



Town of Newmarket
395 Mulock Drive P.O. Box 328,
Newmarket, Ontario, L3Y 4X7

Email: info@newmarket.ca | Website: newmarket.ca | Phone: 905-895-5193

By-Law to Regulate Backflow Prevention Staff Report to Council

Report Number: 2019-48

Department(s): Development & Infrastructure Services, Public Works Services

Author(s): Luigi Colangelo

Meeting Date: May 21, 2019

Recommendations

1. That the report entitled By-Law to Regulate Backflow Prevention dated March 13, 2019 be received; and,
2. That Council adopt a New Backflow Prevention Bylaw to regulate the installation and testing of backflow preventers, as described in this report and set out in Attachment 1; and,
3. That a copy of The Town of Newmarket's Backflow Prevention Bylaw be placed on the Town of Newmarket Website; and,
4. That new administration fees for surveys and testing of Backflow Preventers be added to the 2019 Fees and Charges as set out in Attachment 2, and,
5. That Staff be authorized and directed to do all things necessary to give effect to this resolution.

Purpose

To help protect the safety of the Town's drinking water system and its users by implementing a mandatory bylaw to install and inspect backflow prevention devices in all Industrial, Commercial, Institutional and Multi-Residential properties.

Background

This report is to follow-up on the information report (2018-52) on the proposed backflow prevention program provided to Council on November 13, 2018. A cross-connection is defined as "any actual or potential connection between a potable water system and any

source of possible pollution or contamination”. Cross-connections are present in every drinking water system and are potentially dangerous sources of contamination if the Town’s water distribution system is not protected against backflow. Backflow occurs when water flows from private properties back into the municipal water distribution system. This can occur due to higher pressures generated on the private side of the water service connection or lower pressure within the municipal system due to a water main break or fire hydrant use. Due to the resulting health hazards, it is important for the municipality to have an effective backflow prevention program and By-Law in place to control these hazards.

The proposed Backflow Prevention By-Law will regulate the installation and testing of backflow prevention devices to minimize the potential of contaminants entering the municipal water distribution system and placing it at risk; and to establish a system of recourse and penalties for non-compliance for all new and existing Industrial Commercial and Institutional (ICI) properties including mixed use properties as well as multi-residential properties.

These requirements are consistent with the Town’s Drinking Water Quality Management System (DWQMS) and Quality Management System (QMS) Policy which states that:

- The Town of Newmarket Water Distribution System is recognized by the Ministry of the Environment Conservation and Parks (MECP) previously known as Ministry of Environment & Climate Change (MOECC) as a Large Municipal Residential Drinking Water System.
- The Town of Newmarket is committed to the consistent delivery of safe drinking water through compliance with applicable legislative and regulatory requirements.
- The Town will strive to achieve this goal through the implementation, maintenance, and continuous improvement of the Quality Management System.

Discussion

The Town’s Water Distribution System is regulated by the Safe Drinking Water Act, 2002 and applicable regulations and adheres to the Town’s Quality Management System Policy

It is important to note that the Safe Drinking Water Act, 2002, Section 19 requires those with decision-making responsibility for a water system or those with operating authority, to demonstrate a “standard duty of care”. This requirement applies to members of Council and senior municipal officials. In 2011 as part of the Annual Drinking Water Inspection Report, the MECP recommended that “the Town of Newmarket develop a program, policy, or By-Law that requires the installation, inspection, and maintenance of backflow preventers at high hazard facilities (any industrial, commercial, institutional and agricultural facilities)”.

Part 7 of The Ontario Building Code (OBC) has required the installation of backflow prevention devices on fixtures or areas within the facility since 2006. However it was not until 2014 that complete premise isolation was required for Severe and Moderate hazard levels due to a cross connection or potential cross connection within the entire facility. Premise isolation is achieved through the installation of a backflow preventer immediately after the water meter in order to protect the Towns drinking water system from contamination.

The OBC requires that a backflow prevention device be selected and installed in accordance with Canadian Standards Association (CSA) B64 series standards. However, the OBC does not give authority to plumbing inspectors to re-enter a building for the purposes of inspecting backflow prevention devices to ensure they are being tested annually. It also does not give them the authority to inspect existing buildings to ensure that adequate backflow protection is in place. The Backflow Prevention Bylaw will give the Town this authority.

A backflow prevention By-Law would require the installation and annual maintenance and testing of backflow prevention devices for severe or moderate hazards in order to protect the drinking water system from potential contamination. Minor hazards will require testing every five years.

The proposed By-Law is limited to industrial, commercial, institutional, multi-residential and mixed use properties only. There are approximately 900 properties that would be subject to the by-law. Several of these properties already meet the requirements of the proposed By-Law and would only be required to perform the survey and submit the information requested.

The facility survey that must be completed by a qualified person recognized under the Authorized Functions List (Attachment 3) will identify any properties that currently meet the proposed By-Law, require retrofitting for the purpose of premise isolation, improper devices, or annual maintenance and testing.

Records of installed backflow preventers have only been compiled with the Building Department since 2016. Consequently the number of properties not meeting the proposed requirements is unclear. Additionally, many properties that are classified under ICI may not require backflow prevention as per the criteria set out in the proposed By-Law.

The survey will identify the manufacturing methods or service the facility provides, level of hazard (severe, moderate, minor) or requirements of backflow protection. Plumbing systems that pose a minor risk to the municipal drinking water system may be exempt from the requirement to install a backflow preventer, provided no other testable device is located within the facility and at the sole discretion of the Director.

The majority of large municipalities within Ontario have already established a similar By-Law which include Markham, Richmond Hill, Vaughan, Guelph, and Grimsby to mention a few.

Conclusion

The backflow prevention program and By-law is intended to reduce risk of cross contamination of the Town's water supply through inappropriate or illegal connections within private property.

The program consists of two responsibilities of the owners of property required to comply with the by-law being:

- Completion of a cross connection survey on a regular basis which verifies that proper backflow prevention devices are in place
- Annual testing and reporting of the performance of back flow prevention devices installed on the property

This program supports the objectives set out through the Town's Drinking Water Quality Management System.

Business Plan and Strategic Plan Linkages

Focusing on health, safety and the environment to promote activity, innovation and create a truly livable and engaged community means we are: • Ensuring community safety and security • Encouraging environmental protection.

Consultation

Through funding from the Clean Water and Wastewater Fund (CWWF), DFA Infrastructure International Inc. was selected as the consultant to develop the Backflow Prevention Program. The Project Team also includes staff from Public Works Services, Communications, Building, By-Laws, Customer Service and Legal Services.

Best Management Plans were reviewed from several other municipalities, regulatory agencies, and industry leaders.

An open house was held at the Operations Centre on the evening of February 19, 2019 to present the proposed program and obtain feedback from customers. Invitations to the open house were sent directly to all ICI and Multi residential customers through inserts in their water bills in January 2019. Program information and notice of the open house were also placed on the Town's website. However no customers attended. Staff has since been working with the Economic Development Department to reach out to the business associations and their membership to increase program awareness and obtain feedback. The feedback from only a few customers to date has been in support of the

program. Future consultation will include staff from Information Technology to establish the capability for customers to directly submit the information on-line.

Human Resource Considerations

Immediate staffing levels are not impacted as a result of the recommendations in this report. Staffing of 0.5 FTE will be recommended in the 2020 draft budget. This may be accommodated through a 50/50 sharing of responsibility through the water meter replacement coordinator.

Budget Impact

The 0.5 FTE would be partially or fully funded by the Administration Fee's collected.

Attachments

Attachment 1. Proposed By-Law

Attachment 2. Proposed Administration Fees

Attachment 3. Authorized Functions List

Approval

Chris Kalimootoo

Director, Public Works Services

Peter Noehammer

Commissioner, Development & Infrastructure Services

Contact

Luigi Colangelo, Manager

Water Waste/Water Services

905.895.5193 extension 2553