



2018 Annual Water Quality Summary Report Highlights

Newmarket Drinking Water System (DWS)

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Water/Wastewater

Department: Public Works Services

Date: March 18, 2019

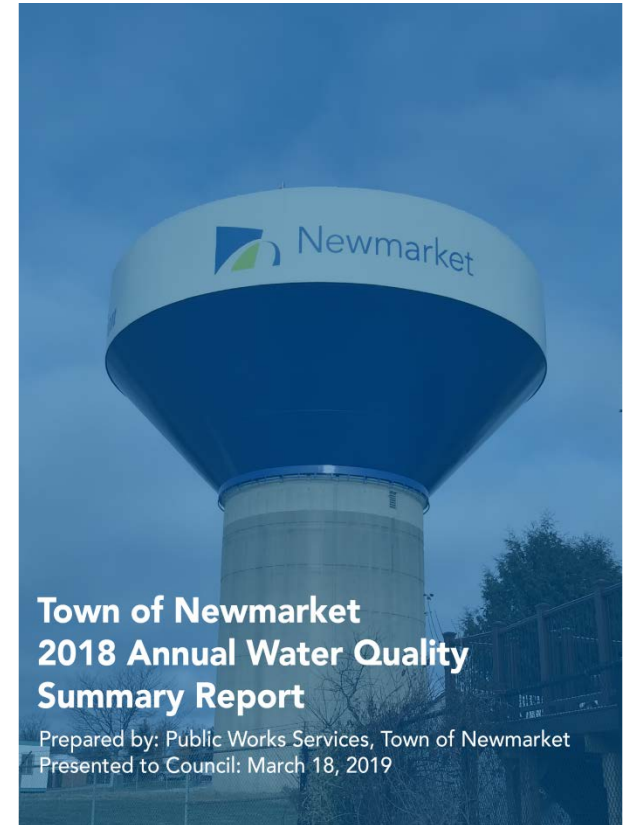
Report Requirements

(Safe Drinking Water Act, 2002)

Annual Water Quality Summary Report contains information about the Town's drinking water system (DWS) for the period of January 1, 2018 to December 31, 2018

Provincial regulations require we report this information to the following:

- The Drinking Water System Owners (Mayor and Council)
- Owner and Operating Authority Top Management (Commissioner, Development & Infrastructure Services; Director, Public Works Services; and Manager, Water/Wastewater Services)
- The Public



The Annual Water Quality Summary Report must include...

- A brief **description of the Town's drinking water system**
- A summary of **water sampling results** required by Provincial regulations
- A summary of all **adverse test results and corrective actions**
- A description of **major expenses** incurred
- **Where** this report can be found
- Town **requirements under the *Safe Drinking Water Act, 2002*** regulations, approvals, licences, and permits
- **MECP Inspection results.** MECP Inspectors inspect the Town's Drinking Water System annually to ensure compliance with regulatory requirements

Copies of Newmarket's 2018 Annual Water Quality Summary Report are available for viewing at

Newmarket Operations Centre,
1275 Maple Hill Court

Newmarket Municipal Offices,
Customer Service Counter, 395
Mulock Drive

Online at
newmarket.ca/waterwastewater



Statutory Standard of Care



Section 19 of the *Safe Drinking Water Act, 2002* (SDWA) describes the legal responsibilities of owners and operating authorities of municipal drinking water systems and every person who oversees the operating authority or makes decisions concerning the system

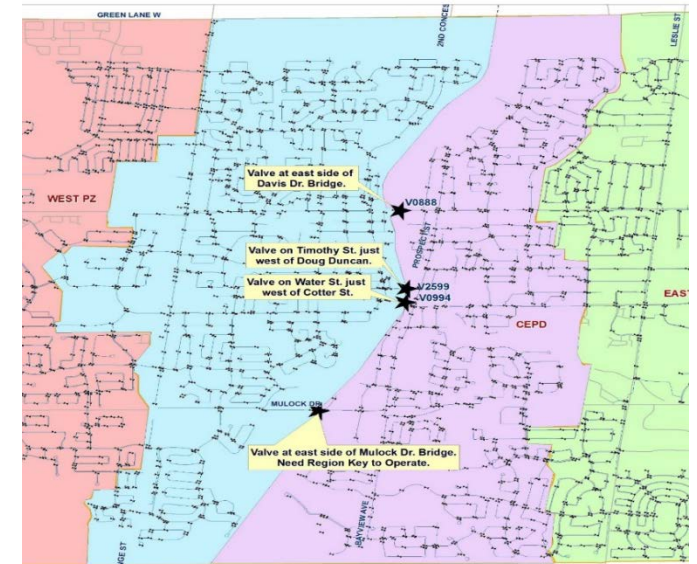
Council, owner and staff decisions play a key role in providing safe drinking water and managing risk

It is expected that those with operating and decision making authority exercise a level of care, diligence and skill that a reasonably prudent person would be expected to do and act competently

Town's Drinking Water System

- Two-tiered water supply partnership with York Region
- York Region responsible for source water, wells, supply agreements with Toronto and Peel, treatment, transmission, storage
- Town responsible for the local distribution system operations, maintenance and monitoring
- “Source to Tap” approach using industry best practices, collaboration and communication
- System is monitored continuously by York Region SCADA and by the Town’s enhanced sample plan
- Newmarket is at the top end of the York Water System that starts at Lake Ontario and ends at Green Lane

arket 2019 | Central Zone East/West



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Water/Waste
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Town's Drinking Water System

The Town's Distribution System Infrastructure (including watermain, valves, hydrants, water services, and meters) services approximately 85,000 people within the Town of Newmarket.

The Newmarket DWS is comprised of approximately;

- 318 kilometers of distribution system watermain
- 4,035 mainline valves
- 2,358 municipally owned fire hydrants
- 26,407 metered water services

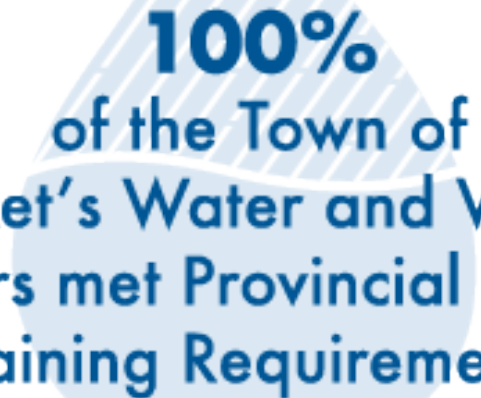
Trained and certified operators respond immediately to system emergencies such as watermain breaks

Certified Operator Training and Development

Town provides training to all certified operators working in the Town's DWS

Training is provided internally and by external training vendors

Training is tracked and records are available for MECP inspection

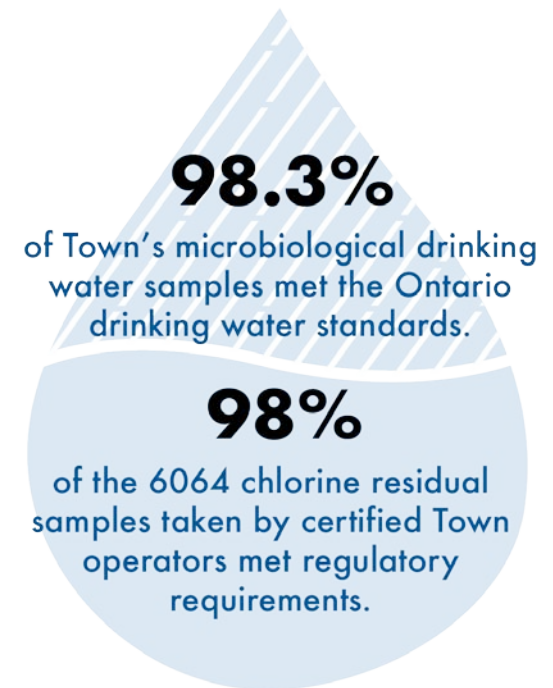


100%
of the Town of
**Newmarket's Water and Wastewater
Operators met Provincial Regulatory
Training Requirements.**

Training is a regulatory requirement for operators to maintain their Provincial certification

Drinking Water Sampling Results

- 1363 samples submitted to third-party lab for bacteriological analysis
- 6064 samples collected by certified operators and analyzed for chlorine residuals
- 25 samples submitted to third-party lab for analysis of lead to meet regulatory requirements
- York Region also submitted 529 samples to third-party lab for bacteriological analysis for water entering the Newmarket DWS
- York Region has 48 analyzers continuously monitoring drinking water for chlorine residuals. Approximately 5 million chlorine residual samples taken by analyzers in 2018.



Drinking water quality is closely monitored by samples collected by Town and Region certified operators



Adverse Water Quality Incidents (AWQIs)

147 AWQIs were reported in 2018

- 124 were due to low combined chlorine residual
- 22 for Total Coliform
- 1 E.coli

Operators initiated corrective actions and reporting for all of the AWQIs as required under O. Reg. 170/03.

In all cases, the drinking water supplied to the public was confirmed safe

At no time did the Medical Officer of Health (MOH) or MECP require further actions to be taken by the Town

The Town Received a 90.95% Result for the 2017 - 2018 MECP DWS Inspection

Inspection Non Compliance Identified by MECP	Town's Response
All required notifications of adverse water quality incidents were not immediately provided as per O. Reg. 170/03 16-6	The Town conducted a comprehensive review of its standard operating procedures for AWQI reporting. The Town provided training to operations staff and contractors working in the Town's DWS using internal staff and external training providers
For one adverse water quality incident a written notice of resolution was provided to the Ministry a day later than the prescribed seven (7) days.	The Town conducted a comprehensive review of its standard operating procedures for AWQI reporting. The Town provided training to operations staff and contractors working in the Town's DWS using internal staff and external training providers
Review and update the "Measurement and Recording Equipment Calibration" procedure	The standard operating procedure for "Measurement and Recording Equipment Calibration" was reviewed by the Town and includes industry best practices and recommendations provided by the MECP. Training was provided to staff on the revised procedure
Watermain break/repair records were not clear on which of the listed certified operators took chlorine residuals and at what time the residuals were taken	The Town's "Watermain Break Repair Report Form" was reviewed and updated using industry best practices and includes all information as outlined in the Watermain Disinfection Procedure and recommendations made by the MECP. Training was provided to staff on the revised procedure

The annual inspection ensures the Town complies with all applicable regulatory requirements related to the delivery of safe drinking water



Drinking Water System Licence and Permit

MECP issues the Town the following licence and permit to operate the DWS

Municipal Drinking Water Licence (MDWL)
number: 124-101

Drinking Water Works Permit (DWWP) number:
124-201

These documents outline detailed conditions and regulatory requirements in regard to the operation, maintenance and monitoring of the drinking water system

In 2018, the Town complied with all conditions of it's Municipal Drinking Water Licence (MDWL) and Drinking Water Works Permit (DWWP)

Drinking Water Quality Management Standard (DWQMS)



NEWMARKET WATER DISTRIBUTION SYSTEM QUALITY MANAGEMENT SYSTEM POLICY

The Town of Newmarket Water Distribution System is recognized by the 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 Drinking Water Quality Management System (DWQMS).

The Town commits to ensure open communication, both with the public, as well as staff concerning all policies, procedures and documentation pertaining to DWQMS.

The Quality Management Policy applies to all municipal management and staff, and is posted at the Operations Centre, Municipal Offices and on the Town's website.



Revised: June 12, 2018

The MECP mandates the implementation of an Operational Plan under the Drinking Water Quality Management Standard (DWQMS) for all DWS in the Province of Ontario.

For 2018, the Town was audited externally by AET Consultants (September) and SAI Global (January, 2019)

Two internal audits were conducted by Town staff (June, September)

Non-conformances to the standard included the requirement for the Town to;

- Improve document and record controls
- Improve the process for addressing preventive and corrective actions identified through audits and inspections
- Review the Operational Plan with staff on a more frequent basis
- Review water infrastructure needs annually with Engineering to inform the 5 year capital plan

All Non-conformances are being addressed to the satisfaction of the auditor and Town continues to meet the requirements of the DWQMS

2018 Water Consumption Data

Description	Amount
Total water billed to the Town of Newmarket by York Region (m ³)	8,768,108
Total water sold to the consumers of the Town of Newmarket (m ³)	6,885,791
Total unbilled water (m ³)	1,882,317
Percentage water loss*	21.47%

*The 21.47 percentage water loss includes the following;

- Water used for flushing to maintain water quality (approximately 750,840 m³, 8.56%)
- Routine maintenance activities (approximately 29,060 m³, 0.33%)
- Watermain breaks (approximately 26,060 m³, 0.30%)
- Other Water Loss including water meter inaccuracies, aging infrastructure and system leakage, firefighting, theft, new watermain commissioning/testing (1,076,357 m³, 12.28%)

Town staff will be reporting to Council in Q2, 2019 to provide details on system water loss including current challenges, planned activities and opportunities to manage water loss and non-revenue water within the Town's drinking water system

In 2018, The Town of Newmarket spent approximately \$3,133,499 installing, repairing, replacing and maintaining infrastructure used to deliver safe drinking water



34 watermain breaks successfully repaired meeting MECP standards



1441 water and sewer locates completed to protect Town's buried assets



26,407 water meters serviced by the Town



141 customer service calls received and responded to by staff



5 kms of watermain cleaned by swabbing



318 kms of watermain and **4035** valves required to deliver water to customers



2358 hydrants inspected to ensure they operate when required

Drinking Water System
Capital Improvements:
\$ 2,229,924

Watermain Maintenance:
\$ 337,340

Hydrant Maintenance:
\$ 90,000

Watermain
Flushing/Swabbing Program:
\$ 476,235

WE STRIVE FOR

Creating opportunities to
exceed expectations

WE ENVISION

Progress With Success

WE STAND FOR

Innovation, Trust, Respect,
Fairness, Transparency,
Versatility

PWS 

Questions

If you have any questions or would like any additional information, please contact

Luigi Colangelo, Manager,
Water/Wastewater

lcolangelo@newmarket.ca

References:

2018 Annual Water Quality Summary Report for the Newmarket Water Distribution System

Walkerton Clean Water Centre: Statutory Standard of Care - Safe Drinking Water Act, 2002 Training for Municipal Drinking Water System Owners and Decision Makers

2018 MECP Newmarket Distribution System Drinking Water Inspection Report