



Town of Newmarket 2019 Annual Water Quality Reports

This report contains the information necessary to satisfy the annual reporting requirements stipulated within the Ontario Safe Drinking Act, 2002, and its associated regulations; as well as the communication requirements stipulated within the Ontario Drinking Water Quality Standard.

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Attachments:

There are a number of attachments associated with this report, these attachments consist of the following:

- [Attachment One: 2019 MECP Newmarket Distribution System Inspection Report](#)
- [Attachment Two: 2019 Ontario Drinking Water Systems Regulation Annual Report](#)
- [Attachment Three: 2019 Town of Newmarket Water Quantity & Flow Rate Data](#)

Background

Purpose

The purpose of this Annual Drinking Water Summary Report, and its associated attachments, is to satisfy the annual reporting requirements stipulated within the *Ontario Safe Drinking Act, 2002*, and its associated regulations; as well as the communication requirements stipulated within the Ontario Drinking Water Quality Management Standard. This report, and its associated attachments, also contains information pertaining to the 2019 Annual MECP Inspection so that the Owner may stay abreast of the Operating Authorities compliance with applicable legislative and regulatory requirements.

Scope

This Annual Drinking Water Summary Report includes information pertaining to the Town of Newmarket's Drinking Water System for the January 1, 2019 to December 31, 2019 reporting period.

Reporting Requirements under the Ontario Safe Drinking Water Act, 2002

This Annual Drinking Water Summary Report satisfies the requirements of the Ministry of the Environment, Conservation and Parks (MECP) *Safe Drinking Water Act, 2002 (SDWA)* and O. Reg. 170/03 as outlined below.

Section 11 of O. Reg. 170/03 states that the Annual Report must include:

- a brief description of the Drinking Water System;
- a summary of adverse test results and other observations that were reported to the MECP during the reporting period;
- A description of any corrective actions that were taken in response to any adverse test results and other observations that were encountered during the reporting period;
- a summary of the most recent water testing results, required under O. Reg. 170/03 and our respective Municipal Drinking Water License (MDWL), that occurred during the reporting period;
- a description of the major expenses incurred during the reporting period to install, repair, or replace required equipment/infrastructure;
- a statement identifying the locations where the annual report will be made available for the public; and,

- the specific number of points sampled during the lead sampling periods identified within O. Reg. 170/03 as well as the total number of samples taken and the number of points where a sample exceeded the prescribed standard for lead.

Specific Information regarding the summary of the most recent water testing results that occurred during the reporting period associated with this report, as required under O.Reg. 170/03 and the Ontario Drinking Water Quality Management Standard (DWQMS), can be found within “Attachment Two: 2019 Ontario Drinking Water Systems Regulation Annual Report” as well as the “2019 Water Quality Data” section of this report.

Specific information regarding the description of major expenses incurred during the reporting period associated with this report to install repair or replace required equipment/infrastructure can also be found within “Attachment Two: 2019 Ontario Drinking Water Systems Regulation Annual Report”.

Specific information regarding any lead sampling that took place during the reporting period associated with this report can also be found within “Attachment Two: 2019 Ontario Drinking Water Systems Regulation Annual Report” as well as the “2019 Water Quality Data” section of the report.

Schedule 22 of O. Reg. 170/03 states that Summary Reports for Municipalities must also:

- List the requirements of the SDWA, the regulations, the system’s approval, Drinking Water Works Permit (DWWP), MDWL, and any orders applicable for the system that were not met at any time during the period covered by the report;
- Identify each requirement that was not met, the duration of the failure and the measures that were taken to correct the failure;
- Provide a summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
- A comparison of the above summary against the rated capacity and flow rates approved in the systems approval, drinking water works permit or municipal drinking water license; or if the system is receiving all of its water from another system under an agreement pursuant to subsection 5(4) of O.Reg. 170/03, to the flow rates specified in this written agreement

Please note that the Town of Newmarket does not have any rated capacities identified within its respective Municipal Drinking Water License or Drinking Water Works Permit as it is strictly a water distribution system. Similarly no agreement, under subsection 5(4) of O.Reg. 170/03, is in place between the Regional Municipality of York and the Town of Newmarket; therefore the above stipulated O.Reg. 170/03 Schedule 22 requirement is not

applicable to the Town of Newmarket.

The Town of Newmarket 2019 Drinking Water Summary report satisfies all the above regulatory reporting requirements that are applicable to the Town of Newmarket.

O.Reg. 170/03 requires that a copy of the annual report be provided, without charge, to every person who requests a copy, and that a copy of the annual report be available to the public at no charge on our website. O.Reg. 170/03 also requires that the Owner of a drinking water system take effective steps to advise users of the drinking water system that the annual report is available, at no cost, and how to obtain a copy of the annual report. Additionally, O.Reg. 170/03 requires that the annual report be provided to members of council by no later than March 31st of the year following the associated reporting period.

Copies of Newmarket's 2019 Annual Water Quality Summary Report are available for viewing at:

- Robert N. Shelton Operations Centre (1275 Maple Hill Court)
- Newmarket Municipal Offices, Customer Service Counter (395 Mulock Drive)
- Online at www.newmarket.ca

Drinking Water System Description

The Newmarket Water Distribution System is a Class I Distribution Subsystem. From January 1, 2019 to December 31, 2019, eighteen (18) water operators and staff were certified to operate/maintain the system.

The Town of Newmarket purchases water from York Region, which in turn purchases it through supply agreements from the City of Toronto and Peel Region. York Region also operates and maintains groundwater wells located in the Yonge Street Aquifer that service the Town of Newmarket. The integrated system includes Newmarket's local distribution watermains and York Region's transmission watermains, pumping stations, storage facilities and groundwater treatment facilities. Treated water from the Region supply network is monitored on-line, 24 hours per day by operators through the Regional SCADA (Supervisory Control and Data Acquisition) system.

The Town and York Region operations staff works closely to deliver source to tap drinking water in this complex integrated system.

The Region is also required to produce Annual Drinking Water Summary Report(s) summarizing applicable drinking water system(s) information for the preceding year; these are also made available for viewing by the public. More information, as well as electronic

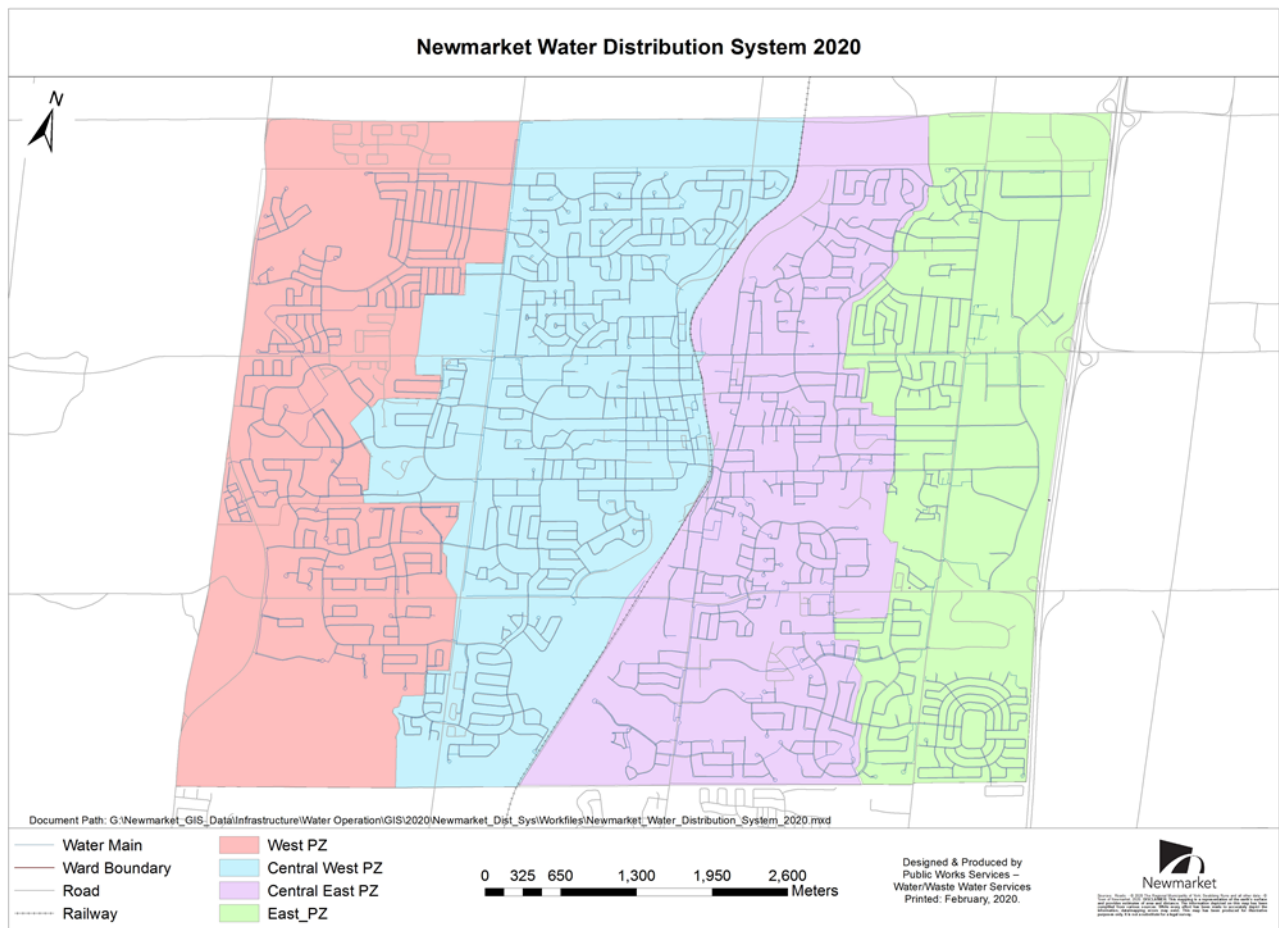
version(s) of these report(s) are found on their website at york.ca/drinkingwater.

The Town's Distribution System Infrastructure (including watermains, valves, hydrants, water services, and meters) services approximately 84,224 people within the Town of Newmarket.

The Newmarket DWS is comprised of approximately;

- 318 kilometers of distribution system watermain
- 2689 mainline valves
- 2,355 municipally owned fire hydrants
- 26,668 metered water services

Water pressure is periodically monitored throughout the Town's distribution system; in 2019 water pressures within the distribution system ranged between approximately 35 - 100 psi. Under the Ontario Design Guidelines for Drinking Water Systems, normal operating pressures within distribution systems should be approximately 50 - 70 psi and not less than 40 psi.



Legislative & Regulatory Requirements

The following are the primary pieces of legislation that directly affect the operation of the Town of Newmarket's drinking water distribution system.

Safe Drinking Water Act, 2002

The purpose of the Ontario *Safe Drinking Water Act, 2002* (SDWA) is to protect human health through the control and regulation of drinking-water systems and drinking-water testing. The Act also contains all the regulations relating to the treatment and distribution of drinking water.

Highlights of the Act address:

- Accreditation of operating authorities
- Municipal drinking water systems
- Drinking water testing
- Inspections, Compliance and Enforcement
- Standard of Care

Standard of Care, Section 19, Safe Drinking Water Act, 2002

Standard of Care defines the legal responsibility of the Owner and Operating Authority of a municipal drinking water system. It requires that the Owners and Operating Authorities exercise the level of care, diligence and skill with regard to a municipal drinking water system that a reasonably prudent person would be expected to exercise in a similar situation. Owners and Operating Authorities must exercise this due diligence honestly, competently and with integrity. Based upon the definition of "Owner" in the SDWA, the Town of Newmarket Council is considered to be the "Owner" of the Town of Newmarket's drinking water distribution system.

The information contained within this report and its associated attachments, can help Council to meet its Standard of Care requirements identified within the Ontario *Safe Drinking Water Act, 2002*.

Ontario Regulation 169/03: Ontario Drinking Water Quality Standards

The Ontario Drinking Water Quality Standards (O.Reg. 169/03) regulates the maximum allowable concentration of specific parameters in drinking water. This regulation contains

microbiological standards, chemical standards and radiological standards for drinking water. Compliance with O. Reg. 169/03 is determined through routine regulatory sampling and verified by system inspections conducted annually by Ministry of the Environment, Conservation and Parks (MECP) Inspectors.

Ontario Regulation 170/03: Drinking Water Systems Regulation

The Drinking Water Systems Regulation (O. Reg. 170/03) regulates municipal drinking water systems. This regulation stipulates treatment equipment usage, operational checks and sampling, chemical and microbiological testing requirements, reporting adverse test results, corrective actions, and reporting requirements; among many other things. Compliance with O. Reg. 170/03 is determined by system inspections conducted annually by the Ministry of the Environment, Conservation and Parks (MECP). The annual reporting requirements for drinking water systems is also stipulated within O.Reg. 170/03 under Section 11 (Annual Reports) and Schedule 22 (Report).

Ontario Regulation 128/04: Certification of Drinking Water System Operators and Water Quality Analysts

The Certification of Drinking Water Operators and Water Quality Analyst Regulation (O. Reg. 128/04) establishes ongoing training requirements that operators are required to meet in order to remain certified and licensed. O. Reg 128/04 provides direction on license requirements, overall responsible operator (ORO) responsibilities, operator in charge (OIC) responsibilities, record keeping, and operations/maintenance manuals; among other things.

Ontario Regulation 453/07: Financial Plans

The Financial Plans Regulation (O. Reg. 453/07) requirements dictate that all owners of municipal residential drinking water systems prepare a Financial Plan that detail the drinking water system's six year projected financial information. O.Reg. 453/07 also specifies what needs to be included in these Financial Plans. As part of the process identified within O.Reg. 453/07, Financial Plan's must be formally approved and acknowledged by the Owner of the drinking water system through a resolution of the municipal council. The Financial Plan is required to be updated prior to the renewal of an Operating Authorities respective Municipal Drinking Water License, which is every 5 years. In 2020 the Town's O. Reg. 453/07 Financial Plan will require updates, and approval through council resolution, as the Town's respective Municipal Drinking Water License expires in 2021 and the application for renewal is due November 18th, 2020.

Drinking Water Quality Management Standard (DWQMS)

The DWQMS sets out the framework for Operating Authorities and Owner's of Drinking Water Systems to develop and maintain a Quality Management System (QMS) that is relevant and appropriate for drinking water systems. The purpose of a QMS is to establish policy and objectives, achieve those objectives as well as direct and control an organization with regards to quality. In the development of a QMS, the Operating Authority must create an Operational Plan; this document defines the QMS and will be subject to internal and external audits for accreditation. As referenced in the DWQMS, the QMS must be acknowledged by all those with active roles in the water system, from front line staff to the highest level of management and Council.

Under the DWQMS the Operating Authority is required to communicate with the Owner of the drinking water system on a number of items, these include the following:

- The description of the Operating Authority organizational structure including respective roles, responsibilities and authorities under Element 9;
- The results of the Annual Provision of Infrastructure Review under Element 14;
- The Infrastructure Maintenance, Rehabilitation and Renewal Programs under Element 15;
- Sampling, Testing and Monitoring Results under Element 16; and
- The results of the Annual Management Review under Element 20

The description of the Operating Authority organizational structure including respective roles, responsibilities and authorities can be located within the Element 9 content of the Town's DWQMS Operational Plan.

The results of the Annual Provision of Infrastructure Review are communicated to the Owner in accordance with the procedure identified within Appendix 20a of the Town's DWQMS Operational Plan.

Information regarding the Town's Infrastructure Maintenance, Rehabilitation and Renewal Programs is located within the "Infrastructure Maintenance, Rehabilitation and Renewal Programs" section of this report as well as within the Element 15 content of the Town's DWQMS Operational Plan; which has been included to satisfy the DWQMS communication requirement identified within Element 15 of the DWQMS.

Information regarding the Town's Sampling, Testing and Monitoring Results is located

within “Attachment Two: 2019 Ontario Drinking Water Systems Regulation Annual Report” as well as the “2019 Water Quality Data” section of this report; which has been included to satisfy the DWQMS communication requirement identified within Element 16 of the DWQMS as well other regulatory reporting requirements.

The results of the Annual Management Review are communicated to the Owner in accordance with the procedure identified within Appendix 20a of the Town’s DWQMS Operational Plan.

Town Staff have developed and implemented a QMS specific to the Town of Newmarket. Certification was originally obtained in February 2009 and remains, in good standing, to this day.

The Town continues to meet the Quality Management System requirements as required under the SDWA



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

Drinking Water System Licence and Permit

- Municipal Drinking Water License (MDWL) number: 124-101
- Drinking Water Works Permit (DWWP) number: 124-201

The MDWL and the DWWP describe system-specific requirements in addition to those included in provincial regulations. These documents outline detailed conditions and regulatory requirements in regards to the operation, maintenance, and monitoring of the system.

In 2019, no non-compliances were identified, by the MECP, in relation to the Town's requirements to adhere to the terms and conditions identified within its respective MDWL and DWWP.

Regulatory Compliance and MECP Inspections

2019 Adverse Water Quality Incidents (AWQI's)

In 2019, a total of 152 AWQI events occurred, 128 were related to low chlorine residuals and 24 were related to the presence of Total Coliform. This is relatively comparable to the 147 AWQI's that occurred in 2018; where 124 were due to adverse (low) combined chlorine, 22 were due to the presence of Total Coliform and 1 was due to the presence of E.coli.

All applicable AWQI's must be reported to the MECP as well as the local Medical Officer of Health (MOH) in accordance with the *Safe Drinking Water Act, 2002* and O.Reg. 170/03 requirements. Based upon the information possessed by the Operating Authority, in 2019 all AWQI's were reported in accordance with *Safe Drinking Water Act, 2002* and O.Reg. 170/03 requirements. Additionally, any corrective actions that must be taken to resolve and AWQI must be completed in accordance with O.Reg. 170/03, our respective MDWL as well as any additional instruction provided by the MOH. Based upon the information possessed by the Operating Authority, all corrective actions that were necessary to resolve the AWQI's that occurred in 2019 were completed in accordance with the requirements stipulated within O.Reg. 170/03, our respective MDWL as well as any additional instruction provided by the MOH. More Specific information regarding the AWQI's that occurred in 2019, as well as any corrective actions that were taken, can be found within "Attachment Two: 2019 Ontario Drinking Water Systems Regulation Annual Report".

In 2019, it was observed that 16 out of the 24 Total Coliform AWQI's that occurred in 2019 were associated with drinking water infrastructure replacement activities completed as part of Capital projects. Only 8 out of the 24 Total Coliform AWQI's that occurred in 2019 were

associated with routine drinking water system operations. Total Coliforms may be present within drinking water distribution system samples for numerous reasons; these reasons include, but are not limited to the following:

- Poor housekeeping practices during the construction and installation of new watermains and appurtenances;
- Poor housekeeping practices during the repair of watermains and appurtenances;
- Degradation of water quality due to the use of above ground temporary watermains;
- Degradation of water quality within the distribution system due to seasonal temperature variations;
- Degradation of water quality within the distribution system due to bacterial re-growth post-treatment;
- Sampling from less than ideal locations (i.e. anything that is not a designated drinking water sample station; ex. fire hydrant)
- Sampling during inclement weather conditions;

2019 Annual MECP Inspection Results

As the Operating Authority, the Town of Newmarket undergoes an annual inspection of its drinking water system and all associated practices by the MECP. The primary focus of the annual MECP drinking water system inspection is to confirm compliance with applicable legislation, regulations and additional requirements that falls under the jurisdiction of the MECP, during the inspection period. In 2019, The Town's inspection occurred on April 17th and 18th, 2019 and included records and information that pertained to the August 23rd, 2018 to April 17th, 2019 time period.

The Town received a final inspection rating of 91.39% as a result of the 2019 MECP inspection; this was due to a non-compliance that was identified by the MECP in regards to a regulatory reporting requirement. On September 14th, 2018 and September 22nd, 2018 AWQI's 142884 and 143146 were not immediately reported to the MECP and Medical Officer of Health (MOH), followed by a written notice of the AWQI's to the MECP and MOH within 24 hours of the immediate notification being made. This occurred in relation to a capital works project, where microbiological samples were taken by a certified operator from a third party company and submitted to the York Durham Regional Environmental Laboratory for analysis. These samples were submitted as "non-regulatory samples" when they should have been submitted as "regulatory samples"; these administrative errors, that were performed by the third party company that collected the samples, resulted in a delay for the Town to be notified of AWQI's 142884 and 143146 and ultimately the above non-compliance that was identified during the 2019 MECP Inspection. Although not completed within the regulatory time frame, notification of AWQI 142884 and 143146 was ultimately made to the MECP and MOH, by the Town, once the Town was made aware of these

AWQI's. Additionally, once the Town was notified of these occurrences all the corrective actions necessary to resolve AWQI 142884 and 143146 were completed by the Town in a timely manner. The final inspection rating received during the 2019 MECP inspection still resulted in an improvement over the final inspection rating of 90.95% received in relation to the 2018 MECP Inspection.

Schedule 22 requires that all non-compliance(s) with applicable legislation be documented within the Summary Report. "Table One: Incidents of Regulatory Non-Compliance and Actions Required" further describes the non-compliant observation(s) associated with the MECP annual inspection that took place on April 17th and 18th, 2019.

Table One: Incidents of Regulatory Non-Compliance and Actions Required

Non-Compliance	MECP Observation	Action(s) Required	Town Response
<p>1. All required notifications of adverse water quality incidents were not immediately provided as per O. Reg. 170/03 16-6.</p>	<p>On September 14, 2018 and September 22, 2018, 2 (two) incidents, AWQI #142884 and #143146, occurred causing the facility to not immediately report and submit a written notice within 24 hours after the immediate report, as per Schedule 6 of O.Reg. 170/03.</p> <p>Samples taken by a certified operator from a third party company hired by the Town, sampled a temporary portable watermain causing a Total Coliform exceedance. The chain of custody forms completed stated the samples were non-regulated. The Lab and Town had attempted to contact the sampler and discovered the samples were regulated samples.</p>	<p>Although not completed within the proper time frame, notification was ultimately made to the Ministry and Health Unit for both Total Coliform events as soon as the Town of Newmarket became aware of the Adverse Water Quality Incidents. To help prevent future reporting issues of this nature, a new tender package was created to include procedures for adverse reporting.</p> <p>No further action required.</p>	<p>No further actions/response required.</p>

The full details regarding the Annual MECP inspection that occurred on April 17th and 18th, 2019 is located within “Attachment One: 2019 MECP Newmarket Distribution System Inspection Report”.

2019 Water Quantity & Flow Rate Data

The 2019 water quantity and flow rate data is located within “Attachment Three: 2019 Town of Newmarket Water Quantity & Flow Rate Data”

2019 Water Quality Data

The applicable 2019 water quality data is located within “Attachment Two: 2019 Ontario Drinking Water Systems Regulation Annual Report”. Within this attachment, 1 (one) exceedance is documented in relation to the O.Reg. 169/03 standards for lead. This single lead exceedance resulted from a lead sample that was collected from private plumbing at a residential location. The Owner of the residential location where the private plumbing lead exceedance occurred was provided the results of the sampling event as well as the literature and guidance provided to the Town by the local Medical Officer of Health; this literature identified steps that the property owner could take to minimize the lead levels within the internal plumbing associated with the location as well as reduce overall lead exposure. All Municipal obligations in regards to this exceedance, as specified within O.Reg. 170/03, were adhered to and met. The results associated with this sampling event, as well as the other 2019 data associated with the Town’s lead sampling program, identified that this lead exceedance was isolated to this address; as no other lead exceedances were observed.

Infrastructure Maintenance, Rehabilitation and Renewal Programs:

Watermain Swabbing:

Watermain swabbing involves scouring watermains with foam swabs and high velocity water. These swabs are inserted into a fire hydrant, where they are then pushed through a watermain, by high velocity water within the drinking water system, to later be ejected out of a downstream fire hydrant. The foam swabs and high velocity water scour the watermain and remove mineral deposits, biofilm as well as sediment that has accumulated in the watermains; which also helps to reduce chlorine residual decay. Once swabbing has taken place the targeted watermains are flushed to ensure that the water within the drinking water system is visually free of discolouration and contains an adequate chlorine residual. In 2019, approximately 25.4 kilometers of watermain, associated with the Town’s drinking water system, were swabbed.

Enhanced Monitoring Program:

The Enhanced Monitoring Program is undertaken to better understand the characteristics and quality of water within the Town's drinking water system. Some of the water quality parameters observed as part of the Enhanced Monitoring Program, include but are not limited to, ammonia, nitrite, iron, fluoride and ATP (Adenosine Triphosphate) analysis. The Enhanced Monitoring Program is undertaken to better guide decision making when it comes to the operation of the drinking water system and the Town's associated infrastructure maintenance rehabilitation and renewal programs. In 2019, Water/Wastewater Services completed 16 two day enhanced monitoring events that included over 30 diagnostic monitoring locations.

Hydrant Inspection/Maintenance Program:

Under the Ontario Fire Code (O.Reg. 388/97) hydrants are required to be inspected annually. Water/Wastewater Services solicits the services of a contractor to perform annual inspections of the hydrants associated with the Town's drinking water system. In 2019, Canadian Hydrant Technologies (CHT) inspected 100% of the 2,355 municipally owned fire hydrants within the Town. Water/Wastewater Services staff, or a contractor that has been hired by the Town, performs any hydrant maintenance that may be required on municipally owned hydrants in any given year; in all circumstances this maintenance is performed as soon as reasonably possible.

Valve Inspection/Cycling Program:

Valves are routinely inspected and cycled as part of regular drinking water system operations. Routine drinking water system operations where valves may be routinely inspected and cycled include, but are not limited to, uni-directional flushing, swabbing, watermain commissioning and watermain break repairs. When a valve is identified as needing maintenance, or to be replaced, it is added to a drinking water system maintenance list. The necessary repairs and replacements are then performed by Water/Wastewater Services staff, or a contractor that has been hired by the Town, as soon as reasonably possible.

Uni-Directional Flushing (UDF):

UDF is a systematic, planned method for cleaning watermains that utilizes high velocity water to clean interior watermain walls through scouring. In short, the process involves manipulating valves associated with the Town's drinking water system to force the water through a single, pre-planned pipe length (UDF run), where it is then flushed out a hydrant located at the end of the run. Utilizing high velocity water to scour the watermain allows for

the removal of mineral deposits, biofilm, as well as sediment that has accumulated in the watermains; which also helps to reduce chlorine residual decay. In 2019, approximately 437 UDF events, or runs, were completed.

Dead End Flushing:

Dead end flushing is quite literally the flushing of dead ends associated with the Town's drinking water system; this is achieved by flushing water from fire hydrants, or another appurtenance, at the dead ends associated with the Town's drinking water system. This helps to prevent the build-up and accumulation of sediment and organic matter in the dead ends associated with the Town's drinking water system. This also helps to prevent chlorine residual decay in the dead ends associated with the Town's drinking water system. In 2019, when weather and staffing resources permitted, 77 dead end locations were flushed on a monthly basis and 55 dead-end locations were flushed on a quarterly basis.

Water Meter Replacements/Installations:

Water/Wastewater Services currently replaces and repairs residential, as well as industrial/commercial/institutional, water meters on an as needed and identified basis. The Town has also recently began installing its Advanced Metering Infrastructure (AMI) as part of the smart water meter program.

Operational Flow Testing:

Operational flow testing is completed to verify system pressure concerns raised by businesses and residents within the Town. Water/Wastewater Services performs flow testing on a request basis to verify system pressure concerns that are brought to the attention of the Town. The Town also works with York Region when system pressure concerns are raised to ensure that this issue is not being caused at the Regional drinking water system level. Upon internal verification of a system pressure concern a third party contractor that specializes in flow testing would be called in to further verify the concern and identify actions that may be necessary to rectify the system pressure issue. In 2019, 1 (one) operational flow test was performed by Water/Wastewater Services.

Watermain Lining:

Watermain lining is a method of structural watermain renewal that is achieved through the installation of a lining on the interior walls of existing watermains. Watermain lining is typically undertaken in situations where an aging watermain, associated with the Town's drinking water system, exists and the Town cannot justify potentially degrading other municipal infrastructure for the purposes of replacing the watermain in question. Watermain linings are typically designed to last 50 years and effectively rehabilitate existing watermains. In 2019, no watermains were lined.

Unplanned Maintenance & Repairs:



Unplanned maintenance and repairs consists of, but are not limited to, the following:

- Watermain break repairs
- Mainline valve repairs
- Curb stop repairs
- Emergency hydrant repairs

In 2019, Water/Wastewater Services responded to and repaired 22 watermain break events. Curb stops as well as mainline valves are repaired and/or replaced on an as needed or identified basis.

Additional Information:

Further drinking water infrastructure maintenance, rehabilitation and renewal takes place through the Town's 5-Year Capital Works Program; which Water/Wastewater Services provides input on through the Review and Provision of Infrastructure Process identified within the Element 14 content within the Town's DWQMS Operational Plan.

In 2019 The Town started working with Dalhousie University, ARCADIS and York Region on an ATP and total coliform comparison study; which is attempting to assess the effectiveness and accuracy of ATP field analysis as a means for releasing infrastructure into service. The Town is also working with the University of Toronto and York Region on a pipe loop reactor study to better understand the effects on watermain material, and condition, on water quality.

To date the Town has received approximately 2,105,443.94 dollars from the Government of Canada Clean Water and Wastewater Fund (CWWF). Some of the drinking water related Town projects, programs and initiatives that benefited from this funding in 2019 included:

- The optimization and automation of the drinking water distribution system
- Watermain condition assessment program
- Asset condition assessment and development of maintenance strategy for water valves
- The development and implementation of backflow prevention/cross connection program
- The development and implementation of a GIS strategy for liner water assets
- The assessment, construction and implementation of a drinking water system dead end looping strategy in the central pressure zones



2019 ONTARIO DRINKING WATER SYSTEMS REGULATION ANNUAL REPORT

Drinking-Water System Number:	260003188
Drinking-Water System Name:	Town of Newmarket Water Distribution System
Drinking-Water System Owner:	The Corporation of the Town of Newmarket
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1 st , 2019 to December 31 st , 2019

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [X] No []</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Robert N. Shelton Operations Centre (1275 Maple Hill Court) Municipal Offices - Customer Service Counter (395 Mulock Drive) Online: newmarket.ca</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No [] N/A</p>
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Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
N/A	N/A

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [] No []

N/A



Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method _____

Describe your Drinking-Water System

The Town of Newmarket purchases water from York Region, which in turn purchases it through supply agreements from the City of Toronto and Peel Region. York Region also operates and maintains groundwater wells located in the Yonge Street Aquifer that service the Town of Newmarket. The integrated system includes Newmarket's local distribution watermains and York Region's transmission watermains, pumping stations, storage facilities and groundwater treatment facilities. Treated water from the Region supply network is monitored on-line, 24 hours per day by operators through the Regional SCADA (System Control and Data Acquisition) system.

The Town's Distribution System Infrastructure (including watermains, valves, hydrants, water services, and meters) services approximately 84,224 people within the Town of Newmarket.

The Newmarket WDS is comprised of approximately;

- 318 kilometers of distribution system watermain
- 2,689 mainline valves
- 2,355 municipally owned fire hydrants
- 26,668 metered water services

List all water treatment chemicals used over this reporting period

Water treatment is the responsibility of York Region. Chlorine is added to provide primary disinfection, and chloramine (addition of ammonia) provides a secondary residual in the distribution system. Sodium silicate is added to sequester naturally occurring iron and manganese in the groundwater source.

Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment



Please provide a brief description and a breakdown of monetary expenses incurred

Drinking Water System Capital Improvements:	\$ 1,881,409.50
Which is approximately 15.6% less than what was spent on drinking water system capital improvements in 2018.	
Watermain Maintenance:	\$ 450,000 (approx.)
Which is approximately 25.0% more than what was spent on watermain maintenance in 2018.	
Hydrant Maintenance:	\$ 80,886.53
Which is approximately 10.1% less than what was spent on hydrant maintenance in 2018.	
Watermain Unidirectional Flushing/Swabbing Program:	\$ 443,000
Which is approximately 7.0% less than what was spent watermain flushing/swabbing contractor costs in 2018.	

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	AWQI Number	Parameter	Result (mg/L or Present)	Corrective Action(s)	Resolution Date
1/2/2019	144427	Low Combined Chlorine	0.09 mg/L	Flush & Resample	1/2/2019
1/4/2019	144443	Low Combined Chlorine	0.07 mg/L	Flush & Resample	1/4/2019
1/7/2019	144457	Low Combined Chlorine	0.19 mg/L	Flush & Resample	1/7/2019
1/8/2019	144469	Low Combined Chlorine	0.21 mg/L	Flush & Resample	1/8/2019
1/11/2019	144507	Low Combined Chlorine	0.10 mg/L	Flush & Resample	1/11/2019
1/14/2019	144513	Low Combined Chlorine	0.19 mg/L	Flush & Resample	1/14/2019
1/23/2019	144612	Low Combined Chlorine	0.16 mg/L	Flush & Resample	1/23/2019
2/5/2019	144708	Low Combined Chlorine	0.14 mg/L	Flush & Resample	2/5/2019
2/5/2019	144727	Total Coliform	Present	Flush & Resample	2/11/2019
2/11/2019	144768	Total Coliform	Present	Flush & Resample	2/15/2019



2/19/2019	144814	Low Combined Chlorine	0.18 mg/L	Flush & Resample	2/19/2019
2/20/2019	144821	Low Combined Chlorine	0.15 mg/L	Flush & Resample	2/20/2019
2/25/2019	144853	Low Combined Chlorine	0.22 mg/L	Flush & Resample	2/25/2019
3/4/2019	144906	Low Combined Chlorine	0.23 mg/L	Flush & Resample	3/4/2019
3/5/2019	144914	Low Combined Chlorine	0.22 mg/L	Flush & Resample	3/5/2019
3/6/2019	144923	Low Combined Chlorine	0.13 mg/L	Flush & Resample	3/6/2019
3/11/2019	144953	Low Combined Chlorine	0.21 mg/L	Flush & Resample	3/11/2019
3/12/2019	144967	Low Combined Chlorine	0.24 mg/L	Flush & Resample	3/12/2019
3/17/2019	145009	Low Combined Chlorine	0.16 mg/L	Flush & Resample	3/17/2019
3/18/2019	145011	Low Combined Chlorine	0.22 mg/L	Flush & Resample	3/18/2019
3/19/2019	145021	Low Combined Chlorine	0.18 mg/L	Flush & Resample	3/19/2019
3/25/2019	145049	Low Combined Chlorine	0.24 mg/L	Flush & Resample	3/25/2019
3/26/2019	145057	Low Combined Chlorine	0.05 mg/L	Flush & Resample	3/26/2019
4/1/2019	145096	Low Combined Chlorine	0.20 mg/L	Flush & Resample	4/1/2019
4/3/2019	145113	Low Combined Chlorine	0.17 mg/L	Flush & Resample	4/3/2019
4/8/2019	145138	Low Combined Chlorine	0.12 mg/L	Flush & Resample	4/8/2019
4/9/2019	145147	Low Combined Chlorine	0.13 mg/L	Flush & Resample	4/9/2019
4/10/2019	145156	Low Combined Chlorine	0.10 mg/L	Flush & Resample	4/10/2019
4/15/2019	145190	Low Combined Chlorine	0.19 mg/L	Flush & Resample	4/15/2019
4/16/2019	145204	Low Combined Chlorine	0.18 mg/L	Flush & Resample	4/16/2019
4/17/2019	145218	Low Combined Chlorine	0.17 mg/L	Flush & Resample	4/17/2019
4/23/2019	145244	Low Combined Chlorine	0.15 mg/L	Flush & Resample	4/23/2019
4/24/2019	145266	Low Combined Chlorine	0.18 mg/L	Flush & Resample	4/24/2019



		Chlorine		Resample	
4/25/2019	145275	Low Combined Chlorine	0.12 mg/L	Flush & Resample	4/25/2019
4/26/2019	145280	Low Combined Chlorine	0.08 mg/L	Flush & Resample	4/26/2019
4/30/2019	145298	Low Combined Chlorine	0.24 mg/L	Flush & Resample	4/30/2019
5/1/2019	145304	Low Combined Chlorine	0.06 mg/L	Flush & Resample	5/1/2019
5/3/2019	145321	Low Combined Chlorine	0.14 mg/L	Flush & Resample	5/3/2019
5/6/2019	145327	Low Combined Chlorine	0.24 mg/L	Flush & Resample	5/6/2019
5/7/2019	145331	Low Combined Chlorine	0.14 mg/L	Flush & Resample	5/7/2019
5/7/2019	145333	Low Combined Chlorine	0.21 mg/L	Flush & Resample	5/7/2019
5/8/2019	145342	Low Combined Chlorine	0.16 mg/L	Flush & Resample	5/8/2019
5/13/2019	145384	Low Combined Chlorine	0.07 mg/L	Flush & Resample	5/13/2019
5/14/2019	145395	Low Combined Chlorine	0.24 mg/L	Flush & Resample	5/14/2019
5/15/2019	145404	Low Combined Chlorine	0.05 mg/L	Flush & Resample	5/15/2019
5/15/2019	145405	Low Combined Chlorine	0.06 mg/L	Flush & Resample	5/15/2019
5/22/2019	145458	Low Combined Chlorine	0.08 mg/L	Flush & Resample	5/22/2019
5/27/2019	145499	Low Combined Chlorine	0.07 mg/L	Flush & Resample	5/27/2019
6/4/2019	145577	Low Combined Chlorine	0.12 mg/L	Flush & Resample	6/4/2019
6/10/2019	145651	Low Combined Chlorine	0.14 mg/L	Flush & Resample	6/10/2019
6/11/2019	145654	Low Combined Chlorine	0.24 mg/L	Flush & Resample	6/11/2019
6/12/2019	145664	Low Combined Chlorine	0.15 mg/L	Flush & Resample	6/12/2019
6/13/2019	145679	Low Combined Chlorine	0.12 mg/L	Flush & Resample	6/13/2019
6/14/2019	145698	Low Combined Chlorine	0.11 mg/L	Flush & Resample	6/14/2019
6/18/2019	145730	Low Combined Chlorine	0.09 mg/L	Flush & Resample	6/18/2019



6/24/2019	145799	Low Combined Chlorine	0.16 mg/L	Flush & Resample	6/24/2019
6/25/2019	145813	Low Combined Chlorine	0.19 mg/L	Flush & Resample	6/25/2019
6/26/2019	145840	Low Combined Chlorine	0.15 mg/L	Flush & Resample	6/26/2019
6/26/2019	145958	Total Coliform	Present	Flush & Resample	7/2/2019
6/27/2019	146012	Total Coliform	Present	Flush & Resample	7/2/2019
7/2/2019	146035	Low Combined Chlorine	0.21 mg/L	Flush & Resample	7/2/2019
7/4/2019	146082	Low Combined Chlorine	0.06 mg/L	Flush & Resample	7/4/2019
7/8/2019	146159	Low Combined Chlorine	0.16 mg/L	Flush & Resample	7/8/2019
7/10/2019	146255	Low Combined Chlorine	0.15 mg/L	Flush & Resample	7/10/2019
7/10/2019	146271	Low Combined Chlorine	0.08 mg/L	Flush & Resample	7/10/2019
7/11/2019	146307	Low Combined Chlorine	0.08 mg/L	Flush & Resample	7/11/2019
7/15/2019	146433	Low Combined Chlorine	0.24 mg/L	Flush & Resample	7/15/2019
7/17/2019	146498	Low Combined Chlorine	0.13 mg/L	Flush & Resample	7/17/2019
7/22/2019	146635	Low Combined Chlorine	0.18 mg/L	Flush & Resample	7/22/2019
7/22/2019	146636	Low Combined Chlorine	0.17 mg/L	Flush & Resample	7/22/2019
7/23/2019	146652	Low Combined Chlorine	0.21 mg/L	Flush & Resample	7/23/2019
7/23/2019	146658	Low Combined Chlorine	0.13 mg/L	Flush & Resample	7/23/2019
7/24/2019	146736	Total Coliform	Present	Flush & Resample	7/26/2019
7/29/2019	146860	Low Combined Chlorine	0.13 mg/L	Flush & Resample	7/29/2019
7/30/2019	146918	Low Combined Chlorine	0.22 mg/L	Flush & Resample	7/30/2019
8/1/2019	147001	Low Combined Chlorine	0.18 mg/L	Flush & Resample	8/1/2019
8/6/2019	147068	Low Combined Chlorine	0.14 mg/L	Flush & Resample	8/6/2019
8/12/2019	147211	Low Combined	0.08 mg/L	Flush &	8/12/2019



		Chlorine		Resample	
8/14/2019	147283	Total Coliform	Present	Flush & Resample	8/19/2019
8/14/2019	147285	Total Coliform	Present	Flush & Resample	8/19/2019
8/19/2019	147407	Low Combined Chlorine	0.08 mg/L	Flush & Resample	8/19/2019
8/26/2019	147576	Low Combined Chlorine	0.16 mg/L	Flush & Resample	8/26/2019
8/26/2019	147577	Low Combined Chlorine	0.03 mg/L	Flush & Resample	8/26/2019
8/27/2019	147617	Low Combined Chlorine	0.11 mg/L	Flush & Resample	8/27/2019
8/28/2019	147651	Low Combined Chlorine	0.10 mg/L	Flush & Resample	8/28/2019
8/29/2019	147670	Low Combined Chlorine	0.15 mg/L	Flush & Resample	8/29/2019
9/1/2019	147752	Total Coliform	Present	Flush & Resample	9/3/2019
9/3/2019	147768	Low Combined Chlorine	0.10 mg/L	Flush & Resample	9/3/2019
9/3/2019	147775	Low Combined Chlorine	0.22 mg/L	Flush & Resample	9/3/2019
9/3/2019	147776	Low Combined Chlorine	0.10 mg/L	Flush & Resample	9/3/2019
9/4/2019	147795	Low Combined Chlorine	0.15 mg/L	Flush & Resample	9/4/2019
9/5/2019	147827	Low Combined Chlorine	0.09 mg/L	Flush & Resample	9/5/2019
9/6/2019	147872	Low Combined Chlorine	0.23 mg/L	Flush & Resample	9/6/2019
9/4/2019	147886	Total Coliform	Present	Flush & Resample	9/9/2019
9/4/2019	147887	Total Coliform	Present	Flush & Resample	9/9/2019
9/6/2019	147890	Low Combined Chlorine	0.08 mg/L	Flush & Resample	9/6/2019
9/9/2019	147901	Low Combined Chlorine	0.11 mg/L	Flush & Resample	9/9/2019
9/9/2019	147903	Low Combined Chlorine	0.21 mg/L	Flush & Resample	9/9/2019
9/10/2019	147930	Low Combined Chlorine	0.14 mg/L	Flush & Resample	9/10/2019
9/10/2019	147992	Total Coliform	Present	Flush & Resample	9/20/2019



9/12/2019	148038	Total Coliform	Present	Flush & Resample	9/20/2019
9/12/2019	148040	Total Coliform	Present	Flush & Resample	9/17/2019
9/12/2019	148041	Total Coliform	Present	Flush & Resample	9/23/2019
9/13/2019	148048	Total Coliform	Present	Flush & Resample	9/17/2019
9/16/2019	148055	Low Combined Chlorine	0.20 mg/L	Flush & Resample	9/16/2019
9/16/2019	148056	Low Combined Chlorine	0.16 mg/L	Flush & Resample	9/16/2019
9/16/2019	148062	Low Combined Chlorine	0.06 mg/L	Flush & Resample	9/16/2019
9/14/2019	148068	Total Coliform	Present	Flush & Resample	9/20/2019
9/14/2019	148069	Total Coliform	Present	Flush & Resample	9/23/2019
9/17/2019	148086	Low Combined Chlorine	0.12 mg/L	Flush & Resample	9/17/2019
9/15/2019	148087	Total Coliform	Present	Flush & Resample	9/20/2019
9/17/2019	148132	Total Coliform	Present	Flush & Resample	9/23/2019
9/20/2019	148149	Low Combined Chlorine	0.09 mg/L	Flush & Resample	9/20/2019
9/19/2019	148174	Total Coliform	Present	Flush & Resample	9/23/2019
9/23/2019	148183	Low Combined Chlorine	0.04 mg/L	Flush & Resample	9/23/2019
9/23/2019	148186	Low Combined Chlorine	0.20 mg/L	Flush & Resample	9/23/2019
9/21/2019	148189	Total Coliform	Present	Flush & Resample	9/25/2019
9/24/2019	148199	Low Combined Chlorine	0.18 mg/L	Flush & Resample	9/24/2019
9/23/2019	148207	Total Coliform	Present	Flush & Resample	9/27/2019
9/30/2019	148306	Low Combined Chlorine	0.16 mg/L	Flush & Resample	9/30/2019
10/1/2019	148316	Low Combined Chlorine	0.12 mg/L	Flush & Resample	10/1/2019
10/7/2019	148435	Low Combined Chlorine	0.12 mg/L	Flush & Resample	10/7/2019
10/7/2019	148444	Low Combined	0.13 mg/L	Flush &	10/7/2019



		Chlorine		Resample	
10/8/2019	148465	Low Combined Chlorine	0.14 mg/L	Flush & Resample	10/8/2019
10/9/2019	148493	Low Combined Chlorine	0.24 mg/L	Flush & Resample	10/9/2019
10/10/2019	148512	Low Combined Chlorine	0.14 mg/L	Flush & Resample	10/10/2019
10/15/2019	148573	Low Combined Chlorine	0.22 mg/L	Flush & Resample	10/15/2019
10/15/2019	148575	Low Combined Chlorine	0.21 mg/L	Flush & Resample	10/15/2019
10/16/2019	148581	Low Combined Chlorine	0.17 mg/L	Flush & Resample	10/16/2019
10/16/2019	148582	Low Combined Chlorine	0.21 mg/L	Flush & Resample	10/16/2019
10/17/2019	148600	Low Combined Chlorine	0.19 mg/L	Flush & Resample	10/17/2019
10/17/2019	148601	Low Combined Chlorine	0.08 mg/L	Flush & Resample	10/17/2019
10/21/2019	148645	Low Combined Chlorine	0.24 mg/L	Flush & Resample	10/21/2019
10/22/2019	148669	Low Combined Chlorine	0.17 mg/L	Flush & Resample	10/22/2019
10/22/2019	148680	Low Combined Chlorine	0.18 mg/L	Flush & Resample	10/22/2019
10/21/2019	148699	Total Coliform	Present	Flush & Resample	10/25/2019
10/25/2019	148739	Low Combined Chlorine	0.21 mg/L	Flush & Resample	10/25/2019
10/28/2019	148760	Low Combined Chlorine	0.17 mg/L	Flush & Resample	10/28/2019
10/29/2019	148777	Low Combined Chlorine	0.19 mg/L	Flush & Resample	10/29/2019
10/29/2019	148783	Low Combined Chlorine	0.19 mg/L	Flush & Resample	10/29/2019
10/30/2019	148792	Low Combined Chlorine	0.24 mg/L	Flush & Resample	10/30/2019
10/30/2019	148804	Low Combined Chlorine	0.23 mg/L	Flush & Resample	10/30/2019
11/5/2019	148882	Low Combined Chlorine	0.15 mg/L	Flush & Resample	11/5/2019
11/11/2019	148959	Low Combined Chlorine	0.17 mg/L	Flush & Resample	11/11/2019
11/12/2019	148967	Low Combined Chlorine	0.13 mg/L	Flush & Resample	11/12/2019



11/11/2019	148993	Total Coliform	Present	Flush & Resample	11/18/2019
11/18/2019	149024	Low Combined Chlorine	0.11 mg/L	Flush & Resample	11/18/2019
11/19/2019	149032	Low Combined Chlorine	0.11 mg/L	Flush & Resample	11/19/2019
11/25/2019	149093	Low Combined Chlorine	0.19 mg/L	Flush & Resample	11/25/2019
11/25/2019	149094	Low Combined Chlorine	0.20 mg/L	Flush & Resample	11/25/2019
12/2/2019	149151	Low Combined Chlorine	0.15 mg/L	Flush & Resample	12/2/2019
12/10/2019	149215	Low Combined Chlorine	0.22 mg/L	Flush & Resample	12/10/2019

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	N/A	N/A	N/A	N/A	N/A
Treated	N/A	N/A	N/A	N/A	N/A
Distribution	1449	0 "Present" samples	24 "Present" samples	653	0 - 860 CFU/mL

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)	Unit of Measure
Turbidity	N/A	N/A	N/A
Chlorine	5798	0.03 - 3.43 (combined Cl ₂)	mg/L
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A

NOTE: For continuous monitors use 8760 as the number of samples.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Sodium	Jan 1 - Dec 31 2019	15.4 - 23.6	mg/L	Yes - Next required reporting date is January 7 th , 2021
Fluoride	Jan 1 - Dec 31 2019	0.19 - 0.67	mg/L	No
Nitrite	Jan 1 - Dec 31 2019	0 - 0.07	mg/L	No
Nitrate	Jan 1 - Dec 31 2019	0 - 0.76	mg/L	No

Summary of lead testing under Schedule 15.1 during this reporting period

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Unit of Measure	Number of Exceedances
Plumbing	10	0.0005 - 0.0583	mg/L	1
Distribution	26	0.0005 - 0.0005	mg/L	0

Note: The Town of Newmarket possesses Lead Regulatory Relief under Schedule D of Municipal Drinking Water License 124-101; and is only required to sample “8” (eight) points in our respective distribution system during each of the sampling periods identified within O.Reg 170/03 and our respective Municipal Drinking Water License. All other lead sampling that is completed is above the requirements stipulated within the above referenced license and regulation and is done at the sole discretion of the Town of Newmarket.

Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
HAA (Total) (NOTE: show latest annual average)	Jan 1 - Dec 31 2019	Q4 RAA 0.0080	mg/L	No
THM (Total) (NOTE: show latest annual average)	Jan 1 - Dec 31 2019	Q4 RAA 0.0151	mg/L	No

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
N/A	N/A	N/A	N/A

Town of Newmarket
Monthly Water 2019

Date: 2/2/2020



Newmarket	January	February	March	April	May	June	July	August	September	October	November	December	Year to Date Total
Aurora Ballymore (Aurora) m3	-3,403	-2,750	-2,408	-431	-2,375	-1,832	-3,006	0	-15	-10	-95	0	-16,326
Aurora Ballymore (Newmarket) m3	93,382	109,077	98,533	87,839	95,455	123,050	145,658	119,350	108,393	145,125	136,822	87,250	1,349,934
Aurora West 12" (Aurora) m3	-2	-5	-6	-9	-71	-7	-76	-4	-7	-18	-1	-1	-206
Aurora West 12" (Newmarket) m3	165,417	134,403	156,889	146,611	154,073	167,265	148,854	147,557	133,221	159,143	154,678	168,130	1,836,241
Aurora West 8" (Aurora) m3	0	0	0	0	0	0	0	0	0	0	0	0	0
Aurora West 8" (Newmarket) m3	0	0	0	0	0	0	0	0	0	0	0	0	0
Davis Drive/Hwy. 404 m3	-2,041	-1,754	-1,763	-1,631	-1,316	-1,401	-5,727	-6,765	-7,804	-7,388	-5,368	-4,592	-47,550
EG Leslie Street MC 12" Fwd to NW m3	0	0	0	0	0	0	0	0	0	0	0	0	0
EG Leslie Street MC 12" Rev to EG m3	0	0	0	0	0	0	0	0	0	0	0	0	0
EG Leslie Street MC 22" Fwd to NW m3	112,339	92,624	87,757	72,560	100,412	101,283	111,503	109,187	90,548	54,359	50,084	45,394	1,028,048
EG Leslie Street MC 22" Rev to EG m3	-2,820	-2,670	-5,396	-3,467	-1,243	-1,663	-445	-918	-5,359	-14,911	-24,097	-10,158	-73,147
Leslie/Broughton (Aurora) m3	-18	-11	-12	-6	-14	-4	-8	-17	-537	-16	-2	-5	-650
Leslie/Broughton (Newmarket) m3	166,698	150,364	153,818	144,286	164,355	171,341	201,987	198,828	154,391	136,437	136,452	162,766	1,941,720
Newmarket Well No. 1 m3	6,216	26,353	27,853	26,032	30,896	27,370	30,591	29,795	26,714	25,951	24,967	27,802	310,541
Newmarket Well No. 13 m3	32,700	34,792	41,432	33,715	34,105	27,631	12,746	21,004	35,142	65,884	61,743	69,743	470,637
Newmarket Well No. 15 m3	276	251	210	263	151	172	179	145	193	275	120	0	2,235
Newmarket Well No. 16 m3	44,056	36,877	36,277	37,086	44,960	37,450	66,725	66,649	42,188	0	0	0	412,267
Newmarket Well No. 2 m3	54,962	54,487	58,151	52,826	55,513	58,302	70,095	69,256	61,624	54,680	51,192	55,662	696,748
Newmarket/Aurora (Aurora) m3	-2,030	-4,452	-6,062	-4,230	-3,873	-4,682	0	0	0	0	0	0	-25,330
Newmarket/Aurora (Newmarket) m3	114,439	83,206	79,247	71,579	77,682	94,711	137,057	127,371	107,422	79,479	79,453	71,834	1,123,477
Woodspring Avenue (East Gwillimbury) m3	-14,922	-14,483	-14,107	-14,107	-14,383	-17,718	-19,220	-19,911	-17,117	-14,279	-14,386	-16,204	-190,834
Woodspring Avenue (Newmarket) m3	3	1	1	5	3	1	5	4	6	80	18	1	128
Yonge/Aspenwood (East Gwillimbury) m3	0	0	0	0	0	0	0	0	0	0	0	0	0
Yonge/Aspenwood (Newmarket) m3	0	0	0	0	0	0	0	0	0	0	0	0	0
Yonge/Bristol (East Gwillimbury) m3	-5,121	-6,235	-6,444	-5,030	-4,877	-5,692	-6,599	-7,491	-8,383	-4,410	-5,046	-6,340	-71,667
Yonge/Bristol (Newmarket) m3	19	21	19	19	24	22	15	16	17	96	16	13	296
Total Water Consumption m3	760,148	690,094	703,988	643,911	729,476	775,599	890,334	854,055	720,636	680,477	646,550	651,294	8,746,561

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Maximum Daily Flow m3	27,522	27,424	27,967	24,976	27,400	31,971	32,483	31,596	28,260	26,126	25,359	23,600	32,483
Maximum Date	23-Jan-2019	03-Feb-2019	20-Mar-2019	07-Apr-2019	18-May-2019	24-Jun-2019	11-Jul-2019	14-Aug-2019	02-Sep-2019	02-Oct-2019	15-Nov-2019	15-Dec-2019	
Minimum Daily Flow m3	20,572	21,241	18,147	18,006	18,726	20,811	24,312	23,847	20,764	17,538	18,081	17,863	17,538
Minimum Date	01-Jan-2019	09-Feb-2019	13-Mar-2019	20-Apr-2019	13-May-2019	02-Jun-2019	06-Jul-2019	27-Aug-2019	25-Sep-2019	25-Oct-2019	14-Nov-2019	29-Dec-2019	
Average Daily Flow m3	24,521	24,646	22,709	21,464	23,531	25,853	28,720	27,550	24,021	21,951	21,552	21,009	23,961