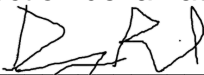




ALVINSTON DISTRIBUTION SYSTEM  
Physical Address: 3188 CHURCH ST, , BROOKE-  
ALVINSTON, ON N0N 1A0

## INSPECTION REPORT

System Number: 260040170  
Entity: CORPORATION OF THE  
MUNICIPALITY OF BROOKE-  
ALVINSTON  
ONTARIO CLEAN WATER  
AGENCY  
Inspection Start Date: May 28, 2024  
Inspection End Date: July 05, 2024  
Inspected By: Dwayne Reid  
Badge #: 1421

  
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(signature)

## INTRODUCTION

### Purpose

This announced, detailed inspection was conducted to confirm compliance with Ministry of the Environment, Conservation and Parks' (MECP) legislation and conformance with Ministry drinking water policies and guidelines.

### Scope

The Ministry utilizes a comprehensive, multi-barrier approach in the inspection of water systems that focuses on the source, treatment, and distribution components as well as management and the operation of the system. The inspection of the drinking water system included both the physical inspection of the component parts of the system listed in section 4 "Systems Components" of the report and the review of data and documents associated with the operation of the drinking water system during the review period.

This drinking water system is subject to the legislative requirements of the Safe Drinking Water Act, 2002 (SDWA) and regulations made therein, including Ontario Regulation 170/03, "Drinking Water Systems" (O. Reg. 170/03). This inspection has been conducted pursuant to Section 81 of the SDWA.

This inspection report does not suggest that all applicable legislation and regulations were evaluated. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

### Facility Contacts and Dates

The drinking water system is owned by The Corporation of the Municipality of Brooke-Alvinston and operated by the Ontario Clean Water Agency (OCWA). The system serves an estimated population of 1000 and is categorized as a Large Municipal Residential System. Information reviewed for this inspection covered the time period of May 25, 2023 - May 31, 2024.

### Systems/Components

The Alvinston Distribution System maintains secondary disinfection and distribution of water. Primary disinfection is undertaken by another regulated drinking water system which provides treated water to this drinking water system. Treated water is received from the Lambton Area Water Supply System, which is inspected separately. Water enters the Alvinston Distribution System through a meter chamber located at the corner of Old Walnut Road and Churchill Line, and is conveyed to the Alvinston Re-chlorination Station located at 3188 Church Street.

The Re-chlorination Station is used to fill the Alvinston Standpipe located at 3294 Henry Street.

The 1,544 m<sup>3</sup> standpipe provides elevated storage for maintaining pressure in the watermains supplying the community. The Re-chlorination Station is equipped with a chlorine feed pump for boosting the level of secondary disinfection as necessary. Free chlorine analysers continuously monitor the chlorine residual entering and exiting the Re-chlorination Station. A third analyser is located on the water line used to both fill and discharge from the Standpipe. The distribution system includes approximately 22 kilometers of watermains, 70 hydrants, 110 shutoff valves, and 11 air release chambers.

### **Permissions/Approvals**

This drinking water system was subject to specific conditions contained within the following permissions and/or approvals (including but not limited to) at the time of the inspection in addition to the requirements of the SDWA and its regulations: Municipal Drinking Water Licence No. 240-101, Issue No. 5 and Drinking Water Works Permit No. 240-201, Issue No. 3.

## **NON-COMPLIANCE**

This should not be construed as a confirmation of full compliance with all potential applicable legal requirements. These inspection findings are limited to the components and/or activities that were assessed, and the legislative framework(s) that were applied. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

If you have any questions related to this inspection, please contact the signed Provincial Officer.

## RECOMMENDATIONS

The following item(s) have been identified as non-conformance, based on a "No" response captured for a best management practice (BMP) question(s). For additional information on each question see the Inspection Details section of the report.

**Ministry Program:** DRINKING WATER | **Regulated Activity:** DW Municipal Residential

Item	Question	Recommendation(s)
R-1	<p><b>Question ID:</b> DWMR1072001</p> <p>Had the owner and/or operating authority undertaken efforts to promote water conservation and reduce water losses in the drinking water system?</p>	<p>The owner and/or operating authority did not undertake efforts to promote water conservation and/or reduce water losses in their system.</p> <p>The Operating Authority indicated there is no formal water conservation plan. However, customers are fully metered, and a leak detection survey was recently conducted.</p> <p>The following websites may be helpful to the municipality in relation to water loss and conservation:</p> <p><a href="http://www.awwa.org/resources-tools/water-knowledge.aspx">http://www.awwa.org/resources-tools/water-knowledge.aspx</a> (includes water conservation and water loss control and free audit software)</p> <p><a href="https://fcm.ca/sites/default/files/documents/resources/guide/infraguide-water-use-loss-waterdistribution-system-mamp.pdf">https://fcm.ca/sites/default/files/documents/resources/guide/infraguide-water-use-loss-waterdistribution-system-mamp.pdf</a> (water use and loss in distribution systems)</p>
R-2	<p><b>Question ID:</b> DWMR1052001</p> <p>Was there a bylaw or policy in place limiting access to hydrants?</p>	<p>There was no bylaw or policy in place limiting access to hydrants.</p> <p>The Operating Authority indicated there is no by-law to limit access to hydrants. It is recommended that the Owner develop a by-law to limit access to hydrants.</p>
R-3	<p><b>Question ID:</b> DWMR1070001</p> <p>Were air vents and overflows associated with reservoirs and elevated storage structures equipped with screens?</p>	<p>Air vents and overflows associated with reservoirs and elevated storage structures were not equipped with screens.</p> <p>The overflow for the standpipe is equipped with a rubber duckbill cover. The Operating Authority could not confirm whether or not there is a</p>

screen located within the pipe.

The Ministry recommends that #4 mesh (5.16 mm) non-corrodible screen be used for overflows and vents of elevated storage tanks. The screen should be installed inside the overflow pipe at a location least susceptible to damage.

### INSPECTION DETAILS

This section includes all questions that were assessed during the inspection.

**Ministry Program:** DRINKING WATER | **Regulated Activity:** DW Municipal Residential

<b>Question ID</b>	DWMR1018001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   31   (1);			
<b>Question:</b> Did the owner ensure that equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The owner ensured that equipment was installed as required.			

<b>Question ID</b>	DWMR1020001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   31   (1);			
<b>Question:</b> Were Form 1 documents prepared as required?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Form 1 documents were prepared as required.  There was one Form 1 provided for a watermain extension on Elm St.			

<b>Question ID</b>	DWMR1028001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   31   (1);			
<b>Question:</b> Were up-to-date plans for the drinking water system made available in such a manner that they could be readily viewed by all persons responsible for all or part of the operation of the drinking water system, in accordance with the Drinking Water Works Permit and Municipal Drinking Water Licence?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Plans for the drinking water system were kept up-to-date and made available as required.  The latest distribution system drawing was provided that shows the watermains and their orientation along the streets, valves, hydrants, and other components of the system. The			



Operating Authority indicated the drawing was from 2023.

Question ID	DWMR1025001	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   31   (1);			
<b>Question:</b> Were all parts of the drinking water system that came in contact with drinking water disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> All parts of the drinking water system were disinfected as required.  Documentation provided by the Operating Authority indicates that the requirements of the 2020 Watermain Disinfection Procedure were met for the watermain extension, repairs and service line installation.			

Question ID	DWMR1027001	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   31   (1);			
<b>Question:</b> Did the owner have evidence indicating that chemicals and materials that came in contact with water within the drinking water system met all applicable AWWA and ANSI standards in accordance with the Municipal Drinking Water Licence and Drinking Water Works Permit?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The owner had evidence indicating that chemicals and materials that came in contact with water within the drinking water system met the applicable standards.  The Anchlor 12 used for disinfection and the Jutzi Chlorine 12 used for re-chlorination are NSF certified.			

Question ID	DWMR1024001	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   1-2   (2);			
<b>Question:</b> Did records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection was operated as required?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Records confirmed that the water treatment equipment which provides chlorination or chloramination for secondary disinfection was operated as required.  The Operating Authority indicated that chlorine residual in the water provided by LAWSS is			

typically sufficient and no further re-chlorination is needed. The information provided indicated that there was adequate free chlorine residual (greater than 0.05 mg/L) during the review period.

<b>Question ID</b>	DWMR1033001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   7-2   (3); SDWA   O. Reg. 170/03   7-2   (4);			
<b>Question:</b> Was secondary disinfectant residual tested as required for the large municipal residential distribution system?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Secondary disinfectant residual was tested as required.  Free chlorine residual samples were taken and analysed two days each week separated by at least 48 hours. Three samples were taken on one day and four samples were taken on the other day.  During the inspection the following chlorine residual results were recorded from the process analysers: Standpipe: 0.89 mg/L Re-chlorination Station Inlet: no flow Re-chlorination Station Outlet: no flow  During the inspection free chlorine residual monitoring was also conducted at the Alvinston Arena - 0.62 mg/L, and at the Brooke-Alvinston Municipal Office - 1.07 mg/L.			

<b>Question ID</b>	DWMR1049001	<b>Question Type</b>	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Did records confirm that disinfectant residuals were routinely checked at the extremities and dead ends of the distribution system?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Records confirmed that disinfectant residuals were routinely checked at the extremities and dead ends of the distribution system.  Dead-ends and extremities of the system were checked for chlorine residual during the monthly flushing program that ran from June to October during the review period.  Two of the routine sampling locations are also located near the ends of the system.			

<b>Question ID</b>	DWMR1036001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   6-7   (1);			
<b>Question:</b> Where continuous monitoring equipment was not used for chlorine residual analysis, were samples tested using an acceptable portable device?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Samples for chlorine residual analysis were tested using an acceptable portable device.			

<b>Question ID</b>	DWMR1099001	<b>Question Type</b>	Information
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Do records show that water provided by the drinking water system met the Ontario Drinking Water Quality Standards?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Records showed that all water sample results met the Ontario Drinking Water Quality Standards.			

<b>Question ID</b>	DWMR1081001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   10-2   (1); SDWA   O. Reg. 170/03   10-2   (2); SDWA   O. Reg. 170/03   10-2   (3);			
<b>Question:</b> Were distribution microbiological sampling requirements prescribed by Schedule 10-2 of O. Reg. 170/03 for large municipal residential systems met?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Distribution microbiological sampling requirements were met.  Microbiological samples were taken at 3 locations in the distribution system each week and analysed for E. coli and total coliforms. Approximately 1/3 of the samples were also analysed for heterotrophic plate count.			

<b>Question ID</b>	DWMR1096001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   6-3   (1);			

**Question:**

Did records confirm that chlorine residual tests were conducted at the same time and location as microbiological samples?

**Compliance Response(s)/Corrective Action(s)/Observation(s):**

Records confirmed that chlorine residual tests were conducted as required.

Question ID	DWMR1086001	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   13-6.1   (1); SDWA   O. Reg. 170/03   13-6.1   (2); SDWA   O. Reg. 170/03   13-6.1   (3); SDWA   O. Reg. 170/03   13-6.1   (4); SDWA   O. Reg. 170/03   13-6.1   (5); SDWA   O. Reg. 170/03   13-6.1   (6);			
<b>Question:</b> Were haloacetic acid sampling requirements prescribed by Schedule 13-6 of O. Reg. 170/03 met?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Haloacetic acid sampling requirements were met.  Haloacetic acid samples were taken July 4, 2023, October 3, 2023, January 2, 2024, and April 2, 2024. Running annual average results ranged from 22.1 – 23.4 ug/L as compared to the limit of 80 ug/L. All samples were taken at the arena in Alvinston. Haloacetic acid concentrations tend to be highest at the start of the distribution system or downstream of re-chlorination systems. The Operating Authority indicated that previous sampling had shown the highest concentrations of haloacetic acids and trihalomethanes occur at the same location in the distribution system where the samples were taken.			

Question ID	DWMR1087001	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   13-6   (1); SDWA   O. Reg. 170/03   13-6   (2); SDWA   O. Reg. 170/03   13-6   (3); SDWA   O. Reg. 170/03   13-6   (4); SDWA   O. Reg. 170/03   13-6   (5); SDWA   O. Reg. 170/03   13-6   (6);			
<b>Question:</b> Were trihalomethane sampling requirements prescribed by Schedule 13-6 of O. Reg. 170/03 met?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Trihalomethane sampling requirements were met.  Trihalomethane samples were taken July 4, 2023, October 3, 2023, January 2, 2024, and April 2, 2024. Running annual average results ranged from 47.5 – 50 ug/L as compared to the limit of 100 ug/L. All samples were taken at the arena in Alvinston. Trihalomethane concentrations tend to be highest at locations with the highest residence time in the			

distribution system. The Operating Authority indicated that previous sampling had shown the highest concentrations of haloacetic acids and trihalomethanes occur at the same location in the distribution system where the samples were taken.

Question ID	DWMR1095001	Question Type	Legislative
<p><b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   15.1-10; SDWA   O. Reg. 170/03   15.1-4   (1); SDWA   O. Reg. 170/03   15.1-5   (1); SDWA   O. Reg. 170/03   15.1-5   (10); SDWA   O. Reg. 170/03   15.1-5   (11); SDWA   O. Reg. 170/03   15.1-5   (2); SDWA   O. Reg. 170/03   15.1-5   (3); SDWA   O. Reg. 170/03   15.1-5   (4); SDWA   O. Reg. 170/03   15.1-5   (5); SDWA   O. Reg. 170/03   15.1-5   (6); SDWA   O. Reg. 170/03   15.1-5   (7); SDWA   O. Reg. 170/03   15.1-5   (8); SDWA   O. Reg. 170/03   15.1-5   (9); SDWA   O. Reg. 170/03   15.1-7   (1); SDWA   O. Reg. 170/03   15.1-7   (2); SDWA   O. Reg. 170/03   15.1-7   (3); SDWA   O. Reg. 170/03   15.1-7   (4); SDWA   O. Reg. 170/03   15.1-9   (1); SDWA   O. Reg. 170/03   15.1-9   (2); SDWA   O. Reg. 170/03   15.1-9   (3); SDWA   O. Reg. 170/03   15.1-9   (4); SDWA   O. Reg. 170/03   15.1-9   (5); SDWA   O. Reg. 170/03   15.1-9   (6); SDWA   O. Reg. 170/03   15.1-9   (7); SDWA   O. Reg. 170/03   15.1-9   (8); SDWA   O. Reg. 170/03   15.1-9   (9);</p>			
<p><b>Question:</b> Were lead sampling requirements prescribed by Schedule 15.1 of O. Reg. 170/03 met?</p>			
<p><b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Lead sampling requirements were met.</p> <p>Lead was sampled at 2 locations in the distribution system in February, 2023 and July, 2023 and 3 years prior in February, 2020 and July, 2020. Alkalinity and pH were monitored at 2 locations twice per year in 2021 and 2022. Alkalinity and pH were also monitored on February 5, 2024.</p> <p>The samples taken on July 4, 2024 were analysed for lead and pH only. On July 5, 2023 there were 2 additional samples taken for pH and alkalinity. The July 4, 2024 lead samples did not have alkalinity samples taken until the following day.</p> <p>Subsection 15.1-7 (2) of O. Reg. 170/03 states: The owner of a drinking water system and the operating authority for the system shall ensure that samples taken from a point in the system's distribution system under section 15.1-4 or 15.1-5 are taken in accordance with the following rules:</p> <ol style="list-style-type: none"> <li>1. Before the samples are taken, the point in the distribution system must be flushed until the quality of the water at the point is representative of the quality of the water in that part of the distribution system.</li> <li>2. Three samples must be taken.</li> <li>3. If a sample cannot be taken from a point in the system's distribution system, a sample of cold water may be taken instead from a point in plumbing connected to the distribution system, provided that before the sample is taken the point is flushed until the quality of the</li> </ol>			

water at the point is representative of the quality of water in the part of the distribution system that is connected to the plumbing.

4. Samples must not be taken from points in the distribution system where lead levels are likely to be elevated due to materials used in fixtures or appurtenances located at or near the sampling point.

Subsection 15.1-7 (3) of O. Reg. 170/03 states:

(3) The owner of the drinking water system and the operating authority for the system shall ensure that,

(a) the samples taken under paragraphs 9 and 10 of subsection (1) and the first sample taken under subsection (2) are tested for lead;

(b) the second sample taken under subsection (2) is tested for total alkalinity; and

(c) the sample taken under paragraph 12 of subsection (1) and the third sample taken under subsection (2) are each tested for pH,

(i) immediately after the sample is taken, and

(ii) using a pH meter that measures pH to at least two significant digits.

The Operating Authority is reminded that alkalinity and pH samples are to be taken when sampling for lead.

Question ID	DWMR1110001	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   11   (6);			
<b>Question:</b> Was the annual report prepared by February 28th of the following year and did it contain the required information?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The annual report requirements were met.  Though not required for a system serving a population of less than 10,000 customers, the annual report and summary report could be made available on the municipality's website for easier access to the public.			

Question ID	DWMR1056001	Question Type	Information
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Did the donor provide an annual report to the owner of this receiver drinking water system?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The donor provided an annual report to the owner of the receiver drinking water system.			

<b>Question ID</b>	DWMR1111001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   22-2   (1); SDWA   O. Reg. 170/03   22-2   (2); SDWA   O. Reg. 170/03   22-2   (3); SDWA   O. Reg. 170/03   22-2   (4);			
<b>Question:</b> Did the summary report contain the required information and was it completed and distributed as required?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The summary report requirements were met.			

<b>Question ID</b>	DWMR1098001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   13   (1); SDWA   O. Reg. 170/03   13   (2); SDWA   O. Reg. 170/03   13   (3);			
<b>Question:</b> Were the required records kept for the periods prescribed by section 13 of O. Reg. 170/03?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The required records were kept for the prescribed periods.  The Operating Authority confirmed the records are kept for the required time periods. Older records are kept in hard copy at the re-chlorination station and recent records are kept and organized on a shared drive.			

<b>Question ID</b>	DWMR1046001	<b>Question Type</b>	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Was there a backflow prevention program, policy and/or bylaw in place that addressed cross connections and connections to high hazard facilities?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> There was a backflow prevention program, policy and/or bylaw in place.  The municipality has a backflow prevention by-law (By-law 52 of 2015) that requires periodic inspections and maintenance of backflow preventers at high-risk facilities. These backflow preventers are required to be inspected when installed, cleaned, repaired, relocated and every 5 years after installation. Results of the inspections are required to be submitted to the municipality within 14 days. If the backflow preventer is malfunctioning or not in working order, the device is required to be immediately repaired or replaced.			

Question ID	DWMR1053001	Question Type	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Was the owner able to maintain proper pressures in the distribution system and was pressure monitored to alert the operator of conditions of loss of pressure below the value under which the system was designed to operate?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The owner was able to maintain proper pressures in the distribution system and pressure was monitored to alert the operator of conditions which may lead to loss of pressure below the value under which the system is designed to operate.  The Alvinston Standpipe is monitored by a pressure sensor which converts the pressure to a percentage. The top 18 feet of the standpipe is monitored as 0%-100%. When the tower level drops to 76% the signal is transmitted to the Alvinston Re-chlorination Station and opens the LAWSS valve to refill the tower to 96%. There is a level alarm at the Standpipe.  There were no pressure related issues during the review period according to the Operating Authority and the logbook.			

Question ID	DWMR1047001	Question Type	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Did the owner have a program or maintain a schedule for routine cleanout, inspection and maintenance of reservoirs and elevated storage tanks within the distribution system?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The owner had a program or maintained a schedule for routine cleanout, inspection and maintenance of reservoirs and elevated storage tanks within the distribution system.  The Standpipe is scheduled to have an external and internal third-party inspection every 5 years.  The most recent inspection was conducted on July 31, 2023, earlier than scheduled as a tree hit the standpipe during a storm.  The following recommendations were included in the report: 1. The radial crack on the roof of the tank around the outside edge should be closely monitored during future external inspections. 2. Entry/exit gates should be installed on the fall arrest T-rail at the top and bottom of each ladder section if the current fall arrest is left in place. 3. The roof vent should have a new screen installed. 4. Consideration should be given to adding an engineered tie off point on the roof of the			



standpipe.

5. Consideration should be given to cleaning the sediment and debris on the bottom of the standpipe.

6. An external inspection of the standpipe focusing primarily on the post tension cables should be completed every two (2) years. Internal inspections should be completed at three (3) year intervals.

7. The crack that was noted in the concrete anchorage covers should be monitored by future inspections.

8. The damage to the cladding should be repaired with additional steel cladding pieces secured with silicon caulking and self-tapping screws.

Question ID	DWMR1048001	Question Type	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Had the owner implemented a program for the flushing of watermains as per industry standards?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The owner had implemented a program for the flushing of watermains.  Watermain flushing was conducted in the spring and fall during the review period. Dead-ends were flushed monthly between June and October. All hydrants are inspected and flushed at least annually.			

Question ID	DWMR1050001	Question Type	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Was there a program in place for inspecting and exercising valves?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> There was a program in place for inspecting and exercising valves.  The valve turning procedure provided states that major valves should be operated annually. Records indicated that valve exercising was conducted in July, 2023. Out of the 110 valves listed in the annual report, 26 valves were operated. The Operating Authority indicated that the main valves in the system are part of the valve exercising program.  The Ministry recommends that distribution systems develop a valve exercising program based on AWWA Standard G200-15 (Distribution System Operation and Management). This standard identifies the following minimum requirements for a valve exercising program: 1) A goal for the number of transmission valves to be exercised annually based on the percentage			

of the total valves in the system; 2) A goal for the number of distribution valves to be exercised annually; 3) Measures to verify that the goals are met and written procedures for action if the goals are not attained; 4) Identification of critical valves in the distribution system exercising on a regular basis; 5) Recognition of potential quality and isolation concerns; 6) Tracking of annual results and set goals to reduce the percent of inoperable valves.

<b>Question ID</b>	DWMR1051001	<b>Question Type</b>	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Was there a program in place for inspecting and operating hydrants?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> There was a program in place for inspecting and operating hydrants.  All hydrants are inspected and flushed annually.			

<b>Question ID</b>	DWMR1052001	<b>Question Type</b>	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Was there a bylaw or policy in place limiting access to hydrants?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> There was no bylaw or policy in place limiting access to hydrants.  The Operating Authority indicated there is no by-law to limit access to hydrants. It is recommended that the Owner develop a by-law to limit access to hydrants.			

<b>Question ID</b>	DWMR1058001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 128/04   28;			
<b>Question:</b> Did operators and maintenance personnel have ready access to operations and maintenance manuals?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Operators and maintenance personnel had ready access to operations and maintenance manuals.  The operations manual and procedures are available electronically.			

<b>Question ID</b>	DWMR1059001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 128/04   28;			
<b>Question:</b> Did the operations and maintenance manuals contain plans, drawings, and process descriptions sufficient for the safe and efficient operation of the system?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The operations and maintenance manuals contained plans, drawings, and process descriptions sufficient for the safe and efficient operation of the system.  The latest distribution system drawing was provided that shows the watermains and their orientation along the streets, valves, hydrants, and other components of the system. The Operating Authority indicated the drawing was from 2023.			

<b>Question ID</b>	DWMR1060001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   31   (1);			
<b>Question:</b> Did the operations and maintenance manual(s) meet the requirements of the Municipal Drinking Water Licence?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The operations and maintenance manual(s) met the requirements of the Municipal Drinking Water Licence.			

<b>Question ID</b>	DWMR1064001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 128/04   26   (2);			
<b>Question:</b> Did an operator-in-charge ensure that records were maintained of all adjustments to the processes within their responsibility?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The operator-in-charge ensured that records were maintained of all adjustments to the processes within their responsibility.  Watermain repairs and installations, calibration of chlorine analysers, and flow adjustments were documented.			

<b>Question ID</b>	DWMR1062001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   7-5;			

<p><b>Question:</b> Did records or other record keeping mechanisms confirm that operational testing not performed by continuous monitoring equipment was done by a certified operator, water quality analyst, or person who met the requirements of Schedule 7-5 of O. Reg. 170/03?</p>
<p><b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Records or other record keeping mechanisms confirmed that operational testing not performed by continuous monitoring equipment was done by a certified operator, water quality analyst, or person who met the requirements of Schedule 7-5 of O. Reg. 170/03.  All sampling was done by certified operators according to the information provided.</p>

<b>Question ID</b>	DWMR1063001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   6-10   (1);			
<b>Question:</b> For every required operational test and sample, was a record made of the date, time, location, results, and name of the person conducting the test?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> For every required operational test and sample, a record was made as required.			

<b>Question ID</b>	DWMR1061001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 128/04   27   (1); SDWA   O. Reg. 128/04   27   (2); SDWA   O. Reg. 128/04   27   (3); SDWA   O. Reg. 128/04   27   (4); SDWA   O. Reg. 128/04   27   (5); SDWA   O. Reg. 128/04   27   (6); SDWA   O. Reg. 128/04   27   (7);			
<b>Question:</b> Were logbooks properly maintained and did they contain the required information?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Logbooks were properly maintained and contained the required information.			

<b>Question ID</b>	DWMR1065001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 128/04   27   (6);			
<b>Question:</b> Were logs and other record keeping mechanisms available for at least five (5) years?			

**Compliance Response(s)/Corrective Action(s)/Observation(s):**

Logs or other record keeping mechanisms were available for at least five (5) years.

<b>Question ID</b>	DWMR1066001	<b>Question Type</b>	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Was spill containment provided for process chemicals and standby power generator fuel?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Spill containment was provided for process chemicals and/or standby power generator fuel.  The 1100L diesel tank for the generator has secondary containment. The generator also has secondary containment.			

<b>Question ID</b>	DWMR1067001	<b>Question Type</b>	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Were equipment and materials in place for the clean up of spills?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Equipment and materials were in place for the clean up of spills.  On June 24, 2024 there was an oil leak from the generator during routine testing. The oil was mostly cleaned up at the time of the inspection. Absorbent material was used to soak up the remaining oil. The Operating Authority indicated spill response materials would be re-stocked following the incident.			

<b>Question ID</b>	DWMR1068001	<b>Question Type</b>	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> If available, were standby power generators tested under normal load conditions?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Standby power generators were tested under normal load conditions.  Records indicated that the generator is regularly tested.			

Question ID	DWMR1069001	Question Type	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Were all storage facilities completely covered and secure?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Storage facilities were completely covered and secure.  The Alvinston Standpipe is located in a locked, fenced area.			

Question ID	DWMR1070001	Question Type	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Were air vents and overflows associated with reservoirs and elevated storage structures equipped with screens?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Air vents and overflows associated with reservoirs and elevated storage structures were not equipped with screens.  The overflow for the standpipe is equipped with a rubber duckbill cover. The Operating Authority could not confirm whether or not there is a screen located within the pipe.  The Ministry recommends that #4 mesh (5.16 mm) non-corrodible screen be used for overflows and vents of elevated storage tanks. The screen should be installed inside the overflow pipe at a location least susceptible to damage.			

Question ID	DWMR1071001	Question Type	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Did the owner provide security measures to protect components of the drinking water system?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The owner provided security measures to protect components of the drinking water system.  Access to the Re-chlorination Station and Standpipe is restricted by fencing and locked gates and doors. Operators attend the Re-chlorination Station daily and Standpipe 3 times per week. Staff also attend the locations after hours and weekends when responding to alarms.			

The Operating Authority indicated that they use a stand-alone datalogger for operational monitoring which is not connected to the internet. There is no remote access to the computer system for cybersecurity concerns.

The Operating Authority indicated there were no security or vandalism issues since the last inspection.

Question ID	DWMR1072001	Question Type	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Had the owner and/or operating authority undertaken efforts to promote water conservation and reduce water losses in the drinking water system?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The owner and/or operating authority did not undertake efforts to promote water conservation and/or reduce water losses in their system.  The Operating Authority indicated there is no formal water conservation plan. However, customers are fully metered, and a leak detection survey was recently conducted.  The following websites may be helpful to the municipality in relation to water loss and conservation:  <a href="http://www.awwa.org/resources-tools/water-knowledge.aspx">http://www.awwa.org/resources-tools/water-knowledge.aspx</a> (includes water conservation and water loss control and free audit software)  <a href="https://fcm.ca/sites/default/files/documents/resources/guide/infraguide-water-use-loss-waterdistribution-system-mamp.pdf">https://fcm.ca/sites/default/files/documents/resources/guide/infraguide-water-use-loss-waterdistribution-system-mamp.pdf</a> (water use and loss in distribution systems)			

Question ID	DWMR1073001	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 128/04   23   (1);			
<b>Question:</b> Was an overall responsible operator designated for all subsystems which comprise the drinking water system?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> An overall responsible operator was designated for all subsystem.  The Alvinston Distribution System is a Class 2 Water Distribution System.  The current ORO has a Water Treatment Class 2 certificate (deemed to hold a Class 1 Water			

Distribution System certificate), and a recently expired Class 3 Water Distribution System certificate. The back-up ORO has a Class 4 Water Distribution and Supply System certificate (deemed to hold a Class 4 Water Distribution System certificate).

The ORO indicated that they would be completing a training course and renewing their Class 3 Water Distribution System certificate.

The Operating Authority is reminded that designating an ORO who holds a Class 1 Water Distribution System certificate for the Alvinston Distribution System can only be done for a maximum of 150 days in a 12 month period.

Question ID	DWMR1078001	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 128/04   23   (1); SDWA   O. Reg. 128/04   23   (2); SDWA   O. Reg. 128/04   23   (4); SDWA   O. Reg. 128/04   23   (6); SDWA   O. Reg. 128/04   23   (7);			
<b>Question:</b> When the overall responsible operator was unable to act, was a properly certified operator designated to act in their place?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> A properly certified operator was designated to act in place of the overall responsible operator.			

Question ID	DWMR1074001	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 128/04   25   (1);			
<b>Question:</b> Were operators-in-charge designated for all subsystems which comprise the drinking water system?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Operators-in-charge were designated for all subsystems.			

Question ID	DWMR1075001	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 128/04   22;			
<b>Question:</b> Were all operators certified as required?			



**Compliance Response(s)/Corrective Action(s)/Observation(s):**

All operators were certified as required.

<b>Question ID</b>	DWMR1076001	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   1-2   (2);			
<b>Question:</b> Were adjustments to the treatment equipment only made by certified operators?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Adjustments to the treatment equipment were only made by certified operators.			