



Meeting Date: November 24, 2021

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Report No: PWE 45-2021

Subject: Middlesex Centre Water Distribution System
2021 Annual Inspection Summary

Recommendation:

THAT Report PWE 45-2021, re: 2021 Ministry of Environment, Conservation & Parks (MECP) Annual Inspection Report for the Middlesex Centre Water Distribution System be received for information.

Purpose:

To advise Council of the 2021 MECP Annual inspection finding in the Middlesex Centre Water Distribution System.

Background:

Under the Safe Drinking Water Act, 2002 (SDWA) Section 81 the MECP undertakes annual inspections of Municipal Drinking Water Systems (DWS). Inspections cover operational and process details, as well as the system condition and maintenance practices. The 2021 inspection was announced by the MECP and was performed on-site July 22, 2021 and finalized on September 21, 2021.

Analysis:

The Drinking Water System Inspection Report is typically broken in to two (2) sections:

1. Non-compliance based upon a “No” response captured for a legislative or best practice (BMP) question, and
2. Inspection Details related to questions that were assessed during the drinking water inspection Summary of Recommendation and Best Practice Issues.

Non-compliance with Regulatory Requirements and Actions Required

Over the inspection period two (2) non-compliance with regulatory requirements were identified. The non-compliances were related to security of the facility and other Inspection findings. The non-compliances have been addressed. A new valve called a

Duck Bill valves which will allow of isolation of the overflow pipes was ordered and received the week on November 1st, it will be installed and communicated to the MECF. While completing commissioning of new watermains the Operating Authority will work closely with the contractors to ensure there is a proper amount of water turnover and movement with flushing. The SCADA system was also identified as only having security based solely from our internet provider. A project has been initiated with Middlesex County IT and a SCADA Engineering Consultant to determine the state of the water & wastewater IT systems and roadmap out what the system should look like and function. This will included internet providers, security measures and standardization.

Question ID	MRDW1116000	
Question	Question Type	Legislative Requirement
Were the inspection questions sufficient to address other identified best practice issues?	BMP	Not Applicable
Observation/Corrective Action(s)		
<p>The following issues were also noted during the inspection:</p> <p>A. It is unclear if the underground overflow pipes associated with reservoirs and water towers are equipped with screens to mitigate access of invertebrates and other foreign material.</p> <p>B. According to the documentation provided by the Owner / Operating Authority, there were two occasions when the concentration of free chlorine residual increased significantly during the 24 hour disinfection period of new watermains. On one occasion, the concentration increased from 150 mg/L to 1000 mg/L through the 24 disinfection period, and on another occasion, the concentration increased from 350 mg/L to 1660 mg/L through the 24 disinfection period.</p> <p>Corrective Actions:</p> <p>A. It is recommended that the Owner / Operating Authority assess the underground overflow pipes associated with reservoirs and water towers to determine if appropriate screens are present to mitigate access of invertebrates and other foreign material.</p> <p>B. It is recommended that the Owner / Operating Authority assess the method in which the free chlorine concentration is measured or the method in which the batch of chlorinated water is prepared given the variability of the free chlorine measurements over the length of the new watermains during the disinfection period.</p>		

Question Group: Security

Question ID	MRDW1071000		
Question	Question Type	Legislative Requirement	
Has the owner provided security measures to protect components of the drinking water system?	BMP	Not Applicable	
Observation/Corrective Action(s)			
<p>The owner had not provided security measures to protect components of the drinking water system.</p> <p>The Plants and Water Towers associated with the water system remain locked at all times and are equipped with entry alarms which are connected to a dialing system to alert the Operating Authority / Owner of unathourized entry. Several of the components are enclosed within locked security fencing. Most components associated with the water system are visited on a daily basis, or at least three times per week.</p> <p>According to the Operating Authority, security of the SCADA system is based solely from their Internet provider.</p> <p>Corrective Actions:</p> <p>It is recommended that the Owner / Operating Authority assess the current state of their cybersecurity to protect the confidentiality and integrity of transmitted information and deter identity theft by outside attackers as referenced in the 2012 Edition of the Recommended Standards for Waterworks</p>			

The inspection details related to questions that were assessed during the drinking water inspection Summary of Recommendation and Best Practice Issues are identified in the attached inspection report.

The MECP inspection objective is to determine the drinking water system compliance with the Safe Drinking Water Act and associated regulations. Based upon the results of the inspection an overall inspection rating is calculated and the Middlesex Centre Water Distribution System received a 100% Inspection Rating.

Financial Implications:

None

Strategic Plan:

This matter aligns with following strategic priorities:

- Sustainable Infrastructure and Services
- Responsive Municipal Government

Attachments:

Middlesex Centre Distribution System Inspection Report

Middlesex Centre Distribution – Inspection Summary Rating Record (Reporting Year 2021-2022)