

# Staff Report



Infrastructure Services Department

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**REPORT TO:** Community and Infrastructure Services Committee

**DATE OF MEETING:** April 4, 2022

**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:** All Ward(s)

**DATE OF REPORT:** March 9, 2022

**REPORT NO.:** INS-2022-038

**SUBJECT:** Drinking Water Quality Management Standard (DWQMS): Management Review Summary for 2021

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## RECOMMENDATION:

That the City of Kitchener Drinking Water Quality Management Standard (DWQMS): Management Review Summary for 2021 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 was renewed in 2019.

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).

## 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 2021 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-2021 (INS-2022-039) confirmed that the drinking water system was in compliance with regulatory water sampling requirements during 2021. 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.
- COVID restrictions resulted in some slightly changed processes for example, start times and vehicle occupancy as well as delayed/modified training, however construction and maintenance activities were completed. Hands-on training was difficult to schedule but was completed throughout 2021 and will continue in early 2022.
- Year Four Water Infrastructure Program (WIP) maintenance end of year achievements (specific areas of improvement identified by WIP):
  - Cleaned approximately 184km of watermain.
  - Discoloured water complaints decreased significantly below 2019 numbers prior to pumping station upgrades (39 complaints for 2021, which is comparable to 2020 values). The Region of Waterloo’s Strange Street Water Pumping station was off-line for the majority of 2021. The station was upgraded with iron and manganese filters and was returned to service in late 2021.
  - 37 broken valves and/or failing valves were either replaced (32) or removed (5) which allows for quicker isolation for water emergencies. Broken valves are tracked in real time and the majority are addressed within weeks (except for winter). At the end of 2021 there were 8 broken valves remaining, 6 of which will be replaced as part of reconstruction work.
  - Approximately 1,800 valves were proactively operated (23%); the majority were within the watermain cleaning area and the 2021 reconstruction areas. 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.

- Underground utility locates – continued to meet regulatory requirements with a combination of in-house and contract staff (14,917 locates completed). Two additional Locators started on March 8, 2021.
- Approximately 2,350 services are protected by Backflow Prevention (BFP) – the focus is on high risk use.
- Regulatory reliefs were provided by the Ministry to decrease the number of monthly samples and to limit the fall lead testing programs (customer premises) to hydrants only due to COVID restrictions. A relief has also been granted for the spring 2022 lead testing program (hydrants only).
- An inspection of approximately 130 air relief valves in chambers was completed. One air relief valve was replaced in 2021; another four replacements have been identified for 2022.
- There were 78 watermain breaks in 2021, which is less than the 5-year average of 81. The 5-year average is starting to smooth out after no longer including a very cold 2015 in the 5 year average.
- Approximately 5,550 aging/problem water meters were replaced. It is anticipated that another 5,000 will be replaced in 2022.
- Hydrant painting program for corrosion protection was re-started with 400 hydrants painted, painting will continue in 2022. Hydrants are also stencilled with the watermain diameter for the Fire Department.
- Unaccounted for water was 9.7% (below the 10% industry target). The unaccounted for water generally fluctuates around 10% (9-12%, with 10% being the 10 year average).
- Pressure reducing valve maintenance was completed.
- DWQMS Awareness, Disinfection and Construction and Response training occurred in 2021.
- Efforts to address the non-compliance received in early 2020 for new watermains not being mapped within 12 months of replacement continues – see additional information under Incidence of Regulatory Non-Compliance. An additional resource was secured as part of the budget process by the Engineering division, anticipated to be filled in early-mid 2022.
- Revised the Site Plan mapping process to map new infrastructure closer to when it becomes live/removed.
- Implemented the MECP Revised Disinfection procedure on February 1, 2021.
- Replaced watermains as outlined in the 2021 City of Kitchener Engineering & Water Utility Capital Forecast.
- Hired five additional operational staff to address operations and maintenance growth needs.

#### Continuing Areas of Focus are:

- Proceed with improvements to the As-built process in conjunction with Engineering, specifically hiring the additional resource approved through the budget process.
- Development and roll out AMANDA solution for better tracking of Backflow Prevention/Cross Connection program.
- Development of a water disruption communication tool. The existing Watermain Break App provides for updates to the website and email for emergency watermain breaks but there is no notification for planned water outages or emergency outages associated with other infrastructure (valves, services).

- Check valves along the LRT. The valves are largely new but are deemed to be critical due to potential impacts to the LRT.
- Commence background tasks associated with the next WIP review.
- COVID has further highlighted opportunities for mobile maintenance inspections. Modelling on the success of the mobile valve inspection, a mobile solution for water hydrant field inspection is anticipated to be rolled out in spring 2022. It is anticipated that the solution will provide efficiencies by minimizing data entry and provide faster deficiency follow-up.
- The 2021 Water Utility Asset Management Plan is underway and will capture watermains, valves, hydrants, and meters. Asset Management Plans are required for all core and non-core asset classes (roads, storm, parks, facilities etc.), prepared in accordance with Ontario Regulation 588/17 – Asset Management Planning for Municipal Infrastructure. As per the regulation, the Water AMP will present information on asset condition, valuation, current levels of service, lifecycle management activities (operations, maintenance, etc.), and financing.
- An additional technical position was identified to support activities related to new development and replacement works, water meter replacement program, regulatory changes, and maintenance/operational work. Information will be brought forward as part of the 2023 budget process.

#### **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 summary reports are provided on an annual basis with the last report being INS-2021-2.

**APPROVED BY:** Denise McGoldrick, General Manager, Infrastructure Services

#### **ATTACHMENTS:**

Attachment A – Drinking Water Quality Management Standard Review - 2021