, Councillors Allt, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (11)

Voting Against: Councillor Bell (1)

Carried

Special Resolutions

CS-2019-34

2019-2022 Public Appointments to the Downtown Guelph Business Association Board of Management

7. Moved by Councillor Piper
Seconded by Councillor Gibson
1. That Greg Elliott, Tom Lammer, Will Mactaggart, Chris Ahlers and Doug Minett be reappointed to the Downtown Guelph Business Association Board of Management for a four year term ending November 30, 2022 or until such time as a successor is appointed.
 2. That Bernie Dyer, Kristel Manes, Ian Panabaker, Kevin Polach and Heather Watt-Kapitain be appointed to the Downtown Guelph Business Association Board of Management for a four-year term ending November 30, 2022 or until such time as a successor is appointed.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (12)

Voting Against: (0)

Carried

Planning Public Meeting

IDE-2019-14

Statutory Public Meeting Report 190, 202, 210 and 216 Arkell Road Proposed Draft Plan of Subdivision and Zoning By-law Amendment

Katie Nasswetter, Senior Development Planner, advised the applicant is requesting to change the current "Agriculture" zone to a combined specialized "Cluster Townhouse" and "On-street Townhouse" zone with a "wetland" zone and Conservation Land zones. She also explained the request for a specialized regulation to reduce the minimum lot frontage from the current minimum of 6 meters to 4.6 meters. She also outlined the proposed development.

Dave Aston, on behalf of Crescent Haven Homes, provided an overview of the site and explained the layout and connectivity issues. He noted the existing single detached home would be demolished and they are proposing the wetland area and stormwater management pond would be under public ownership. He addressed the reasons for the reduction of the amenity areas and reduction in the minimum lot frontage.

8. Moved by Councillor Gibson
Seconded by Councillor Allt

That Report IDE-2019-14 regarding proposed Draft Plan of Subdivision and Zoning By-law Amendment applications (File: OZS18-008) by MHBC Planning Limited on behalf of the owner, Crescent Haven Homes, to permit a medium density residential develop on the lands municipally known as 190, 202, 210 and 216 Arkell Road and legally described as Part Lot 6, Concession 8 and Part South ½ of Rear Part of Lot 6, Concession 8 (Geographic Township of Puslinch), City of Guelph, from Infrastructure, Development and Enterprise dated January 28, 2019, be received.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (12)

Voting Against: (0)

Carried

IDE-2019-10

Decision Report 120-122 Huron Street Zoning By-law Amendment File: ZC1709 Ward 1

Katie Nasswetter, Senior Development Planner, advised the applicant is requesting a zone change from the current Specialized Industrial zoning to Specialized Apartment Residential and Cluster Townhouse zoning. She addressed the specialized regulations being requested for the proposal.

Chris Pidgeon, on behalf of 120 Huron GP Inc. advised the property has been fully remediated. He outlined the sustainability of the proposal, the layout of the site plan and explained the reasons for the various site specific specialized regulations.

Susan Watson recommended the City take the 104 Oliver Street parkland conveyance because the property could be used for parkland or sold and the funds used for future parks. She raised questions regarding the appraisal and valuation process.

Joan Fenlon, inquired about traffic studies and raised concerns about the increase in traffic impacts. She requested traffic calming measures and addressed snow removal, leaf pickup and on-street parking. She suggested the City obtain the Oliver Street parcel for park purposes and provided some ideas for the park.

9. Moved by Councillor Bell
Seconded by Councillor Allt

1. That the application by GSP Group Inc. on behalf of 120 Huron GP Inc. to permit a residential development on the property municipally known as 120-122 Huron Street and legally described as Part of Lots 1 & 2, Range 2, Division F, City of Guelph and Part 1 of 61R-4274, for approval of a Zoning By-law Amendment application to change the zoning on the site from the "B.4-1" (Specialized Industrial) Zone to a R.4A-? (Specialized Residential Apartment) Zone and R.3A-? (Specialized Cluster Townhouse) Zone, to permit the redevelopment of an existing four storey industrial building into an 87 unit apartment building and the development of 59 cluster

townhouses, be approved in accordance with the zoning regulations and conditions in ATT-3 of the Infrastructure, Development and Enterprise Report 2019-10 dated January 28, 2019.

2. That in accordance with Section 34(17) of the Planning Act, City Council has determined that no further public notice is required related to the minor modifications to the proposed Zoning By-law Amendment affecting 120-122 Huron Street

Councillor Gordon declared a pecuniary interest at this point because he lives on Oliver Street outside of the circulation area and his property value could be affected by the decision. Councillor Gordon left the meeting during the remainder of the deliberations and did not discuss or vote on the matter.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (11)

Voting Against: (0)

Carried

Motion

10. Moved by Councillor Bell
Seconded by Councillor Gibson

That traffic calming issues on Manitoba and Oliver Streets, be referred to the Infrastructure Development and Enterprise Services portion of an upcoming Committee of the Whole for discussion.

Amendment

11. Moved by Councillor Piper
Seconded by Councillor Downer

That traffic calming on Oliver Street, Huron Street and Manitoba Street be referred to the **City's traffic calming review process**.

Amendment to the Amendment

12. Moved by Councillor Piper
Seconded by Councillor Downer

That **post-development** be added to the amendment regarding the traffic calming on Oliver Street.

Point of Order

Councillor Allt raised a point of order and questioned whether the amendments were contrary to the original motion. The Mayor ruled that the amendments were in order and called the vote.

Voting in Favour: Mayor Guthrie, Councillors Billings, Downer, O'Rourke, Piper and Salisbury (6)

Voting Against: Councillors Allt, Bell, Gibson, Hofland and MacKinnon (5)

Carried

Amendment as Amended

13. Moved by Councillor Piper
Seconded by Councillor Downer

That traffic calming on Oliver Street, Huron Street and Manitoba Street be referred to the **City's traffic calming review process post development.**

Voting in Favour: Mayor Guthrie, Councillors Downer, O'Rourke, Piper and Salisbury (5)

Voting Against: Councillors Allt, Bell, Billings, Gibson, Hofland and MacKinnon (6)

Defeated

Main Motion

14. Moved by Councillor Bell
Seconded by Councillor Gibson

That traffic calming issues on Manitoba and Oliver Streets, be referred to the Infrastructure Development and Enterprise Services portion of Committee of the Whole for discussion.

Voting in Favour: Councillors Bell, Billings and Gibson (3)

Voting Against: Mayor Guthrie, Councillors Allt, Downer, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (8)

Defeated

The meeting recessed at 8:39 p.m. and reconvened at 8:50 p.m.

IDE-2019-08

Supplementary Decision Report

89 Beechwood Avenue

Zoning By-law Amendment File: ZC1706 Ward 3

Lindsay Sulatycki provided a history of the application process to date and highlighted the changes to the application from the original plans and noted a traffic study was submitted as requested at the public meeting on this matter.

Dave Aston, on behalf of Granite Homes, believes the applicant has addressed numerous issues and provided clarification of how they improved the views and improved sight lines.

Sheila Hollidge addressed the loss of park space, recreational and social programming, street profile, park amenities and parking for the playground. She suggested there should be a maximum of 17 units and stated the neighbours do not see the community benefit of the proposal.

Byron Cunningham raised the concern that the reduced parkland frontage on Beechwood Avenue will not provide proper visibility and will appear to be part of the development and not public space. He recommended a maximum of 17 units and questioned the decision regarding accepting cash-in-lieu rather than parkland. He also raised issues regarding the lack of a park master plan, restorative planting, park upgrades and the lack of integration between the park and the proposed development.

Sally Humphries, raised concerns regarding the process and believes it has not followed proper procedure. She questioned the density level, mass and footprint and requested a reduction. She also raised issues about the peripheral design, privacy and protection of the surrounding natural habitat.

Natalia Crewson summarized the key issues for the neighbourhood including loss of community benefit, loss of parkland, and a need for confidence in the partnership.

Nick Wilson raised the issue of the loss of community events in the park that may occur due to the reduction of the open space.

Ben Robinson raised concerns regarding the reduction of park frontage and the potential for increased security issues.

15. Moved by Councillor MacKinnon
Seconded by Councillor Billings

1. That the application by MHBC Planning on behalf of the owner, 89 Beechwood Inc. to permit a residential townhouse development on the property municipally known as 89 Beechwood Avenue and legally described as Part of Lot 21, Concession Division 'A', Guelph Township as in Cs61764, City of Guelph, for approval of a Zoning By-law Amendment application to change the zoning on the site from the "Commercial Recreation Park" (P.5) Zone to a "Specialized Residential Townhouse with Holding Provisions" (R.3A-62(H)) Zone to permit the development of 22 residential townhouse units and to a "Specialized Community Park" (P.3-3) Zone, to recognize a portion of the existing City trail be approved in accordance with the zoning regulations and conditions in ATT-3 of the Infrastructure, Development and Enterprise Report IDE-2019-08 dated January 28, 2019.
2. That in accordance with Section 34(17) of the Planning Act, City Council has determined that no further public notice is required related to the minor modifications to the proposed Zoning By-law Amendment affecting 89 Beechwood Avenue.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (12)

Voting Against: (0)

Carried

The following individuals spoke to this matter:

Ilona Dobos
Anne Gajerski-Cauley
Susan Watson
Jennifer Meador
John Parkyn
Tanya Gevaert
Catherine Killen
Diane Hurst
Pia Muchaal
Alicia Miecznikowski
Morgan Hannah
Scott Hannah
Matt Saunders
Alex Smith
Hugh Whiteley
Cynthia Bragg
Christine Main
Stank Kozak
Mike Marcolongo
Ian Panabaker

Maya LaRose, Lise Burcher and Matt Soltys were not in attendance and did not speak.

Extension of Meeting Per Procedural By-law

16. Moved by Councillor Gibson
Seconded by Councillor MacKinnon

That Section 4.13 (a) and (b) of the Procedural By-law be invoked to allow Council to continue to 11:59 p.m.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (12)

Voting Against: (0)

Carried

Suspending the Procedural By-law

17. Moved by Councillor MacKinnon
Seconded by Councillor O'Rourke

That the Procedural By-law be suspended to allow Council to continue beyond 12:00 a.m.

Voting in Favour: Mayor Guthrie, Councillors Bell, Billings, Downer, Gibson, Gordon, MacKinnon, O'Rourke, and Piper (9)

Voting Against: Councillors Allt, Hofland and Salisbury (3)

Carried

Motion

18. Moved by Councillor Gordon
Second by Councillor O'Rourke

1. That Council approve the proposed parkland dedication by-law as shown in ATT-1 to report number PS-2019-01, and as amended, to apply a cap for the conveyance of land or cash-in-lieu of land, of 30 percent of the total development land or equivalent market value of the development land for high density residential development where 100 dwelling units or more per hectare is proposed, save and except any provision referencing the "Downtown".
2. That an interim report be provided to Council in two years for consideration.

Amendment

19. Moved by Councillor Hofland
Seconded by Councillor Billings

That staff amend the proposed parkland dedication by-law as shown in ATT-1 to report number PS-2019-01, as amended, to add a subsection #33 – Exemptions from General Requirements as follows:

'Development or redevelopment of land that consists solely of the enlargement of an existing single detached or semi-detached dwelling unit provided that the enlargement does not result in an additional dwelling unit.'

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (12)

Voting Against: (0)

Carried

Amendment

20. Moved by Councillor Billings
Seconded by Councillor Gibson

That the following language be added to the end of Section 24 of the Parkland Dedication by-law:

'Subsections 43 (10), (11), (12), and (13) of the Planning Act shall govern any dispute that arises out of application of this section.'

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (12)

Voting Against: (0)

Carried

Amendment

21. Moved by Councillor Billings
Seconded by Councillor MacKinnon

That the following language be added to subsection 20(c) of the Parkland Dedication by-law after the words "the City shall obtain its own appraisal" 'at the City's sole expense'.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (12)

Voting Against: (0)

Carried

Main Motion as Amended

22. Moved by Councillor Gordon
Seconded by Councillor O'Rourke

1. That Council approve the proposed parkland dedication by-law as shown in ATT-1 to report number PS-2019-01, and as amended, to apply a cap for the conveyance of land or cash-in-lieu of land, of 30 percent of the total development land or equivalent market value of the development land for high density residential development where 100 dwelling units or more per hectare is proposed, save and except any provision referencing the "Downtown".
2. That an interim report be provided to Council in two years for consideration.
3. That staff amend the proposed parkland dedication by-law as shown in ATT-1 to report number PS-2019-01, as amended, to add a subsection #33 – Exemptions from General Requirements as follows:
'Development or redevelopment of land that consists solely of the enlargement of an existing single detached or semi-detached dwelling unit provided that the enlargement does not result in an additional dwelling unit.'
4. That the following language be added to the end of Section 24 of the Parkland Dedication by-law:
'Subsections 43 (10), (11), (12), and (13) of the Planning Act shall govern any dispute that arises out of application of this section.'
5. That the following language be added to subsection 20(c) of the Parkland Dedication by-law after the words "the City shall obtain its own appraisal" 'at the City's sole expense'.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (12)

Voting Against: (0)

Carried

CS-2019-32**2019-2022 Council Appointments to the Grand River Conservation Authority Board of Directors and Business Licence Appeals Committee**

23. Moved by Councillor Gibson
Seconded by Councillor Allt

That Councillor Mike Salisbury's appointment to the Grand River Conservation Authority Board of Directors be revoked.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (12)

Voting Against: (0)

Carried

24. Moved by Councillor Allt
Seconded by Councillor Bell

That Councillor Goller be appointed to the Grand River Conservation Authority for a term ending November 15, 2022.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (12)

Voting Against: (0)

Carried

25. Moved by Councillor Hofland
Seconded by Councillor Gordon

That Councillors Downer, MacKinnon, O'Rourke, Piper and Salisbury be appointed to the Business Licence Appeals Committee for a term ending November 15, 2022.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (12)

Voting Against: (0)

Carried

IDE-2019-13**Red Light Camera Program Review**

26. Moved by Councillor Piper
Seconded by Councillor Downer

1. That staff be directed to explore a Community Road Safety Strategy that includes mitigation measures to reduce the likelihood of frequent traffic infractions as well as red light violations and that funding support for this strategy be referred to in the 2019 budget process.
2. That Staff be directed to implement a Red Light Camera (RLC) Program and bring forward funding requirements in the appropriate budget years to ensure that the program would come into effect in 2022.

A request was made to vote on the clauses separately.

Clause 1

27. Moved by Councillor Piper
Seconded by Councillor Downer

That staff be directed to explore a Community Road Safety Strategy that includes mitigation measures to reduce the likelihood of frequent traffic infractions as well as red light violations and that funding support for this strategy be referred to in the 2019 budget process.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (12)

Voting Against: (0)

Carried

Clause 2

28. Moved by Councillor Piper
Seconded by Councillor Downer

That Staff be directed to implement a Red Light Camera (RLC) Program and bring forward funding requirements in the appropriate budget years to ensure that the program would come into effect in 2022.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Downer, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (10)

Voting Against: Councillors Billings and Gibson (2)

Carried

By-laws

29. Moved by Councillor Downer
Seconded by Councillor Piper

That By-laws Numbered (2019)-20358 to (2019)-20366, as amended, and (2019)-20367 to (2019)-20370, inclusive, are hereby passed.

Voting in Favour: Mayor Guthrie, Councillors Allt, Bell, Billings, Downer, Gibson, Gordon, Hofland, MacKinnon, O'Rourke, Piper and Salisbury (12)

Voting Against: (0)

Carried

Mayor's Announcements

The Mayor thanked Council and Staff and

Adjournment (12:37 a.m.)

30. Moved by Councillor Allt
Seconded by Councillor Piper

That the meeting be adjourned.

Carried

Minutes to be confirmed on Monday, February 25, 2019.

Mayor Guthrie

Stephen O'Brien - City Clerk

THE CORPORATION OF THE TOWNSHIP OF GUELPH/ERAMOSA

Moved by:

Date: Monday, September 16, 2019

Seconded by:

Resolution Number 2019-09-16 - 8.3

8.3

Be it resolved that the Council of the Township of Guelph/Eramosa has received Water Waste Water Department Report 19/05 regarding the Operational Plan Re-endorsement for Guelph/Eramosa and the Gazer Mooney Subdivision; and

That Council, as the Owner of the Township of Guelph Eramosa's drinking water systems, re-endorse the Operating Authorities' (Township's Public Works Water/Wastewater Department and City of Guelph Waterworks) drinking Water Quality Management System (DWQMS) Operational Plans, subject to the satisfaction of the Director of Public Works.

Recorded Vote Requested By:

	Yea	Nay
BOUWMEESTER, M.	___	___
DICKIESON, B.	___	___
MARSHALL, L.	___	___
WOODS, C.	___	___
WHITE, C.	___	___

MAYOR

Tabled ___ Lost ___ Carried ___

Declaration of Pecuniary Interest:

Disclosed his/her/their interest(s),
vacated his/her/their seat(s), abstained
from discussion and did not vote.

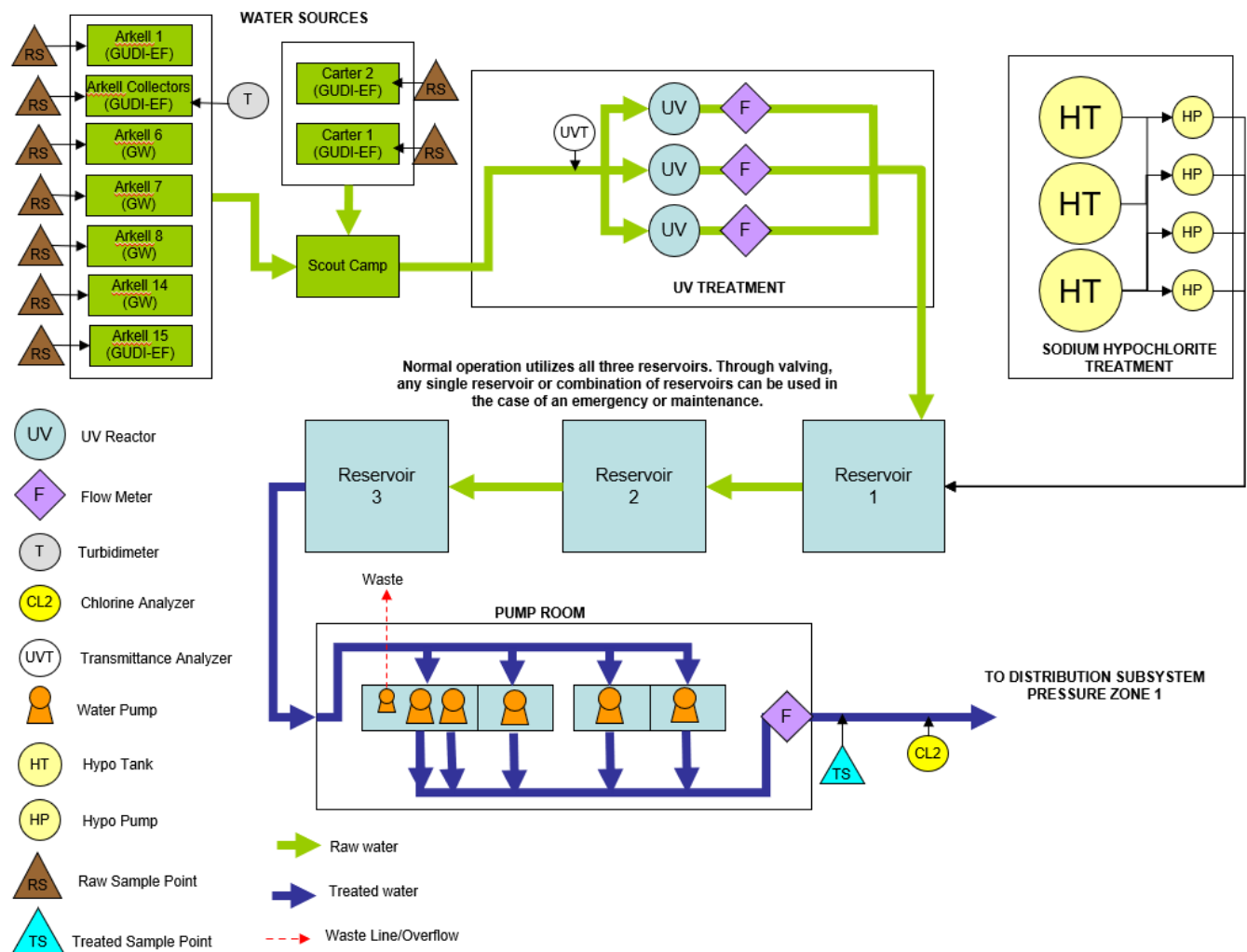
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___ By-law Enforce.
___ Engineer
___ Finance/Taxes
___ Fire
___ Planning/Planner
___ PLS
___ Public Works

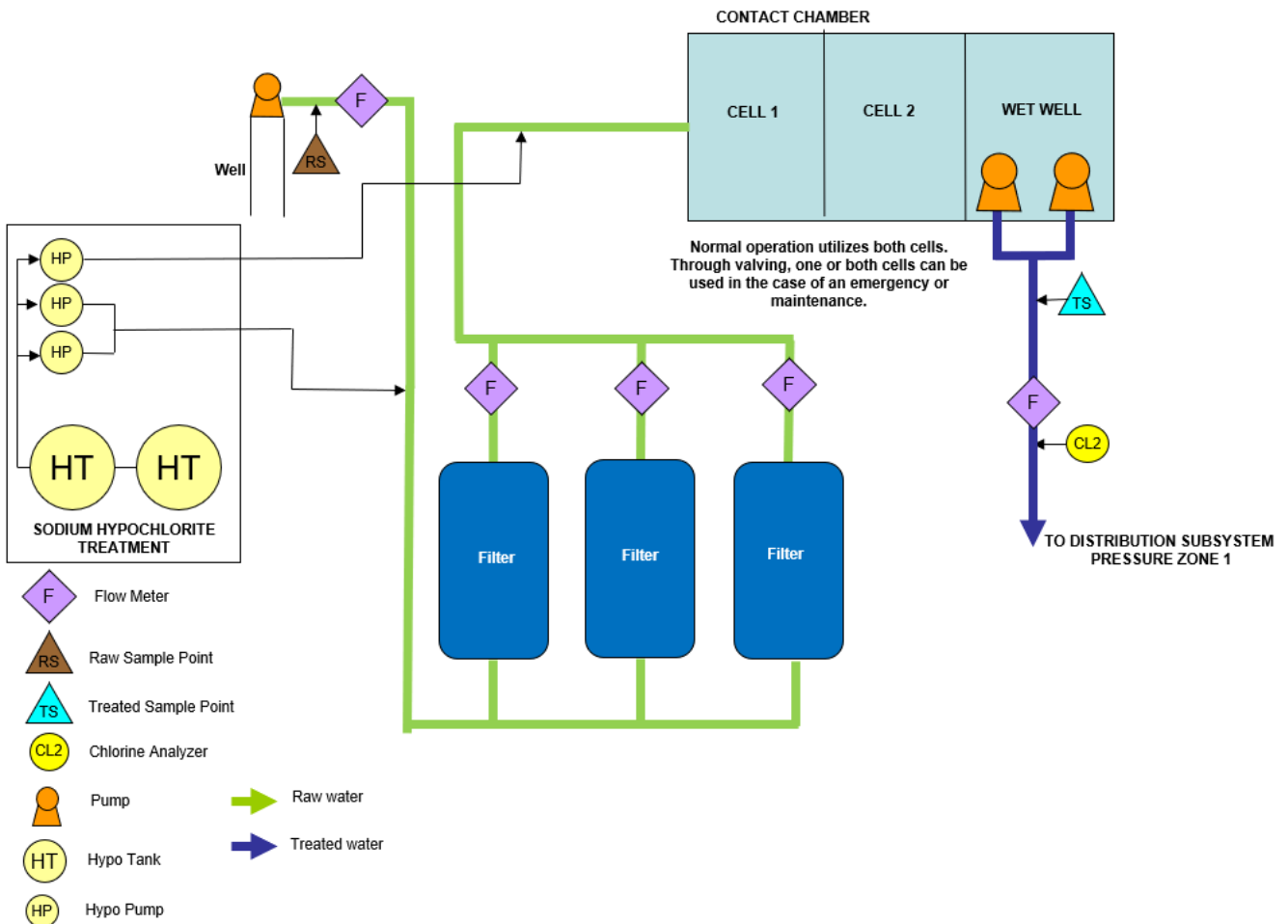
QMS 06-01 – Treatment System Process Schematics

Document Number: SD-000305

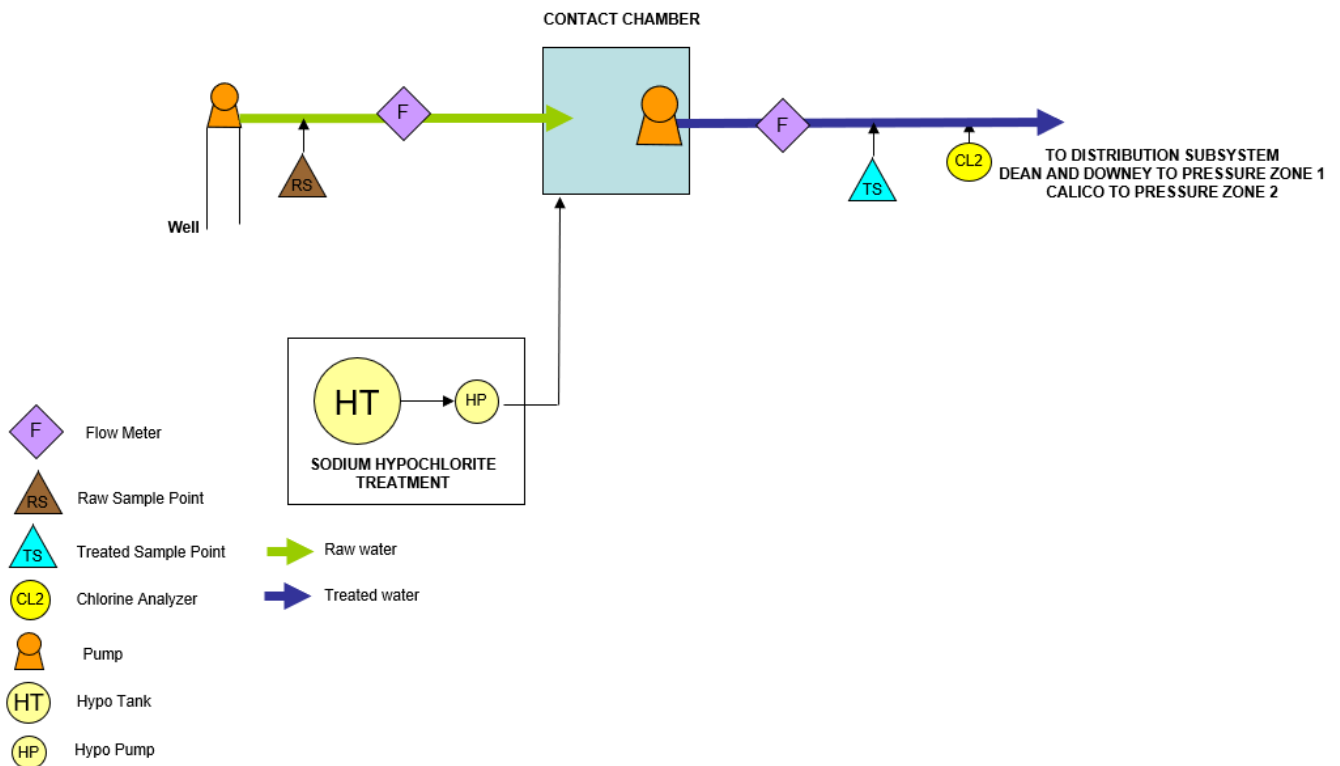
Arkell and Carter Sources and FM Woods Pumping Station



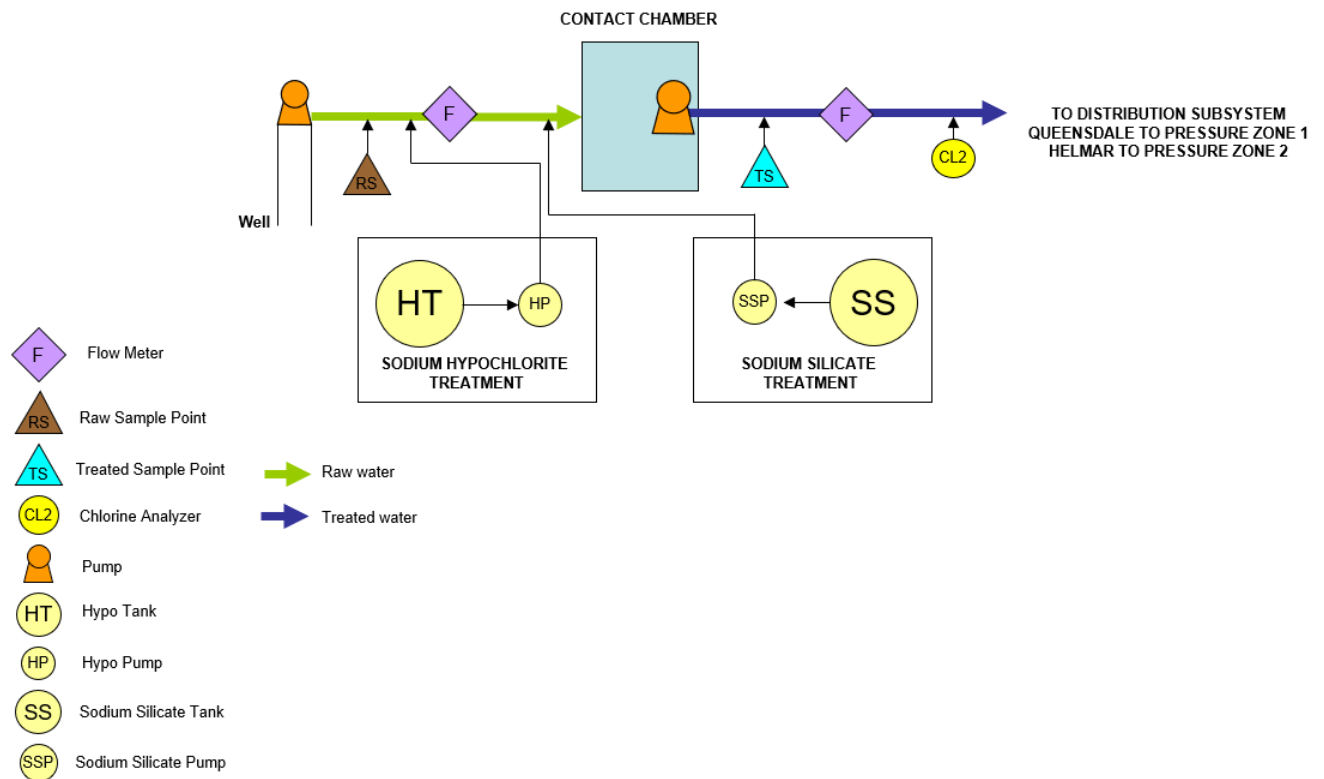
Burke Well and Treatment Plant



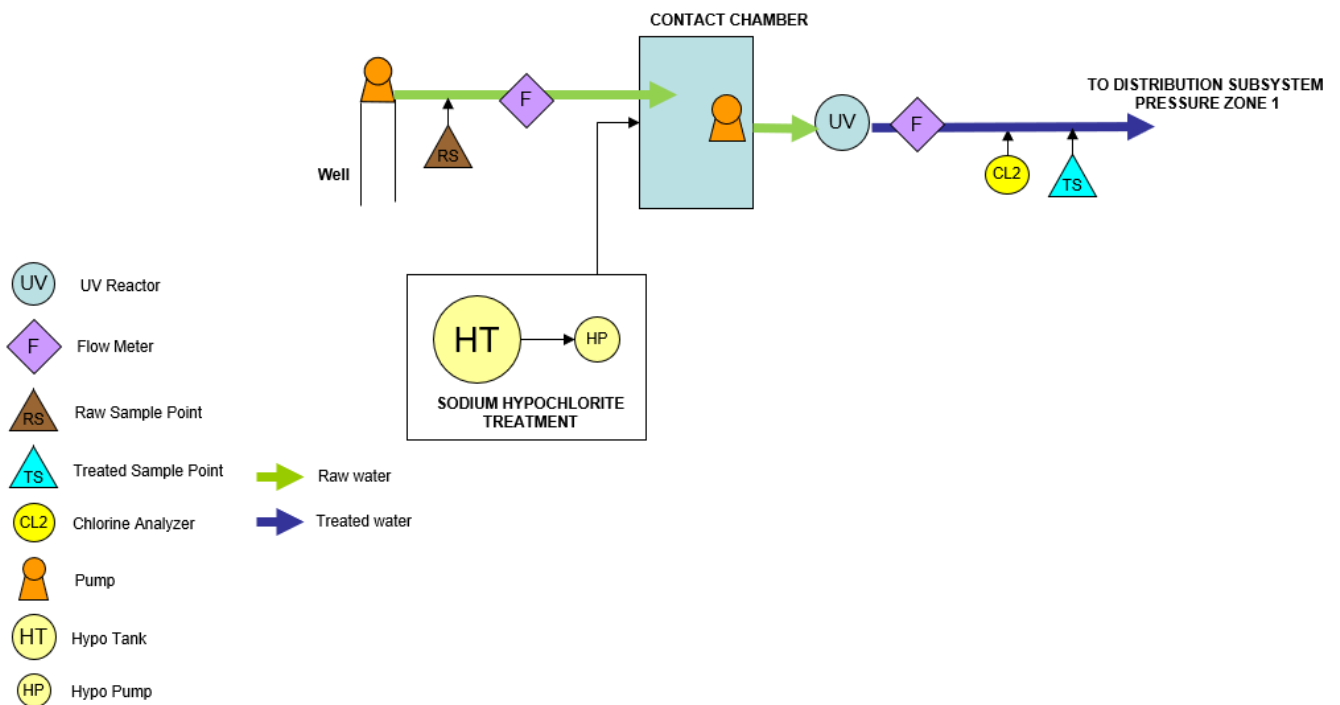
Calico, Dean and Downey



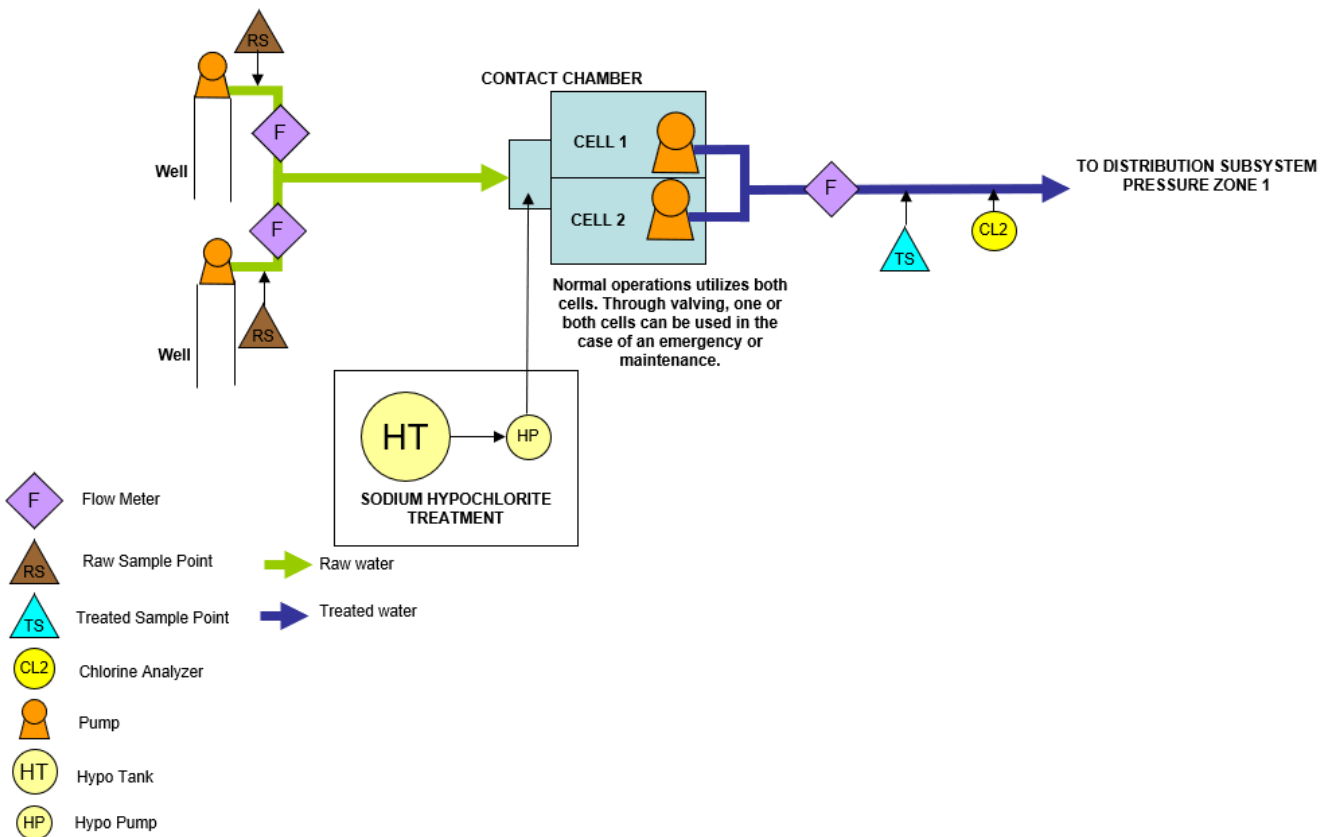
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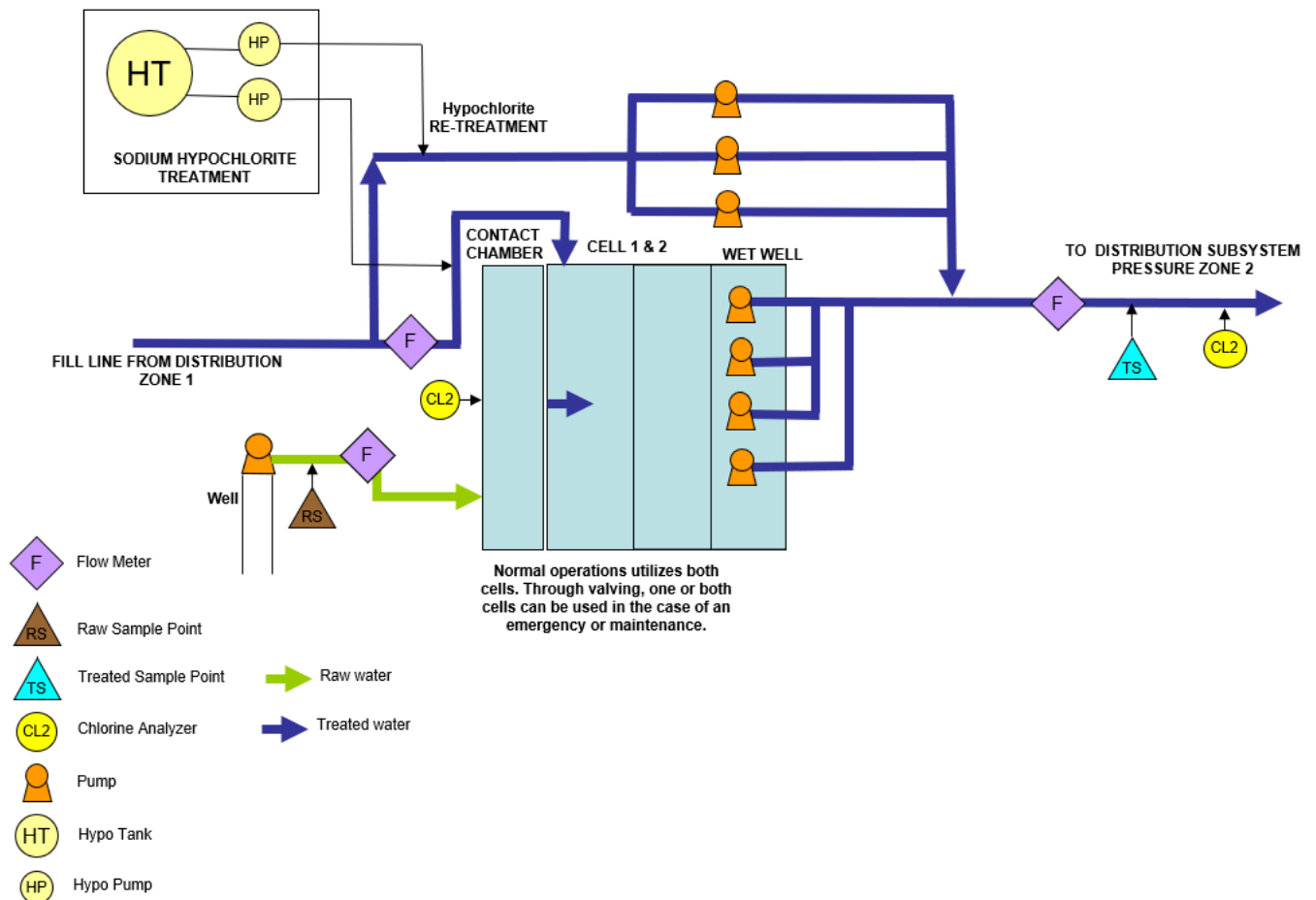
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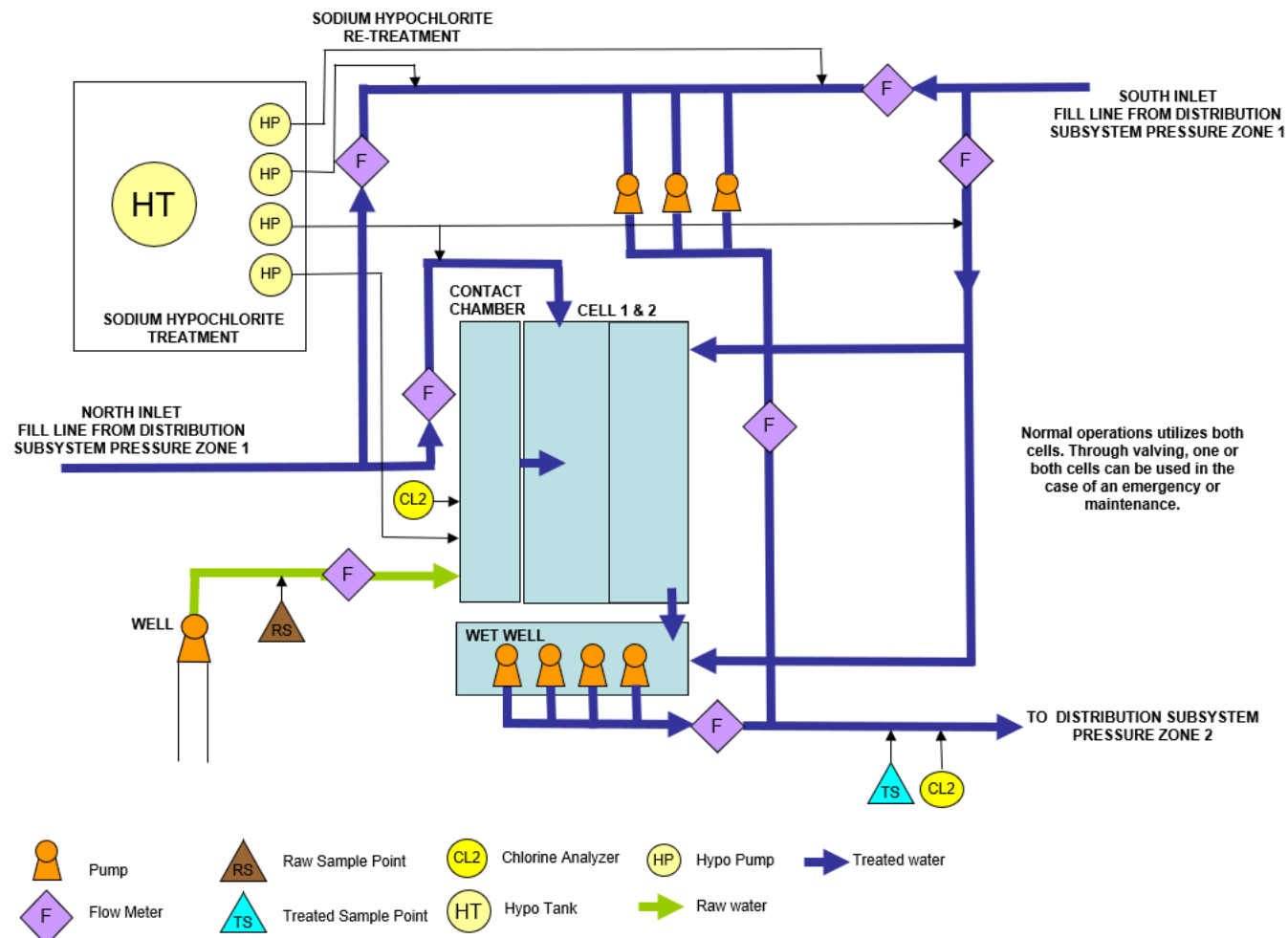
Park Well 1 and Well 2



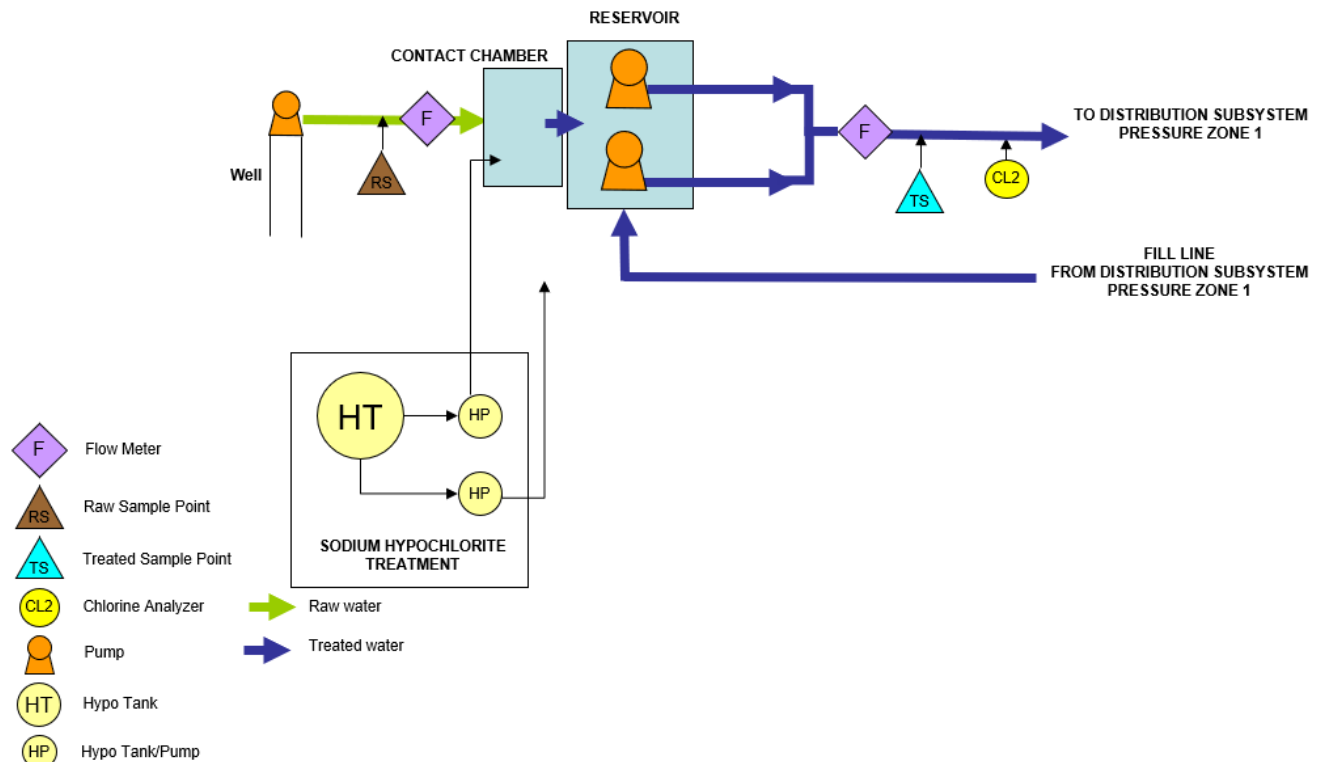
Paisley Well and Booster Pumping Station – Temporary (until upgrade completion, targeted for Q3 2023)



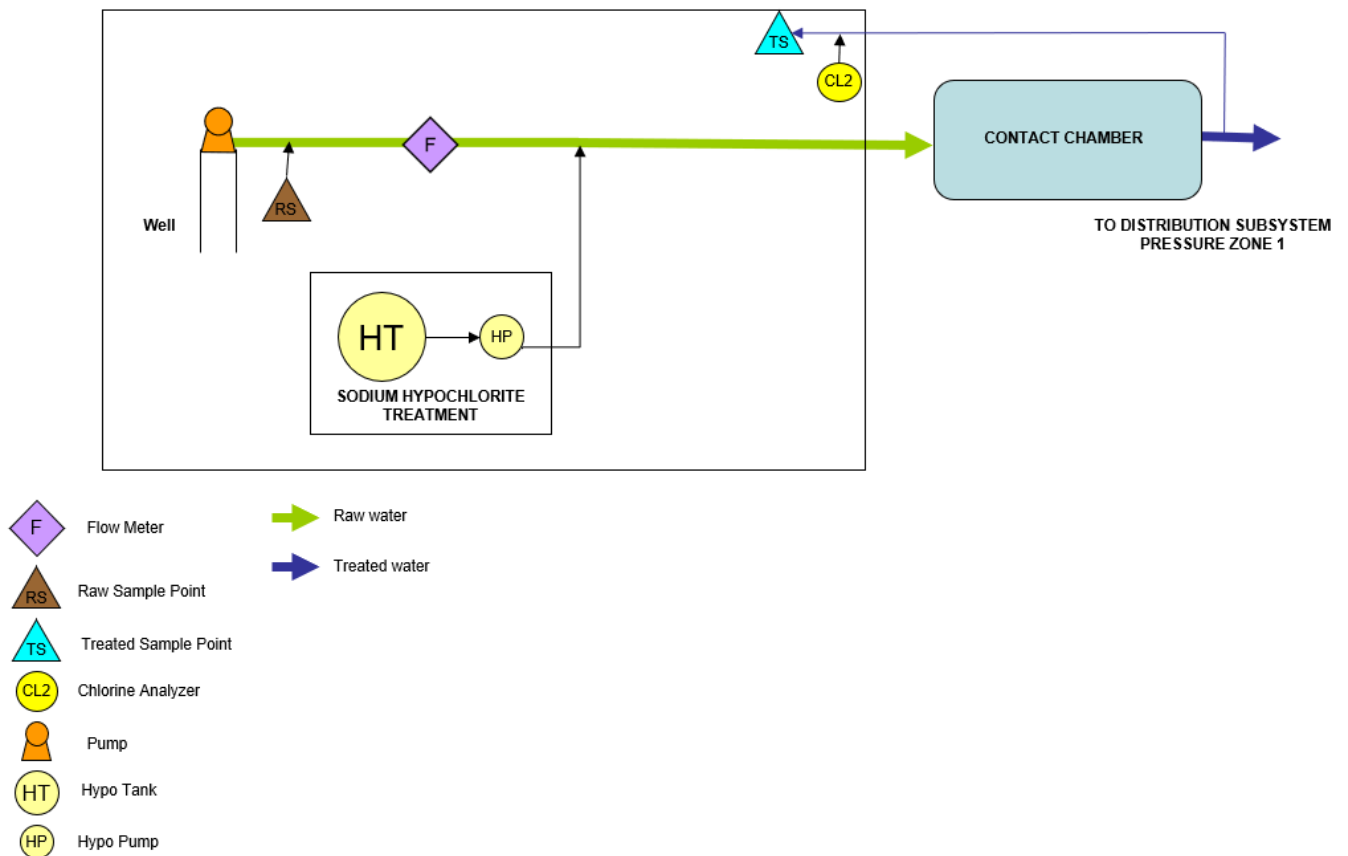
Paisley Well and Booster Pumping Station – When upgrade complete



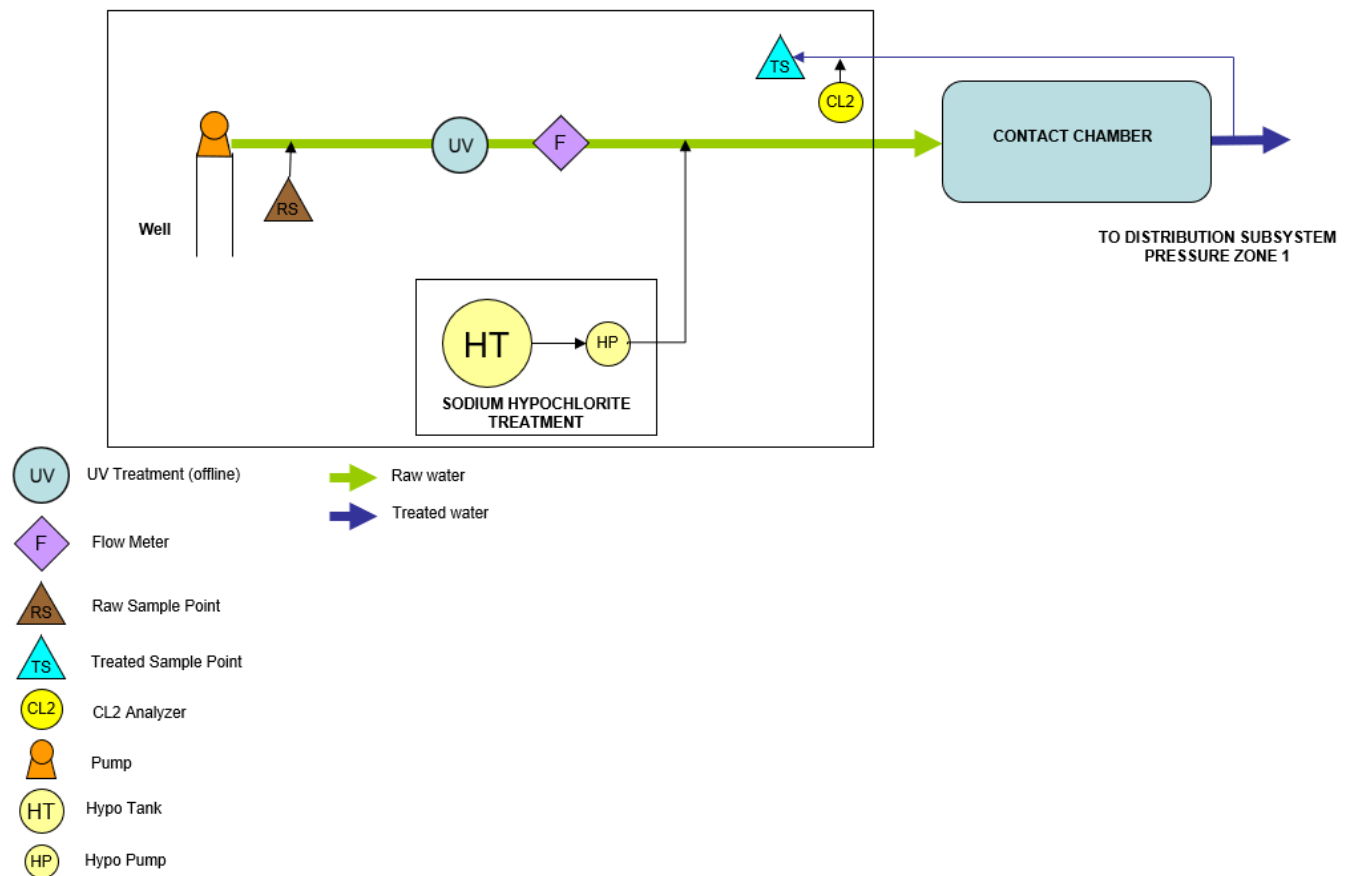
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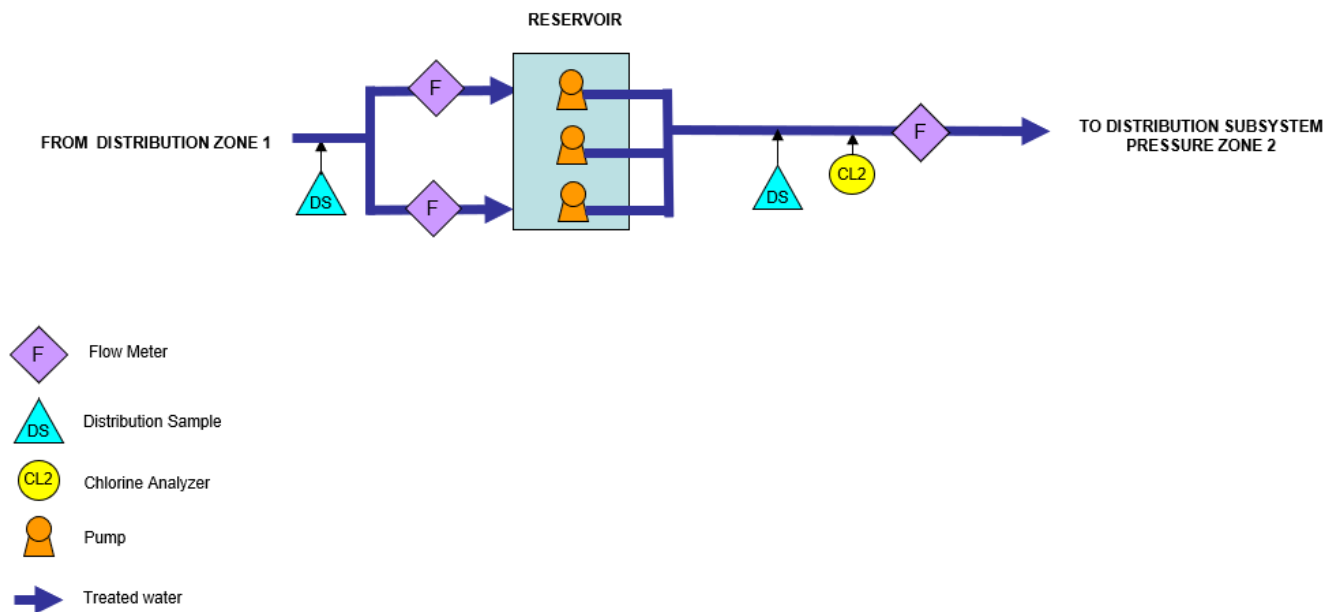
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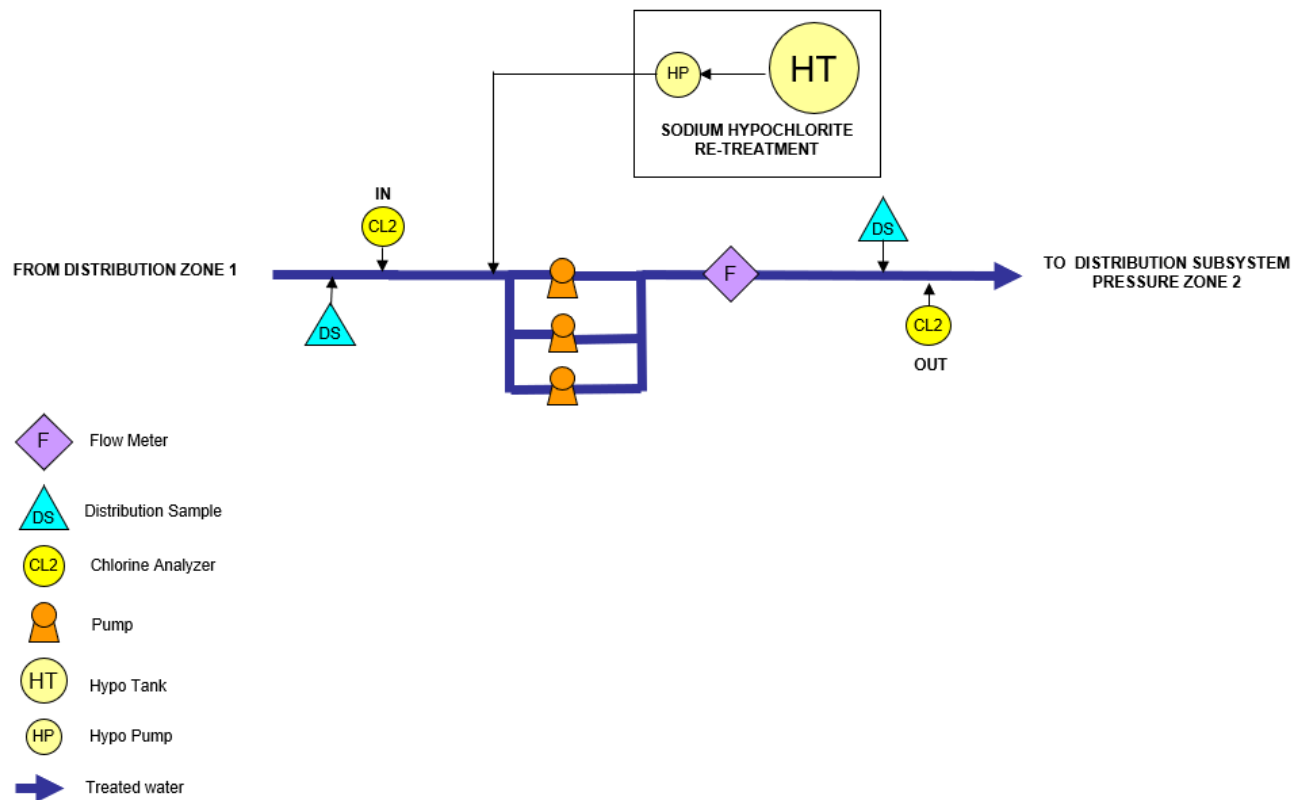
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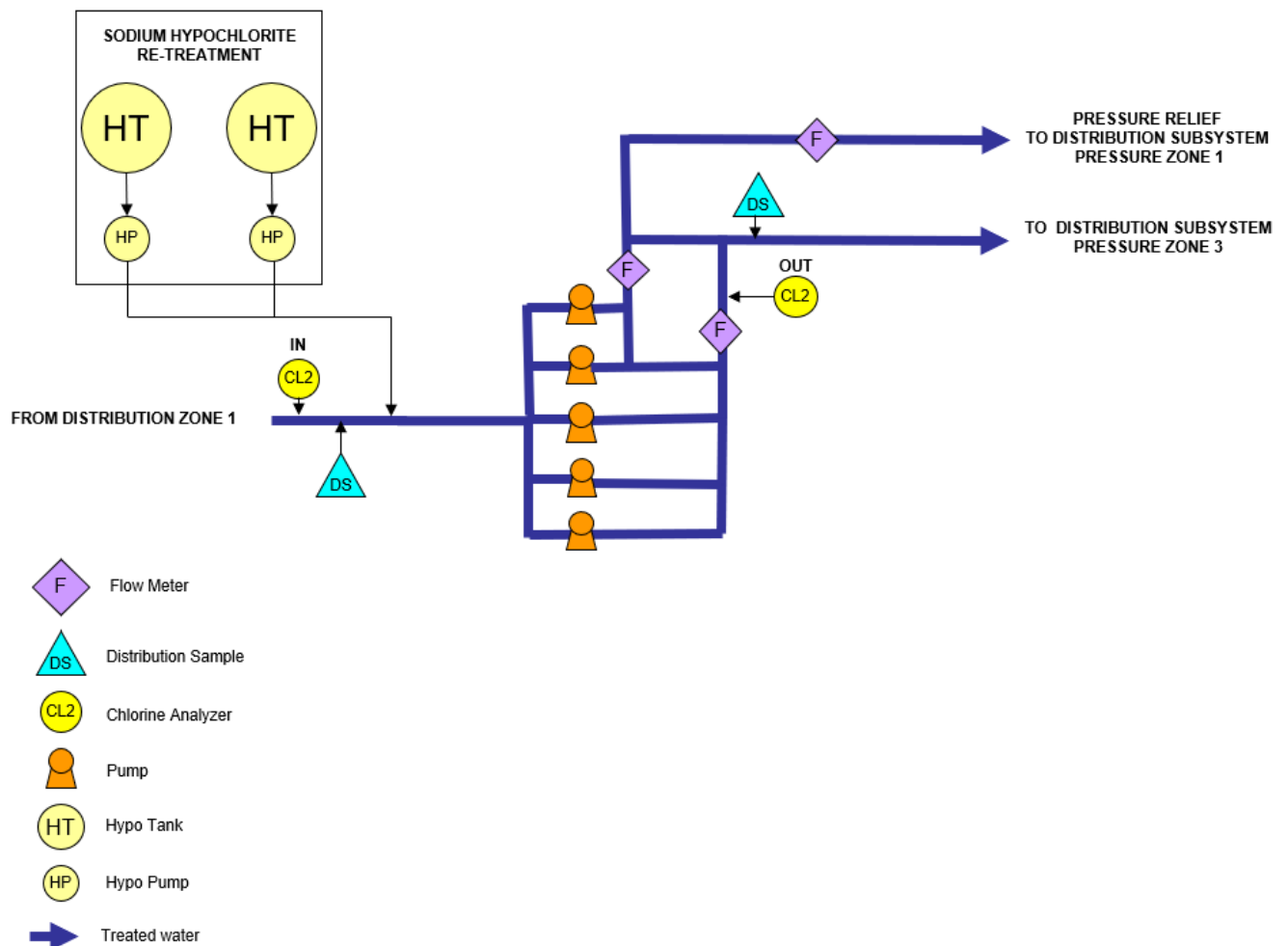
Clythe Booster Station



Robertson Booster Station



Clair Booster Station

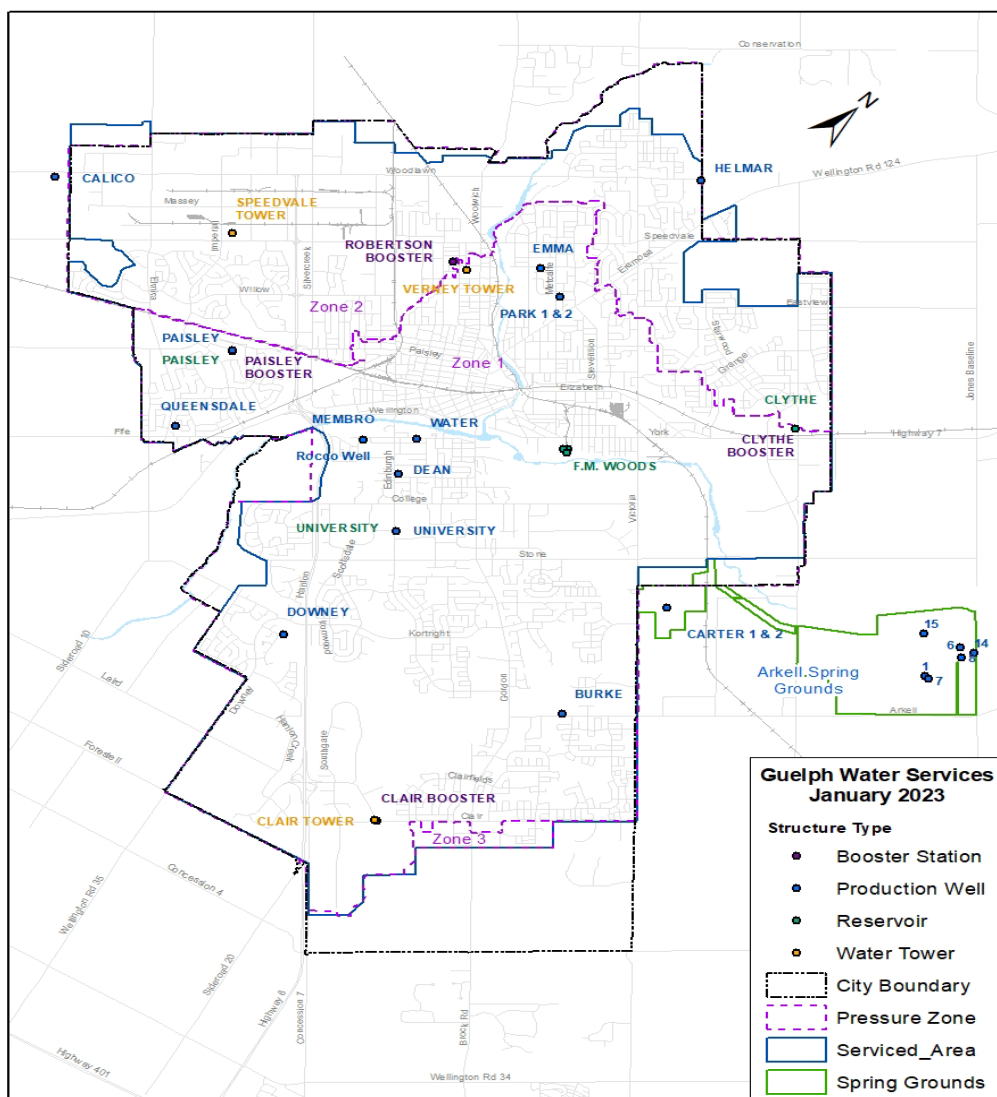


QMS 06-02 – Water Supply Sources

Document Number: SD-000307

Figure 1 (below), is a map that shows the location of each production well, reservoir, booster pumping station, water tower and pressure zone boundaries in the Guelph Drinking Water System.

Figure 1: Guelph Water Services Map

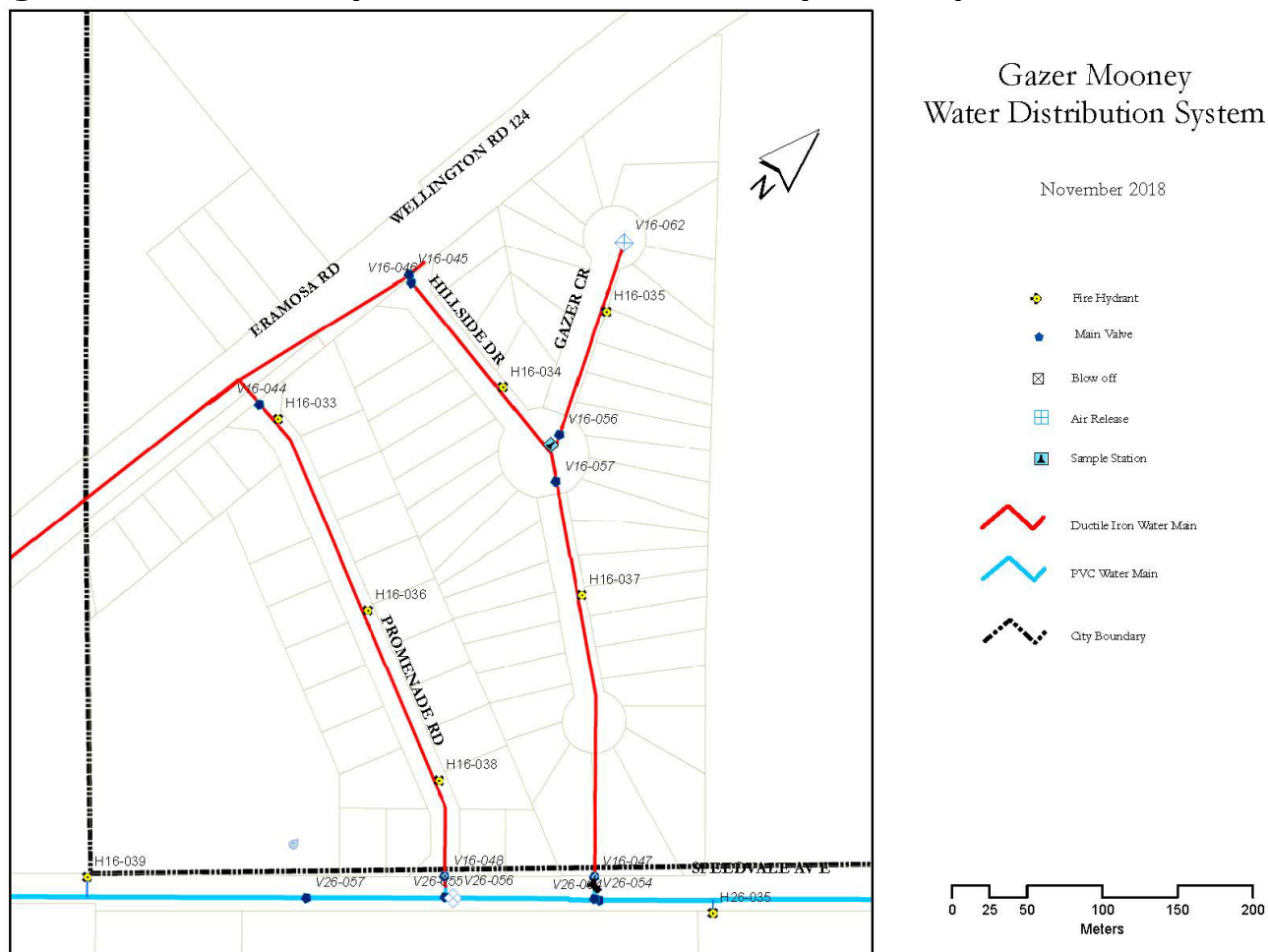


QMS 06-03 – Gazer Mooney Subdivision Distribution System

Document Number: SD-102855

Figure 1, below, shows the map of the Gazer Mooney Subdivision Distribution System.

Figure 1: Gazer Mooney Subdivision Distribution System Map



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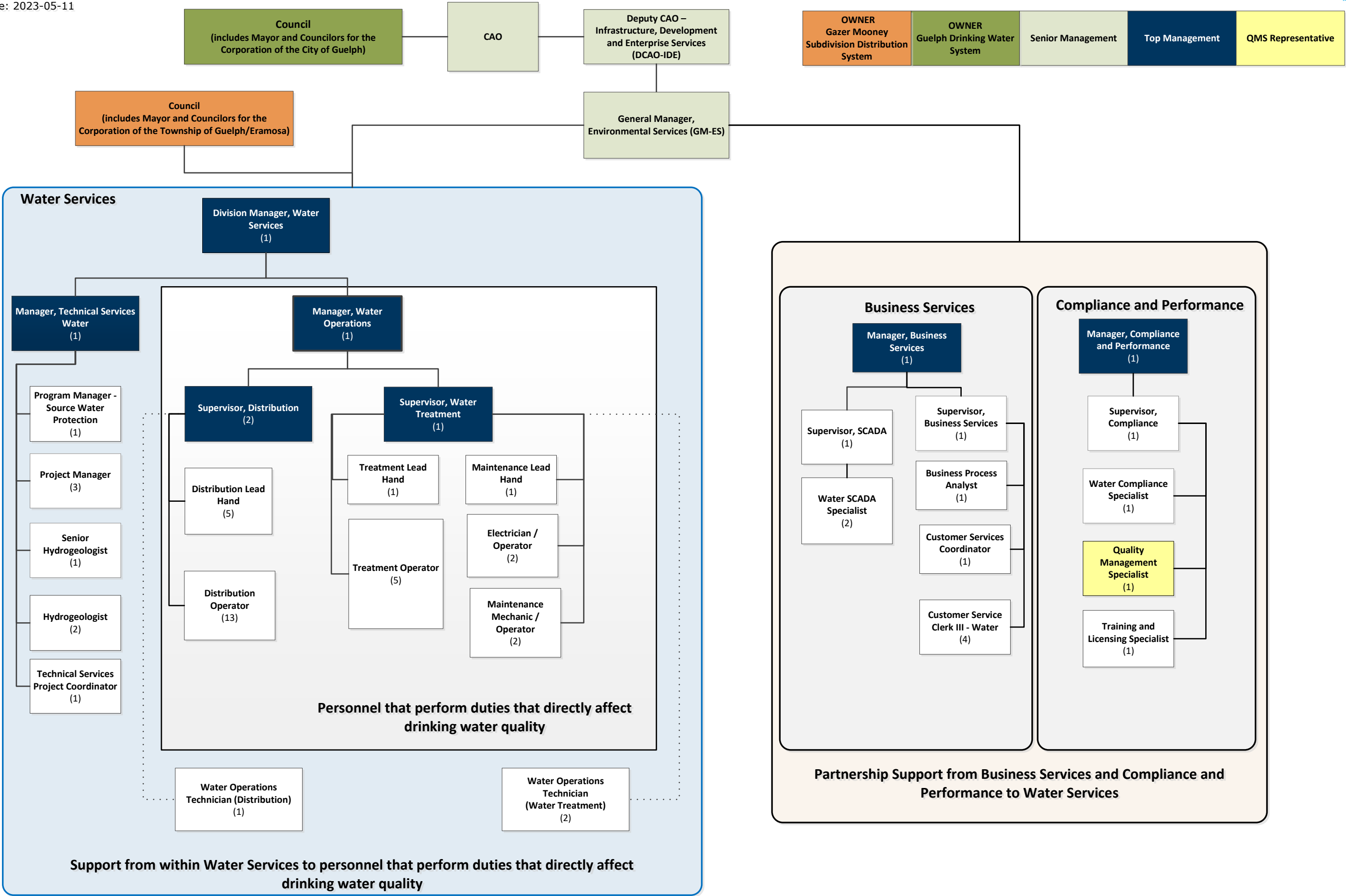
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QMS 09-01 - Organizational Structure

City of Guelph Water Services Division and Partnership Divisions' Staff who Support Water Services

Revision date: 2023-05-11



QMS 09-02 ROLES, RESPONSIBILITIES & AUTHORITIES TABLE

Senior Management Oversight Roles, Responsibilities and Authorities (Guelph Drinking Water System)

Role	Responsibilities and Authorities
CAO	- Develop and evaluate corporate policies and programs - Provides support to the Deputy CAO – IDE in fulfilling their responsibilities outlined in this table
Deputy CAO – IDE	- Provide final review and recommendation (in consultation with CAO) of the following items before they are presented to Council for approval and/or endorsement: 1. Water Services Operating and Capital budget forecast (must ensure projects and operational priorities are preserved); 2. QMS recommendations from Top Management to the Owner; and 3. The Operational Plan
General Manager, Environmental Services	- Review Water Services Operating and Capital budget forecast, ensure projects and operational priorities are persevered and provides the budget to Deputy CAO - IDE for final review/recommendation (in consultation with CAO) before it is presented to Council for approval. - Review QMS recommendations from Top Management to the Owner and the Operational Plan and provide them to Deputy CAO - IDE for final review/recommendation (in consultation with CAO) before they are presented to Council for approval and/or endorsement - Present the following items to Council (on behalf of Water Services) for approval and/or endorsement: 1. Operating and Capital budget forecast prepared by Division Manager, Water Services; 2. QMS recommendations from Top Management to the Owner; and 3. The Operational Plan

Water Services and Partnership Support divisions Roles, Responsibilities and Authorities

Role	Responsibilities and Authorities
All personnel	- Perform duties in accordance with applicable legislation, regulations, approvals and established operating procedures - Be familiar with the QMS Water Quality Policy and perform duties in accordance with QMS programs and procedures - Identify potential hazardous events or hazards that may affect the safety of drinking water and evaluate their significance - Identify and respond to emergency situations respecting water quality and supply - Document all operational activities affecting the drinking water system - Recommend changes to continually improve the QMS - Participate in training relevant to their QMS responsibilities
Division Manager, Water Services	- Fulfil role of Top Management - Oversee the drinking water system operation activities, manage division budget (Water Services Operating and Capital budget forecast) and report progress to Senior Management - Ensure operations of the Gazer Mooney Subdivision are performed according to the contract between the Corporation of the City of Guelph and the Corporation of the Township of Guelph/Eramosa - Ensure QMS policies and procedures are implemented - Review and consider recommended changes to continually improve the QMS - Activate the Emergency Response Plan (may assign designate) - Communicate pertinent QMS information to Council (with support from Senior Management) with respect to the Guelph Drinking Water System (e.g., budget, Management Review meeting minutes, Operational Plan)
Manager, Technical Services	- Fulfil role of Top Management - Manage the day-to-day technical support activities provided to Water Services on the operations and maintenance of the drinking water systems and water resource planning - Assist in developing the Water Services Operating and Capital budget forecast - Ensure QMS policies and procedures are implemented - Review and consider recommended changes to continually improve the QMS - Report to Division Manager, Water Services on performance and resource requirements - Support in the development of Standard Operating Procedures for Water Services

QMS 09-02 ROLES, RESPONSIBILITIES & AUTHORITIES TABLE

Program Manager – Source Water Protection	• Perform duties as assigned by Manager, Technical Services • Ensure compliance with the Clean Water Act and associated regulations for source water quality and quantity • Provide technical support to Water Services and the City on protecting drinking water sources
Project Manager-Water Services	• Provide technical support to Water Services in the operations and maintenance of the drinking water systems to ensure fit state of repair • Responsible for the implementation of the Capital Vertical Asset Management Plan • Assist in the review of engineering on capital construction projects and ensure work is completed in accordance with applicable legal requirements
Senior Hydrogeologist	• Provide technical support to Water Services relating to source water quality and quantity to ensure adequacy of future supply
Hydrogeologist	• Provide technical support to Water Services relating to source water quality and quantity to ensure adequacy of future supply • Responsible for the implementation of the Water Supply Master Plan
Technical Services Project Coordinator	• Perform duties as assigned by Manager, Technical Services • Assist in compliance of the Clean Water Act and associated regulations
Manager, Operations	• Fulfil role of Top Management • Oversee the daily operations and maintenance of the drinking water systems • Assist in developing the Water Services Operating and Capital budget forecast • Support Engineering on capital construction projects and implement internal processes to ensure work is completed in accordance with applicable legal requirements • Act as Overall Responsible Operator (ORO) • Maintain operator certification • Ensure QMS policies and procedures are implemented • Review and consider recommended changes to continually improve the QMS • Source and secure essential supplies and services • Determine necessary action and assign resources in response to operational issues • Report to Division Manager, Water Services on operational performance and resource requirements
Supervisor, Water Treatment	• Fulfil role of Top Management • Manage the daily operations and maintenance of the water treatment subsystem and aspects of the distribution subsystems (e.g., distribution samples, station/tower/reservoir operation and maintenance) • Act as Operator-In-Charge (OIC) and/or Overall Responsible Operator (ORO) when required • Maintain operator certification • Ensure QMS policies and procedures are implemented • Ensure operational training is provided to staff • Review and consider recommended changes to continually improve the QMS • Assign operational/maintenance duties to staff and ensure assigned work is completed, as required • Determine necessary action and assign resources in response to operational issues • Report to Manager, Water Operations on Water Treatment subsystem and select Distribution subsystem operational performance
Supervisor, Distribution	• Fulfil role of Top Management • Supervise daily operations and maintenance of the distribution subsystems with respect to construction activities (e.g., operational in-house and contracted repairs/maintenance, support of capital new construction/reconstruction) and distribution programs (e.g., leak detection, watermain cleaning, hydrant inspections/maintenance, valve exercising, maintenance of secondary disinfection residual, customer response) • Act as Operator-In-Charge (OIC) and/or Overall Responsible Operator (ORO) when required • Maintain operator certification • Ensure QMS policies and procedures are implemented • Ensure operational training is provided to staff • Review and consider recommended changes to continually improve the QMS • Determine necessary action and assign resources in response to operational issues • Assign operational/maintenance duties to staff and ensure assigned work is completed, as required

QMS 09-02 ROLES, RESPONSIBILITIES & AUTHORITIES TABLE

	• Support Engineering on capital construction projects and implement internal processes to ensure work is completed in accordance with applicable legal requirements • Report to Manager, Water Operations on Distribution subsystem operational performance and maintenance (includes Distribution programs and construction activities)
Treatment Lead Hand	• Perform duties as assigned by Supervisor, Water Treatment • Maintain operator certification • Act as Operator-In-Charge (OIC), when required • Assign, schedule, plan, delegate, coordinate, and monitor the work activities of Water Treatment personnel and third-party contractors • Provide technical training, guidance and support to Water Treatment and Maintenance personnel
Distribution Lead Hand	• Perform duties as assigned by Supervisor, Distribution • Maintain operator certification • Act as Operator-In-Charge (OIC), when required • Assign, schedule, delegate, coordinate, plan and monitor distribution construction activities and programs • Provide technical training, guidance and support to operations personnel
Treatment Operator	• Perform duties as assigned by Supervisor, Water Treatment or Treatment Lead Hand • Maintain operator certification • Operate, repair and maintain, plan, schedule and implement work activities for water treatment subsystem and aspects of the distribution subsystems (e.g., stations, towers, reservoirs) in accordance with Water Services policies and procedures • Act as Operator-In-Charge (OIC), when required
Distribution Operator	• Perform duties as assigned by Supervisor, Distribution or Distribution Lead Hand • Operate, maintain, and repair linear infrastructure in distribution system (perform distribution construction and program activities) • Maintain operator certification • Act as Operator-In-Charge (OIC), when required • Respond to consumer complaints (water quality or supply issues)
Maintenance Lead Hand	• Perform duties as assigned by Supervisor, Water Treatment (or designate) • Maintain millwright and/or electrician trades licence(s), as applicable • Maintain operator certification • Act as Operator-In-Charge (OIC), when required • Assign, schedule, plan, delegate, coordinate, and monitor the work activities of Maintenance personnel and third-party contractors • Provide technical training, guidance and support to operations/maintenance personnel • Assist with providing recommendations to management on drinking water system infrastructure needs
Electrician/Operator	• Perform duties as assigned by Supervisor, Water Treatment or Maintenance Lead Hand • Maintain electrician trades licence, as applicable • Maintain operator certification • Act as Operator-In-Charge (OIC), when required • Install, repair and maintain, plan, schedule and implement work activities for electrical equipment, process instrumentation and systems and associated maintenance programs.
Maintenance Mechanic/Operator	• Perform duties as assigned by Supervisor, Water Treatment or Maintenance Lead Hand • Maintain millwright trades licence, as applicable • Maintain operator certification • Act as Operator-In-Charge (OIC), when required • Install, repair and maintain, plan, schedule and implement work activities for mechanical equipment and systems and associated maintenance programs
Water Operations Technician (Distribution)	• Perform duties as assigned by Supervisor, Water Treatment or Supervisor, Distribution, as applicable • Support asset management and maintenance programs • Assist in the development, maintenance and implementation of operational procedures • Assist in providing technical support to Water Services personnel on the operations and maintenance of the drinking water systems, including compliance and QMS support
Water Operations Technician (Water Treatment)	• Perform duties as assigned by Supervisor, Water Treatment or Supervisor, Distribution, as applicable • Support asset management and maintenance programs

QMS 09-02 ROLES, RESPONSIBILITIES & AUTHORITIES TABLE

	- Assist in the development, maintenance and implementation of operational procedures - Assist in providing technical support to Water Services personnel on the operations and maintenance of the drinking water systems, including compliance and QMS support
Manager, Business Services	- Fulfil role of Top Management - Manage the day-to-day technical and administrative support activities provided by Business Services to Water Services - Manage budget for Business Services division (may include budgeting for resources necessary to maintain the QMS) - Assist in developing the Water Services Operating and Capital budget forecast with respect to SCADA system needs - Ensure QMS policies and procedures are implemented - Review and consider recommended changes to continually improve the QMS
Supervisor, SCADA	- Administer the Supervisor Control and Data Acquisition (SCADA) system program - Ensure effective operation and maintenance of Supervisory Control and Data Acquisition system (includes all key communication channels) - Monitor, assess and report on operational performance and maintenance status of the SCADA system to Manager, Business Services and Water Services - Assign duties to SCADA support personnel and ensure assigned work is completed, as required - Assist in developing the Water Services Operating and Capital budget forecast with respect to SCADA system needs - Provide technical support to Water Services relating to the SCADA system - Ensure QMS policies and procedures are implemented - Review and consider recommended changes to continually improve the QMS
Water SCADA Specialist	- Perform duties as assigned by Supervisor, SCADA - Assist with coordinating SCADA maintenance and upgrades - Provide technical support to Water Services relating to the SCADA system
Supervisor, Business Services	- Administer the administrative support provided by Business Services to Water Services - Assign administrative duties to Business Services personnel and ensure assigned work is completed, as required - Ensure QMS policies and procedures are implemented - Review and consider recommended changes to continually improve the QMS
Business Process Analyst	Perform duties as assigned by Supervisor, Business Services
Customer Services Coordinator	Perform duties as assigned by Supervisor, Business Services
Customer Services Clerk III – Water	Perform duties as assigned by Supervisor, Business Services
Manager, Compliance and Performance	- Fulfil role of Top Management - Manage day-to-day technical and administrative support provided by Compliance and Performance to Water Services - Ensure compliance, QMS and training programs administered by Compliance and Performance for Water Services are effectively implemented - Manage budget for Compliance and Performance division (may include budgeting for resources necessary to maintain the QMS) - Support Division Manager, Water Services with communication of Standard of Care to the owner of the Guelph Drinking Water System - Review and consider recommended changes to continually improve the QMS
Supervisor, Compliance	- Supervise personnel that provide compliance, QMS and training support to Water Services - Ensure QMS policies and procedures are implemented - Monitor, assess and report status of drinking water systems compliance and DWQMS conformance to Water Services - Assign duties to compliance, QMS and training support personnel and ensure assigned work is completed, as required - Provide technical and administrative support to Water Services respecting compliance, QMS and operator training needs - Review and consider recommended changes to continually improve the QMS
Water Compliance Specialist	Perform duties as assigned by Supervisor, Compliance

QMS 09-02 ROLES, RESPONSIBILITIES & AUTHORITIES TABLE

	• Monitor, assess and report status of drinking water system compliance to Supervisor, Compliance and Water Services • Act as liaison with the Ministry (e.g., coordinate Ministry Drinking Water System Inspections) • Provide technical support (regulatory compliance) to Water Services • Support in the development of Standard Operating Procedures for Water Services • Develop and deliver training on compliant operations of the drinking water systems and the QMS
Quality Management Specialist	• Perform duties as assigned by Supervisor, Compliance • Fulfil role of Quality Management System (QMS) Representative (see QMS – 04 Quality Management System Representative) • Manage the QMS Water Quality Policy • Monitor, assess and report status of Drinking Water Quality Management System conformance to Supervisor, Compliance and Water Services • Review and consider recommended changes to continually improve the QMS • Act as liaison with third-party DWQMS accreditation body (e.g., coordinate third-party DWQMS accreditation audits) • Develop and deliver training on compliant operations of the drinking water systems and the QMS • Provide pertinent QMS information to Township of Guelph/Eramosa personnel for communication to Council respecting the Gazer Mooney Subdivision Distribution System (e.g., provide copy of the Operational Plan for endorsement by owner, Management Review meeting minutes, including resources needed to maintain the QMS, DWQMS accreditation status)
Training and Licensing Specialist	• Perform duties as assigned by Supervisor, Compliance • Determine certified operator training needs (in consultation with Supervisor, Distribution and Supervisor, Treatment) • Source, schedule and communicate training offerings available to certified operators and other applicable personnel • Assist certified operators submit their operator certificate or renewal applications to the applicable certification office • Record and track certified operator training hours

QMS 13-01 – Essential Supplies and Services Table

Document Number: SD-000322

Companies that are normally used to provide the essential supply or services in the table below are listed in: WS-RD Ensuring Adequate Equipment and Materials to Deal with Emergencies (SD-000385).

Essential Supply or Service	Procurement and Availability Assured by:
Chemical Supplies – sodium hypochlorite, sodium silicate and sodium sulphate	Contract, Purchasing Bylaw , Purchase Orders , monitoring stock levels
Communications – answering service	Contract, Purchasing Bylaw
Distribution Repairs – backhoe operator, emergency repairs, hydrovac services, large valve maintenance, leak detection, parts suppliers, pipe repair, temporary line tubing	Contracts, RFPs, Purchasing Bylaw, Purchase Orders, monitoring stock levels
Electrical Power	Purchasing Policy Bylaw
Electrical – Trades and UPS maintenance	Purchasing Policy Bylaw, Purchase Orders
Instrumentation – maintenance and suppliers	Contract, Purchasing Bylaw, monitoring stock levels
Laboratory Services for Drinking Water Samples	Contract, Purchasing Policy Bylaw, monitoring stock levels
Mechanical Trades – contractors and backflow	Purchasing Policy Bylaw, Purchase Orders

Revision Date: October 7, 2021

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QMS 13-01 – Essential Supplies and Services Table

SD-000322

Essential Supply or Service	Procurement and Availability Assured by:
Pumps	Purchasing Policy Bylaw, Purchase Orders, monitoring stock levels
Reservoir Contractors	Purchasing Policy Bylaw, Purchase Orders
SCADA/PLC Programming/Network Support	Contracts, Purchasing Policy Bylaw, Purchase Orders
Stand-by Power – generator maintenance and rentals	Purchasing Policy Bylaw, Purchase Orders
Fuel Suppliers	Purchasing Policy Bylaw, Purchase Orders, monitoring fuel levels
UV Reactors – maintenance and programming	Purchasing Policy Bylaw, Purchase Orders, monitoring stock levels
Valves – pressure valves and actuators	Purchasing Policy Bylaw, Purchase Orders
Water Modelling	Contract, Purchasing Policy Bylaw, Purchase Orders
Water Tankers	Purchasing Policy Bylaw, Purchase Orders
Wells – maintenance contractors	Contract, Purchasing Policy Bylaw, Purchase Orders

Revision Date: October 7, 2021

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