



**The Municipality of Brockton
/ Veolia North America**

Drinking Water Quality Management System

Operational Plan / QMS Manual

**MUNICIPALITY OF BROCKTON
DRINKING WATER SYSTEMS**

**CHEPSTOW DRINKING WATER SYSTEM
LAKE ROSALIND DRINKING WATER SYSTEM
WALKERTON DRINKING WATER SYSTEM**

**The Municipality of Brockton
100 Scott St. PO Box 68
Walkerton, Ontario
N0G 2V0**

**REVISION 11
January 2025**

CERTIFICATE OF ACCREDITATION

This is to certify that the following operating authority:

Veolia Water Canada Inc.

operates a Drinking Water System on behalf of

The Municipality of Brockton

130 Wallace St, PO Box 220, Walkerton, Ontario N0G 2V0 Canada

which conforms with the requirements of:

**DRINKING WATER QUALITY MANAGEMENT
STANDARD VERSION 2-2017**

for the following scope of accreditation:

Drinking Water Treatment & Distribution; Full Scope

Including:

Chepstow Drinking Water System

Lake Rosalind Drinking Water System

Walkerton Drinking Water System

Certificate Number:

0177159

File No.:

2023-141155

Issue Date:

4 Jun 2024

Original Certification Date:

28 Feb 2018

Certification Effective Date:

30 May 2024



Calin Moldovean

President Business Assurance

QMI-SAI Canada Ltd.
20 Carlson Court, Suite 200
Toronto, Ontario M9W 7K6 Canada



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Initial Release	Aug. 15, 2012	Release	DC Scott –QMS Rep.	S. Gowan - Veolia PM
Rev. 6	July 26, 2023	Removed sections not needed in the introduction	B. McGarrity - QMS Rep.	S. Gowan - Veolia PM

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Rev. Level:	Date:	Change:	By:	Approved By:
Initial Release	Aug. 15, 2012	Release	DC Scott –QMS Rep.	S. Gowan - Veolia PM
Rev. 6	July 26, 2023	Removed sections not needed in the introduction	B. McGarrity - QMS Rep.	S. Gowan - Veolia PM

Element 1 - Quality Management System

DWQMS Operational Plan

Rev. 5 (November 22, 2024)

The Drinking Water Quality Management Standard (DWQMS) v2.0 requires an Operating Authority to establish a Quality Management System (QMS) for each system that it operates.

The Operating Authority (Veolia Water Canada Inc.), must develop a QMS to conform to the requirements that are laid out in the DWQMS v2.0. Accomplishing this will help reduce or eliminate negative situations that may occur as a result of non-conformance.

A QMS is a system to establish policies and objectives, and achieve those objectives, and assist in the direction and control of the organization with regard to quality.

An Operational Plan is a document or series of documents that outlines the policies, processes and procedures for the overall quality management of the drinking water system, and is the documentation of the QMS.

The QMS is documented in this Operational Plan as part of the effort to ensure clean, safe, and reliable drinking water is supplied to all customers served.

- Chepstow – 21 Properties (as displayed on the Municipality of Brockton’s website)
- Lake Rosalind – 60 Properties (as displayed on the Municipality of Brockton’s website)
- Walkerton – 2,100 Properties (as displayed on the Municipality of Brockton’s website)

The QMS shall be reviewed annually to ensure that the procedures are correct and current. This review will include at minimum, the QMS Representative. Other personnel are invited to attend the review, if desired.

The complete Operational Plan can be found in the following locations:

HARD COPY	1 Copy located at the Veolia Water Canada Inc. main office Walkerton 1 Copy located at the Municipal Office
ELECTRONIC	1 Copy within the Veolia Google Shared Drive 1 Copy on the Municipal Website



2 Quality Management System Policy


The Municipality of Brockton (Owner) utilizes the services of Veolia Water Canada (Operating Authority) to operate and maintain the water supply and distribution system.


Together the Municipality of Brockton and Veolia are committed to:

- Providing the consumer with a consistent supply of clean, safe drinking water
- Complying with all applicable legislative and regulatory requirements
- Managing and operating the water supply system in a responsible manner in accordance with documented Quality Management System (QMS) policies and procedures
- Maintaining and continually improving its Quality Management System (QMS)

This Policy and the QMS is communicated to the *Operating Authority* during the yearly training session, to the *Owner* during Management Reviews, and to the *Public* via the Municipal Website and Municipal Office.

Veolia Water Canada – Operating Authority Representatives

 March 31, 2022
 date
Marco Fontana Giusti
 VP Municipal Water
 Veolia North America, Canada

 March 30, 2022
 date
Scott Gowan
 Project Manager
 Veolia North America, Canada

File: Google Drive \ QMS Rep. - Files and Documents \ DWQMS \ Operational Plan \ Brockton \ Element 2 - Quality Management System Policy

Rev. Level:	Date:	Change:	By:	Approved By:
Initial Release	Aug. 15, 2012	Release	DC Scott –QMS Rep.	S. Gowan - Veolia PM
Rev. 5	Mar. 30, 2022	Updated Area Manager	B. McGarrity - QMS Rep.	S. Gowan - Veolia PM

Note: To be reviewed annually or when a QMS change occurs.

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Element 3 - Commitment & Endorsement Procedure

DWQMS Operational Plan

Rev. 1 (December 10, 2024)

As a requirement of the DWQMS (Drinking Water Quality Management Standard) 2.0, released February 2017 by the Ministry of Environment, Conservations and Parks (MECP), the Operating Authority must ensure that a Commitment and Endorsement form is reviewed and signed by the appropriate personnel. The Commitment and Endorsement is in place to ensure that both the Operating Authority and the Owners are aware of their duties and responsibilities in regards to the Brockton Quality Management System (QMS) to ensure potable water to the consumer.

Owner (Mayor and Council)

The Owner of the Chepstow, Lake Rosalind and Walkerton Drinking Water Systems is the Municipality of Brockton, and it is required that the Mayor and Council review the QMS after a new Council has taken Office (the timeframe may vary, to allow council members to adjust to their new roles). If there is a council member turnover between elections, then that individual member will have a training session in regards to their role and responsibility with the DWQMS. This is completed by the Operating Authority (QMS Rep. or Project Manager) through a presentation of the QMS, whether that be in person or a video conference. Once the QMS has been reviewed with the Owner, and they agree to their responsibility to ensure potable water - mainly to certify that the needs to ensure safe drinking water to the consumer will be met (financially, or providing the required resources), the Mayor may then sign-off on the Commitment and Endorsement form, located in Element 3 of the Operational Plan.

Owner Representatives (CAO and Director of Operations)

The CAO and Director of Operations take part in a Management Review on an annual basis with the QMS Rep. and Project Manager. During this meeting, the duties and responsibilities of the CAO and Director of Operations to provide clean, safe drinking water is reviewed as well.

Operating Authority (OA) Representatives (Area Manager, Project Manager and QMS Rep.)

The OA Reps. discuss their duties and responsibilities with the Owner Reps. on an annual basis during the Management Review, as indicated above. The OA Reps. also partake in an annual DWQMS Training session provided by the QMS Rep.

All meetings indicated above are conducted through in-person or video conferences, presented by the QMS Rep. A sign-off sheet for Management Reviews are filed within the Google Shared Drive (Brockton Management Reviews), as well as emailed to all personnel involved. Evidence of the presentation to Council is kept on Council Meeting Records.

For both the Owner Representatives and the Operating Authority Representatives, it is not required to sign the Commitment and Endorsement form annually, only if there is a change in personnel, as Management Review sign-off is sufficient proof that their duties and responsibilities were reviewed.

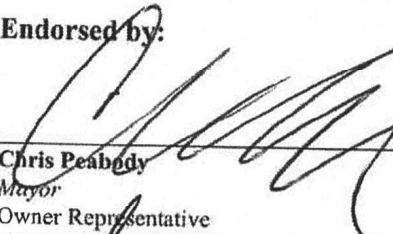


3 Commitment and Endorsement


The system owner, the Municipality of Brockton, and the Operating Authority, Veolia Water Canada Inc., support the implementation, maintenance, and continual improvement of a drinking water Quality Management System (QMS) for the Municipality of Brockton Water Supply System, as documented in the Operational Plan. Top Management shall also ensure that the Operating Authority is aware of all applicable Legislative and Regulatory requirements.

Endorsement by the Owner - the Municipality of Brockton and the Operating Authority - Veolia Water Canada Inc., acknowledges the need for, and supports the provision of sufficient resources to implement, maintain, and continually improve the Quality Management System (QMS). This Commitment and Endorsement is communicated to the Director of Operations on a yearly basis at the Management Review and then communicated to the Owner, through the Director of Operations when there is a new Council. A signed copy of the Commitment and Endorsement is kept within the Operational Plan at the Veolia Main Office and Google Shared Drives (Veolia Brockton & South Bruce Shared → Brockton Files → Brockton DWQMS 2019).

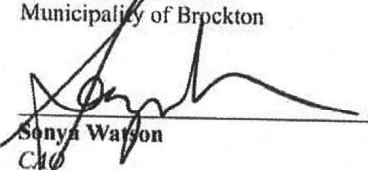
Endorsed by:



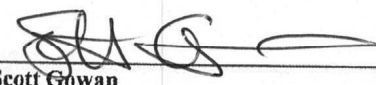
Chris Peabody
Mayor
Owner Representative
Municipality of Brockton
Dec 8, 2022
date



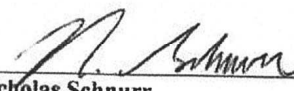
Marco Fontana Giusti
VP Municipal Water
Operating Authority Representative
Veolia North America, Canada
Dec 15, 2022
date



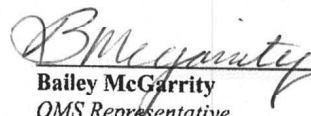
Sonya Warson
CIO
Owner Representative
Municipality of Brockton
Dec 8, 2022
date



Scott Gowan
Project Manager
Operating Authority Representative
Veolia North America, Canada
Dec. 9/22
date



Nicholas Schnurr
Director of Operations
Owner Representative
Municipality of Brockton
Dec 8, 2022
date



Bailey McGarrity
QMS Representative
Operating Authority Representative
Veolia North America, Canada
Dec. 9/22
date

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Rev. 8	Nov. 30, 2022	Updated Director of Operations	B. McGarrity - QMS Rep.	S. Gowan - Veolia PM

Note: To be reviewed annually or when a QMS change occurs.

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Element 4 - QMS Representative

DWQMS Operational Plan

Rev. 4 (December 13, 2024)

The QMS Representative, in conjunction with the Project Manager, will establish, implement, and maintain the policies, processes, and procedures required for the DWQMS v2. In addition, the QMS Representative will report on the performance of the QMS and any need for improvement to Top Management (see Communication Protocol below).

The responsibilities of the QMS Representative are listed in the Responsibilities Table in Appendix E, as part of Element 9, Organizational Structure, Roles, Responsibilities, and Authorities.

COMMUNICATION PROTOCOL

As it is the responsibility of the QMS Rep. to communicate all MAJOR changes (system change, personal change, new elements added, etc.) of the DWQMS to Top Management, and Owner Representative(s), the following steps should be taken depending whom the information is for.

- a. When there is a Mayor, Council Member, or Owner Representative turnover, an overview of the Operational Plan, and corresponding responsibilities are presented to these members during a Council Meeting, or virtual training.
- b. On an annual basis, refresher training is delivered to the Owner Representative - who will then relay the necessary information to the Mayor and Council Members. If the Mayors and Council Members wish for more information, the QMS Rep. may provide such information to those asking.
- c. When immediate changes occur with the Operational Plan that the Owner and Top Management are required to know, the QMS Rep. will relay such changes to the Project Manager, who will then relay the information to the Owner and Top Management during monthly meetings.

APPENDIX E

APPENDIX E1: Organization Chart – Veolia Water Canada

APPENDIX E2: Responsibilities Table – Veolia Water Canada



4 Quality Management System Representative

NOTICE OF APPOINTMENT

QMS Representative

Top Management for the Operating Authority (Veolia Water Canada) at the Municipality of Brockton has appointed the Quality Management System Representative to be:

Bailey McGarrity
Name

QMS Rep.
Title

The Quality Management System (QMS) Representative who, irrespective of other responsibilities, shall:

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

[Signature]
Scott Gowan
Project Manager – Veolia North America

June 4, 2019
Date

File: Google Drive \ QMS Rep. - Files and Documents \ DWQMS \ Operational Plan \ Brockton \ Element 4 - QMS Representative

Rev. Level:	Date:	Change:	By:	Approved By:
Initial Release	Feb. 9, 2015	Release	DC Scott –QMS Rep.	S. Gowan - Veolia PM
Rev. 4	June 4, 2019	New Brockton logo	B. McGarrity - QMS Rep.	S. Gowan - Veolia PM

Note: To be reviewed annually or when a QMS change occurs.

Element 5 - Documents & Records Control

DWQMS Operational Plan

Rev. 2 (December 18, 2024)

A process is in place for the control and management of the documents and records required by the Quality Management System (QMS).

This process is to ensure that documents are kept up to date with applicable legislation and regulations, and changes in operations. The process also ensures that documents and records are legible, are properly stored, and can be easily located and identified. Retention times and disposal methods are listed in the Document and Records Control Table.

The procedure for Document and Records control can be found in Appendix A.

APPENDIX A

APPENDIX A1: Procedure for Document and Records Control

APPENDIX A2: Document and Records Control Table

APPENDIX A3: Document Approval – Change Form

Element 6 - Drinking Water System

DWQMS Operational Plan

Rev. 3 (December 18, 2024)

The Municipality of Brockton owns three separate drinking water systems which are operated by Veolia Water Canada acting as their Operating Authority.

They supply and service the following systems:

Chepstow Drinking Water System	<ul style="list-style-type: none">• Water Treatment Subsystem Class I •• Water Distribution Subsystem Class I •
Lake Rosalind Drinking Water System	<ul style="list-style-type: none">• Water Treatment Subsystem Class I •• Water Distribution Subsystem Class I •
Walkerton Drinking Water System	<ul style="list-style-type: none">• Water Distribution and Supply Subsystem Class II •

Chepstow Drinking Water System Description

The Chepstow Water Treatment Plant, located at 51 John St, provides potable water supply to the residences and businesses of the Power's Subdivision - Chepstow.

C.1 General

C.1.1 The Power's Subdivision - Chepstow, a **Class I** facility, is comprised of 150 mm bedrock well drilled to a depth of 57.6 m with approximately 15.8 m of till overburden. The well is equipped with a 1.1 kW submersible pump rated at 2.21 liters per second. The pumphouse is located at 51 John St. The pumphouse sits on top of the well and houses chlorination pumps utilizing sodium hypochlorite, 2 sets of 2 stage filtration (5 micron and 1 micron) filters, followed by 2 Ultraviolet units. Only 1 set of filters and 1 UV unit are used at a time. The water then enters a chlorine contact loop and is delivered to the distribution system. Pressure is maintained by 3 - 455 L cushion tanks. There is a diesel generator for emergency situations.

The Chepstow water system is characterized as a "secure ground water" well system. However, the well is treated as GUDI due to its proximity to surface water. This is stated in the conclusions section of the engineers report.

The entire system is located in the Community of Chepstow in the Municipality of Brockton. The distribution system serves the community of Chepstow (Power's Subdivision) with approximately 21 customer services, serving a population of approximately 65 residents.

C.1.2 The Chepstow Water System is a Class 1 Water Treatment Subsystem and a Class 1 Water Distribution subsystem - Small Municipal Residential System owned by the Municipality of Brockton, and operated by Veolia Water Canada. The Chepstow Water System provides potable water to the residents of the Chepstow (Power's Subdivision).

- C.1.3 Well # 1 is 150 mm bedrock well drilled to a depth of 57.6 m with approximately 15.8 m of till overburden. The well is equipped with a 1.1 kW submersible pump rated at 2.21 liters per second at a TDH of 414 kPa.
- C.1.4 The Chepstow drinking water system is equipped with a Supervisory Control and Data Acquisition System (SCADA) allowing for remote control, monitoring and record keeping of the system. This provides the operator with the current operating status of the supply and treatment equipment throughout the system at any given time.

C.2 Description of Water Source

- C.2.1 From the First Engineer's Report, the raw water source was characterized as a secure groundwater supply. However, the well is treated as GUDI due to its proximity to surface water. This is stated in the conclusions section of the engineers report.
- C.2.2 The full characterization of the raw water supply source is listed in the First Engineer's Report, November 30, 2000. This report can be found in the Chepstow Operations and Maintenance Manual located at the QMS Rep. desk, or on the Google Shared Drive (Veolia Brockton & South Bruce Shared → Brockton Files → Ops & Maintenance Manual → Chepstow Operations and Maintenance Manual).
- C.2.3 Critical upstream processes include the well head and surrounding terrain. Well heads are inspected and maintained on a regular basis by the Operating Authority. Community source water protection is evolving a system for additional protection. Critical downstream processes include backflow prevention in the distribution system to help ensure no contaminants are introduced into the water system should a critical drop in system pressure occur. There are no event or seasonal driven fluctuations or operational challenges or threats expected from the well systems.

C.3 Disinfection System

- C.3.1 With a groundwater temperature of 10°C, a flow rate of 2.2 L/s and a required Contact Time (CT) value of 4, the chlorine residual through the contact chamber needs to be greater than 0.28 mg/L. The free chlorine residual within the Distribution System must be maintained above 0.05 mg/L.
- C.3.2 The water treatment plant is located at the well site and the pumphouse sits on top of the well and houses chlorination pumps utilizing sodium hypochlorite, 2 sets of 2 stage filtration (5 micron and 1 micron) filters, followed by 2 Ultraviolet units. The water then enters a chlorine contact loop and is delivered to the distribution system. Pressure is maintained by 3 - 450 L cushion tanks.
- C.3.3 The cartridge filtration system consists of two (2) treatment trains (duty and standby). Each consists of two (2) multi-cartridge housings in series, each capable of removing particles down to 5 microns and 1 micron absolute (1 micron filter NSF 53 certified) respectively. The system is rated at 284 L/min and is equipped with pressure gauges.

C.3.4 The ultraviolet (UV) disinfection system consists of 2 UV reactors (duty and standby), each rated 244 L/min to provide a minimum 40 mJ/cm² at capacity, complete with UV intensity sensor, alarms and shut-off controls.

C.3.5 The sodium hypochlorite disinfection system includes two (2) chemical metering pumps (duty and standby) with a rated capacity of 1.4 L/hr, complete with automatic switchover control and one (1) 23 L sodium hypochlorite solution tank with secondary containment.

C.3.6 The system also includes a 12 meter length of 450 mm diameter chlorine contact pipe

C.4 System Flows

C.4.1 The Chepstow well supply has 1 Permit To Take Water (PTTW) # 7413-CB4HJY (expiry: April 27, 2034), which allows 216 m³/day to be pumped.

C.4.2 The Municipal Drinking Water Licence for Chepstow is Licence No. 081-101, Issue No. 3, issued July 21, 2021, and expires July 21, 2026.

C.4.3 The Drinking Water Works Permit for Chepstow is Permit No. 081-201, Issue No. 3, issued July 21, 2021.

C.4.4 The maximum flow is 2.21 Litres per second. These flows may be exceeded when the water is being used for maintenance of the drinking water system.

C.4.5 The limiting factor regarding flow is the treatment capabilities of the Water Treatment System

C.5 Distribution System

C.5.1 The Chepstow Distribution System serves the community of Chepstow with a population of approximately 65 residents, with approximately 21 customer services.

C.5.2 The system consists mostly of the original PVC piping.

C.5.3 There is only 1 valve associated with the Chepstow distribution system. It is located just West of the Water Treatment Facility. There are blow-offs at both ends of the distribution system.

C.5.4 There is no Standpipe / Water Tower in this system.

C.5.5 Distribution piping is mainly 100 mm, and consists of PVC piping with the remainder being poly pipe.

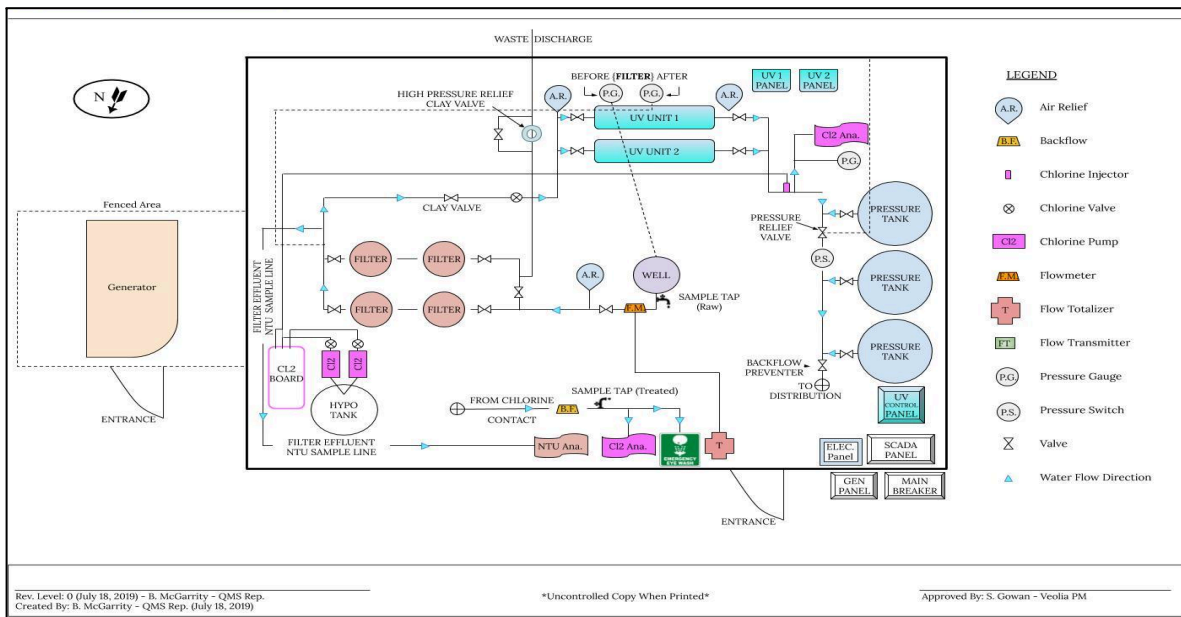
C.5.6 The system pressure set point is from 50 to 70 psi

C.6 Sample Analysis

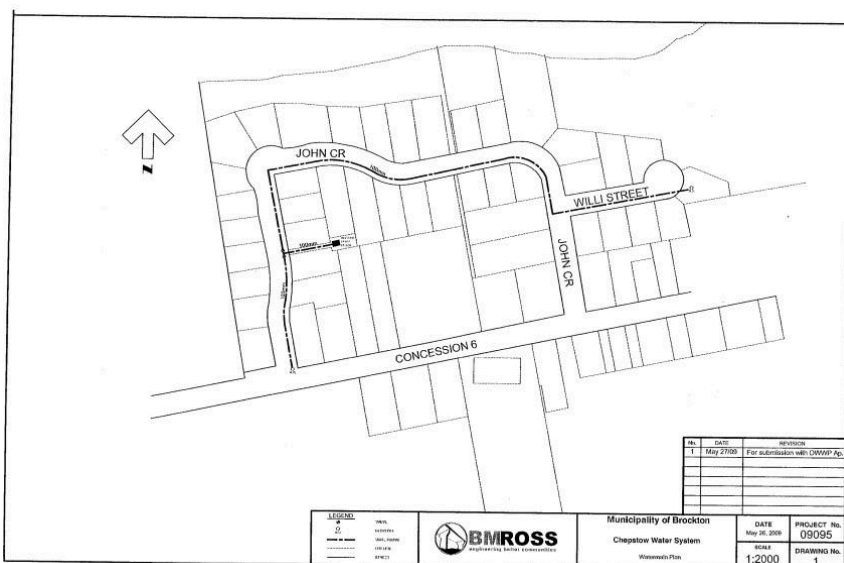
C.6.1 Provincial regulations dictate the sampling and monitoring requirements for the system. Water quality is tested throughout the treatment process and distribution system. Where required by regulation, samples are submitted to an accredited laboratory for analyses.

C.7 Process Flow Schematic and Diagram:

C.7.1 Process Flow Schematic – Chepstow WTP



C.7.2 Distribution Schematic – Chepstow



Lake Rosalind Drinking Water System Description

The Lake Rosalind Well Supply, located at 442 Lake Rosalind Road 4, provides potable water supply to the residences of Lake Rosalind.

LR.1 General

LR.1.1 The Lake Rosalind RD 4 Water Treatment Plant consists of two wells referred to as Well 1 and Well 3. Well 1 is a shallow dug well rated at 21 liters per minute and Well 3 is a drilled well rated at 77 liters per minute. The water is pumped through two stage filtration (5 micron and 1 micron). Sodium hypochlorite is injected prior to filtration to achieve disinfection. The water then passes through a 30.1 cubic meter chlorine contact tank and then enters the 91 cubic meter storage area prior to entering the distribution system. There is a diesel generator for emergency situations.

The Lake Rosalind water system is characterized as a ground water – (GUDI) well system.

The entire system is located on the west side of Lake Rosalind, northwest of the Town of Hanover, in the Municipality of Brockton. The distribution system serves the community of Lake Rosalind and approximately 60 customer services, serving a population of approximately 170 residents.

LR.1.2 The Lake Rosalind Water System is a Class 1 Distribution and Supply Subsystem and a Class 1 Water Treatment Subsystem - Small Municipal Residential System owned by the Municipality of Brockton, and operated by Veolia Water Canada. The Lake Rosalind Water System provides potable water to the residents and businesses of the Lake Rosalind water system.

LR.1.3 Well # 1 is a shallow dug well, possibly less than 3 meters deep, equipped with a 0.75 kW jet pump,(rated at 21 L/minute) supplying raw water to the treatment system. The date of installation is unknown, but the well was upgraded in 2005.

Well # 3 is a 200 mm, 22.9 meter deep drilled ground well, equipped with a submersible pump rated at 0.98 L/s (from CoA - 77 L/minute listed in Summary). This overburden well was constructed in 1987.

LR.1.4 The Lake Rosalind drinking water system is equipped with a Supervisory Control and Data Acquisition System (SCADA) allowing for remote control, monitoring and record keeping of the system. This provides the operator with the current operating status of the supply and treatment equipment throughout the system at any given time.

LR.1.5 A 25 kW standby diesel generator and fuel storage tank are located at the water treatment plant. The diesel generator provides emergency backup power for the water system in the event of a power failure.

LR.2 Description of Water Source

LR.2.1 Well # 1 and well # 3 are under the influence of surface water and are GUDI wells. From the First Engineer's Report in 2000, Well # 1 is a shallow overburden well taking water from a surficial unconfined aquifer. The raw water microbiological data indicated that from raw water samples the well must be characterized as a surface water source. Well # 3 is also a relatively shallow overburden supply that also exhibits poor microbiological water quality and is also characterized as a surface water source.

LR.2.2 The full characterization of the raw water supply source is listed in the First Engineer's Report. This report can be found in the Lake Rosalind Operations and Maintenance Manual located at the QMS Rep. desk, or on the Google Shared Drive (Veolia Brockton & South Bruce Shared → Brockton Files → Ops & Maintenance Manual → Lake Rosalind Operations and Maintenance Manual).

LR.2.3 Critical upstream processes include the well head and surrounding terrain. Well heads are inspected and maintained on a regular basis by the Operating Authority. Community source water protection is evolving a system for additional protection. Critical downstream processes include backflow prevention in the distribution system to help ensure no contaminants are introduced into the water system should a critical drop in system pressure occur. There are no events, or seasonal driven fluctuations, or operational challenges, or threats expected from the well systems.

LR.3 Disinfection System

LR.3.1 With a groundwater temperature of 10°C, a flow rate of 1.63 L/s and a required Contact Time (CT) value of 68, the chlorine residual through the contact chamber needs to be greater than 0.50 mg/L. The free chlorine residual within the Distribution System must be maintained above 0.05 mg/L.

LR.3.2 The treatment system consists of two cartridge filtration systems (duty and standby) each consisting of two filter units. Both are National Sanitary Foundation (NSF) certified and each rated at 80 L/min, to remove particles down to one (1) micron in size. The system also includes a differential pressure switch to interlock the well pump shutdown and an on-line turbidity analyzer at the filter effluent line.

LR.3.3 A chlorination system utilizing sodium hypochlorite, consists of two (2) (one duty and one stand-by) chlorine solution metering pumps, each with a rated capacity of 3.8 L/hr at 520 kPa with the duty pump automatically controlled by a flow meter sensor. One 35 L solution storage tank is also included in the system.

A 30.1 m³ in ground concrete chlorine chamber complete with inlet and outlet perforated pipe diffusers discharge into the existing storage chamber (a 91 m³ clear well concrete chamber located under the pumphouse, with two submersible high lift pumps, each rated at 5.3 L/s at a TDH of 67 m. Six pressure tanks of 455 L capacity each are also included in the system.

LR.4 System Flows

- LR.4.1 The Lake Rosalind well supply has 1 Permit To Take Water (PTTW) #8774-9M9RQY (expiry: July 31, 2024), which allows 140.832 m³/day to be pumped from the combined wells.
- LR.4.2 The Municipal Drinking Water Licence for Lake Rosalind is Licence No. 081-102, Issue No. 3, issued July 21, 2021, and expires July 21, 2024.
- LR.4.3 The Drinking Water Works Permit for Lake Rosalind is Permit # 081-202, Issue No. 3, issued July 21, 2021.
- LR.4.2 The maximum flow is listed as 80 Litres per minute This flow may be exceeded when the water is being used for maintenance of the drinking water system.
- LR.4.3 The limiting factor regarding flow is the capacity of the filters.

LR.5 Distribution System

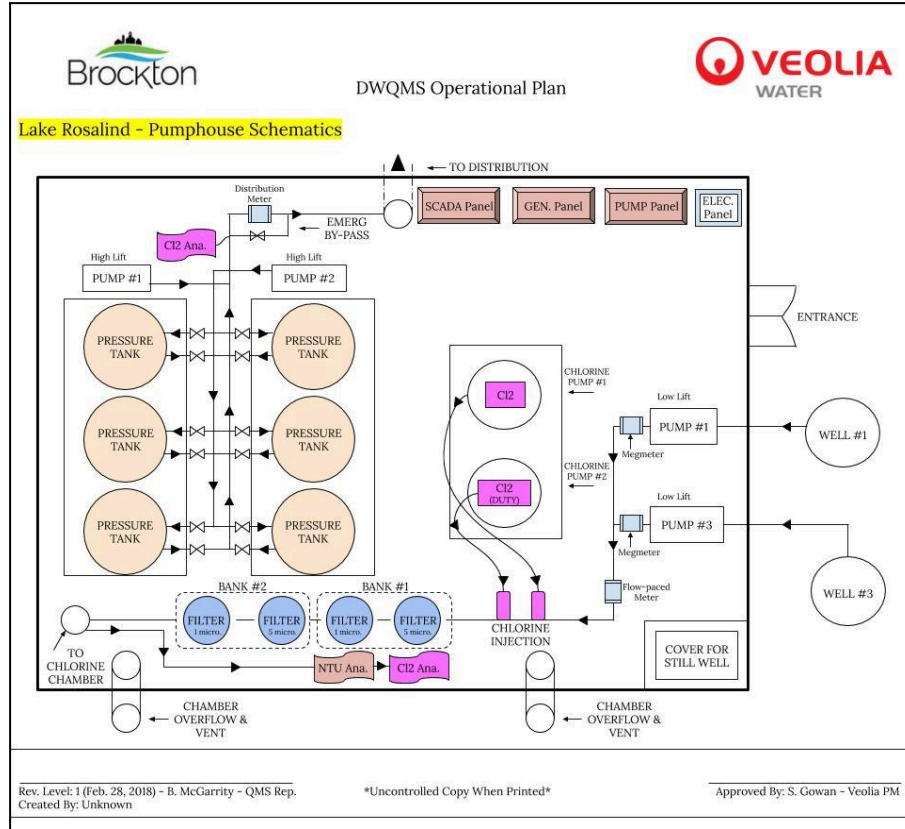
- LR.5.1 The Lake Rosalind Distribution System serves the community of Lake Rosalind with a population of approximately 60 residents.
- LR.5.2 The system consists mostly of PVC Piping.
- LR.5.3 There are no hydrants and 4 valves associated with the Lake Rosalind distribution system.
- LR.5.4 There is no Standpipe / Water Tower in this system.
- LR.5.5 Distribution piping is mainly 100 mm, and consists of PVC piping with the remainder being either cast iron or ductile.
- LR.5.6 The system pressure set point is on at 60 psi off at 80 psi. .

LR.6 Sample Analysis

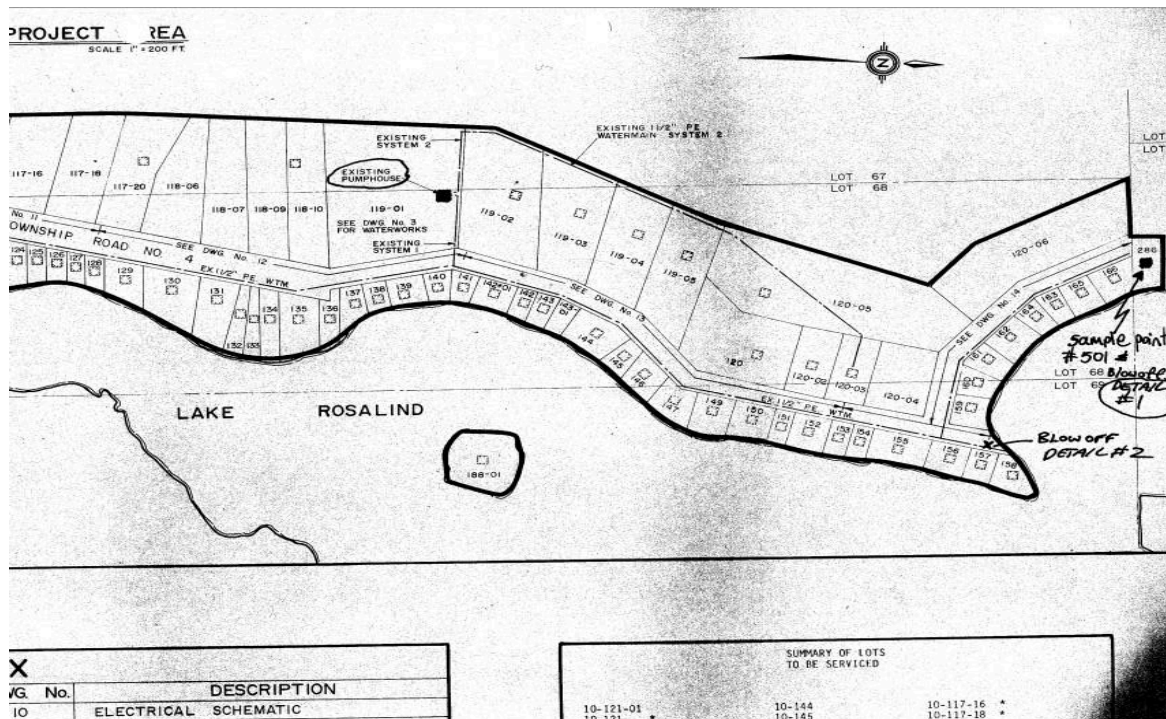
- LR.6.1 Provincial regulations dictate the sampling and monitoring requirements for the system. Water quality is tested throughout the treatment process and distribution system. Where required by regulation, samples are submitted to an accredited laboratory for analyses.

LR.7 Process Flow Schematic and Diagram:

6.7.1 Process Flow Schematic – Lake Rosalind WTP



6.7.2 Distribution Schematic – Lake Rosalind



Walkerton Drinking Water System Description

The Walkerton Water Treatment Plant, located at 1244 Bruce Road # 3, provided potable water supply to the residences and businesses of the Town of Walkerton. The system also supplies water to a commercial development known as East Ridge Business Park.

W.1 General

W.1.1 The Walkerton Water System consists of two wells referred to as Well 7 and Well 9. Water flows through a UV unit for primary disinfection, followed by chlorination. There is one (1) 150 kW emergency (standby) diesel generator set located onsite, as a standby power supply. Water storage and pressure is maintained by two standpipes (each having their own booster station), and a third booster station. Each booster station has a standby diesel generator for emergency situations.

BOOSTER STATIONS & STANDPIPES

- **East Ridge Business Park Booster Station**
 - Location: Cunningham Road, Town of Walkerton, Ontario
 - Centrifugal Pumps
 - One (1) pump rated at 0-6 L/s at a TDH of 140-480 kPa
 - One (1) pump rated at 6-50 L/s at a TDH of 140-480 kPa,
 - One (1) pump rated at 50-126 L/s at a TDH of 140-480 kPa,
 - One (1) pump rated at 126-250 L/s at a TDH of 140-480 kPa
 - Standby Power
 - One 275 kW diesel generator set
 - North Standpipe
 - 3,380 cubic meters

- **Wallace Street Booster Station**
 - Location: 6 Wallace Street, Town of Walkerton, Ontario
 - Centrifugal Pumps
 - Two (2) pumps, each rated at 6.5 L/s at 17 m TDH
 - One (1) pump rated at 78 L/s at 27 m TDH
 - Standby Power
 - One (1) 120 kW emergency (standby) diesel generator set
 - South Standpipe
 - 1,486 cubic meters

- **Walker West Booster Pump Station**
 - Location: Block 135 of Walker West Estates Subdivision, Walkerton, ON
 - Equipment
 - Two (2) electric motor booster pumps with a rated capacity of 157 L/s at 7.6 m TDH (one duty/one standby), complete with a VFD
 - Three (3) electric motor booster pumps with a rated capacity of 8.4 L/s at 17.8 m TDH (two duty/one standby), complete with a VFD
 - Three (3) 1,200 L pressure tanks
 - Monitoring Equipment
 - One (1) magnetic flowmeter

- One (1) pressure transmitter located on the pump suction side
- One (1) pressure transmitter located on the pump discharge side
- Two (2) pressure switches located on the pump discharge side
- One (1) residual chlorine analyzer
- Standby Power
 - One (1) 100 kW diesel generator with 100 kW load bank and automatic load controller

The Water Treatment chemical used is NSF Certified Chlorine gas.

The Walkerton water system is characterized as a “secure ground water” (non-GUDI) well system.

The entire system is located in the Municipality of Brockton. The distribution system serves the community of Walkerton with a population of approximately 4967 residents, with approximately 2100 customer services.

W.1.2 The Walkerton Water System is a Class 2 Distribution and Supply large municipal residential system owned by the Municipality of Brockton, and operated by Veolia Water Canada. The Walkerton Water System provides potable water to the residents and businesses of the Town of Walkerton.

W.1.3 Well # 7 is a 381 mm diameter, approximately 76.2m deep, drilled well located in the Pumphouse, equipped with a vertical turbine pump sized to deliver 56.8 L/s (4900 M3/day) at a Total Dynamic Head (TDH) of 66 meters.

W.1.4 Well # 9 is a 350 mm drilled well located adjacent to well # 7, equipped with a submersible pump rated at 56.8 L/s at a Total Dynamic Head (TDH) of 66 meters.

A 200 mm diameter raw water supply line discharges to the water treatment facility from the Well #7 site.

W.1.5 The Walkerton drinking water system is equipped with a Supervisory Control and Data Acquisition system (SCADA) allowing for remote control, monitoring and record keeping of the system. This provides the operator with the current operating status of the supply and treatment equipment throughout the system at any given time.

W.2 Description of Water Source

W.2.1 Well # 7 and Well # 9 are not under the influence of surface water, because the wells penetrate limestone aquifers. Because of the depth and structure of the aquifers, the water temperature is relatively constant, turbidity is low, and the water is relatively hard. The raw water is also relatively high in selenium (typically above the Maximum Allowable Concentration), but the lead content of the raw water is well below the half-MAC (Maximum Allowable Concentration). Those who are supplied water from the Walkerton Well Supply are made aware of the various concentrations in their drinking water by numerous means of communication with the Municipality of Brockton.

W.2.2 The full characterization of the raw water supply source is listed in the First Engineer's Report. This report can be found in the Walkerton Operations and Maintenance Manual located at the Municipality of Brockton Office, the QMS Rep. desk, or on the Google Shared Drive.

W.2.3 Critical upstream processes include the well head and surrounding terrain. Well heads are inspected and maintained on a regular basis by the Operating Authority. Community source water protection is evolving a system for additional protection. Critical downstream processes include backflow prevention in the distribution system to help ensure no contaminants are introduced into the water system should a critical drop in system pressure occur. There are no events, or seasonal driven fluctuations, or operational challenges, or threats expected from the well systems.

W.3 Disinfection System

W.3.1 The water supply located at the Well # 7 site consists of a surge suppression system, a UV disinfection system, a chlorination system, standby power, and a control system.

W.3.2 The surge suppression system consists of a tank (approx. 6000 L with bladder), and associated piping, rate of flow control valve, controls and instrumentation. Also included is a 100 mm surge anticipator valve, downstream of the flow control valve, equipped with a blow off drain.

W.3.3 Primary disinfection consists of ultraviolet (UV) disinfection equipment including a 300 mm diameter UV reactor (and identical standby unit), rated to supply a minimum dosage of 40 mJ/cm² at 82.6 L/s with auto switchover controls and automatic cleaning system. Also included is an on-line UV transmittance analyzer / monitor, a UV intensity monitoring sensor for each unit, and associated electrical controls, piping, valves and instrumentation.

W.3.4 A secondary disinfection system is located downstream from the UV system and consists of two 9.0 kg/day gas chlorinators (one duty and one standby) complete with scales, duplex automatic change-over and regulator. Also included is a chlorine analyzer and chlorine leak detector, and two chlorine booster pumps (one duty and one standby), and related controls and instrumentation.

W.4 System Flows

W.4.1 The Walkerton well supply has 1 Permit to Take Water (PTTW) # 1128-9U4JGC (expiry: February 26, 2025), which allows 7139.52 m³/day to be pumped from the combined wells.

W.4.2 The Municipal Drinking Water Licence for Walkerton is Licence No. 081-103, Issue No. 3, issued July 21, 2021, and expires July 21, 2026.

W.4.3 The Drinking Water Works Permit for Walkerton is Permit No. 081-203, Issue No. 3, issued July 21, 2021, with no expiry date.

W.4.2 The maximum flow is 82.6 l/s. These flows may be exceeded when the water is being used for maintenance of the drinking water system or firefighting.

W.5 Distribution System

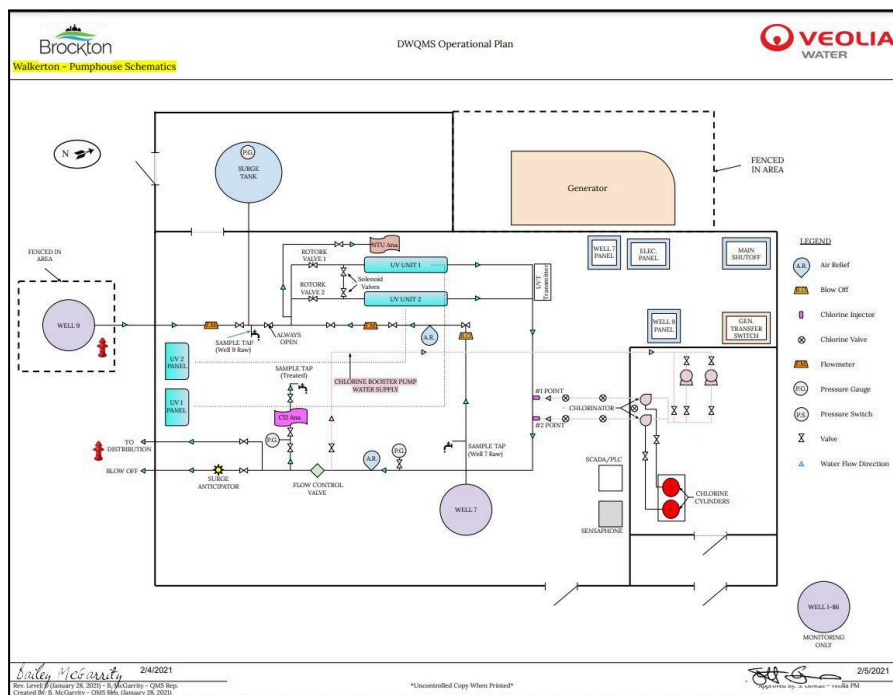
- W.5.1 The Walkerton Distribution System serves the community of Walkerton with a population of approximately 4967 residents, with approximately 2100 customer services
- W.5.2 The system consists mostly of the original cast iron pipes and some ductile iron pipe. When these mains are replaced, PVC piping is used.
- W.5.3 There are approximately 300 hydrants associated with the Walkerton distribution system.
- W.5.4 Water storage and pressure is maintained by two standpipes. There are three pressure zones, two equipped with booster stations to maintain adequate pressure.
- W.5.5 Distribution piping is mainly 150 mm, and consists of PVC piping with the remainder being either cast iron or ductile.
- W.5.6 The system pressure ranges from 30-95 psi.

W.6 Sample Analysis

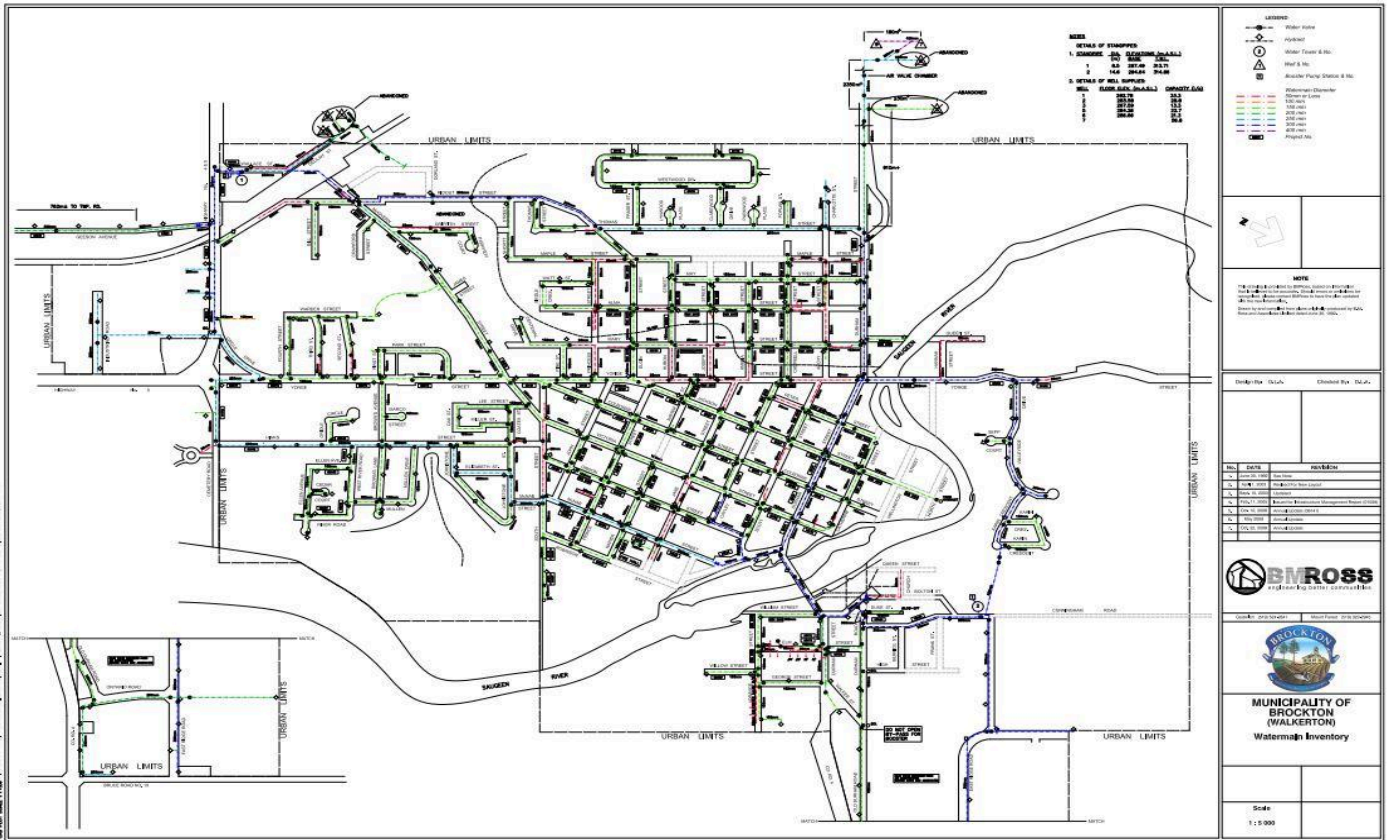
- W.6.1 Provincial regulations dictate the sampling and monitoring requirements for the system. Water quality is tested throughout the treatment process and distribution system. Where required by regulation, samples are submitted to an accredited laboratory for analyses.

W.7 Process Flow Schematic and Diagram:

W.7.1 Process Flow Schematic – Walkerton WTP



W.7.2 Distribution Schematic - Walkerton



Element 7 - Risk Assessment

DWQMS Operational Plan

Rev. 4 (December 18, 2024)

A Risk Assessment Procedure has been established and implemented to determine the potential hazards and critical control points that exist in the water treatment system.

A Risk Assessment Table has been developed to list potential hazards and their effects, and the associated monitoring and control measures. Critical Control Points (CCP) and Critical Control Limits (CCL) are identified using a Risk Priority Number system described in the risk assessment procedure.

For emergency situations or hazardous events outside the regular monitoring and control process, a Contingency Plan is available for response to deviations from Critical Control Limits (CCL).

An Operational Plan and Contingency Plan are readily available for employee reference on Google Drive.

Procedures are implemented for reporting and recording deviations from Critical Control Limits (CCL).

An annual Management Review, as described in Element 20, takes place to ensure the system is current and the risk assessment procedure and outcomes are reviewed and maintained.

A full updated Risk Assessment is to be conducted once every 36 months in addition to reviews held once every calendar year (unless a 36 month review has been completed within that year).

The current year Risk Assessment or Risk Review can be found on Google Drive in the corresponding folder.

APPENDIX B

APPENDIX B1: Risk Assessment Procedure

APPENDIX B2: Risk Assessment Table

Element 9 - Organizational Structure, Roles, Responsibilities & Authorities

DWQMS Operational Plan
Rev. 4 (January 22, 2025)

The system Owner (The Municipality of Brockton), and the Operating Authority (Veolia Water Canada), have an organizational structure in place to ensure the management of safe drinking water. Only qualified Operators (those who have received the proper training and certification) are granted permission to access the drinking water for Walkerton, Chepstow and Lake Rosalind.

Though the Owner Representatives are not the direct Operational Staff, it is required that they have the appropriate knowledge on all three Systems. This is completed when position changeover occurs, through a council meeting as a refresher to the Mayor, Deputy Mayor and Council Members (these council meetings are also open to the public). Once every calendar year, a Management Review is also required.

The following individuals are to be present during this review (whether in-person, video, or if unavailable, a conclusion email will be sent):

- Area Manager (Operating Authority)
- Project Manager (Operating Authority)
- QMS Rep. (Operating Authority)
- Director of Operations (Owner Representative)

Job descriptions are created for each Operating Authority and Owner position, and are outlined in the Responsibilities Table, showing title, responsibilities and authorities. Organizational Charts show the relationship of roles in the structure. These can be found in Appendix E.

APPENDIX E

APPENDIX E1:	Organizational Chart - Operating Authority
APPENDIX E2:	Responsibilities Table - Operating Authority
APPENDIX E3:	Organizational Chart - Owner
APPENDIX E4:	Responsibilities Table - Owner

Element 10 - Competencies

DWQMS Operational Plan

Rev. 4 (January 7, 2025)

All personnel performing duties directly affecting drinking water quality must have adequate training and be competent in their position. This relates to legislative as well as DWQMS requirements.

Legislative Requirements

The Water Treatment Plant Operator-In-Charge (OIC) shall, at a minimum, maintain the following classification certifications per O. Reg. 128/04, (with exceptions for relief periods as specified in the legislation):

Chepstow - Water Distribution and Supply Class I
 - Water Treatment Class I

Lake Rosalind - Water Distribution and Supply Class I
 - Water Treatment Class I

Walkerton - Water Distribution and Supply Class II

Additionally, annual training is provided to ensure that personnel meet or exceed minimum standards for annual training hours and continuing education hours as established in O. Reg. 128/04.

Veolia is required to provide competent operators to maintain effective water treatment. It is required as part of the operator's responsibility to monitor and ensure he / she receives adequate annual training hours to maintain his / her operator certification for the operation of the Water Treatment Plant.

An annual review (more frequently as required) of training records and certifications is made by the Project Manager, QMS Rep., or designate to ensure classifications are current and competency is maintained. Operators are advised by the Project Manager of upcoming requirements.

The Project Manager may also recommend training courses and approve training registration requests as appropriate. The Project Manager assists in course arrangements and maintains and monitors the employee training matrix.

Effectiveness of outside training is evaluated by the Project Manager, after completion, by discussions with the employee. Certifications from the training, when provided, are filed with the employee training records, and added to the Training Matrix.

To ensure Operator Certificates/Licences/Required Training is kept current, a reminder schedule is now in-place that will email the Project Manager, QMS Rep. and the Operator (who's licence/certificate is coming due) reminds every six months, three months and one month prior to expirations. With this new program established, important certificates, licences and training should not become expired, as there will be enough time for renewal procedures.

In-House Training Requirements

In-house training such as new employee orientation, internal systems (SCADA etc.), refresher training is provided by the Project Manager / Overall Responsible Operator or designate.

Training session records are to be noted by the employee, signed by the trainer and trainee, and forwarded to the QMS Rep. for filing and entering in the Training Matrix.

QMS Awareness Training Requirements

All personnel must be aware of the Quality Management System and their requirements under the QMS, especially those pertaining to their specific roles.

The QMS Operational Plan, and any changes to procedures affecting personnel, will be reviewed with employees by the Project Manager and/or QMS Representative at least prior to the accreditation audit, and as appropriate throughout the development of the Operational Plan (Document and Records Control, Risk Assessment, for example) and when changes may be made to the Operational Plan.

APPENDIX D

APPENDIX D1: Competency Requirements Table

APPENDIX D2: Training Matrix

Element 11 - Personnel Coverage

DWQMS Operational Plan

Rev. 5 (January 8, 2025)

The Operating Authority shall implement and conform to the following procedure:

The Brockton Facilities are staffed from Monday to Friday from 7:30 a.m. until 4:00 p.m. and are attended to on weekends for normal daily rounds.

The Project Manager, or delegate, is the primary Overall-Responsible-Operator (ORO).

There is an assigned on-call water Operator during off-hours. The schedule is posted in the office of the Operating Authority, as well as on Google Drive for easy access for all Operators.

The on-call Operator conducts a physical verification of conditions at the pumphouse once per day during weekends and statutory holidays.

The normal on-call schedule for water system Operators shall be from start time on Thursday to start time the following Thursday. The Project Manager, or Assistant Project Manager establishes and maintains the on-call schedule.

At all times the pumphouses are monitored by SCADA. The SCADA system has an auto-dialer that has been programmed to contact personnel whenever conditions warrant.

The on-call Operator is the designated Operator-In-Charge (OIC) and will respond to, and investigate all alarms within 60 minutes. After evaluating the situation, the Operator will correct the problem or will call the ORO who will then provide help, whether that means by himself/herself or calling another Operator at his/her discretion based on the situation.

The ORO is available by cell phone when not physically at the pumphouse.

Veolia Water Canada is a non-unionized operation, and labour disputes are unlikely. Management Personnel are trained in operations if backup Operators are required.

In the event that the required number of competent, trained personnel are unavailable for any reason, appropriate action must be taken. For further detail and procedure regarding the resolve of this particular situation, please refer to Contingency Plan **Short-Staff**.

APPENDIX G

APPENDIX G1: After Hours Dispatch and Response to Auto-Dialer Alarm Procedure

Element 12 - Communications

DWQMS Operational Plan

Rev. 4 (January 8, 2025)

The QMS Rep. shall ensure that the Owner is provided a current copy of the Operational Plan. The Owner shall also be advised of any changes to the Quality Management System, following revisions, and a status update shall be communicated following Management Reviews. This communication may take place during the regular annual report to Council by the liaison, or separate meetings arranged as necessary.

In addition to the Operational Plan, potential changes and Management Reviews, other relevant information could include audit reviews, risk assessment changes, and provision for infrastructure information. The procedure for this information to be communicated to the Owner is that the Project Manager will communicate to the Owner, through the Owner's liaison, the Director of Operations. This can take place at Council Meetings, or Committee Meetings, as applicable.

Operating Authority Personnel will be informed of the QMS and any changes or updates through staff meetings with the Project Manager and/or the QMS Representative following the original implementation. The QMS Policy is posted at all Pumphouses. In addition to the QMS Policy, the Operational Plan is kept on Google Drive, to ensure Operators have easy and quick access to all current documents (Contingency Plans and Standard Operating Procedures), that are needed at the time.

Essential Suppliers shall receive information regarding the QMS from the Operating Authority as required for purchasing as described in Element 13.

The Owner shall make the Operational Plan available for viewing by the public at accessible locations in the geographical area, served by the subject system. Consumers or the General Public will have access to the QMS policy and the complete Operational Plan at the Operating Authority and the Municipality Offices. As well, a refined copy of the Operational Plan is located on the Municipal Website.

Element 13 - Essential Services & Suppliers

DWQMS Operational Plan

Rev. 4 (January 21, 2025)

All essential Chemical, Material, Equipment, and Part Suppliers, and Service Providers must meet the Quality and Performance standards suitable for the production and delivery of safe drinking water to the customer.

Essential suppliers of chemicals and materials must meet NSF / ANSI (National Sanitary Foundation / American National Standards Institute) standards.

Ontario legislation requires that Laboratories performing drinking water testing must be accredited for the parameters being tested, and Operating Authorities must use accredited labs as required for testing.

Documentation on quality and other supplier requirements are provided to all essential suppliers and service providers indicated in Appendix HI: Essential Suppliers and Services Table, via letter. These *Supplier Letters* are distributed once a supplier or service becomes essential to help guarantee that safe drinking water is constantly provided to the consumer. Refresher letters are also distributed on a five-year rotation, to ensure that all essential suppliers and services continue to meet Veolia requirement (view appendix H2 for Supplier Distribution List)

The QMS Representative reviews the requirements annually, or more frequently as may be required for changes. The suppliers are then informed by the Project Manager, QMS Representative, Administrative Assistant, or designate.

Meetings are held with contractors and service providers prior to work being carried out on water treatment equipment. They are accompanied by a Water Operator to ensure water plant and distribution system requirements are understood and met prior to performing their task.

On receipt of goods and services, materials and packing slips are checked against the Purchase Order or invoice by appropriate personnel with knowledge of the goods, services, materials or parts to ensure requirements are met. If an issue is noted the supplier is contacted by the appropriate person. Operators are sufficiently trained and knowledgeable to ensure the proper materials are received and available.

Appendix H lists the Essential Suppliers and Services, Procurement information, and Quality expectations.

APPENDIX H

APPENDIX H1: Essential Supplies and Services Table

APPENDIX H2: Essential Supplier and Service Letter - Distribution Frequency

Element 14 - Review and Revision of Infrastructure

DWQMS Operational Plan

Rev. 5 (January 22, 2025)

On an annual basis a summary of the Water Treatment System is prepared by the Operating Authority's Project Manager / Overall Responsible Operator and is submitted to the Owner. Included in the Summary Report is a review and updates on the Operating Authority's infrastructure and related programs.

The procedure will be for the Project Manager / Overall Responsible Operator to compile information received from the Operators throughout the year based on work orders and observations relating to the infrastructure of the water treatment system. This information will be summarized in the Infrastructure section of the annual summary report and presented to the Owner on an annual basis. The Annual Summary is required to be submitted to the MECP by March 1st, and to the Owner by March 30th of each year.

The report shall cover the infrastructure in place - the water system infrastructure necessary to operate and maintain the system includes buildings, workspace, associated utilities, process equipment, supporting services, vehicles, distribution system and elevated storage. The report will advise on the adequacy or condition of the infrastructure, with recommendations were warranted.

An Infrastructure Review is carried out as part of the DWQMS requirements, at least once every calendar year. An *Infrastructure Review Documented* form will be completed during the review process as a means to document and record when and what topics were covered during the review. These completed forms are kept in the Infrastructure Reviews folder (Google Shared Drive → DWQMS Requirements → Infrastructure Reviews → Brockton). For further information, review Appendix O1 - Infrastructure Review Procedure.

APPENDIX O

APPENDIX O1: Infrastructure Review Procedure

APPENDIX O1.A: Form 14-01 - Infrastructure Review Documented

Element 15 - Infrastructure Maintenance Rehabilitation and Renewal

DWQMS Operational Plan

Rev. 6 (January 22, 2025)

The Operating Authority maintains a documented summary of the Operating Authority's infrastructure maintenance, rehabilitation, and renewal programs for the water treatment and distribution system (view a summary of programs on page 2). This assists in ensuring the infrastructure required is in place and is adequately maintained, or plans for improvement are in place for continued safe drinking water to be provided to the customer.

The summary, along with the long term forecast of major infrastructure maintenance, rehabilitation and renewal activities are kept current, and is communicated to the Owner Representative (who will then communicate to the Owner), at least once every Calendar Year. Please review form O1.A *Documented Infrastructure Review* (Operational Plan → Appendix O → Form O1.A) for the summary and long term forecast discussion.

Monitoring of the effectiveness of the maintenance, rehabilitation, and renewal programs is a requirement of the DWQMS, and is carried out by monitoring the maintenance work order system and assessing the amount of planned (preventive action) versus unplanned (corrective action) maintenance activity.

Corrective Action - action to **eliminate the cause** of a detected nonconformity of the QMS with the requirements of the DWQMS or other undesirable situation.

Preventative Action - action to **prevent the occurrence** of nonconformity of the QMS with the requirements of the DWQMS or other undesirable situation.

A Computerized Maintenance system (Jobs Plus) generates work orders for routine equipment servicing and preventive maintenance for designated equipment in the water treatment and distribution system. Preventative Maintenance can also be entered into the Jobs Plus system by the Project Manager or Operator as proof completed maintenance work.

A summary of key infrastructure material and equipment from (the Computerized Maintenance Management System - CMMS or Jobs Plus, etc) is generated by the Project Manager / ORO and also added to the annual infrastructure summary.

Summary of Veolia Water Canada’s Infrastructure Maintenance, Rehabilitation and Renewal Program

PROGRAM	FREQUENCY
Generator Test Run	Chepstow - monthly Lake Rosalind - monthly Walkerton - monthly
Generator Inspection (outside company)	Chepstow - biannual Lake Rosalind - biannual Walkerton - biannual
Flushing - Hydrant / Blow Offs	Chepstow - biannual Lake Rosalind - biannual Walkerton - annual
Valve Operation	Chepstow - NA Lake Rosalind - NA Walkerton - Biennial (Eastside - even years, Westside - odd years)
Chlorine Injection Point - Cleaning	Chepstow - Monthly Lake Rosalind - Monthly Walkerton - NA
UV Sensor Calibration	Chepstow - Monthly inhouse calibration Lake Rosalind - NA Walkerton - Monthly inhouse calibration
UV Reference Sensor Calibration (outside company)	Chepstow - 3 years Lake Rosalind - NA Walkerton - 3 years
UV Service (outside company)	Chepstow - 6 months Lake Rosalind - NA Walkerton - 6 months
UV Transmitter Bulb Change	Chepstow - Annual Lake Rosalind - NA Walkerton - Annual
Flow Meter Calibration	Chepstow - Annual third-party calibration Lake Rosalind - Annual third-party calibration Walkerton - Annual third-party calibration
Standpipe Inspection	Chepstow - NA Lake Rosalind - NA Walkerton North Tower - 5 years Walkerton South Tower - 5 years

Element 16 - Sampling, Testing & Monitoring

DWQMS Operational Plan

Rev. 6 (January 22, 2025)

The Operating Authority maintains a sampling, testing, and monitoring process as required by the Ontario Regulation 170/03, including under conditions challenging to the system, as shown in the Table in **Appendix C**.

Specific sampling and monitoring procedures are established for operating the water facilities, and are listed in the Operations Manual. The non-routine sample schedule is located in the Main Office, above the filing cabinet for Operators to refer to.

Test results are reported to the Operating Authority by the Accredited Lab and Operator. Test results are recorded in the logbook in the pump houses by the Operator.

All sampling and test records from the SCADA and data logger systems, laboratories, and Operators are recorded, properly filed and maintained according to procedures as outlined in the Document and Records Control Procedures, and the Operations Manual.

The procedure is for test results to be provided to the Owner on a monthly basis by the Operating Authority, who compiles the data and forwards the results to the Owner. The accredited Lab also forwards test results to the owner on a monthly basis, unless otherwise requested by the Owner to forward the results to the Operating Authority only.

A summary of the sampling and monitoring requirements of the various pump house process steps, including frequency, location, quality targets, challenging conditions, and records, is shown in the appropriate system section tab at the back of this document.

APPENDIX C

APPENDIX C1:	Chepstow Drinking Water System
APPENDIX C2:	Lake Rosalind Drinking Water System
APPENDIX C3:	Walkerton Drinking Water System

Element 17 - Measuring & Recording Equipment Calibration

DWQMS Operational Plan

Rev. 2 (January 22, 2025)

The Operating Authority maintains a calibration and maintenance process, as required for the measurement and recording equipment used in the water systems. Procedures are established for calibration and maintenance of this equipment, and are listed in the Operations Manual.

Specific equipment procedures are available in the Equipment Manufacturer's Manuals and Users Manuals are available for Operators as required.

Certified sub-contractors are used as required for maintenance and calibration of flow meters, and records maintained.

All calibration and maintenance records are properly filed and maintained according to procedures as outlined in the Document and Records Control Procedures, and the Water Systems Operations Manual.

A summary of the calibration and maintenance requirements, for the pump house measurement and recording instruments, including method, frequency, and records is shown in Appendix J - Measurement and Recording Equipment Calibration Table. The Table is maintained by the Operating Authority as revisions are required.

APPENDIX J

APPENDIX J1: Measurement and Recording Equipment Calibration Table

Element 18 - Emergency Management

DWQMS Operational Plan

Rev. 4 (January 22, 2025)

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

Some emergency situations that could occur include chemical, biological, or radiological contamination, major distribution line or watermain breaks, interruptions in pressure, or loss of power. Procedures or Contingency Plans related to potential emergency situations can be found in the Operations Manual or Contingency Plan.

A Contingency Plan (Emergency Response Plan) for the Operating Authority is available on Google Drive. Water System Operators and staff are kept up to date with annual reviews of the Operations Manual and Contingency Plan, or as required if changes occur.

It is the responsibility of the Safety Coordinator, and/or QMS Rep. to ensure that employees are aware of the Contingency Plan and are trained in their responsibilities with regard to emergency preparedness.

During an emergency situation, it is the responsibility of the Municipality of Brockton (Owner) to keep the public and media informed (when deemed necessary) of current situations. There may be certain situations that do not require such actions from the Municipality. This discretion is left to that of the Municipality.

A list of emergency contacts and essential suppliers and services is kept with the Contingency Plan. The Contingency Plan can be found in the following locations:

1. Pumphouse
2. Operations and Maintenance Manual for each Drinking Water System (QMS Rep. desk)
3. Google Shared Drive (Veolia Brockton & South Bruce Shared → Brockton Files → SOPs_Contingency Plans)

In addition to the above, the Owner has an Emergency Response Plan, in accordance with current legislation and regulations, at the municipal office that provides information and contact information in the case of a water related emergency situation.

Emergency Response Testing is accomplished by review of one or more Contingency Plan procedures on a regular basis (minimum annually) in the form of a meeting with Operators and employees to ensure awareness of the procedures and allow discussion and input on situations that could arise as an emergency situation.

Potential Emergency Situations

Chepstow

1. Low Chlorine Residual
2. High Chlorine Residual
3. Low System Pressure
4. Power Outage
5. SCADA/PC System Failure
6. Diesel Generator Failure
7. Chemical or Fuel Spill/Leak
8. Vandalism/Terrorism
9. Failure to Receive Critical Supply of Parts or Chemicals
10. Watermain Break
11. Adverse Water Quality Incident
12. Well Casing Failure / Well Head Damage / Well Pump Failure
13. Discharge Pressure High
14. Agricultural Run-off
15. Backflow from Private Plumbing - Cross Contamination
16. Ultra Violet Disinfection Failure
17. Low System Pressure at the Pumphouse
18. High NTU within the Pumphouse
19. Short Staff
20. Backflow from Private Plumbing
21. Extreme Weather Conditions
22. Emergency Fire Situations
23. Cyberattack

Lake Rosalind

1. Low Chlorine Residual
2. High Chlorine Residual
3. Low System Pressure
4. Power Outage
5. SCADA/PC System Failure
6. Diesel Generator Failure
7. Chemical or Fuel Spill/Leak
8. Vandalism
9. Failure to Receive Critical Supply of Parts or Chemicals
10. Watermain Break
11. Adverse Water Quality Incident
12. Well Casing Failure / Well Head Damage / Well Pump Failure
13. Discharge Pressure High
14. Agricultural Run-off
15. Backflow from Private Plumbing - Cross Contamination
16. Low Reservoir Level Alarm
17. High Reservoir Level Alarm
18. High Lift Pump Failure
19. Short Staff
20. Backflow from Private Plumbing
21. Extreme Weather Conditions
22. Emergency Fire Situation
23. Blue Green Algae
24. High Filter Turbidity
25. Cyberattack

Walkerton

1. Low Chlorine Residual
2. High Chlorine Residual
3. Low System Pressure
4. Power Outage
5. SCADA/PC System Failure
6. Diesel Generator Failure
7. Chemical or Fuel Spill/Leak
8. Vandalism/Terrorism
9. Failure to Receive Critical Supply of Parts or Chemicals
10. Watermain Break
11. Adverse Water Quality Incident
12. Well Casing Failure / Well Head Damage / Well Pump Failure
13. Discharge Pressure High
14. Agricultural Run-off
15. Backflow from Private Plumbing
16. Ultraviolet (UV) Disinfection Failure
17. Short-Staff
18. Backflow from Private Plumbing
19. Extreme Weather Conditions
20. Loss of Use of Standpipe
21. Extreme Fire Situation
22. Cyberattack

Element 19 - Internal Audits

DWQMS Operational Plan
Rev. 4 (January 22, 2025)

An Internal Audit procedure has been established by the Operating Authority to comply with the Drinking Water Quality Management Standard V2.0. The intent of the procedure is to evaluate conformity of the QMS with the requirements of the Standard.

The Procedure, found in Appendix L1, identifies the internal audit criteria, the frequency recommended for the audit schedule, the scope, method and requirement for documentation of the audits.

The procedure also describes how Corrective Action Reports (CARs) are initiated and addressed to provide irreversible corrective actions to deficiencies found in the audits.

Previous internal and external audit results should be reviewed for consideration when planning the internal audit.

An Internal Audit Checklist is also included as Appendix L2 to assist with the audit.

Internal Audits are required to be completed at least once every Calendar Year.

APPENDIX L

APPENDIX L1: Internal Audit Procedure and Schedule

APPENDIX L2: Internal Audit Checklist

Element 20 - Management Review

DWQMS Operational Plan
Rev. 5 (January 22, 2025)

A Management Review procedure has been established by the Operating Authority to comply with the DWQMS standard. The intent of the procedure is to provide a structured mechanism for Top Management to perform a review of prescribed topics covering compliance, consumer, performance, and audit information based on the Quality Management System.

Top Management for the Operating Authority is defined, in Element 9 Organizational Structure, Roles, Responsibilities and Authorities, and Appendix E2, as the Area Manager and Project Manager. A Municipality representative is also included in the management review.

The Procedure, found in Appendix M1, identifies the management review process and specific topics to be assessed.

A Management Review is required to be conducted at least once every Calendar Year (anytime between January - December). A copy of the Management Review can be found on the Google Shared Drive when required (Google Shared Drive → DWQMS Requirements → Management Review → Brockton → Select Year).

A report of the results of the management review is reported to the Owner by the Project Manager on an annual basis. Use Appendix M2: Management Review Template, as a form to complete during Management Reviews as a means to communicate results to the appropriate people.

APPENDIX M

APPENDIX M1: Management Review Procedure

APPENDIX M2: Management Review Template

Element 21 - Continual Improvement

DWQMS Operational Plan
Rev. 4 (November 25, 2024)

The Operating Authority shall strive to continually improve the effectiveness of its Quality Management System through the use of corrective actions.

The review of the Operations Plan by a third party represents the first step in improving the effectiveness of the QMS. Ongoing annual Management Reviews and resulting corrective actions will be the basis for further improvement.

Corrective Actions are added to the Corrective Actions Tracking Sheet when identified. Sources of Corrective Actions include:

- a) Internal Audits
- b) External Audits
- c) AWQIs
- d) MECP Inspection Reports

The QMS Rep is responsible for ensuring corrective actions are identified, implemented and their effectiveness monitored in the Corrective Actions Tracking Sheet.

Preventative Actions are added to the Preventative Actions Tracking Sheet, when identified. Sources of Preventative Actions may include:

- a) Opportunities for Improvement
- b) Staff Suggestions
- c) Owner Suggestions
- d) Risk Assessment Outcomes
- e) Emergency Response Training Outcomes
- f) Management Reviews

The QMS Rep is responsible for ensuring preventative actions are identified, implemented and their effectiveness monitored in the Preventative Actions Tracking Sheet.

Best Management Practices (BMPs) are added to the BMPs Tracking Sheet, when identified. BMPs are to be reviewed, at minimum once every 36 months. Sources of BMPs

include:

- a) BMPs published by the MECP
- b) Customer Complaints
- c) Training Sessions
- d) Staff Feedback
- e) Publications by Professional Organizations

The QMS Rep is responsible for ensuring BMPs identified are implemented and their effectiveness monitored in the Best Management Practices Tracking Sheet.

Continual improvement of the Operational Plan will be scheduled within the calendar year to concentrate on specific elements each month. Each element within the agenda is subject to change depending on schedule conflicts of the QMS Rep. and those who may be involved. A sample schedule is provided in the appendix shown below.

Appendix N

Appendix N1: Corrective Actions Tracking Sheet

Appendix N2: Preventative Actions Tracking Sheet

Appendix N3: Best Management Practices Tracking Sheet

Appendix N4: Annual Element Review of the Operational Plan