



# INFORMATION REPORT

<b>TO:</b>	Chair and Members Public Works Committee
<b>COMMITTEE DATE:</b>	March 18, 2019
<b>SUBJECT/REPORT NO:</b>	2018 Annual Drinking Water Report (PW19024) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Cari Vanderperk (905) 546-2424 Ext. 3250
<b>SUBMITTED BY:</b>	Andrew Grice Director, Hamilton Water Public Works
<b>SIGNATURE:</b>	

## COUNCIL DIRECTION

Not Applicable

## INFORMATION

Under the Safe Drinking Water Act, there are several annual reporting requirements related to the operation and management of the City of Hamilton's five Drinking Water Systems (DWS) (as identified below).

Licence Number	Drinking Water System (DWS)	Expiration
005-101	Hamilton DWS	May 29, 2019
005-102	Freelton DWS	May 30, 2019
005-103	Greensville DWS	May 29, 2019
005-104	Carlisle DWS	May 29, 2019
005-105	Lynden DWS	May 29, 2019

---

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

This Information Report provides a summary of these requirements and highlights key information. More detailed information is provided in the attached Appendices (A to H) to Report PW19024.

**Summary Report for Municipalities (Appendix A) to Report PW19024.:**

As per the *Safe Drinking Water Act, Ontario Regulation, 170/03, Schedule 22*, Council must receive an annual drinking water summary report by March 31<sup>st</sup> of each year. This 2018 summary report has been prepared in accordance with the requirements as defined in Schedule 22, for each of the City of Hamilton's five DWSs. There were no Provincial Officer's Orders issued in relation to any of the City's drinking water systems. All confirmed Adverse Water Quality Incidents were reported to the Ontario Ministry of Environment, Conservation and Parks (MECP) Spills Action Centre (SAC) and Public Health Services (PHS) and are provided in the report. All water taking quantities and flow rates were within approved rated capacities and provincial water taking limits.

The Drinking Water and Environmental Compliance Division of the MECP conducts regular and rigorous inspections of our Drinking Water Systems. The 2017 and 2018 inspection ratings are as follows:

Drinking Water System	MECP Inspection Rating (per calendar year)	
	2017	2018
Freelton	100%	96.74%
Greensville	100%	99.36%
Lynden	100%	100%
Woodward	Not conducted in 2017	96.32%
Fifty Road	100%	100%
Carlisle	100%	94.40%

**Drinking Water Quality Management System (DWQMS) - Summary Report (Appendix B) to Report PW19024:**

The submission of the DWQMS Summary Report satisfies requirements of the Provincial DWQMS Standard.

The purpose of the DWQMS Summary Report is to inform the Owner (Mayor and Council) of the performance and major milestones achieved in the City's DWQMS. Specifically, the Operating Authority (Hamilton Water Division) is required to inform Top Management (General Manager of Public Works and Director of Hamilton Water Division) and the Owner of the outcomes of the infrastructure, DWQMS audits and management reviews. The DWQMS Summary Report (Appendix B) exceeds these requirements and includes additional information relating to other milestones of the DWQMS.

#### Corrosion Control Program:

The City of Hamilton conducted its Legislated Community Lead Sampling Program for the Woodward DWS between 2008 and 2009 as required by Schedule 15.1 of Ontario Regulation, 170/03. The results of the sampling program indicated that greater than 10 percent of tap water samples collected from residential and non-residential plumbing systems (“at the tap”) exceeded 10 micrograms per litre (µg/L) in all four sampling rounds and as such the MECP required the City of Hamilton to prepare and submit a Corrosion Control Plan (CCP) for the Woodward DWS. A CCP was developed and accepted by the MECP on June 7, 2011.

Council approved report 15-015 on November 25, 2015 that recommend a phosphate-based treatment approach for corrosion control. Construction of the Corrosion Control Building was completed in 2018. Industrial, commercial and institutional customers, as well as the general public, were notified of the upcoming changes to the drinking water chemistry. The program was fully implemented in November 2018 and the post-implementation sampling and monitoring plan has commenced.

#### Financial Plan:

The need to prepare a Water Infrastructure Financial Plan is, in part, a regulatory compliance issue specific to the water licensing requirements defined within the DWQMS and more specifically detailed under Regulation 453/07 - Financial Plans made under the Safe Drinking Water Act, 2002. The required Financial Plan for water systems must address a minimum six-year time-frame and be approved by council prior to submission to the Province of Ontario. The resulting plans must also be made freely available to the general public. Water Infrastructure Financial Plans for Hamilton have typically been developed to cover a ten-year period of time in order to reflect consistency with the current rate budget process. The first Financial Plan was created in 2010 and revised in 2014. The latest revision was approved by Council on July 12, 2018. This most current plan was also sent to the Ministry of Municipal Affairs and Housing on November 22, 2018.

#### Risk Assessment:

The DWQMS Standard requires that a Risk Assessment be conducted in its entirety every three years and reviewed on an annual basis, to verify the currency and validity of the information. An interim review of the Risk Assessment scope, criteria, data fields and update of Risk Assessment Outcomes was conducted in 2018.

Staff from across Hamilton Water collaborated on updating the existing information considering the following key questions:

- Are identified control measures still valid and if so, are they still in place?
- Have additional controls been implemented?
- How has equipment condition, raw water quality, operational controls, etc. revised the risk score?

---

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

- Are any modified “Risk Factors” now considered to be Critical Control Risks?

Similar to previous years, there were no significant risks identified through the 2018 process, which were not already captured through an existing Hamilton Water initiative or project.

#### Infrastructure Review:

Hamilton Water must ensure and verify, on an annual basis, the adequacy of water related infrastructure. In order to satisfy the requirements of the DWQMS Standard, the Operating Authority conducted a formal annual review of its vertical (wells, water treatment, storage and pumping) and horizontal (watermains) infrastructure. The scope of the review also considered the operation, maintenance and replacement of existing infrastructure assets as well as new infrastructure planned for the immediate and long-term future.

The outcomes and recommendations from the Infrastructure Review Meetings are documented in meeting minutes for the 2018 review. Attendees at the Infrastructure Review Coordination meeting utilized the outcomes from the meeting as input to capital planning and budget preparation. Hamilton Water discussed the 2018 Infrastructure Review at the Top Management Review meeting on September 13, 2018. The 2018 Infrastructure Review concluded that vertical and horizontal infrastructure is generally found to be available when needed. There is concern, however, about resources needed to perform preventative maintenance and moving forward with required station upgrades. It was acknowledged that life-cycle replacement funds were being used for emergency or short-term work. This results in a budget shortfall for long-term replacement and maintenance activities. There is work ongoing to confirm that current and projected spending allocations are adequate for drinking water.

#### Audit Program:

The DWQMS accreditation process requires both 3rd Party Accreditation Audits and annual internal audits by the Operating Authority.

In 2018, our external auditor, QMI-SAI Global conducted an off-site audit and an on-site re-accreditation audit. There were no non-conformances or opportunities for improvement found.

The results of the annual DWQMS Internal Audit conducted in October/November 2018 demonstrated that the City of Hamilton’s DWQMS is a mature system and that opportunities to improve the DWQMS continue to be identified to ensure that the system is relevant and appropriate for HW. The HW DWQMS contains the required procedures and records to illustrate the establishment and continual improvement of the management system.

The highest number of findings were related to Element 5 – Document and Records Control. This coincides closely with the findings by the external auditor, SAI-Global, for audits that they have conducted on other municipalities in Ontario.

---

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

Our high-risk findings that remain open from previous audits were related to:

- Element 15 – Infrastructure Maintenance, Rehabilitation and Renewal
- Element 17 – Measurement and Recording Equipment Calibration and Maintenance

These findings are closely connected to compliance requirements.

The findings identified in this audit have been assigned for further investigation and corrective/preventive actions. In conclusion, with the timely completion of the corrective actions issued as a result of this audit, the overall conformance to V2.0 of the DWQMS Standard and the City of Hamilton's DWQMS is suitable, the audit process is adequate, and the implementation and maintenance effective.

#### Management Review:

The DWQMS Standard requires that Top Management participate in a management review of the DWQMS at least once per year. The Management Review is a formal presentation of compliance, operational, water quality, communication and infrastructure data.

In 2018, the DWQMS Top Management Review (TMR) was held on September 13th. Attendees included Top Management (General Manager of Public Works and Director of Hamilton Water), Directors, Section Managers, Overall Responsible Operators (OROs) for treatment and distribution, the System Management Representative and staff from the Compliance Support Group.

Overall, Top Management, Directors and Section Managers concluded that the DWQMS is suitable, adequate and effective.

#### Standard of Care Training:

Standard of Care requirements for Owners and Managers of municipal DWSs came into effect as of January 1, 2013. Standard of Care is a statutory due diligence requirement identified in Section 19 of the Safe Drinking Water Act. All Owners (Mayor and Council) previously received Standard of Care training.

Standard of Care training is scheduled for the new members of Council in February and March 2019.

#### Update and Going Forward:

The outcomes from the Management Review and internal and external DWQMS audits concluded that the DWQMS is adequate, suitable and effective and conforms to the requirements of the DWQMS Standard. Corrective action plans from audits and action items from the Management Review will be implemented to ensure continual improvement of the DWQMS.

#### **2018 Drinking Water Reports (Appendices C to H) to Report PW19024:**

As per the *Safe Drinking Water Act, Ontario Regulation, 170/03, Section 11*, the Owner of a DWS shall ensure that an annual report is prepared and made available to the public

no later than February 28<sup>th</sup> of each year. The 2018 reports have been prepared in accordance with the requirements as defined in Section 11, for each of the City of Hamilton's DWSs. The reports are available on the City of Hamilton website and upon request.

**APPENDICES AND SCHEDULES ATTACHED**

Appendix A: 2018 Summary Report for Municipalities  
Appendix B: 2018 DWQMS Summary Report  
Appendix C: 2018 Drinking Water Report - Woodward  
Appendix D: 2018 Drinking Water Report - Fifty Road  
Appendix E: 2018 Drinking Water Report - Carlisle  
Appendix F: 2018 Drinking Water Report - Freelon  
Appendix G: 2018 Drinking Water Report - Greensville  
Appendix H: 2018 Drinking Water Report - Lynden