

Attachment 2: Drinking Water Quality Management System – Summary of Management Reviews

Review – 2022 Operational Performance

The purpose of this summary is to provide Council with mandatory updates regarding the City of Vaughan’s drinking water systems performance as mandated through Element 20 of the [Drinking Water Quality Management Standard](#) (DWQMS).

	Element 20 - Management Review Requirements	Achieved?	Conforms to DWQMS?
1	<p>Ensure that a Management Review is conducted at least once every calendar year.</p> <p>Completed on July 27, 2022 and December 15, 2022 with Top Management and the Owner representative for the 2022 operational year.</p>	<p>Yes</p> <p>✓</p>	<p>Yes</p> <p>✓</p>
2	<p>Consider the results of the Management Review and identify deficiencies and action items to address the deficiencies.</p> <p>Completed. See the Management Review Summary below.</p>	<p>Yes</p> <p>✓</p>	<p>Yes</p> <p>✓</p>
3	<p>Provide a record of any decisions and action items related to the Management Review including the personnel responsible for delivering the action items and the proposed timelines for their implementation.</p> <p>All decisions and action items discussed during the Management Review have been captured through record of minutes. Action follow-up is tracked.</p>	<p>Yes</p> <p>✓</p>	<p>Yes</p> <p>✓</p>
4	<p>Report the results of the Management Review, the identified deficiencies, decisions and action items to the Owner (Council).</p> <p>Completed through this report, submitted for information on February 28, 2023.</p>	<p>Yes</p> <p>✓</p>	<p>Yes</p> <p>✓</p>

Management Review Summary

a) Annual Review of QMS 02- Quality Management System (QMS) Policy

The QMS Policy was reviewed with all attendees.

Action Item: There was one action item identified during 2022. The City's Operational Plan is required to be re-endorsed by Top Management and the Drinking Water System Owner (Council) during each new term of Council. A Report is scheduled to be brought to Committee of the Whole on April 4, 2023 seeking Council endorsement of the Operational Plan and detailing Council's standard of care obligations.

b) Incidents of regulatory non-compliance

During the December 15, 2022 review there were four incidents of regulatory non-compliance identified with respect to the City's Drinking Water Works Permit. All four incidents were associated with new development sites which were found to be in contravention of the City's Drinking Water Works Permit as contractors had conducted work on the City's distribution system without the presence of a City of Vaughan Ministry of the Environment, Conservation and Parks (MECP) certified Drinking Water Operator. All four incidents were reported to the City's MECP drinking water inspector.

Action Item: No action items are pending from the 2022 report.

c) Incidents of adverse drinking water tests

Indicators of adverse water quality are immediately reported to York Region Public Health and the MECP Spills Action Centre and appropriate corrective action is taken. In 2022, there were a total of 36 reportable events, all of which were immediately addressed as required by the regulation. None of these events resulted in the integrity and safety of the drinking water supply being compromised.

Action Item: No action items are pending from the 2022 report.

d) Deviations from Critical Control Points (CCPs)

Critical control limits have been established based on known CCPs identified through Risk Assessment outcomes. The two identified CCPs are related to potential contamination during a watermain break. There was no deviation from the two identified CCPs.

Action Item: No action items are pending from 2022 report.

e) The effectiveness of the risk assessment process

Verification of risks to public health and the drinking water system is conducted at least once every calendar year and assessed at least once every 36 months. The Annual Review of the Risk Assessment was held on March 23, 2022 and resulted in minor wording updates to ensure current procedure titles and revision numbers were captured. No new CCPs were identified and no new potential hazards were identified. The next 36-month Comprehensive Review, including a re-evaluation of the identified risks, will occur during 2023.

Action Item: No action items are pending from 2022 report.

f) Internal and third-party Audit results

Internal and third-party audits assess how the City meets the requirements of the Drinking Water Quality Management Standard (DWQMS). The 2022 Internal Audit was held October 3 and 4, 2022. Zero instances of non-conformance were identified and five opportunities for improvement were identified and are being implemented. MECP-approved Drinking Water Quality Management System Auditors, SAI Global, performed a surveillance audit on May 19, 2022. Zero instances of non-conformance were identified and three opportunities for improvement have been reviewed and are being incorporated into the system.

Action Item: There are two OFIs to be implemented in 2023.

g) Results of emergency response testing

Testing of emergency response ensures that staff are prepared for emergency situations and allows the City to identify what could happen in the Drinking Water System to cause an emergency. The DWQMS requires the City to complete emergency response testing at least once every two years. A desktop exercise was conducted for water-related emergencies in Q4 of 2021. The next emergency response testing exercise will be conducted in 2023.

Action Item: No action items are pending from 2022 report.

h) Operational performance

Annual MECP inspections ensure that the City meets the requirements identified in applicable legislation and regulations. An announced inspection was held on January 5, 2023 covering the August 21, 2021 to December 28, 2022 inspection period. The MECP inspector arrived on-site to conduct a site visit and discuss operational performance. All documents/records requested by the inspector were provided. In the interest of continuous improvement, the MECP recommended the City consider more formal notification of the City's License and Permit to all legal owners (i.e. the developers that own subdivisions that have not yet been assumed by the City). The City is awaiting the Inspection Summary Rating Record for the January 5, 2023 inspection from the MECP.

Action Item: There is one continuous improvement initiative to be implemented in 2023.

i) Raw water supply and drinking water quality trends

The Annual Water Quality Report and Annual Summary Report provide data on drinking water quality trends within the City's drinking water. The 2022 Annual Water Quality Report and Annual Summary Report will be posted on the City's website prior to February 28, 2023 and March 31, 2023, respectively. The City has an exemption under the Municipal Drinking Water Licence (MDWL) for lead sampling from plumbing systems.

Action Item: No action items are pending from 2022 report.

j) Follow-up on action items from previous management reviews

The previous Management Review was held on November 17, 2021. There were a total of 19 action items identified, majority of which have been actioned.

Action Item: There are three actions pending including:

- Mapping of water quality inquiries;

- Determining the feasibility of conducting two DWQMS Internal Audits within each calendar year; and
- Determining the feasibility of offering DWQMS awareness training to staff in departments outside of the Environmental Services Department.

k) The status of management action items identified between reviews

All actions from the City's Internal Audit of Water, Wastewater, and Stormwater Operations have been completed and implemented.

Action Items: No action items are pending from 2022 report.

l) Changes that could affect the Quality Management System (QMS)

The Municipal Drinking Water Licence (MDWL) which authorizes the City of Vaughan to operate the Vaughan Distribution System expires on December 23, 2023. The City's Municipal Drinking Water Licence will be renewed prior to this date. Additional system-specific requirements may be identified through the licence renewal process that the City may be required to comply with such as additional sampling, testing, and monitoring. The outcome of the 36-month Comprehensive Review of the Risk Assessment that will be undertaken in 2023 also has the potential to impact the City's QMS as Top Management will be assessing cyber security as a potential hazard which could result in the identification of additional CCPs.

Action Items: No action items are pending from 2022 report.

m) Consumer feedback

Consumer feedback allows the City to identify if the water system is operating effectively. In 2022, there were a total of 119 calls that were received related to water odour, taste, colour, and quality inquiries. All concerns/inquiries were addressed appropriately and in a timely manner. Resolutions included field investigations, testing, and sharing information and laboratory results.

Action Items: No action items are pending from 2022 report.

n) Resources needed to maintain the QMS

Adequate resources are in place to maintain the QMS. There is currently one DWQMS Coordinator position that is temporarily vacant. Water Operations staff were trained for DWQMS Awareness in Q4 of 2022.

Action Items: No action items are pending from 2022 report.

o) The results of the infrastructure review

Physical condition of water infrastructure is regularly evaluated to maintain a state of good repair. Capital projects were identified by Environmental Services and Infrastructure Delivery via the City's capital budget process. In the 2022, there were 29 watermain breaks. A total of 4.3 km of watermain was added to the system from the last reporting period. Preventative maintenance of the Drinking Water System included the following during 2022: 3,000 valves were visited for preventative maintenance programming by an external contractor; 9,718 hydrants were maintained by an external contractor; 18 anti-stag valves were maintained; and 8 pressure reducing valves were functionally tested.

Action Items: No action items are pending from 2022 report.

p) Operational Plan currency, contact and updates

The Operational Plan has been revised to reflect majority of the OFIs from the 2022 External and Internal Audits.

Action Items: The following two OFIs are the only remaining OFIs under review for implementation into the DWQMS Operational Plan:

- QMS-15: Consider updating the 10-year Capital Forecast every calendar year based on the development of the annual budget and three-year forecast.
- QMS-16: Consider incorporating measures to make sample stations less susceptible to environmental contaminants into Tag 32 Sampling or Tag 41 Sample Station Operation and Maintenance.

q) Staff suggestions

Water Operations staff continue to provide input and assist in the development of Standard Operating Procedures through the Standard Operating Procedure Review Committee. Water Operations maintains a One Drive folder with meeting minutes which capture staff discussions and suggestions. Appendix Q – New Watermain Commissioning Requirements is under review with multiple stakeholders and final revisions are anticipated during 2023.

Action Items: No action items are pending from 2022 report.

r) Review of Best Management Practices (BMPs)

There were zero BMPs identified during the 2022 reporting period and one BMP from 2021 under review: determining the feasibility of conducting two DWQMS internal audits.

Action Items: One action item is pending from 2022 report.

s) New Business

None identified.

Action Items: No action items are pending from 2022 report.

t) Date of Next Meeting

The DWQMS dictates that the Management Review meeting be held at least once every calendar year.

Action Items: No action items pending from 2022 report.

Conclusion

The Management Review is recognized as a best practice for continual improvement for the City's Drinking Water Quality Management System, Drinking Water System, and associated monitoring and maintenance programs.

The on-going maintenance of the Quality Management System and focus on continual improvement provides assurance to Council, as the Owner of the municipal Drinking Water System, that its duties, responsibilities, and standard of care under the Act are being met.