

Staff Report



Infrastructure Services Department

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REPORT TO: Community and Infrastructure Services Committee

DATE OF MEETING: March 25, 2024

SUBMITTED BY: Greg St. Louis, Director, Gas & Water Utilities, 519-741-2600 ext. 4538

PREPARED BY: Angela Mick, Manager, Quality Management and Water Programs, 519-741-2600 ext. 4408

WARD(S) INVOLVED: Ward(s)

DATE OF REPORT: February 26, 2024

REPORT NO.: INS-2024-050

SUBJECT: Drinking Water Quality Management Standard (DWQMS): Management Review Summary for 2023

RECOMMENDATION:

That the City of Kitchener Drinking Water Quality Management Standard (DWQMS): Management Review Summary for 2023 Report be received for information.

REPORT HIGHLIGHTS:

- The purpose of this report to inform the decision-making authority about the status of the drinking water system.
- The key finding of this report is that the Kitchener distribution system meets the requirements under the *Safe Drinking Water Act*.
- There are no financial implications of this report.
- This report supports the delivery of core services.

BACKGROUND:

The *Safe Drinking Water Act, 2002* and *Regulation 188/07*, requires the City of Kitchener to be licensed to operate and maintain Kitchener's water distribution system. Some of the licensing requirements include the development and management of a Quality Management System (QMS) and Operational Plan as well as communication to the owner. The City of Kitchener became licensed in August, 2009 with a Financial Plan submitted in July, 2010. The licence is to be renewed in 2024 (application submitted in 2023).

Section 19 of the *Safe Drinking Water Act* imposes a statutory standard of care on persons who oversee the municipal drinking water system: "...every person who, on behalf of the municipality, oversees the accredited operating authority of the system or exercises decision-making authority over the system". This standard of care includes Council since they have decision-making authority. Part of the standard of care includes requiring system owners to undertake financial planning and implement the Drinking Water Quality Management System (DWQMS). The following link is a guide for municipal councillors to help understand their responsibilities under

*** This information is available in accessible formats upon request. ***
Please call 519-741-2345 or TTY 1-866-969-9994 for assistance.

the *Safe Drinking Water Act, 2002* and provides information on how Ontario's drinking water is safeguarded: [Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils | ontario.ca](https://www.ontario.ca/government/taking-care-of-your-drinking-water-a-guide-for-members-of-municipal-councils)

Three things to remember as a municipal councillor (as outlined in the above Guide):

- It's your duty. There are legal consequences for not acting as required by the standard of care, including possible fines or imprisonment.
- Be informed. Your decisions can have an impact on public health. You don't have to be an expert in drinking water operations, but you do need to be informed about them.
- Be vigilant. It is critical you never take the drinking water safety for granted or assume all is well with the drinking water systems under your care and direction.

REPORT:

The purpose of this report is to inform Council as the decision-making authority about the status of the drinking water system on an annual basis. The Kitchener water distribution system meets the requirements under the *Safe Drinking Water Act*. There are specific areas that must be reported per regulatory requirements, which include; but are not limited to consumer feedback, results of infrastructure review, results of audits and summary of maintenance.

The DWQMS requires Top Management to "report the results of the management review, the identified deficiencies, decisions and action items to the Owner". Top Management is defined as "a person, persons or group of people at the highest management level within an Operating Authority that makes decisions respecting the QMS and recommendations to the Owner respecting the subject system or subjects systems". The Owner of the water utility is the Corporation of the City of Kitchener, represented by City Council.

The 2023 Management Review was completed with Top Management: Denise McGoldrick, General Manager, Infrastructure Services, Greg St. Louis, Director, Gas & Water Utilities, and Tammer Gaber, Manager, Operations (Gas & Water) as well as Matt Ryan, Manager, Training and Programs, Angela Mick, Manager, Quality Management and Water Programs and Dean Chapman, Quality Management System Specialist. The Management Review report is attached.

Highlights of the report are:

- The Summary Water Report-2023 (INS-2024-051) confirmed that the drinking water system was in compliance with regulatory water sampling requirements during 2023. The DWQMS Management Review confirms the continuing adequacy and effectiveness of the quality management system which includes compliance, customer feedback, operational performance, audit information etc. as outlined in this report.
- The Water Infrastructure Program (WIP) maintenance achievements (specific areas of improvement identified by WIP):
 - Cleaned approximately 151km of watermain in 2023. In 2023 the six-year cycle program was restarted with the area previously cleaned in 2017.
 - Water quality complaints continue to decrease. There were 97 complaints total with 19 discoloured water complaints for 2023; which has decreased slightly from 2022.
 - 19 broken valves and/or failing valves were either replaced or removed which allows for quicker isolation for water emergencies. This number does not include the majority of valve replacements through road reconstruction projects. Broken

- valves are tracked in real time and the majority are addressed within weeks (except for winter or if they are part of future reconstructions).
- Approximately 1,395 valves were proactively operated (17%); the majority were within the watermain cleaning area and the 2023 reconstruction areas. Critical valves along the Light Rapid Transit (LRT) were operated (critical valves should be operated more frequently). Operating valves ensures that they will work when they are needed in an emergency or for construction activities.
 - Completed spring and fall maintenance of fire hydrants. Hydrant mobile field inspections were rolled out in spring 2023 which improved efficiencies by minimizing data entry and provide faster deficiency follow-up.
 - Underground utility locates – continued to meet regulatory requirements with a combination of in-house and contract staff (14,284 locates completed from January to November; December values are not yet available).
 - The Backflow Prevention program (BFP) was moved to AMANDA which provides real-time customer information and better tracking of devices. Data clean-up from the conversion is on-going and it is anticipated that compliance will increase from both the data clean up and the better customer notification/tracking process for both new devices and testing of current devices. Currently the new system is reporting that 1,930 services are protected by BFP devices – the focus is on high risk use. On-line payment for permits (the Building Department) made it easier for the customer to obtain permits for new device installations.
 - A Regulatory relief was provided by the Ministry to limit the spring 2023 lead testing program (customer premises) to hydrants only due to COVID restrictions. The fall lead testing program was completed without any relief.
- An inspection of approximately 120 air relief valves in chambers was completed and chambers pumped, as required. There were 2 boulevard style air reliefs installed in 2023 to eliminate flooding risk within the chambers.
 - There were 44 watermain breaks in 2023, which is below the 5-year average of 73.
 - Approximately 600 aging/problem water meters were replaced. The meter replacement program was largely paused in 2023 pending the Advanced Meter Infrastructure (AMI) direction from the WIP. The City is not moving forward with AMI for the next WIP cycle (2024-2027) so the previous annual meter replacement targets will resume (approximately 5,000 in 2024).
 - Approximately 350 hydrants were painted as part of the corrosion protection program, painting will continue in 2024. Hydrants are also stencilled with the watermain diameter for the Fire Department.
 - Unaccounted for water was 9.9% (just below the 10% industry target). The unaccounted for water generally fluctuates around 10% (9-12%), with 10% being the approx. 10 year average).
 - Pressure reducing valve maintenance was completed.
 - Replaced watermains as outlined in the 2023 City of Kitchener Engineering & Water Utility Capital Forecast.
 - The Operational Plan was re-endorsed by Council (INS-2023-012) and the Financial Plan (INS-2023-013) was approved.
 - The Drinking Water Licence renewal application was submitted in 2023 prior to the 2024 expiration.

- External audit determined that the management system is effectively implemented and maintained and recommended continued certification of accreditation for the municipal drinking water system.
- In 2023 the City Auditor undertook a corporate wide review of our locating processes. As a result of this review, council approved the new positions of: Supervisor, Damage Prevention, four new Locators, Damage Prevention and one new Draftsperson. These positions will also allow the corporation to respond in more timely manner in accordance with the new Ontario One Call Regulations.
- ArcReader (Utilities' mapping solution) replacement roll-out has begun with the Damage Prevention group. It is critical that key utilities staff have access to GIS/drawings even if there are network outages. It is anticipated that there will be different solutions for the different staff/emergency response needs.
- Engineering hired the additional resource to address the last outstanding item related to the 2020 Ministry of Environment, Conservation and Parks (MECP) inspection which flagged that "The owner did not have up-to-date documents describing the distribution components as required. As-builts and GIS mapping is required within 12-months from when a new watermain is commissioned". Processes continue to be improved to map/remove infrastructure related projects.
- A mapping clean up project commenced to compare the as-builts to the GIS mapping. Additional Quality Assurance/Quality Control (QA/QC) processes have been developed to review new mapping changes in a timely manner. Approximately 20% of the City has been checked/corrected which results in several new valves to be mapped (and therefore added to maintenance), corrections on services locations. Accurate mapping is critical for emergency response and maintenance.
- New Utilities Water Engineer position was filled in early 2024 to address the growing demand on the water utility.

Continuing Areas of Focus are:

- Continue with the mapping QA/QC for the remainder of the City.
- Build upon the success of the hydrant spring mobile field inspections and develop a fall mobile field inspection.
- Support the City's Official Plan update with a water distribution analysis component to identify any water upgrades required and/or potential limitations.
- Proceed with new mapping solution to replace ArcReader infrastructure mapping.
- Continue with hiring staff within the Damage Prevention Team.

STRATEGIC PLAN ALIGNMENT:

This report supports the delivery of core services.

FINANCIAL IMPLICATIONS:

The recommendation has no impact on the Capital or Operating Budgets.

COMMUNITY ENGAGEMENT:

INFORM – This report has been posted to the City’s website with the agenda in advance of the council / committee meeting. The Drinking Water Quality Management Policy is available on the Kitchener Utilities website.

PREVIOUS REPORTS/AUTHORITIES:

There are no previous reports/authorities related to this matter; however the Management Review Summary Reports are provided on an annual basis with the last report being INS-2023-011.

APPROVED BY: Denise McGoldrick, General Manager, Infrastructure Services

ATTACHMENTS:

Attachment A – Drinking Water Quality Management Standard Review- 2023