KING

THE CORPORATION OF THE TOWNSHIP OF KING

REPORT TO COUNCIL

Monday, *March 19, 2018*

Engineering Public Works and Building
EPW 2018-07
RE: *2017 Water Summary Report*

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1. RECOMMENDATIONS:

The Engineering, Public Works and Building Department respectfully submits the following recommendation:

a) THAT report EPW 2018-07 be received for information;

b) THAT a copy of this report and a copy of the Annual Water Quality Report for Schomberg be sent to the Town of New Tecumseth.

2. PURPOSE:

This report is to inform Council that the Engineering & Public Works Department has prepared an Annual Report for each of the four municipal drinking water systems as required under Section 11 of O.Reg.170/03 using the standard Ministry of the Environment and Climate Change (MOECC) templates. Annual Reports will be posted on the Township website and are available to the public at no cost. This report also fulfills the requirement to provide members of Council with an annual summary report as outlined in Schedule 22 of O.Reg.170/03.

3. BACKGROUND AND PROPOSAL:

Annual Summary Report for Council

The purpose of the Annual Summary Report is to enable the owner of the water systems to assess the capability of meeting the existing and planned uses of the systems. The required contents of the Summary Report for municipal Council members are specified in Schedule 22 of O.Reg. 170/03. The requirements are as follow:

The Summary Report must provide the following information to decision makers:

(a) list the requirements of the *Safe Drinking Water Act*, the regulations, the system's approval, drinking water works permit, municipal drinking water license, and any orders applicable to the system **that were not met** at any time during the period covered by the report; and

(b) for each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures that were taken to correct the failure.

The Summary Report must also include:

1. 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;

2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's 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), to the flow rates specified in the written agreement.

This Summary Report for council members is made available on the Township website and copies are available free of charge from the Engineering, Public Works and Building Department.

3.1 Standard of Care Provision of the *Safe Drinking Water Act*

The Standard of Care provisions of the *Safe Drinking Water Act, 2002*, came into force on December 31, 2012. The Ministry of the Environment and Climate Change (MOECC) guideline, **Taking Care of Your Drinking Water (updated in 2014)**, provides members of municipal councils with general information in regards to the Standard of Care provisions. The updated version of this guideline was distributed to Council via Standard of Care Update Bulletin 2015-01

As per the Section 19 of the *Safe Drinking Water Act*, the owner of the municipal drinking water system shall:

(a) Exercise the level of care, diligence and skill in respect of a municipal drinking water system that a reasonably prudent person would be expected to exercise in a similar situation; and

(b) Act honestly, competently and with integrity, with a view to ensuring the protection and safety of the users of the municipal drinking water system.

4. DISCUSSION AND ANALYSIS:

4.1 Instances of Regulatory Non-Compliance - 2016

King City Drinking Water System (DWS)

The King DWS experienced the following Adverse Water Quality Incidents (AWQI):

- Total Coliforms-08/02/2017
- Total Coliforms-08/25/2017

Both of these adverse incidents took place in current development areas. The Township monitors the water quality in development areas during build-out to ensure these un-occupied sites do not negatively impact the rest of the distribution system. These works are typically undertaken by contract forces and financially covered through the respective Subdivision Agreements. Both of these AWQI's were resolved in a timely manner and in full compliance with MOECC requirements.

Schomberg DWS

The Schomberg DWS experienced the following AWQI's:

- Nitrites-01/20/2017

- Total Coliforms-08/19/2017

All of these AWQI's were resolved according to MOECC requirements. The Township is currently working closely with the Region to monitor and manage the nitrification challenges within the Schomberg DWS. The Region is currently undertaking a study to review the current treatment technologies in place for this system and examining alternative technologies to better manage the nitrification challenges. The Township has incorporated both ATP analysis and the DR3900 spectrophotometer to facilitate operational monitoring and management of the nitrification challenges thereby reducing the number of AWQI's due to nitrification.

Nobleton DWS

The Nobleton DWS experienced the following AWQI:

- Total Coliforms-10/03/2017

This AWQI was resolved in compliance with MOECC requirements

Ansnorveldt DWS

The Ansnorveldt DWS experienced the following AWQI's:

- Total Coliforms-06/19/2017
- Total Coliforms-06/27/2017

4.2 Water Systems Capacity Assessment

The Township of King receives all of its drinking water from the Regional Municipality of York. The Township does not have a written agreement with the Regional Municipality of York for the provision of drinking water and therefore is not able to provide a comparison of actual flow rates and the flow rates identified in a written agreement.

All four of the Township's Drinking Water Systems are exempt from lead sampling in plumbing systems. The Township must test the distribution system for Alkalinity and pH over two sampling periods each year. Every third year staff must include lead in the sampling parameters of the distribution system. This exemption remains in place as long as non-adverse results are achieved within the distribution samples. The Township sampled for Alkalinity, Lead and pH in all four systems for the Winter and summer rounds of sampling for the 2016 Lead Sampling

Ansnorveldt Water System

The Ansnorveldt Distribution system services a population of approximately 176 people and consists of roughly 1.5 kilometres of watermains and approximately 55 connections. The Ansnorveldt system is classified as a Small Municipal Residential System – Class 1.

The maximum daily flow of 135 m^3 occurred on August 08, with an average daily flow of 48 m^3, for the reporting period from January 2017 to December 2017 (statistical flow data provided by the Region of York).

The 2016 Water Master Plan Update prepared by York Region indicates that no future improvements in terms of supply and storage are required.

Water Quality Sampling Results

As indicated previously, the Ansnorveldt DWS experienced two (2) AWQI's in 2017 and both were resolved in full compliance with MOECC requirements.

King City Water System

The King City Distribution system currently services a population of approximately 7,190 people and consists of roughly 37 kilometres of watermains and approximately 2,247 connections. The King City system is classified as a Large Municipal Residential System – Class 1.

The maximum daily flow of 3,666m^3 occurred on September 25 with an average daily flow of 1,939 m^3, for the reporting period from January 2017 to December 2017 (statistical flow data provided by the Region of York).

Water system for the new subdivision in King City-19T-10K01-Mary Lakes Estates was connected to the existing water distribution system and commissioned in 2017. Commissioning of this water system was complete according to the Township of King requirements, which includes pressure and leakage test, swabbing, disinfection, and sampling and testing of the watermains. On-going monitoring will be conducted by the developers to address any potential water quality concerns.

The Regional Master Plan update of 2016 indicates a need for new watermains, storage and pumping station(s) to meet the growing needs of the King City community. The plan further recommends de-commissioning the King City wells. York Region has determined that it is appropriate to maintain the wells as a back-up supply source, and has not decommissioned the wells. The lake-based water from the City of Toronto and Peel Region is conveyed and connected to the King City water distribution system through York Region 600 mm diameter feeder main that was installed/constructed along Dufferin Street and King Road. The implementation of a second feed into King City has been identified in the Regional 2016 Water and Wastewater Masterplan Update.

Water Quality Sampling Results

Regulatory sampling within the King City DWS met all applicable requirements and as indicated previously King City experienced 2 AWQI events in 2017.

Nobleton Water System

The Nobleton Distribution system currently services a population of approximately 6,173 people and consists of approximately 29 kilometres of watermains with approximately 1,929 connections. The Nobleton system is classified as a Large Municipal Residential System – Class 1.

The maximum daily flow of 3,751 m^3 occurred on September 17 with an average daily flow of 1,601 m^3, for the reporting period from January 2017 to December 2017 (statistical flow data provided by the Region of York).

The 2016 Water and Wastewater Masterplan Update prepared by York Region has indicated the need for a new well or a revision to the current Permit to Take Water to facilitate the proposed growth in the Nobleton community.

Water Quality Sampling Results

All water samples taken and tested for microbiological, organic, and inorganic parameters had satisfactory test results. Nobleton experienced one AWQI in 2017.

Schomberg Water System

The Schomberg Distribution system services a population of approximately 2,688 people and consists of approximately 14 kilometres of watermains and approximately 840 connections. The Schomberg system is classified as a Large Municipal Residential System – Class 1.

There are approximately 6 residential service connections on the Schomberg Drinking Water System that service residents of New Tecumseth on the north side of Highway 9. As indicated in the Recommendations Section, staff will forward a copy of the Annual Water Quality Report to the Town of New Tecumseth.

The maximum daily flow of 2,844 m^3 occurred on August 18 with an average daily flow of 1,397 m^3, for the reporting period from January 2017 to December 2017 (statistical flow data provided by the Region of York).

The 2016 Water and Waster Masterplan Update prepared by York Region does not indicate any need for upgrades to the drinking water system in Schomberg.

Water Quality Sampling Results

Regulatory sampling within the Schomberg DWS met all applicable requirements and as indicated previously Schomberg experienced 2 AWQI events in 2017.

There is an enhanced monitoring plan in place for the operations departments of both the Township and the Region to monitor and manage the nitrification challenges within this system. The Region is currently investigating opportunities to revise the current treatment processes/technologies in place within the Schomberg system to better address the on-going nitrification. Township and Regional staff continue to work together to meet these challenges.

4.3 Municipal Drinking Water License Program

Municipal Drinking Water License

The Township received full accreditation in 2013 and SAI Global conducted an on-site re-accreditation audit in 2016. This Audit Report identified no non-conformances and the Township's received its reaccreditation. SAI Global will be conducting a surveillance audit in 2017.

The Township successfully renewed all four of their Municipal Drinking Water Licenses in 2015.

Drinking Water Works Permits

The Drinking Water Works Permits for Ansnorveldt, King City, Nobleton, and Schomberg water distribution systems were issued by the MOECC on December 16th 2010. These permits outline the conditions and requirements that the Township must adhere to during the operation of the

water distribution systems. Each permit includes schedules that address the drinking water system description, alterations to drinking water system, and watermains additions, modifications, replacements, and extensions. Under the Drinking Water Works Permits, the Township is now responsible for review and approval of all extensions and alterations to the drinking water systems and the former MOECC Certificate of Approval process no longer applies. Staff have successfully implemented the revised approval process involving an engineering review and modeling of the proposed works successfully. These permits are made available on the Township website.
The MOECC implemented the Watermain Disinfection Procedure for Ontario in 2017. This necessitated a change in all four of the Township DWWP's. The updated documents have been received by the Township and are posted on the website

5. PROPOSED REGULATORY CHANGES AND CHANGES TO THE DRINKING WATER QUALITY MANAGEMENT STANDARD

- The Ministry of the Environment and Climate Change (MOECC) has implemented changes to Ontario Regulations 170/03 and 169/03. The following is a brief summary of these changes:
    - Ontario Regulation 373/15 amends Ontario Regulation 169/03 by altering allowable levels of some of the constituents covered under 169/03. The only change affecting the Township is the implementation of monitoring and reporting adverse values for Haloacetic Acids (HAA's). Township staff will be required to sample for these quarterly and report if the "running average" exceeds 0.080 mg/l;
    - Ontario Regulation 374/15 amends Ontario Regulation 170/03. The Township will experience impacts from the mandatory monitoring of HAA's. There is also a new definition for "calendar quarter" providing more definitive direction and leeway for the municipality as it regards mandatory quarterly sampling.
    - The revised Drinking Water Quality Management Standard has been implemented. Staff have revised the Operational Plan and associated Standard Operating Procedures (SOP's) to reflect the changes to the Standard.
    - As indicated above, the MOECC Watermain Disinfection Procedure has been implemented. Staff have revised the applicable SOP's to reflect the implementation of this document.

6. INTEGRATED SUSTAINABILTY PLAN LINKAGE:

The Annual Summary Report is a regulatory requirement under Schedule 22 of Ontario Regulation 170/03 of the Safe Drinking Water Act.

This report also links to the Environment Pillar and Water Theme of the Integrated Community Sustainability Plan by ensuring compliant operation of the Township's four Drinking Water Systems and communicating the systems' performance to Council.

7. FINANCIAL IMPLICATIONS:

There are no financial impacts related to this report.

8. CONCLUSIONS:

Township of King continues to provide safe municipal drinking water to all our residents, businesses, and visitors through the Ansnorveldt, King City, Nobleton, and Schomberg water distribution systems.

9. ATTACHMENTS:

2017 Ansnorveldt Annual Quality Report – Section 11 O.Reg. 170/03
2017 King City Annual Quality Report - Section 11 O.Reg. 170/03
2017 Nobleton Annual Quality Report - Section 11 O.Reg. 170/03
2017 Schomberg Annual Quality Report - Section 11 O.Reg. 170/03

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