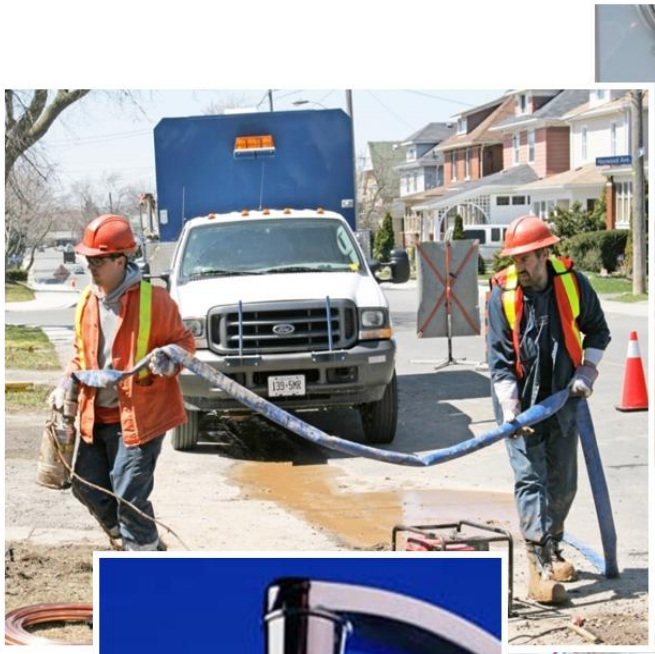
The Corporation of the City of Niagara Falls

City of Niagara Falls Distribution System

Operational Plan



CITY OF NIAGARA FALLS DISTRIBUTION SYSTEM: OPERATIONAL PLAN

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1.0 Quality Management System

1.1 Purpose

The purpose of this Operational Plan is to document the City of Niagara Falls' drinking water Quality Management System (QMS). The QMS provides a set of procedures, monitoring tools and evaluative methods that document the City's efforts to ensure that clean, safe and reliable drinking water is supplied to all its customers. This Operational Plan was developed in alignment with the requirements of the Ministry of the Environment and Climate Change's (former title of current Ministry of Environment, Conservation and Parks) Drinking Water Quality Management Standard (DWQMS) and the accompanying Guidance Document[1].

1.2 Scope

This Operational Plan applies to all drinking-water-related operations at the City of Niagara Falls.

1.3 Definitions

NSF International	NSF International is the selected Accreditation Body for City's DWQMS auditing.
City	City of Niagara Falls
Critical Control Point (CCP)	A point or step in a process at which a control can be applied in order to prevent a hazardous event from occurring, eliminate a hazard, or reduce the hazard to an acceptable level.
DWQMS	Drinking Water Quality Management Standard
DWS	Drinking water system
DWS Vendor	Supplier or service provider that provides a product or service related to the water distribution system
Hard-Copy	Paper copy of a document
MECP	Ministry of the Environment Conservation and Parks, or any future title of this entity. The MECP developed the DWQMS and requires select Ontario municipalities & utilities to develop and implement a DWQMS as a component of the Municipal Drinking-Water Licence Program.
Operator-in-Charge (OIC)	Operator designated by the Owner or Operating Authority to perform duties as outlined in O. Reg. 128/04, s. 25 (SDWA) and as per applicable City procedures and guidelines.

[1] "Implementing Quality Management: A Guide for Ontario's Drinking-Water Systems." Ministry of the Environment, July 2007.

Overall Responsible Operator (ORO)	Operator designated by the Owner or Operating Authority to perform duties as outlined in O. Reg. 128/04, s. 23 (SDWA) and as per applicable City procedures and guidelines.
Owner	Legal or beneficial owner of the DWS. For the City of Niagara Falls, the Owner is represented by the Mayor and Council. The Chief Administrative Officer has been identified as an Owner Representative.
QMS	Quality Management System – for drinking water
Region	Niagara Region
Soft-Copy	Electronic copy of a document
SOP	Standard Operating Procedure
Top Management	Person(s) at the highest management level within the Operating Authority that makes decisions respecting the QMS and recommended actions to the Owner regarding the DWS. For the City of Niagara Falls, Top Management has been identified as the General Manager of Municipal Works and/or the Director of Operations

2.0 Quality Management System Policy

The City of Niagara Falls owns and operates the Niagara Falls distribution system (DWS #260002304). The City of Niagara Falls has adopted the ***Water & Wastewater Services Mission Statement (MW-WWW-DWS-VIS-001-001)*** as its QMS policy. This is an integrated policy statement that applies to both Water & Wastewater Operations[2]. With respect to Water Operations and the DWQMS, the City's Mission Statement is as follows:

"A combination of Water and Wastewater Services, which are in compliance with legislation and regulations, that protect human health, the environment and public property within the City of Niagara Falls, in an efficient, effective manner.

Water Services:

- Providing a reliable and dependable drinking water system.
- Delivering safe and clean potable water.
- Maintaining and continuously improving the City's Drinking Water Quality Management System."

The City of Niagara Falls' ***Water & Wastewater Services Mission Statement (MW-WWW-DWS-VIS-001-001)*** has been approved by the Owner and Top Management of the DWS[3] and is endorsed along with this Operational Plan. The Mission Statement is posted internally at both City Hall and the Municipal Service Centre. The Mission Statement is also posted on the City's website for public viewing.

[2] The Wastewater components of the ***Water & Wastewater Services Mission Statement (MW-WWW-DWS-VIS-001-001)*** fall outside of the scope of the DWQMS and are not auditable.
[3] Community Services Committee Report #CAO-2008-04, September 22, 2008

3.0 Commitment and Endorsement

This Operational Plan will be reviewed and approved by the City of Niagara Falls' Mayor, Council and Operating Authority Top Management. A resolution was passed by Council endorsing the Operational Plan and its contents on March 19, 2024, as per Report to Council MW-2024-13: Drinking Water System Summary Report and Overview.

Commitment and Endorsement of Operational Plan

In accordance with section 3.0 of the Drinking Water Quality Management Standard, the Chief Administrative Officer (CAO), as the representative of the Owner of the drinking water system for the City of Niagara Falls and the General Manager of Municipal Works (Top Management), support the implementation and maintenance of a Drinking Water Quality Management System (DWQMS), as documented in the Operational Plan. This commitment by the Owner and Top Management extends beyond agreement in principle to active participation in the development and/or review of policies that promote continual improvement. Endorsement by the Owner and Top Management acknowledges the need for and supports the provision of sufficient resources to maintain the DWQMS.

Owner

City of Niagara Falls
CAO (Owner Representative)

14/6/2024
Date

Top Management

General Manager, Municipal Works

6/13/24
Date

4.0 Quality Management System Representative

The Department of Municipal Works Water & Wastewater Services Compliance Program Manager has been appointed as the Quality Management System Representative for the City of Niagara Falls QMS and has been granted the authority to carry out all duties associated with this role. When the Compliance Program Manager is absent, or unable to act as the Quality Management System representative, the Drinking Water Quality Management System (DWQMS) Coordinator has been designated as Acting Quality Management System Representative.

In addition to other components of their role, the Water & Wastewater Services Compliance Program Manager holds the following responsibilities as QMS Representative:

- Ensuring that the QMS is established, implemented and maintained;
- Reporting to Top Management regarding the status and performance of the QMS and any need for improvement;
- Ensuring that current versions of the DWQMS documentation are in use at all times;
- Ensuring that staff are aware of all applicable legislative and regulatory requirements that pertain to their duties in the operation of the City's DWS; and
- Promoting awareness of the DWQMS throughout the Operating Authority.

5.0 Document and Records Control

5.1 Control of Documents

A procedure has been developed which outlines document control processes for the Operating Authority. The purpose of ***DWQMS Control of Documents*** (***MW-WWW-DWS-PRO-002-001***) is to provide a controlled process for the creation, modification, review, approval, distribution, retrieval, and protection of DWS-related documentation at the City of Niagara Falls.

DWS-related documentation is identified using a unique numbering system specified in ***DWQMS Control of Documents (MW-WWW-DWS-PRO-002-001)***. The task of creating internal DWS-related documentation is delegated to an appropriately qualified Municipal Works staff member according to the staff member's level of expertise in the subject matter to be documented.

When a draft document has been prepared, it is reviewed and approved as specified in ***DWQMS Control of Documents (MW-WWW-DWS-PRO-002-001)***. Revisions to existing documentation are completed by the Document Author and reviewed and approved as specified in ***DWQMS Control of Documents (MW-WWW-DWS-PRO-002-001)***.

Master copies of documentation are signed by the Document Author and the Final Approver and provided to the Water & Wastewater Services Compliance Program Manager. The Water & Wastewater Services Compliance Program Manager ensures that all hard-copy and soft-copy master documents are safely stored and protected from damage, deterioration and unintended circulation. As documentation is revised, any old master hard-copies are disposed of and replaced with the new version; soft-copies of documentation are archived and retained as specified in the ***DWQMS Record Control Matrix*** (***MW-WWW-DWS-LM-003-001)***.

The Water & Wastewater Services Compliance Program Manager creates a read-only version of the electronic document and saves it to the City's U: drive (U:\DWQMS). Operating Authority staff members who have computer accesses/logins can view soft copies of documentation at this location. Electronic copies of master documentation are controlled by the Water & Wastewater Services Coordinator and are protected from distribution or editing.

The Water & Wastewater Services Compliance Program Manager prints the required number of controlled copies of the document and ensures that they are distributed according to the ***DWQMS Document Control Matrix*** (***MW-WWW-DWS-LM-002-001***). Obsolete versions of documentation are marked as "OBSOLETE", removed from circulation, and archived or shredded.

5.2 Control of Records

A procedure has been developed which outlines record control processes for the Operating Authority. ***DWQMS Control of Records*** (***MW-WWW-DWS-PRO-003-001***) specifies processes for the collection, identification, storage, maintenance, protection, retention and disposal of DWS-related records at the City of Niagara Falls. The Water & Wastewater Services Compliance Program Manager holds responsibility for the oversight of record control processes.

The ***DWQMS Record Control Matrix*** (***MW-WWW-DWS-LM-003-001***) lists DWS records managed under this procedure. Each record profile within the Matrix lists the record name, minimum record retention time, record owner (i.e., person responsible for the record), and physical form of storage including the storage location(s). Where required by legislation and/or regulations, DWS records are made available for review by customers and/or stakeholders.

Once the indicated minimum retention time has been reached, drinking-water system records are destroyed. Records should be disposed by the end of the calendar year in which their minimum retention time elapses, as stated in ***DWQMS Record Control Matrix*** (***MW-WWW-DWS-LM-003-001***)

6.0 Drinking Water System

6.1 General

The City of Niagara Falls owns and operates the Niagara Falls Distribution System (Niagara Falls DWS). This is a distribution system only; water treatment falls outside of the scope of City operations. The City receives its treated drinking-water from the Niagara Falls Water Treatment Plant (Niagara Falls WTP), which is owned and operated by Niagara Region.

The Niagara Falls DWS distributes drinking water to approximately 38,000 households and 92,069 residents[4] through approximately 493 km of City-owned and 45 km of Regionally owned watermains. The service area is bounded by the Town of Niagara-on-the-Lake to the north, Garner Road to the west, Weinbrenner Road to the south, and the Niagara River to the east as shown in the ***Niagara Falls DWS Map*** (***MW-WWW-DWS-VIS-001-002***).

To maintain good chlorine residuals and to ensure water quality, the following procedures and processes are in place:

- Hydrant flushing program to help maintain good water quality and improve water flow.
- Standard Operating Procedures:
    - MW-WWW-DWS-SOP-011-001 - Watermain Break Repair
    - MW-WWW-DWS-SOP-011-002 - Flushing the Repaired Watermain
    - MW-WWW-DWS-SOP-011-009 - Water Service - Scheduled and Emergency Repair – Replacement
    - MW-WWW-DWS-SOP-011-014 - Hydrant - Inspection Flushing and Repairs
    - MW-WWW-DWS-SOP-011-037 - Hydrant Replacement
    - MW-WWW-DWS-SOP-011-017 - Distribution Valve Repair
    - MW-WWW-DWS-SOP-011-018 - Distribution Valve Replacement
    - MW-WWW-DWS-SOP-011-034 - Water Quality Complaint Based Sampling
    - MW-WWW-DWS-SOP-011-045 - Water Service - Chlorine Residual
    - MW-WWW-DWS-SOP-012-004 - Chlorine Residual Sampling
    - MW-WWW-DWS-SOP-013-001 - Calibration of Portable HACH Colorimeters

Letter of Understanding

A “Memorandum of Understanding – Water Servicing” (April 21, 2016) exists between Niagara Region and the City of Niagara Falls that documents activities and processes undertaken to ensure the continued supply, operation, and delivery of water services to City residents and customers. This Letter of Understanding outlines the following:

- Ownership of Infrastructure: The Region is understood to own and operate all drinking-water system infrastructure up to and including the first valve on any connections to Regionally owned transmission mains.

[4] Service population data as per 2021 Census.

- Supply Requirements: Supply requirements are outlined including quantity of water to be delivered by Niagara Region, system pressure requirements, and operation and continued supply.
- Maintenance Requirements: Outlined requirements provide details of watermain break protocols, communication of system isolation and watermain flushing activities.
- Water Quality Requirements: Details include potable water/drinking water quality requirements, water testing requirements, and requirements for sharing of test results and adverse water quality event notifications. It is stated that potable/drinking water quality shall meet or exceed all regulatory requirements, operational guidelines, and aesthetic objectives as detailed in the Ontario Drinking Water Standards.
- Emergency Response Requirements: Outlined are requirements for contingencies, responsibilities, and support requests/contact list availability. Plans for Emergency Response Procedures must be shared with all parties and maintained and updated as required.

6.2 Niagara Falls Water Treatment Plant (WTP)

The Niagara Falls DWS receives its water from the Niagara Falls WTP. While the City is not responsible for the treatment of water, a description of the Niagara Falls WTP is included for informational purposes.

Owned and operated by Niagara Region, the Niagara Falls WTP is a water intake and treatment facility serving the City of Niagara Falls, the City of Thorold (via the City of Niagara Falls and Niagara Region), and the Town of Niagara-on-the-Lake (also via the City of Niagara Falls and Niagara Region). The facility is rated at a maximum capacity of 145 ML/day.

Raw water is introduced via a 1,200mm diameter intake pipe extending approximately 140 m from the Welland River. Water treatment processes include pre-chlorination, conventional screening, coagulation, flocculation, sedimentation, filtration, ultra-violet disinfection, and post-chlorination. The water then travels through a high lift pumping station before transfer to Niagara Region's transmission system. Two Regionally owned water storage facilities, the Kent Avenue Reservoir and the Lundy's Lane Elevated Tank, store treated water for City distribution.

6.3 Niagara Falls WTP Source Water

Raw water for the Niagara Falls WTP is drawn from the Welland River at the mouth of the Niagara River; this location is locally known as Chippawa Creek. The intake pipe is located at an approximate depth of 5.5m. Source water characteristics are outlined in Table 6-1 as follows[5]:

Table 6-1: Niagara Falls WTP Source Water Characteristics

Parameter	Minimum (based on 2023 data)	Maximum (based on 2023 data)	Average (based on 2023 data)
Turbidity (NTU)	1.6	100.1	8.7
pH	7.46	8.82	8.24
Temperature (ºC)	1.2	25.8	12.8

6.4 Niagara Falls DWS

The Niagara Falls DWS includes two treated water storage facilities: the Lundy's Lane Elevated Tank (capacity: 2.455ML) and the Kent Avenue Reservoir (capacity: 20.4ML); the latter of these also houses a pumping and re-chlorination station. All of these storage and pumping facilities are owned and operated by Niagara Region. The City of Niagara Falls does not complete any additional pumping, treatment, or re-chlorination activities.

[5] Source: Regional Municipality of Niagara

The Niagara Falls WTP connects to the City's DWS via three trunk watermains. These include a 675mm watermain that services the City's tourist area, a 750mm watermain that supplies the Lundy's Lane Elevated Tank, and a 1050mm watermain that supplies the Kent Avenue reservoir and services areas west of the QEW. Niagara Region owns and maintains a total of approximately 45 km of trunk watermain within City boundaries as referenced in the ***Niagara Falls DWS Map (MW-WWW-DWS-VIS-001-002)***. The Region has two chlorine booster stations located at Stanley Avenue (at Highway 405) and Brown Road (at Thorold Townline Road).

The City operates two bulk water filling stations on Stanley Avenue: one is located at the Municipal Service Centre and the other is located at Chippawa Parkway and Stanley Avenue. The City does not complete any treatment or rechlorination activities.

There are approximately 30,400 City-owned water meters in the Niagara Falls DWS. The City's DWS infrastructure includes approximately 493 km of watermains, 3,172 fire hydrants and 5,388 valves. City watermains range in size from 25mm to 450mm, and approximately 97% of these are between 100mm and 300mm in diameter. An estimated 53% of the City's watermains are constructed poly vinyl chloride and 26% in cast iron with the majority of the remaining watermains constructed in ductile iron, asbestos cement or polyethylene.

6.5 System Cross Points and Interconnections

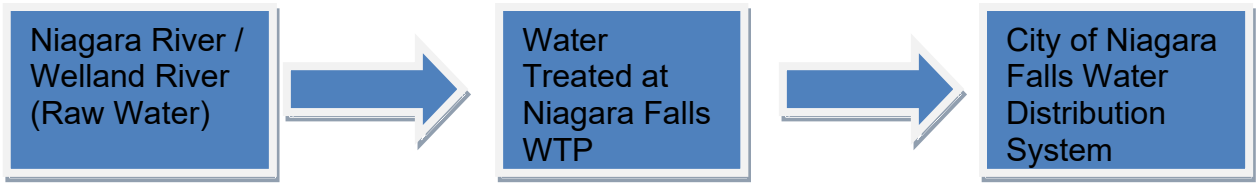
The City of Niagara Falls' drinking water system includes the following Regional and intermunicipal connections as listed in Table 6-2 below:

Table 6-2: Niagara Falls DWS Connections

From	To
Niagara Falls WTP (Regional)	Niagara Falls DWS (City-Owned) (over 110 connections as noted on map)
Niagara Falls DWS (City-Owned)	Niagara-on-the-Lake DWS (Mewburn Road at City Limits)
Niagara Falls DWS (City-Owned)	Bevan Heights DWS – Niagara-on-the-Lake (Niagara Townline Road at Melrose Drive)
Niagara Falls DWS (City-Owned)	Niagara Region (Brown Road at Garner Road) – transmission to Port Robinson (City of Thorold)
Niagara Falls DWS (City-Owned)	Niagara Region (McLeod Road at Montrose) – transmission to City of Thorold

6.6 Description of Niagara Falls DWS Water Source

Treated water from the Niagara Falls WTP serves as the drinking-water source for the Niagara Falls DWS. The quality of the drinking water leaving the WTP must meet or exceed all regulatory requirements. Regional data reflecting turbidity and chlorine residual levels at WTP discharge is provided to the City on a weekly basis as per the "Letter of Understanding – Water Servicing" (see Section 6.1).



6.7 Common Event-Driven Fluctuations

As the City of Niagara Falls is not responsible for water treatment, the City's operations are not directly impacted by fluctuations in raw water quality. Event-driven fluctuations affecting raw water quality, such as storms, do not typically affect the City's operation of the drinking-water distribution system as the impacts of these fluctuations are managed by the Region at the treatment stage.

Water volume has not been an issue in past for the City. The Niagara River serves as the raw water source for the Niagara Falls WTP, and river levels do not fluctuate to a degree that would compromise WTP operations. The two Regionally owned and operated treated water storage facilities provide a limited backup supply of treated water for the distribution system.

In past summers, the City has occasionally experienced a decrease in levels of residual chlorine in the distribution system. The City has seen a significant improvement in chlorine residuals since the Region increased chlorine dosing at the Niagara Falls WTP and installed a chlorine booster station at the Kent Avenue Reservoir. Monitoring practices are in place to ensure that levels do not drop below regulatory limits.

6.8 Operational Challenges

The City does not experience any significant operational challenges related to the fluctuations identified in Section 6.7 above.

7.0 Risk Assessment

A procedure has been created to describe the City of Niagara Falls' DWQMS Risk Assessment process. ***DWQMS Risk Assessment*** (***MW-WWW-DWS-PRO-004-001***) documents the process for completing the City of Niagara Falls' DWQMS Risk Assessment, including the legislative, regulatory and internal requirements for this risk assessment and the criteria for assessing risk.

Members of the City's Risk Assessment Team are outlined in ***DWQMS Risk Assessment (MW-WWW-DWS-PRO-004-001)***. Before the risk assessment is initiated, the Risk Assessment Team reviews the description of the drinking-water system contained in the Operational Plan and identifies high-risk and/or high quantity users of drinking water to ensure their unique requirements are considered, where required, in completing the risk assessment.

The Risk Assessment Team then examines the City's drinking water system for potential hazards[6] that could compromise the performance of the system and/or the quality of the drinking water. The Risk Assessment Team evaluates each identified hazard against evaluation criteria outlined in ***DWQMS Risk Assessment (MW-WWW-DWS-PRO-004-001)***. The Team assesses the likelihood of the occurrence of the hazard, the consequences of the hazard's effects, and the detectability of the hazard were it to occur.

In 2017, the MECP developed a guidance document titled "Potential Hazardous Events for Municipal Residential Drinking Water Systems" (to Consider in the DWQMS Risk Assessment), which suggested to include: long term impacts of climate change; water supply shortfall; extreme weather events; sustained extreme temperatures (e.g., heat wave, deep freeze); chemical spill impacting source water; terrorist and vandalism actions; sustained pressure loss and backflow events in the DWQMS Risk Assessment. These potential events have and will continue to be considered for all post 2017 Risk Assessments. In 2022 the MECP developed an additional guidance document which speaks to managing risk, titled "Potential Hazardous Events for Municipal Residential Drinking Water Systems to Consider in the DWQMS Risk Assessment", which reiterated to consider all risks noted in the 2017 document, with the addition of Cybersecurity Threats. This potential event was considered in the 2024 Risk Assessment and will be considered for all future Risk Assessments.

Hazards with greater Risk Ratings are evaluated to determine whether a Critical Control Point (CCP) can be established at the hazard location. Where a CCP is identified, critical control limits and monitoring/response procedures are developed to ensure that rapid action can be taken to eliminate or reduce the hazard when it is identified. Regardless of Risk Rating, any hazards relating to disinfection processes are identified as CCPs.

The DWQMS Risk Assessment is reviewed once every calendar year by the DWQMS Risk Assessment Team. Once every thirty-six months a new Risk Assessment is completed. Details of these reviews and reassessment processes are contained in ***DWQMS Risk Assessment (MW-WWW-DWS-PRO-004-001)***.

[6] For the purposes of this Section, "hazard" is understood to mean "hazard and/or hazardous event".

8.0 Risk Assessment Outcomes

The City of Niagara Falls' Risk Assessments are completed once every calendar year, as per the Standard. All hazards[7] were identified, assessed, and addressed according to Section 7.0 of this Operational Plan and the City's ***DWQMS Risk Assessment*** procedure ***(MW-WWW-DWS-PRO-004-001)***.

The City's Critical Control Limit Monitoring and Response SOPs include monitoring and response requirements for critical control limit exceedances. These SOPs are identified as follows:

- ***Watermain Break Repair (MW-WWW-DWS-SOP-011-001)***
- ***Winter Inspection – Black Ring Hydrants (MW-WWW-DWS-SOP-011-012)***
- ***Hydrant – Inspection, Flushing and Repair (MW-WWW-DWS-SOP-011-014)***
- ***Hydrant – Painting (MW-WWW-DWS-SOP-011-015)***
- ***Hydrant – Thawing Frozen Hydrants (MW-WWW-DWS-SOP-011-016)***
- ***Microbiological Sampling – Weekly Sampling (MW-WWW-DWS-SOP-012-003)***
- ***Microbiological Sampling – Main Break Site (MW-WWW-DWS-SOP-11-033)***
- ***Water Service – Scheduled and Emergency Repair/Replacement (MW-WWW-DWS-SOP-011-009)***
- ***Adverse Water Quality Incident Reporting – O. Reg. 170-03 (MW-WWW-DWS-SOP-012-001)***
- ***Chlorine Residual Sampling (MW-WWW-DWS-SOP-012-004)***
- ***Lead Sampling (MW-WWW-DWS-SOP-012-005)***
- ***Suspected Backflow or Cross Connection (MW-WWW-DWS-SOP-014-002)***

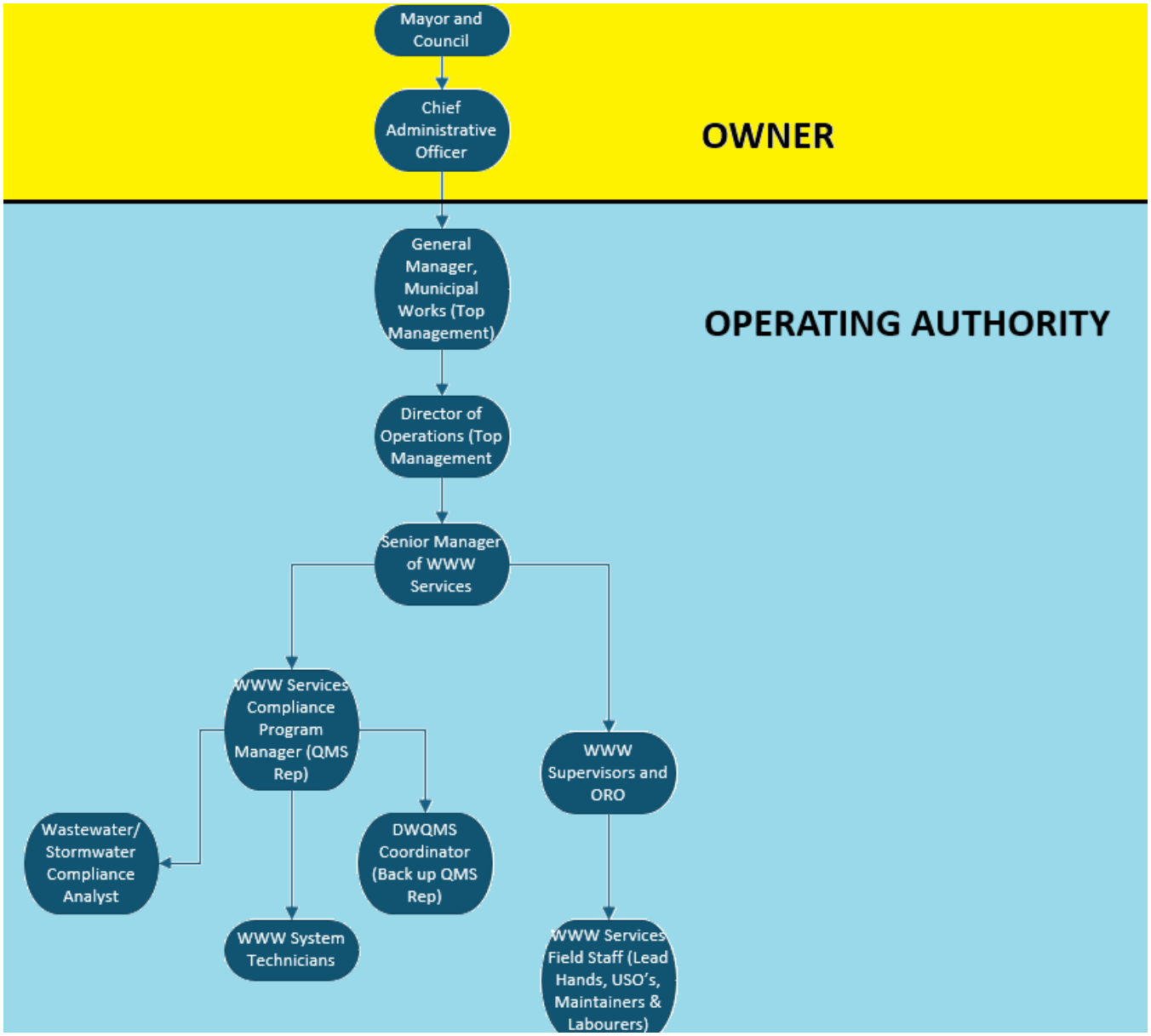
[7] For the purposes of this Section, "hazard" is understood to mean "hazard and/or hazardous event".

9.0 Organizational Structure, Roles, Responsibilities and Authorities

9.1 DWQMS Organizational Structure

The DWQMS Organizational Chart for the City of Niagara Falls' DWS is shown in Figure 9-1 below.

Figure 9-1: DWQMS Organizational Chart



The DWQMS Organizational Chart is reviewed on an annual basis and may be reviewed more frequently if significant organizational changes occur within the Operating Authority.

9.2 DWQMS Roles, Responsibilities and Authorities

The ***DWQMS Roles, Responsibilities and Authorities Matrix (MW-WWW-DWS-LM-005-001***) outlines the roles, responsibilities, and authorities of drinking-water system personnel at the City of Niagara Falls. The descriptions contained within this matrix are not intended to be comprehensive descriptions of Water Section roles within the City's Municipal Works Department; rather, the descriptions highlight only those responsibilities relating to the operation & maintenance of the City's drinking-water system. Job descriptions are to be observed as the primary source for inclusive summaries of the listed roles.

10.0 Competencies

A procedure has been developed to outline processes followed by Operating Authority staff in planning, scheduling, and tracking training activities. ***DWQMS Competencies and Training*** (***MW-WWW-DWS-PRO-006-001***) applies to staff performing work directly affecting drinking water quality (i.e., Certified Water Operators).

The ***DWQMS Competencies Matrix*** (***MW-WWW-DWS-LM-006-001***) outlines the competencies of those Operating Authority Personnel whose work directly affects drinking-water quality. The descriptions highlight only those required competencies relating to work affecting drinking-water quality; job descriptions are to be observed as the primary source of inclusive summaries for the listed positions.

The DWQMS Coordinator, under the advisement of the Water & Wastewater Services Compliance Program Manager, is responsible for planning and scheduling training and completes this exercise in consultation with Certified Water Operators. Training is planned and scheduled in alignment with the applicable requirements of O. Reg. 128/04. On an annual basis, Water Operators are consulted to identify training topics of interest. Training programs and courses are selected for staff based on training topic, location, and Operator training hour requirements.

The DWQMS Coordinator maintains records of Operator training. When training activities have been completed, the DWQMS Coordinator creates a training record that includes the number of training hours completed, the name of the training provider and trainer, and the number of CEUs obtained (if applicable). Training records can be printed for review upon request. The DWQMS Coordinator also maintains a binder for each Operator that includes copies of training certificates, confirmations for upcoming training events, and other hard-copy records.

Each Certified Water Operator at the City of Niagara Falls is required to complete the MECP Mandatory Certificate Renewal Course[8]. Completion of this course is required to maintain Drinking Water Operator certification. The course focuses on the essentials of safe drinking water and the maintenance of drinking water quality by ensuring distribution system integrity and ensures that Water Operators are aware of the relevance of their duties and how they affect safe drinking water.

[8] Course is re-designed every 3 years.

11.0 Personnel Coverage

A documented procedure, ***DWQMS Personnel Coverage*** (***MW-WWW-DWS-PRO-007-001***), has been developed to document the processes used by the City of Niagara Falls to ensure that adequate staffing & personnel coverage is maintained to effectively operate and manage the DWS. The procedure details measures which are to be followed during regular business hours as well as evenings, weekends, and holidays.

A Water & Wastewater Services Supervisor is appointed as the Primary ORO for the City of Niagara Falls' DWS. In the absence of the appointed Water & Wastewater Services Supervisor (i.e., due to training, vacation, illness, etc.), an appropriately qualified Water & Wastewater Services Supervisor is appointed to act as an alternate ORO for the City.

Operator-in-Charge duties are assigned to qualified Certified Water Operators on a rotating basis. For any given date, the Operator-in-Charge is identified in the Operator logbook. Typically, Operator-in-Charge duties are assigned to an appropriately qualified Water & Wastewater Services Supervisor, a lead hand, or Underground Service Operator.

The Operating Authority operates a day shift year-round. Day shift hours of operation are Monday to Friday, 8:00am – 4:00pm, or 7:00am to 3:00pm, based on operational needs. Certified Operators are identified in ***Certified Drinking-Water System Personnel (MW-WWW-DWS-LM-007-001)*** along with the licence held by each operator.

Water & Wastewater Services Supervisors are assigned on-call responsibilities on a weekly rotation from November to Mid-April (weather dependant) as per the ***DWS On-Call Schedule (MW-WWW-DWS-LM-007-002)***. The On-Call Supervisor is contacted as required for after-hours issues and assumes responsibility for contacting additional Water Operations staff as required for the after-hours response. Where required, staff are contacted for overtime as per the requirements of the Collective Bargaining Agreement. The Department may also request contractor assistance as needed.

In the event of a labour disruption affecting the operation of the DWS, non-unionized staff with appropriate Drinking Water Operator Certifications will be assigned to operate the DWS. Additional contractual labour may be acquired to perform work under the supervision of Certified Water Operators, where required.

In addition to the above process, in 2021, the MECP amended Ontario Regulations 128/04 and 129/04 via notice #'s 019-3513 and 019-3515 respectively, through the Environmental Registry of Ontario to allow exceptions for Operations staff during times deemed out of ordinary or emergency situations – (e.g., labour disruptions, pandemics etc.). The notices indicated that several provisions would be allowed to be exercised during these times, including (but not limited to): extensions an/or renewals of operators drinking water licences, employing temporary licenced staff from other agencies, permitting professionals with fitting designations (and who have also previously held drinking water licences) to perform operator duties etc.

The City operates two bulk water filling stations; these sites are inspected on a weekly basis by qualified Water Operations staff.

12.0 Communications

A procedure, ***DWQMS Communications*** (***MW-WWW-DWS-PRO-008-001***), has been developed to outline the processes and methods used by the Top Management of the City of Niagara Falls' DWS Operating Authority in communicating with the Mayor and Council, Operating Authority staff, DWS Vendors, and the public on matters relating to the City's drinking water system and drinking water quality.

DWQMS Awareness Training has been developed by the DWQMS Implementation Team on behalf of Top Management. This training is used as a tool to communicate fundamentals of the DWQMS to Operating Authority staff and can be presented to other parties as required. Training includes details of the legislative framework of the DWQMS, the purpose and scope of the DWQMS, a review of the ***Water & Wastewater Services Mission Statement (MW-WWW-DWS-VIS-001-001)***, details of DWQMS roles and responsibilities, and other information. Details of this training are provided in ***DWQMS Awareness Training (MW-WWW-DWS-PRO-006-002)***.

Top Management communicates the DWQMS to the Owner through presentations at Council Meetings and/or Committee of the Whole meetings, Reports or Update Documents to Council or to the Committee of the Whole, and informal day-to-day communications.

Top Management communicates with Operating Authority staff in the operation and maintenance of the drinking-water system in a variety of ways, including but not limited to verbal communication, formal and informal written communication, the development, and implementation of DWQMS procedures and policies, provision of DWQMS Awareness Training, communication at meetings, and communication of internal and external audit results.

The Operating Authority completes much of its communication with DWS Vendors through the Senior Manager, Water & Wastewater Services. The Senior Manager works with the Water & Wastewater Services Compliance Program Manger and the City's Procurement Department to coordinate communication with DWS Vendors. DWS Vendors whose products or services may affect drinking-water quality are identified and evaluated on an annual basis (refer to Section 13 of this Operational Plan).

Top Management and the Operating Authority communicate with the public about the DWQMS via the City of Niagara Falls' website and through media releases. Copies of the DWQMS Operational Plan are also made available for public review at selected City offices.

13.0 Essential Supplies and Services

The ***DWQMS Essential Supplies and Services*** procedure (***MW-WWW-DWS-PRO-009-001***) describes the processes by which the City of Niagara Falls' DWS Operating Authority identifies the supplies and services that it deems essential to its water-related operations. The procedure also documents the process followed by the Operating Authority in verifying the quality of the supplies and services insofar as they impact drinking-water quality.

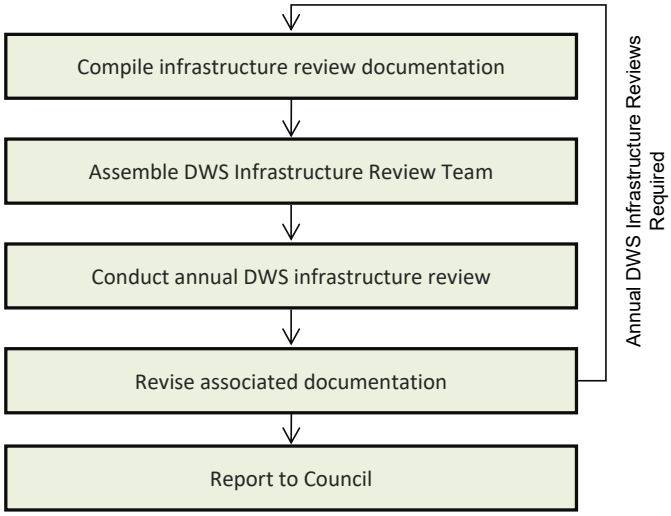
The ***List of Essential DWS Supplies and Services*** (***MW-WWW-DWS-LM-009-001***) lists Niagara Falls' drinking-water system essential supplies and services, identifies the primary Vendor (and alternate, where available), and specifies the mode of delivery, desired inventory levels, and reordering thresholds for supplies. The list also identifies the Operating Authority's minimum quality requirements for each essential supply or service.

14.0 Review and Provision of Infrastructure

A procedure has been developed to outline the process followed by the City of Niagara Falls in reviewing the adequacy of its drinking-water system infrastructure. ***DWQMS Review and Provision of Infrastructure*** (***MW-WWW-DWS-PRO-010-001***) provides details of the infrastructure review process, including review participants, input data and formation of recommendations as input to budgeting processes.

The DWS infrastructure review process is shown in Figure 14-1:

Figure 14-1: DWQMS Infrastructure Review



Members of the City of Niagara Falls' DWS Infrastructure Review Team are listed in ***DWQMS Review and Provision of Infrastructure (MW-WWW-DWS-PRO-010-001)***. The DWS Infrastructure Review Team meets once every calendar year to review the previous year's operational history and proposed infrastructure rehabilitation plans for the subsequent year. Necessary documents compiled for the annual DWS Infrastructure Review meeting are listed in the ***DWQMS Review and Provision of Infrastructure (MW-WWW-DWS-PRO-010-001)***. Where deemed necessary, the Water & Wastewater Services Coordinator may circulate selected documentation to the DWS Infrastructure Review Team in advance of the meeting for their review and consideration.

Infrastructure replacement strategies are developed and prioritized based on known water quality issues and ability to maintain fire flows. Other criteria that may be considered include but are not limited to watermain break history, knowledge of watermain C-factor information, lack of redundancy in feeds to system areas, and/or coordination with other proposed infrastructure projects within the City (i.e., roadwork).

A Municipal Works Asset & Infrastructure Report is prepared once every calendar year for the Owner. The DWS Infrastructure Review Report is provided to the Owner.

15.0 Infrastructure, Maintenance, Rehabilitation and Renewal

The City of Niagara Falls' DWS Operating Authority has established several infrastructure maintenance, rehabilitation, and renewal programs to protect the integrity of its drinking-water system infrastructure and the quality of its drinking-water.

15.1 Infrastructure Maintenance Programs

Table 15-1 (following page) summarizes the drinking-water system infrastructure maintenance programs that are in place at the City of Niagara Falls.

Infrastructure maintenance programs are completed according to the levels of service outlined in Table 15-1. Deficiencies are corrected on a priority basis. Deficiencies in fire hydrant function are of high priority and are repaired as soon as possible.

The City of Niagara Falls strives for continuous delivery of clean, safe drinking water. To this end, the City has established Operational Performance Indicators as a means of ensuring the continued performance of its infrastructure and the effectiveness of its maintenance programs. Table 15-1 includes a summary of the Operational Performance Indicators established for each listed infrastructure component. Operational Performance Indicators are established based on unexpected failures in infrastructure, and do not include deficiencies discovered during the completion of routine maintenance programs.

Table 15-1: DWS Infrastructure Maintenance Programs – City of Niagara Falls

Infrastructure Component	Level of Service			Operational Performance Indicator[9]	Tracking Method
	Maintenance Activities	Frequency	Applicable Procedures		
Watermains	Complete emergency watermain break repairs.	As required by unplanned emergency events.	***Watermain Break Repair (MW-WWW-DWS-SOP-011-001)***	• Less than 75 service interruptions permitted per year due to watermain breaks. • 8 hours permitted per watermain break event.	Work order system
Water services	Complete emergency water service repairs.	As required by unplanned emergency events.	***Water Service - Scheduled and Emergency Repair/ Replacement (MW-WWW-DWS-SOP-011-009)***	• 20 service interruptions permitted per year due to water service breaks. • 8 hours permitted per water service break event.	Work order system
	Replace water services within road allowance.	As planned.		• Ongoing elimination of substandard services (i.e., galvanized, lead, 5/8” copper, cast-iron, etc.) • 100% of known lead water services to be replaced. • 8 hours permitted per water service replacement.	Work order system
Valves & Valve Chambers	Exercise valves.	20% of system per calendar year.	***Valve Turning – 100mm-300mm (MW-WWW-DWS-SOP-011-019)***	• 10 valve seizures permitted per year. • 8 hours permitted per valve seizure event.	Work order system
	Inspect valve chambers for deficiencies.	At valve operation.		• 2 valve chamber deficiencies permitted per required use.	Work order system

[9] Operational Performance Indicators are used to assess and monitor the effectiveness of maintenance programs. This is a requirement of the “DO” portion of the DWQMS Standard; as such, Operational Performance Indicators have not yet been established for all maintenance programs. These will be established during implementation.

Infrastructure Component	Level of Service			Operational Performance Indicator[9]	Tracking Method
	Maintenance Activities	Frequency	Applicable Procedures		
	Repair or replace valves.	As planned or as required by unplanned emergency events.	***Distribution Valve Repair (MW-WWW-DWS-SOP-011-017)*** ***Distribution Valve Replacement (MW-WWW-DWS-SOP-011-018)***	• 8 hours permitted per valve replacement or repair event.	Work order system
Curb Stops & Boxes	Repair curb stops and/or curb boxes.	As needed.	***Curb Box Repair – Dig Crew (MW-WWW-DWS-SOP-011-020)*** ***Curb Box Repair - Hydrovac (MW-WWW-DWS-SOP-011-021)***	• 4 hours permitted per curb stop or curb box repair event.	Work order system
	Replace curb stops and/or curb boxes.	As needed.	***Curb Stop Replacement (MW-WWW-DWS-SOP-011-022)***	• 8 hours permitted per curb stop or curb box replacement event.	Work order system
Fire Hydrants	Flush and inspect hydrants (City-owned).	Once annually.	***Hydrant Inspection, Flushing and Repair (MW-WWW-DWS-SOP-011-014)***	• Zero adverse water quality incidents permitted because of low chlorine residuals. • 2 coloured water and/or turbidity complaints permitted per 100 hydrants flushed.	Adverse Water Quality Incident records. Customer complaints
	Repair damaged or malfunctioning	As required – resulting from	***Hydrant Inspection,***	• 6 hours permitted per hydrant	Work order

Infrastructure Component	Level of Service			Operational Performance Indicator[9]	Tracking Method
	Maintenance Activities	Frequency	Applicable Procedures		
	hydrants	inspected defects or water modelling results.	***Flushing and Repair (MW-WWW-DWS-SOP-011-014)***	repair event.	system
	Replace irreparable hydrants.	As needed (usually planned but may require emergency replacement).	***Hydrant Replacement (MW-WWW-DWS-SOP-011-037)***	• 2 weeks permitted per hydrant replacement event.	Work order system
	Inspect and drain/ winterize black-ring hydrants.	Annually (fall/winter) and after hydrant use during winter months.	***Winter Inspection – Black-Ring Hydrants (MW-WWW-DWS-SOP-011-012)***	• 1 bagged hydrant permitted per 10,000 service population. • Zero frozen hydrants permitted at time of use.	Work order system
	Hydrant painting	As needed.	***Hydrant – Painting (MW-WWW-DWS-SOP-011-015)***	• Zero hydrants permitted with unmarked flow rates.	Work order system
Blow-Offs	Flush blow-offs.	Once annually.	***Blow-Offs (MW-WWW-DWS-SOP-011-007)***	• Zero adverse water quality incidents permitted because of low chlorine residuals. • 2 coloured water and/or turbidity complaints permitted per 100 blow-offs flushed.	Adverse Water Quality Incident records. Customer complaints
Bulk water stations	Inspect bulk water stations	Once annually.	***Bulk Water Station (MW-WWW-DWS-FRM-014-004)***	No issues identified during bulk water station inspections.	Bulk water station checklists

15.2 Infrastructure Rehabilitation & Renewal Programs

Table 15-2 documents drinking-water system infrastructure rehabilitation and renewal programs in place at the City of Niagara Falls.

Table 15-2: DWS Infrastructure Rehabilitation & Renewal Programs – City of Niagara Falls

Infrastructure Component	Rehabilitation & Renewal Activities
Water Meters	• Small Water Meter Replacement Program: Life cycle replacement of aging residential or small commercial meters (50mm or smaller). Residential and small commercial meters have a maximum life cycle of 15 years or until they rollover.
Backflow Prevention Devices	• Backflow Prevention Program in the initiation/development stage.
Lead Service Replacement Program	• 100% of lead service lines to be replaced up to customer property, as discovered.

16.0 Sampling, Testing and Monitoring

The ***DWQMS Sampling, Testing and Monitoring*** procedure (***MW-WWW-DWS-PRO-012-001***) applies to all sampling, testing and monitoring conducted or delegated by the City of Niagara Falls' Operating Authority as required by the applicable regulations and/or for the operation of the drinking water system. This procedure describes the required distribution system sampling, testing and monitoring activities completed by City of Niagara Falls' Operating Authority Staff, including the types and numbers of samples required, frequency of sampling and Standard Operating Procedures to be followed.

Sampling and monitoring requirements for the City of Niagara Falls Distribution System are identified in ***DWQMS Sampling, Testing and Monitoring*** procedure ***(MW-WWW-DWS-PRO-012-001)***. The procedure includes details of regulatory sampling requirements as well as sampling protocols relating to distribution system construction or repair and sampling relating to customer complaints. As per O. Reg. 170/03, selected samples are required to be taken at a point in the system where conditions are most challenging. Where this is a requirement for the sample in question, sample location conditions are also specified in the procedure.

Treated water is provided to the City of Niagara Falls by Niagara Region; as such, the City's Operating Authority Staff are responsible for distribution system sampling as required by O. Reg. 170/03.

As per O. Reg. 170/03, Niagara Region is required to conduct raw water and treated water sampling activities. Related sampling requirements for Niagara Region are outlined in O. Reg. 170/03 (in accordance with the Schedules applicable to a "Large Municipal Residential System" that uses surface water as source water). The City of Niagara Falls is responsible to complete distribution system sampling only. Results of the Region's selected testings are shared with the City as per the ***Memorandum of Understanding – Water Servicing*** between Niagara Region and the City of Niagara Falls (April 21, 2016).

In the event of an adverse drinking water test result, the City's contracted accredited laboratory provides immediate oral notification of the result to the City. The City then provides immediate oral notification to the Niagara Medical Officer of Health and the MECP Spills Action Centre. Further Adverse Water Quality Incident reporting and corrective action procedures are summarized in ***Adverse Water Quality Incident Reporting – O. Reg. 170-03 (MW-WWW-DWS-SOP-012-001)***.

The Drinking-Water System Annual Report summarizes all drinking-water system sampling and testing results, including any adverse results; this report is prepared and made available to the public by February 28th of each calendar year. The City of Niagara Falls Distribution System Annual Summary Report is prepared and provided for Council review by March 31st of each calendar year.

17.0 Measurement and Recording Equipment Calibration and Maintenance

A procedure has been developed to describe requirements for the calibration and verification of measurement and recording equipment used by the Operating Authority in the operation of the drinking-water system. ***DWQMS Measurement and Recording Equipment Calibration and Maintenance*** (***MW-WWW-DWS-PRO-013-001***) outlines required frequencies of calibration/verification, methods to be employed, and personnel responsible for conducting and/or arranging calibrations and verifications and for ensuring their completion.

All measurement, monitoring and recording devices owned by the City of Niagara Falls and used in the City of Niagara Falls Distribution System are subject to periodic calibration by Operating Authority Staff and to occasional calibration by the manufacturer, where deemed necessary. ***DWQMS Measurement and Recording Equipment Calibration and Maintenance (MW-WWW-DWS-PRO-013-001)*** lists the measurement and recording equipment used by the Operating Authority in respect of the drinking-water system and the associated calibration requirements for each piece of equipment.

Types of equipment used for DWS sampling, testing and monitoring and included within the scope of this procedure include:

- Pocket Chlorine Colorimeters;
- High Range Chlorine Meters;
- pH Meters;

For each equipment type, ***DWQMS Measurement and Recording Equipment Calibration and Maintenance (MW-WWW-DWS-PRO-013-001)*** provides information including equipment manufacturer & model number, serial/unit number(s), calibration frequency and relevant SOPs.

18.0 Emergency Management

A procedure has been developed to outline the contents and provisions for use of the ***Niagara Falls Emergency Response Procedures Manual for Drinking Water (MW-WWW-DWS-MAN-014-001).*** The purpose of ***Emergency Management (MW-WWW-DWS-PRO-014-001***) is to identify the emergency response SOPs developed in respect of the City's DWS, to specify related training and testing requirements, and to outline emergency communication protocols and emergency contacts.

The ***Niagara Falls Emergency Response Procedures Manual for Drinking Water (MW-WWW-DWS-MAN-014-001)*** includes the documentation listed below.

- ***Water Quality Complaint Based Sampling (MW-WWW-DWS-SOP-011-034)***
- ***Boil Water Do Not Use Water Advisory (MW-WWW-DWS-SOP-014-001)***
- ***Suspected Backflow or Cross Connection (MW-WWW-DWS-SOP-014-002)***
- ***Source Failure - Widespread Water Loss (MW-WWW-DWS-SOP-014-003)***
- ***Suspected Tampering of Distribution System (MW-WWW-DWS-SOP-014-004)***
- ***Water Conservation (MW-WWW-DWS-FRM-014-001)***
- ***Do Not Use Water Form (MW-WWW-DWS-FRM-014-002)***
- ***Drinking Water Emergency Contact List (MW-WWW-DWS-LM-014-001)***
- ***Boil Water Notice and FAQ (MW-WWW-DWS-VIS-014-001)***
- ***Critical Users List (MW-WWW-DWS-LM-014-002)***
- ***Watermain Break Repair (MW-WWW-DWS-SOP-011-001)***
- ***Special Case Contamination (MW-WWW-DWS-SOP-014-005)***
- ***Response to Customer Calls By Switchboard (MW-WWW-DWS-SOP-021-001)***
- ***Do Not Use Water for Any Purpose Poster (MW-WWW-DWS-VIS-014-002)***
- ***Emergency Drinking Water Provision Guideline (MW-WWW-DWS-PRO-014-002)***

Owner and Operating Authority responsibilities and communication requirements for each emergency scenario are embedded in the respective emergency response procedure.

A list of emergency contacts is found in ***Drinking Water Emergency Contact List (MW-WWW-DWS-LM-014-001)***. The Contact List includes contact information for both internal and external Water Operations contacts that may be required in an emergency.

Emergency training and testing requirements are outlined in ***Emergency Management (MW-WWW-DWS-PRO-014-001)***. The DWQMS Coordinator is responsible for developing and facilitating emergency response training and/or testing. This may involve presentations, group review of procedures, facilitation of table-top exercises, and/or development of mock drills of emergency scenarios. Training activities may be completed in conjunction with testing activities.

Responses to Corporate-level emergencies are documented in the ***City of Niagara Falls Emergency Plan (Corporate document)***. Emergencies of a major nature that cannot be sufficiently managed by Departmental staff, or that require significant external resources, are understood to fall within the scope of the ***City of Niagara Falls Emergency Plan***. Similarly, emergencies of a Regional nature are managed according to the ***Niagara Region Water and Wastewater Emergency Response Plan (external document)***.

19.0 Internal Audits

A procedure has been created to describe the City of Niagara Falls' QMS Internal Auditing Program & associated processes. ***DWQMS Internal Auditing*** (***MW-WWW-DWS-PRO-015-001***) documents required activities & processes relating to the planning, execution and documentation of DWQMS Internal Audits, including recording of non-conformances and reporting of results to Top Management and the Owner.

The City of Niagara Falls Distribution System's QMS must be audited in its entirety once every calendar year. The Water & Wastewater Services Compliance Program Manager is responsible for planning and executing the DWQMS Internal Audit, which must occur once every calendar year, with the assistance of the Internal Audit Team. The Water & Wastewater Services Compliance Program Manager appoints, or acts as, Lead Auditor for each audit. Internal Auditors must remain objective and impartial throughout the audit process and cannot audit their own work or work areas.

Audit conclusions may identify actual or potential non-conformances in current operations or processes, indicating the need for corrective action or preventive action, respectively. Auditors may also suggest potential improvement initiatives. Actual and potential non-conformances must be documented and resolved according to the Operating Authority's defined Continual Improvement process (refer to Section 21 of this Operational Plan). Completion and effectiveness of corrective and preventive actions are verified by the Lead Auditor or an Internal Audit Team delegate.

Upon completion of scheduled internal audits, the Water & Wastewater Services Compliance Program Manager (or designate) reviews audit findings and compiles the information for presentation to Top Management as part of the DWQMS Management Review, which must occur once every calendar year (refer to Section 20 of this Operational Plan). Audit findings must be considered in future relevant audits.

20.0 Management Review

DWQMS Management Review (***MW-WWW-DWS-PRO-016-001***) has been developed to document the process followed by Top Management in planning, executing and documenting DWQMS Management Reviews, including provision of feedback to the Operating Authority and reporting of review results to the Owner. The Management Review process ensures that all levels of the organizational structure are kept informed and aware of the DWQMS and DWS performance.

The Water & Wastewater Services Compliance Program Manager and the DWQMS Coordinator have significant roles in the DWQMS Management Review process, compiling all required input data for presentation to Top Management and attending Management Review meetings as facilitators and record keepers (Required inputs to Management Review are listed in ***DWQMS Management Review (MW-WWW-DWS-PRO-016-001)***. Other City staff may be invited to assist in presenting information to the Management Review Team, or in reviewing the information presented, where they offer additional expertise or insight regarding the subject matter. Top Management is responsible for reviewing the input materials presented and generating outputs as specified in ***DWQMS Management Review (MW-WWW-DWS-PRO-016-001)***.

Management Review meetings can be conducted as one meeting per year or split into several smaller meetings over the course of the year. Either method is acceptable if all required review inputs and agenda items are addressed over the course of the year.

DWQMS Management Review outputs must be documented and retained as proof of completion, and results of the Management Review must be communicated to the Owner.

21.0 Continual Improvement

A procedure has been developed to document the process followed to ensure effective resolution of QMS nonconformances. ***DWQMS Preventive & Corrective Action*** (***MW-WWW-DWS-PRO-017-001***) is used to address both potential and actual nonconformance's and includes root cause analysis, identification, and implementation of preventive or corrective actions, and verification of their effectiveness.

The handling of Adverse Water Quality Incidents (AWQIs) is not included in the scope of the ***DWQMS Preventive & Corrective Action*** procedure (***MW-WWW-DWS-PRO-017-001***). A separate procedure, ***Adverse Water Quality Incident Reporting – O. Reg. 170/03*** (***MW-WWW-DWS-SOP-012-001***) has been developed to document processes for addressing these occurrences.

Potential and actual nonconformances are identified through several different means, including but not limited to DWQMS audits, internal and external communication, monitoring, and measurement of QMS performance, employee observations/suggestions, and DWQMS Management Reviews. A ***DWQMS Preventive and Corrective Action Request Form*** *(**MW-WWW-DWS-FRM-017-001**)* is used to document the non-conformance, the Root Cause Analysis, development & implementation of a Preventive or Corrective Action Plan, and follow-up verification activities. Designated Operating Authority Staff may be delegated to implement preventive or corrective actions. The Water & Wastewater Services Compliance Program Manager (or designate) verifies the effectiveness of the preventive or corrective action. The Water & Wastewater Services Compliance Program Manager is responsible for approving and closing DWQMS Preventive and Corrective Requests and will only do so once the effectiveness of the implemented solution has been verified.

The DWQMS Coordinator retains completed documentation of DWQMS Preventive & Corrective Action Requests and generates an annual summary of the status of nonconformance's, preventive actions and corrective actions for presentation as an input to DWQMS Management Reviews.

As per Version 2.0 of the DWQMS Standard, Continual Improvement Initiatives are tracked using a database retained by the DWQMS Coordinator. Continual Improvement initiatives outside the scope of Preventive and Corrective Action forms are motivated by, but not limited to staff suggestions, municipal best practices, audits, municipal working groups, conferences, subject publications, water professional's organizations and Ministry published best management practices suggestions.

22.0 Schedule C

Schedule C, below, as per Director's Directions Safe Drinking Water Act, 2002: Minimum Requirements for Operational Plans Municipal Drinking Water Systems May *2021. Made under the authority of subsection 15 (1) of the Act*

Ontario — Ministry of the Environment, Conservation and Parks

Schedule C – Director's Directions for Operational Plans (Subject System Description Form)

Municipal Residential Drinking Water System

Fields marked with an asterisk (*) are mandatory.

Owner of Municipal Residential Drinking Water System *
The Corporation of the City of Niagara Falls

Subject Systems

Name of Drinking Water System (DWS) *	Licence Number *	Name of Operating Subsystems (if applicable)	Name of Operating Authority *	DWS Number(s) *
1. City of Niagara Falls Distribution System	068-101		The Corporation of the City of Niagara Falls	260002304

Contact Information for Questions Regarding the Operational Plan

Primary Contact

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Nickel	Erik	

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Secondary Contact

Last Name	First Name	Middle Initial
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Title	Telephone Number	Email Address
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