

**Joint Board of Management Agenda
Aylmer Area Secondary Water Supply System & Port Burwell Area
Secondary Water Supply System
December 4, 2024 – 1:00p.m.**

**Malahide Council Chambers
51221 Ron McNeil Line, Springfield**

The Joint Board of Management met at the Springfield & Area Community Services Building, at 51221 Ron McNeil Line, Springfield, at 1:00p.m. The following were present:

(1) Call to Order

_____ is appointed Chair and the meeting is called to order at ____p.m.

(2) Disclosure of Pecuniary Interest

(3) Adoption of Minutes of Previous Meeting(s)

Recommended Motion:

THAT the minutes of the Aylmer Area Secondary Water Supply System Joint Board of Management meeting held on September 4, 2024 be approved as presented.

Recommended Motion:

THAT the minutes of the Port Burwell Area Secondary Water Supply System Joint Board of Management meeting held on September 4, 2024 be approved as presented.

(4) Reports

- AASWSS-24-13- 2024 AASWSS MECP Inspection Report

Recommended Motion:

THAT Report No. AASWSS-24-13 entitled “2024 AASWSS MECP Inspection Report” be received.

- PBASWSS-24-14- PBASWSS 2024 MECP Inspection Report

Recommended Motion:

THAT Report No. PBASWSS-24-14 entitled “PBASWSS 2024 MECP Inspection Report” be received.

- AASWSS-24-14 - Aylmer Area Secondary Water Supply System – 2024 Review and Provision of Infrastructure Report

Recommended Motion:

THAT Report No. AASWSS-24-14 entitled “Aylmer Area Secondary Water Supply System – 2024 Review and Provision of Infrastructure Report” be received.

- PBASWSS-24-15 - Port Burwell Area Secondary Water Supply System – 2024 Review and Provision of Infrastructure Report

Recommended Motion:

THAT Report No. PBASWSS-24-15 entitled “Port Burwell Area Secondary Water Supply System – 2024 Review and Provision of Infrastructure Report” be received.

- PBASWSS-24-16 - 2025 Draft Budget Report

Recommended Motion:

THAT Report No. PBASWSS-24-16, being the 2025 Draft Budget, be received;

AND THAT the 2025 Budget be approved as presented;

AND THAT the 2025 water rate be approved in the amount of 3.64 per cubic metre.

- AASWSS-24-15 - 2025 Draft Budget Report

Recommended Motion:

THAT Report No. AASWSS-24-15, being the 2025 Draft Budget, be received;

AND THAT the 2025 Budget be approved as presented;

AND THAT the 2025 water rate, in the amount of 1.46 per cubic metre, be approved.

(5) Correspondence

1. Town of Aylmer – Representation Aylmer Area Secondary Water Supply System Board

(6) New Business

2025 Meeting Dates – March 19, 2025, June 18, 2025, September 17, 2025 and December 17, 2025

(7) Adjournment

Recommended Motion:

THAT the Aylmer Area Secondary Water Supply System Joint Board of Management adjourn at _____ p.m. to meet again on March 19, 2025 at 1:00 p.m.

Recommended Motion:

THAT the Port Burwell Secondary Water Supply System Joint Board of Management adjourn at _____ p.m. to meet again on March 19, 2025 at 1:00 p.m.

**Joint Board of Management Agenda
Aylmer Area Secondary Water Supply System & Port Burwell Area
Secondary Water Supply System
September 4, 2024 – 1:00p.m.**

**Malahide Council Chambers
51221 Ron McNeil Line, Springfield**

The Joint Board of Management met at the Springfield & Area Community Services Building, at 51221 Ron McNeil Line, Springfield, at 1:00p.m. The following were present:

Board Members:

Municipality of Central Elgin – Norman Watson
Town of Aylmer – Pete Barbour
Township of Malahide – Chester Glinski

Absent: Municipality of Bayham - Tim Emerson

Staff:

Municipality of Bayham – Thomas Thayer and Ed Roloson
Township of Malahide – Sam Gustavson, Jason Godby, and Allison Adams

(1) Call to Order

Pete Barbour is appointed Chair and the meeting is called to order at 1:00pm.

(2) Disclosure of Pecuniary Interest

No disclosures of pecuniary interest declared.

(3) Adoption of Prior Minutes

**Moved by: Norman Watson
Seconded by: Chester Glinski**

THAT the minutes of the Aylmer Area Secondary Water Supply System Joint Board of Management meeting held on June 12, 2024 be approved as presented.

Carried

**Moved by: Chester Glinski
Seconded by: Norman Watson**

THAT the minutes of the Port Burwell Area Secondary Water Supply System Joint Board of Management meeting held on June 12, 2024 be approved as presented.

Carried

(4) Reports

- AASWSS-24-12-Aylmer Area Secondary Water Supply System Capital Project Update

Moved by: Chester Glinski
Seconded by: Norman Watson

THAT Report No. AASWSS-24-12 entitled "Aylmer Area Secondary Water Supply System Capital Project Update" be received.

Carried

- PBASWSS-24-12 entitled "Port Burwell Area Secondary Water Supply System Capital Project Update

Moved by: Norman Watson
Seconded by: Chester Glinski

THAT Report No. PBASWSS-24-12 entitled "Port Burwell Area Secondary Water Supply System Capital Project Update" be received.

AND THAT the Board provide direction to staff to proceed in purchasing and replacing the two pressure release valves as per the quote from Farmington Mechanical.

Carried

- AASWSS-24-11 entitled "First and Second Quarter 2024 Operations Report

Moved by: Chester Glinski
Seconded by: Norman Watson

THAT Report No. AASWSS-24-11 entitled "First and Second Quarter 2024 Operations Report" be received.

Carried

- PBASWSS-24-13 entitled "First and Second Quarter 2024 Operations Report

Moved by: Norman Watson
Seconded by: Chester Glinski

THAT Report No. PBASWSS-24-13 entitled "First and Second Quarter 2024 Operations Report" be received.

Carried

(5) Adjournment

Moved by: Chester Glinski
Seconded by: Norman Watson

THAT the Aylmer Area Secondary Water Supply System Joint Board of Management adjourn at 1:30p.m. to meet again on December 4, 2024 at 1:00 p.m.

Carried

Moved by: Norman Watson
Seconded by: Chester Glinski

THAT the Port Burwell Secondary Water Supply System Joint Board of Management adjourn at 1:30 p.m. to meet again on December 4, 2024 at 1:00 p.m.

Carried

Pete Barbour – Board Chair

Allison Adams - Clerk



REPORT NO. AASWSS-24-13

TO: Aylmer Area Secondary Water Supply System- Joint Board of Management

DEPARTMENT: Public Works

MEETING DATE: December 4, 2024

SUBJECT: 2024 AASWSS MECP INSPECTION REPORT

RECOMMENDATION:

THAT Report No. AASWSS-24-13 entitled “2024 AASWSS MECP Inspection Report” be received.

PURPOSE & BACKGROUND:

On September 11, 2024, the Ministry of Environment, Conservation and Parks (MECP) conducted the required annual inspection of the Aylmer Area Secondary Water Supply System. The primary focus of this inspection is to confirm compliance with applicable legislation, as well as evaluating conformance with Ministry drinking water policies and guidelines during the inspection period.

The inspection process conducted by the Provincial Officer Angela Stroyberg consisted of a variety of elements, including but not limited to:

- Physical inspection of the EMPS was conducted on September 11, 2024.
- Document and records review of Aylmer Area Secondary Water Supply System Joint Board of Management, Drinking Water Works Permit (DWWP), and Municipal Drinking Water License (MDWL)
- Review of operational documents maintained by the owner/operating authority for the period of September 1, 2023, to August 31, 2024, for the Aylmer Area Secondary Water Supply System
- Operational documents/ logbooks and Microbiological and chemical sample test results
- Online Continuous Monitoring Data
- Compliance and operating practices in relation to O. Reg. 170/03, Water Quality Standard O. Reg. 169/03, Ontario Water Resources Act 1990, Safe Drinking Water Act 2002, O. Reg. 128/04 regarding certification of System Operators and Water Quality Analysts, Environmental Protection Act 1990

COMMENTS & ANALYSIS:

The MECP has a rigorous scoring system for municipal water systems in Ontario. The scoring is based on a risk rating methodology. The primary goal of the scoring system is to encourage municipalities across Ontario to improve their systems and to establish a way to measure their improvements based on previous inspection scoring. An average inspection rating would not necessarily indicate the municipality is operating an unsafe drinking water system. However, it identifies that a municipality has room for improvement of the system.

For this inspection period, the Aylmer Area Secondary Water Supply System received a mark of 100%. There were no non-compliances with regulatory requirements identified during this inspection period. This inspection report was positive. As such, the Board (as the “Owner”) and the Operating Authority (OCWA) will continue to strive toward continual improvements in how the water system is operated and maintained.

FINANCIAL IMPLICATIONS:

N/A

SUMMARY:

This inspection report was positive. As such, the Owner and Operating Authority will continue to strive toward continual improvements in how the water system is operated and maintained.

ATTACHMENTS:

1. Aylmer Area Secondary Water Supply System- 2024 MECP Inspection Report

Prepared by: S. Gustavson, Water/Waste Water Operations Manager

Reviewed by: J. Godby, Director of Public Works

Approved by: N. Dias, Chief Administrative Officer

**Ministry of the Environment,
Conservation and Parks**Drinking Water and Environmental
Compliance Division733 Exeter Rd
London ON N6E 1L3Tel (519) 873-5000
Fax (519) 873-5020**Ministère de l'Environnement, de la
Protection de la nature et des Parcs**Division de la conformité en matière d'eau
potable et d'environnement733, rue Exeter
London ON N6E 1L3Tel (519) 873-5000
Fax (519) 873-5020

October 23, 2024

The Corporation of the Township of Malahide87 John Street
Aylmer, Ontario
N5H 2C3

Attention: **Sam Gustavson**, Water Wastewater Operations Manager
 Regarding: **AASWSS (WW# 260004722)** Final Inspection Report
 Inspection conducted on September 11, 2024

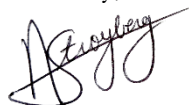
The enclosed Drinking Water Inspection Report outlines non-compliances, if any, with Ministry legislation, and policies for the above noted water system. Violations noted in this report, if any, have been evaluated based on community risk. These violations will be monitored for compliance with the minimum standards for drinking water in Ontario as set forth under the *Safe Drinking Water Act* and the associated regulations. Where risk is deemed to be high and/or compliance is an ongoing concern, violations will be forwarded to this Ministry's Investigation and Enforcement Branch.

In order to measure individual inspection results, the Ministry has established an inspection compliance risk framework based on the principles of the Inspection, Investigation and Enforcement (II&E) Secretariat and advice of internal/external risk experts. The Inspection summary Rating Record (IRR) provides the Ministry, the system owner, and the local Public Health Units with a summarized quantitative measure of the drinking water system's annual inspection and regulated water quality testing performance.

Section 19 of the *Safe Drinking Water Act* (Standard of Care) creates a number of obligations for individuals who exercise decision-making authority over municipal drinking water systems. Please be aware that the Ministry has encouraged such individuals, particularly municipal councillors, to take steps to be better informed about the drinking water systems over which they have decision-making authority. These steps could include asking for a copy of this inspection report and a review of its findings. Further information about Section 19 can be found in "*Taking Care of Your Drinking Water: A guide for members of municipal council*" found under "Drinking Water" on the Drinking Water Ontario website at www.ontario.ca/page/taking-care-your-drinking-water-guide-members-municipal-councils.

Attached to the report is the IRR methodology guidance describing how the risk rating model has improved to better reflect the health related and administrative non-compliance found in an inspection report. IRR ratings are published (for the previous inspection year) in the Ministry's Chief Drinking Water Inspector's Annual Report. Should you have any questions regarding the report, please feel free to contact me at (519) 317-8084.

Sincerely,



Angela Stroyberg

Provincial Officer

Water Compliance Officer

London District Office

Angela.Stroyberg@Ontario.ca

cc. Southwestern Public Health Unit
Catfish Creek Conservation Authority
London District File



AYLMER AREA SECONDARY WATER SUPPLY SYSTEM

Physical Address: 87 JOHN ST S, , AYLMEER, ON
N5H 2C3

INSPECTION REPORT

System Number: 260004722
Entity: AYLMEER AREA SECONDARY
WATER SUPPLY SYSTEM
JOINT BOARD OF
MANAGEMENT
ONTARIO CLEAN WATER
AGENCY

Inspection Start Date: September 05, 2024

Site Inspection Date: September 11, 2024

Inspection End Date: October 07, 2024

Inspected By: Angela Stroyberg

Badge #: 1695



(signature)

INTRODUCTION

Purpose

This announced, focused inspection of the Aylmer Area Secondary Water Supply System (DWS #2600004722) was conducted on September 11, 2024 by Provincial Officer Angela Stroyberg 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 Aylmer Area Secondary Water Supply System (AASWSS) is owned by the Aylmer Secondary Water Supply System Joint Board of Management which includes the Town of Aylmer, Municipality of Central Elgin, and the Township of Malahide. The system is managed by the Township of Malahide, which act as the administering municipality on behalf of the Joint Board.

Operational duties and maintenance activities are provided by the Ontario Clean Water Agency (OCWA). The Southwest Hub is responsible for the operations and maintenance of the Aylmer Secondary Water Distribution System and the Huron Elgin Hub is responsible for the operations and maintenance for the Aylmer Booster Station which is located in the Elgin Middlesex Pumping Station Building. The Aylmer Booster Station is monitored and operated from the

Elgin Area Primary Water Supply System Facility which is a 24 hour manned facility.

The system serves an estimated population of approximately 800, however this system supplies water to the Central Elgin Distribution System (DWS #260004761), the Malahide Distribution System (DWS# 260004774) and the Town of Aylmer Distribution System DWS #260002136). These systems are inspected separately on an annual basis. This system is categorized as a Large Municipal Residential System. Documentation reviewed for this inspection covered the time period of September 1, 2023 to August 31, 2024.

Systems/Components

The Aylmer Area Secondary Water Supply System only provides 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 Elgin Area Primary Water Supply System (EAPWSS) (DWS# 210000871) and the Aylmer Area Secondary Water Supply System provides secondary disinfection and pressure boosting for the drinking water system.

The Elgin Area Primary Water Supply System (EAPWSS) (DWS #210000871) is inspected separately from this drinking water system.

The Aylmer Booster Pumping Station is located within the Elgin Middlesex Pumping Station (EMPS) located at 490 South Edgeware Road. The AASWSS share assets such as the reservoir, rechlorination, monitoring and back-up power with the City of London and with the St. Thomas Area Secondary Water Supply System.

The following sites were visited as part of the inspection of the drinking water system:

Aylmer Booster Pumping Station

- Two (2) centrifugal pumps each rated at 130 L/s
- Three (3) (2 Duty and 1 Standby) 22.75 kg/d chlorinators (shared assets)
- One (1) free chlorine analyzer
- One (1) flow meter
- One (1) pressure transmitter
- One (1) 600 kW standby diesel generator with one (1) above ground double walled fuel storage tank (shared assets)

Permissions/Approvals

This drinking water system was subject to specific conditions contained within the following permissions and/or approvals (please note this list is not exhaustive) at the time of the

inspection in addition to the requirements of the SDWA and its regulations:

- 1) Drinking Water Works Permit # 302-201- Issue Number 3, dated May 7, 2021.
- 2) Municipal Drinking Water Licence # 302-101- Issue Number 4, May 7, 2021.

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

This should not be construed as a confirmation of full conformance with all potential applicable BMPs. 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.

INSPECTION DETAILS

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

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

Question ID	DWMR1018001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Did the owner ensure that equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner ensured that equipment was installed as required. Observations made at the time of the inspection indicated that the equipment and components that are described under Schedule A and Schedule C of the Drinking Water Works Permit #302-201 – Issue #3 were installed for the Aylmer Area Secondary Water Supply System.			

Question ID	DWMR1024001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			
Question: Did records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection was operated as required?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Records confirmed that the water treatment equipment which provides chlorination or chloramination for secondary disinfection was operated as required.			

Question ID	DWMR1033001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-2 (3); SDWA O. Reg. 170/03 7-2 (4);			
Question: Was secondary disinfectant residual tested as required for the large municipal residential distribution system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Secondary disinfectant residual was tested as required.			

Free chlorine residuals are required to be sampled from the distribution system twice per week and must be taken at least 48 hours after and during the same week as one of the other samples that was collected and tested for free chlorine or at least one sample is taken on each day of the week as per Schedule 7-2 of O. Reg 170/03.

According to documentation, the Owner/Operating Authority collects a minimum of four (4) grab samples and another three (3) at least 48 hours after the first set of samples. In addition to the above legislative requirement, the system also utilizes a process chlorine analyzer located at the EMPS to continuously monitor the free chlorine residual within the distribution system. Based on the aforementioned, the Owner/Operating Authority has complied with the legislative requirement.

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

Question ID	DWMR1081001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 10-2 (1); SDWA O. Reg. 170/03 10-2 (2); SDWA O. Reg. 170/03 10-2 (3);			
Question: Were distribution microbiological sampling requirements prescribed by Schedule 10-2 of O. Reg. 170/03 for large municipal residential systems met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Distribution microbiological sampling requirements were met.			
Ontario Regulation 170/03, Schedule 10-2 stipulates that distribution water samples are required to be collected and tested for E.coli, Total Coliforms and that at least 25 percent of the samples are tested for general bacterial population expressed as colony counts on a heterotrophic plate count with the prescribed frequency stipulated in Schedule 6-1.1(1) of O. Reg 170/03.			
Over the course of the inspection period, the Owner/Operating Authority collected weekly			

distribution microbiological samples. The Owner/Operating Authority is also required to collect a minimum of 8 samples per month based on the population served. A review of documentation indicated that between 12-15 samples were collected per month. Based on the aforementioned, the Owner/Operating Authority is in compliance with the legislative requirement.

Question ID	DWMR1096001	Question Type	Legislative
Legislative Requirement(s): 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
Legislative Requirement(s): 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);			
Question: Were haloacetic acid sampling requirements prescribed by Schedule 13-6 of O. Reg. 170/03 met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Haloacetic acid sampling requirements were met.			
<p>Haloacetic Acid samples are required to be collected and tested each calendar quarter from the distribution system in accordance with Schedule 13-6.1 of O. Reg 170/03 with the frequency stipulated in Schedule 6-1.1(4). According to documentation the following samples were taken:</p> <p>Aylmer Area Secondary Water Supply Distribution System</p> <ol style="list-style-type: none"> 1) July 2, 2024 = 8.3 ug/L 2) April 2, 2024 = 6.9 ug/L 3) January 2, 2024 = 14.2 ug/L 4) October 3, 2023 = 6.1 ug/L 			

RAA = 7.675 ug/L

Aylmer EMPS Pipeline

- 1) July 2, 2024 = 6.7 ug/L
- 2) April 2, 2024 = 6.1 ug/L
- 3) January 2, 2024 = 6.5 ug/L
- 4) October 3, 2023 = 6.6 ug/L

RAA = 7.675 ug/L

Based on the aforementioned the Owner/Operating Authority is in compliance with the requirements for collecting Haloacetic Acid samples as per Schedule 13-6.1 of O. Reg 170/03.

Question ID	DWMR1087001	Question Type	Legislative
<p>Legislative Requirement(s): 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);</p>			
<p>Question: Were trihalomethane sampling requirements prescribed by Schedule 13-6 of O. Reg. 170/03 met?</p>			
<p>Compliance Response(s)/Corrective Action(s)/Observation(s): Trihalomethane sampling requirements were met.</p> <p>Trihalomethane samples are required to be collected and tested every calendar quarter from the distribution system in accordance with O. Reg 170/03, Schedule 13-6 with the prescribed frequency stipulated in Schedule 6-1.1(4). According to documentation, the following samples were collected:</p> <p>Aylmer Area Secondary Water Supply Distribution System</p> <ol style="list-style-type: none"> 1) July 2, 2024 = 24 ug/L 2) April 2, 2024 = 18 ug/L 3) January 2, 2024 = 20 ug/L 			

4) October 3, 2023 = 31 ug/L

RAA = 22.75 ug/L

Aylmer EMPS Pipeline

1) July 2, 2024 = 23 ug/L

2) April 2, 2024 = 19 ug/L

3) January 2, 2024 = 18 ug/L

4) October 23, 2023 = 29 ug/L

RAA = 22.75 ug/L

Based on the aforementioned, the Owner/Operating Authority is in compliance with the requirements for collecting trihalomethane samples as per Schedule 13-6 of O. Reg 170/03.

Question ID	DWMR1113001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 10.1 (3);			
Question: Were changes to the system registration information provided to the ministry within ten (10) days of the change?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Changes to the system registration information were provided as required.			

Question ID	DWMR1114001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Did the owner have evidence that, when required, all legal owners associated with the drinking water system were notified of the requirements of the Municipal Drinking Water Licence and Drinking Water Works Permit?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner had evidence that the required notifications were made.			

Question ID	DWMR1045001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Did the owner update the document describing the distribution components within 12 months of completion of alterations to the system in accordance with the Drinking Water Works Permit?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner had up-to-date documents describing the distribution components.			

Question ID	DWMR1060001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Did the operations and maintenance manual(s) meet the requirements of the Municipal Drinking Water Licence?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The operations and maintenance manual(s) met the requirements of the Municipal Drinking Water Licence. The current regulatory requirements under O. Reg 128/04 s. 28 stipulates that the Owner/Operating Authority of a subsystem shall ensure that operators and maintenance manuals that contain plans, drawings, and process descriptions sufficient for the safe and efficient operation of the subsystem. Two (2) Operations and Maintenance Manuals were provided for the inspection period. One was provided by the OCWA Southwest Hub for the portion of the Secondary system to which they are the Operating Authority and the OCWA Huron Elgin Hub provided one for the Elgin Middlesex Reservoir and Pumping Station, which houses the Aylmer Booster Station. A review of both manuals indicated that they contain the aforementioned requirements.			

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

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

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.

Question ID	DWMR1071001	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Did the owner provide security measures to protect components of the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner provided security measures to protect components of the drinking water system.			
The Elgin Middlesex Pumping Station is equipped with door alarms and motion detectors which are transmitted through SCADA to the Elgin Area Primary Water Supply which is monitored 24 hours a day by the Ontario Clean Water Agency Huron Elgin Hub. The Elgin Middlesex Pumping Station is also enclosed with security fencing and visited regularly by operators.			

Question ID	DWMR1073001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 23 (1);			
Question: Was an overall responsible operator designated for all subsystems which comprise the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): An overall responsible operator was designated for all subsystem.			
Ontario Regulation 128/04 S.23(1) states that the owner or operating authority of a municipal residential subsystem shall designate as overall responsible operator of the subsystem an operator who holds a certificate for that type of subsystem and that is of the same class as or higher than the class of that subsystem. (For example, the overall responsible operator of a Class III water treatment subsystem must be an operator who holds a Class III or Class IV water treatment subsystem operator's certificate.)			

Both Operating Authorities currently employ several operators qualified to act as the Overall Responsible Operator for the drinking water system to ensure sufficient coverage in the event of an absence.

Question ID	DWMR1074001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 25 (1);			
Question: Were operators-in-charge designated for all subsystems which comprise the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Operators-in-charge were designated for all subsystems.			
Ontario Regulation 128/04 S. 25(1) states that the Owner or Operating Authority of a subsystem or a person authorized by the Owner or Operating Authority shall designate one or more operators as operators-in-charge of the subsystem. Both Operating Authorities currently employ a number of operators who are designated as Operator-In-Charges for the system.			

Question ID	DWMR1075001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 22;			
Question: Were all operators certified as required?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All operators were certified as required.			
Ontario Regulation 128/03 s. 22 states that the Owner or Operating Authority of a subsystem shall ensure that every operator employed in the subsystem holds, (a) a certificate applicable to that type of subsystem; or (b) a certificate applicable to that subsystem, in the case of an operator who holds a conditional certificate issued or renewed under section 10. All Operators employed by both Operating Authorities possess all the appropriate certification required to operate the drinking water system.			

Question ID	DWMR1076001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			

Question:

Were adjustments to the treatment equipment only made by certified operators?

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

Adjustments to the treatment equipment were only made by certified operators.

Stakeholder Appendix

Key Reference and Guidance Material for Municipal Residential Drinking Water Systems

Many useful materials are available to help you operate your drinking water system. Below is a list of key materials owners and operators of municipal residential drinking water systems frequently use.

To access these materials online click on their titles below or use your web browser to search for their titles. Contact the Ministry if you need assistance or have questions at 1-866-793-2588 or waterforms@ontario.ca.

For more information on Ontario's drinking water visit www.ontario.ca/page/drinking-water



Click on the publication below to access it

- [Drinking Water System Profile Information Form - 012-2149E](#)
- [Laboratory Services Notification Form – 012-2148E](#)
- [Adverse Test Result Notification Form – 012-4444E](#)
- [Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils](#)
- [Procedure for Disinfection of Drinking Water in Ontario](#)
- [Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids](#)
- [Filtration Processes Technical Bulletin](#)
- [Ultraviolet Disinfection Technical Bulletin](#)
- [Guide for Applying for Drinking Water Works Permit Amendments, & License Amendments](#)
- [Certification Guide for Operators and Water Quality Analysts](#)
- [Training Requirements for Drinking Water Operator](#)
- [Community Sampling and Testing for Lead: Standard and Reduced Sampling and Eligibility for Exemption](#)
- [Drinking Water System Contact List – 7128E01](#)
- [Ontario's Drinking Water Quality Management Standard - Pocket Guide](#)
- [2020 Watermain Disinfection Procedure](#)
- [List of Licensed Laboratories](#)

Drinking Water System Components

APPLICATION OF THE RISK METHODOLOGY USED FOR MEASURING MUNICIPAL RESIDENTIAL DRINKING WATER SYSTEM INSPECTION RESULTS



The Ministry of the Environment (MOE) has a rigorous and comprehensive inspection program for municipal residential drinking water systems (MRDWS). Its objective is to determine the compliance of MRDWS with requirements under the Safe Drinking Water Act and associated regulations. It is the responsibility of the municipal residential drinking water system owner to ensure their drinking water systems are in compliance with all applicable legal requirements.

This document describes the risk rating methodology, which has been applied to the findings of the Ministry's MRDWS inspection

results since fiscal year 2008-09. The primary goals of this assessment are to encourage ongoing improvement of these systems and to establish a way to measure this progress.

MOE reviews the risk rating methodology every three years.

The Ministry's Municipal Residential Drinking Water Inspection Protocol contains 15 inspection modules consisting of approximately 100 regulatory questions. Those protocol questions are also linked to definitive guidance that ministry inspectors use when conducting MRDWS inspections.

ontario.ca/drinkingwater

Determining Potential to Compromise the Delivery of Safe Water

The questions address a wide range of regulatory issues, from administrative procedures to drinking water quality monitoring. The inspection protocol also contains a number of non-regulatory questions.

A team of drinking water specialists in the ministry assessed each of the inspection protocol regulatory questions to determine the risk (not complying with the regulation) to the delivery of safe drinking water. This assessment was based on established provincial risk assessment principles, with each question receiving a risk rating referred to as the Question Risk Rating. Based on the number of areas where a system is deemed to be non-compliant during the inspection, and the significance of these areas to administrative, environmental, and health consequences, a risk-based inspection rating is calculated by the ministry for each drinking water system.

It is important to be aware that an inspection rating less than 100 per cent does not mean the drinking water from the system is unsafe. It shows areas where a system's operation can improve. The ministry works with owners and operators of systems to make sure they know what they need to do to achieve full compliance.

The inspection rating reflects the inspection results of the specific drinking water system for the reporting year. Since the methodology is applied consistently over a period of years, it serves as a comparative measure both provincially and in relation to the individual system. Both the drinking water system and the public are able to track the performance over time, which encourages continuous improvement and allows systems to identify specific areas requiring attention.

The ministry's annual inspection program is an important aspect of our drinking water safety net. The ministry and its partners share a common commitment to excellence and we continue to work toward the goal of 100 per cent regulatory compliance.

The risk management approach used for MRDWS is aligned with the Government of Ontario's Risk Management Framework. Risk management is a systematic approach to identifying potential hazards, understanding the likelihood and consequences of the hazards, and taking steps to reduce their risk if necessary and as appropriate.

The Risk Management Framework provides a formula to be used in the determination of risk:

$$\text{RISK} = \text{LIKELIHOOD} \times \text{CONSEQUENCE}$$

(of the consequence)

Every regulatory question in the inspection protocol possesses a likelihood value (L) for an assigned consequence value (C) as described in **Table 1** and **Table 2**.

TABLE 1:	
Likelihood of Consequence Occurring	Likelihood Value
0% - 0.99% (Possible but Highly Unlikely)	L = 0
1 - 10% (Unlikely)	L = 1
11 - 49% (Possible)	L = 2
50 - 89% (Likely)	L = 3
90 - 100% (Almost Certain)	L = 4

TABLE 2:	
Consequence	Consequence Value
Medium Administrative Consequence	C = 1
Major Administrative Consequence	C = 2
Minor Environmental Consequence	C = 3
Minor Health Consequence	C = 4
Medium Environmental Consequence	C = 5
Major Environmental Consequence	C = 6
Medium Health Consequence	C = 7
Major Health Consequence	C = 8

The consequence values (0 through 8) are selected to align with other risk-based programs and projects currently under development or in use within the ministry as outlined in **Table 2**.

The Question Risk Rating for each regulatory inspection question is derived from an evaluation of every identified consequence and its corresponding likelihood of occurrence:

- All levels of consequence are evaluated for their potential to occur
- Greatest of all the combinations is selected.

The Question Risk Rating quantifies the risk of non-compliance of each question relative to the others. Questions with higher values are those with a potentially more significant impact on drinking water safety and a higher likelihood of occurrence. The highest possible value would be 32 (4×8) and the lowest would be 0 (0×1).

Table 3 presents a sample question showing the risk rating determination process.

TABLE 3:							
Does the Operator in Charge ensure that the equipment and processes are monitored, inspected and evaluated?							
Risk = Likelihood × Consequence							
C=1	C=2	C=3	C=4	C=5	C=6	C=7	C=8
Medium Administrative Consequence	Major Administrative Consequence	Minor Environmental Consequence	Minor Health Consequence	Medium Environmental Consequence	Major Environmental Consequence	Medium Health Consequence	Major Health Consequence
L=4 (Almost Certain)	L=1 (Unlikely)	L=2 (Possible)	L=3 (Likely)	L=3 (Likely)	L=1 (Unlikely)	L=3 (Likely)	L=2 (Possible)
R=4	R=2	R=6	R=12	R=15	R=6	R=21	R=16

Application of the Methodology to Inspection Results

Based on the results of a MRDWS inspection, an overall inspection risk rating is calculated. During an inspection, inspectors answer the questions related to regulatory compliance and input their “yes”, “no” or “not applicable” responses into the Ministry’s Laboratory and Waterworks Inspection System (LWIS) database. A “no” response indicates non-compliance. The maximum number of regulatory questions asked by an inspector varies by: system (i.e., distribution, stand-alone); type of inspection (i.e., focused, detailed); and source type (i.e., groundwater, surface water).

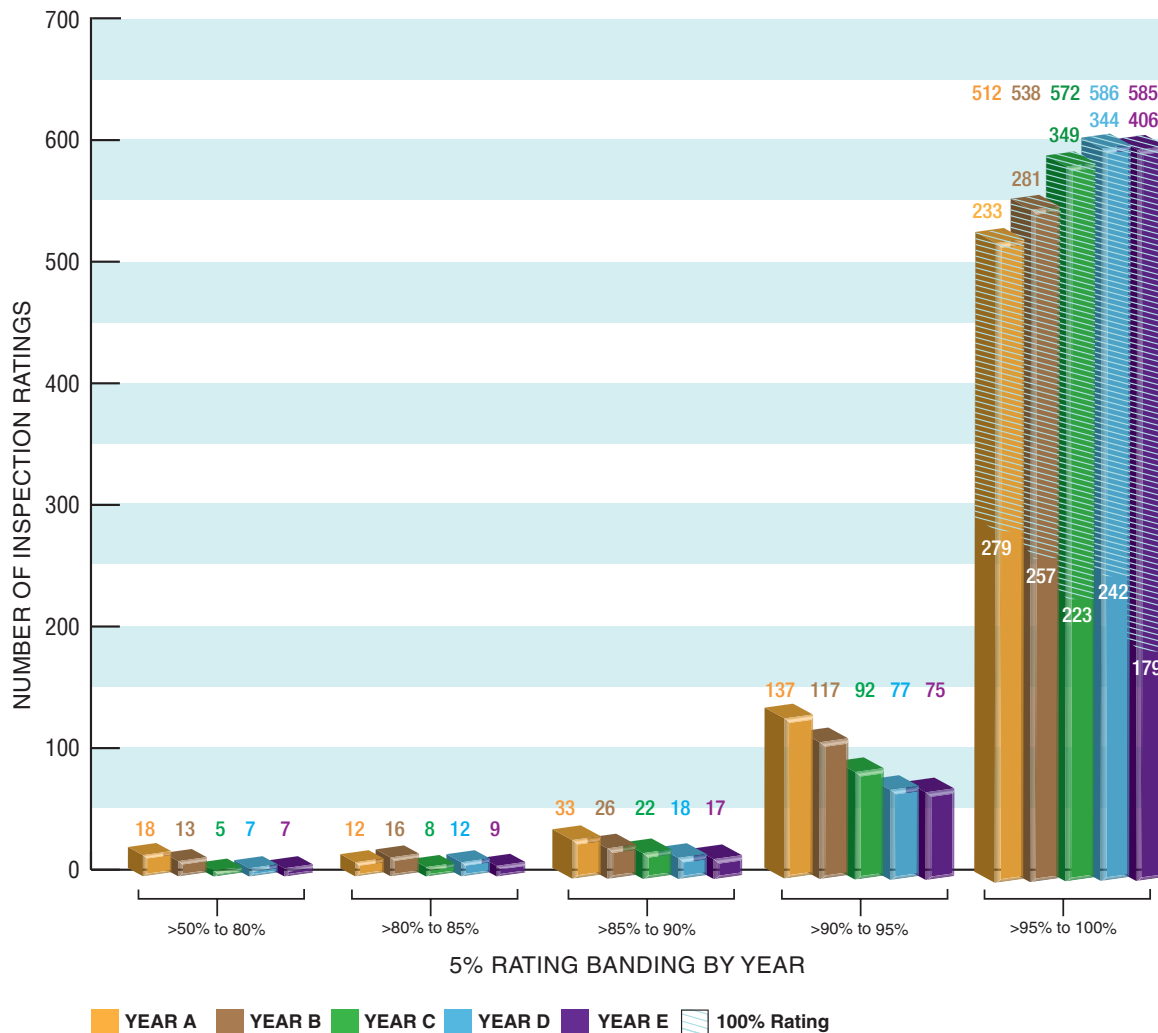
The risk ratings of all non-compliant answers are summed and divided by the sum of the risk ratings of all questions asked (maximum question rating). The resulting inspection risk rating (as a percentage) is subtracted from 100 per cent to arrive at the final inspection rating.

Application of the Methodology for Public Reporting

The individual MRDWS Total Inspection Ratings are published with the ministry's Chief Drinking Water Inspector's Annual Report.

Figure 1 presents the distribution of MRDWS ratings for a sample of annual inspections. Individual drinking water systems can compare against all the other inspected facilities over a period of inspection years.

Figure 1: Year Over Year Distribution of MRDWS Ratings



Reporting Results to MRDWS Owners/Operators

A summary of inspection findings for each system is generated in the form of an Inspection Rating Record (IRR). The findings are grouped into the 15 possible modules of the inspection protocol,

which would provide the system owner/operator with information on the areas where they need to improve. The 15 modules are:

- | | | | |
|-------------------------|---------------------------------|--|--|
| 1. Source | 5. Treatment Process Monitoring | 9. Logbooks | 13. Water Quality Monitoring |
| 2. Permit to Take Water | 6. Process Wastewater | 10. Contingency and Emergency Planning | 14. Reporting, Notification and Corrective Actions |
| 3. Capacity Assessment | 7. Distribution System | 11. Consumer Relations | 15. Other Inspection Findings |
| 4. Treatment Processes | 8. Operations Manuals | 12. Certification and Training | |

For further information, please visit www.ontario.ca/drinkingwater

DWS Name:	AYLMER AREA SECONDARY WATER SUPPLY SYSTEM
DWS Number:	260004722
DWS Owner:	AYLMER AREA SECONDARY WATER SUPPLY SYSTEM JOINT BOARD OF MANAGEMENT
Municipal Location:	AYLMER
Regulation:	O.REG. 170/03
DWS Category:	DW Municipal Residential
Type of Inspection:	Focused
Compliance Assessment Start Date:	Sep-5-2024
Ministry Office:	London District Office

Maximum Risk Rating: 189

Inspection Module	Non Compliance Risk (X out of Y)
Certification and Training	0/42
Distribution System	0/4
Logbooks	0/14
Operations Manuals	0/14
Reporting & Corrective Actions	0/8
Treatment Processes	0/56
Water Quality Monitoring	0/51
Overall - Calculated	0/189

Inspection Risk Rating: 0.00%

Final Inspection Rating: 100.00%

DWS Name:	AYLMER AREA SECONDARY WATER SUPPLY SYSTEM
DWS Number:	260004722
DWS Owner Name:	AYLMER AREA SECONDARY WATER SUPPLY SYSTEM JOINT BOARD OF MANAGEMENT
Municipal Location:	AYLMER
Regulation:	O.REG. 170/03
DWS Category:	DW Municipal Residential
Type of Inspection:	Focused
Compliance Assessment Start Date:	Sep-5-2024
Ministry Office:	London District Office

All legislative requirements were met. No detailed rating scores.

Maximum Question Rating: 189

Inspection Risk Rating:	0.00%
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FINAL INSPECTION RATING:	100.00%
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REPORT NO. PBASWSS-24-14

TO: Port Burwell Area Secondary Water Supply System- Joint Board of Management

DEPARTMENT: Public Works

MEETING DATE: December 4, 2024

SUBJECT: PBASWSS 2024 MECP INSPECTION REPORT

RECOMMENDATION:

THAT Report No. PBASWSS-24-14 entitled “PBASWSS 2024 MECP Inspection Report” be received.

PURPOSE & BACKGROUND:

On July 18, 2024, the Ministry of Environment, Conservation and Parks (MECP) conducted the required annual inspection of the Port Burwell Area Secondary Water Supply System. The primary focus of this inspection is to confirm compliance with applicable legislation, as well as evaluating conformance with ministry drinking water policies and guidelines during the inspection period.

The inspection process conducted by the Provincial Officer Jim Miller consisted of a variety of elements, including but not limited to:

- Announced Physical inspection of the Port Burwell Area Secondary Water Supply System on July 18, 2024.
- Document and records review of Port Burwell Area Secondary Water Supply System Joint Board of Management, Drinking Water Works Permit (DWWP), and Municipal Drinking Water License (MDWL).
- Review of operational documents maintained by the owner/operating authority for the period of July 1, 2023, through June 30, 2024, for the Port Burwell Area Secondary Water Supply System
- Operational documents/ logbooks and Microbiological and chemical sample test results
- Online Continuous Monitoring Data
- Compliance and operating practices in relation to O. Reg. 170/03, Water Quality Standard O. Reg. 169/03, Safe Drinking Water Act 2002, Ontario Water Resources Act 1990, O. Reg. 128/04 regarding certification of System Operators and Water Quality Analysts.

COMMENTS & ANALYSIS:

The MECP has a rigorous scoring system for municipal water systems in Ontario. The scoring is based on a risk rating methodology. The primary goal of the scoring system is to encourage municipalities across Ontario to improve their systems and to establish a way to measure their improvements based on previous inspection scoring. An average inspection rating would not necessarily indicate the municipality is operating an unsafe drinking water system. However, it identifies that a municipality has room for improvement of the system.

For this inspection period, the Port Burwell Area Secondary Water Supply System received a mark of 100%. There were no non-compliances with regulatory requirements identified during this inspection period. This inspection report was positive. As such, the Board (as the “Owner”) and the Operating Authority (OCWA) will continue to strive toward continual improvements in how the water system is operated and maintained.

FINANCIAL IMPLICATIONS:

N/A

SUMMARY:

This inspection report was positive. As such, the Owner and Operating Authority will continue to strive toward continual improvements in how the water system is operated and maintained.

ATTACHMENTS:

1. Port Burwell Area Secondary Water Supply System- 2024 MECP Inspection Report

Prepared by: S. Gustavson, Water/Waste Water Operations Manager

Reviewed by: J. Godby, Director of Public Works

Approved by: N. Dias, Chief Administrative Officer

**Ministry of the Environment,
Conservation and Parks**Drinking Water and Environmental
Compliance Division733 Exeter Rd
London ON N6E 1L3
Tel (519) 873-5000
Fax (519) 873-5020**Ministère de l'Environnement, de la
Protection de la nature et des Parcs**Division de la conformité en matière
d'eau potable et d'environnement733, rue Exeter
London ON N6E 1L3
Tel (519) 873-5000
Fax (519) 873-5020File No. EL-MA-DX-540 WW# 260004735

September 6, 2024

The Corporation of the Township of Malahide
87 John Street South
Aylmer, Ontario N5H 2C3

Attention: Nathan Dias (Chief Administrative Officer)

Re: Port Burwell Area Secondary Water Supply System (Water Works #260004735)
Inspection conducted on July 18, 2024

The enclosed Drinking Water Inspection Report outlines non-compliance, if any, with Ministry legislation, and policies for the above noted water system. Violations noted in this report, if any, have been evaluated based on community risk. These violations will be monitored for compliance with the minimum standards for drinking water in Ontario as set forth under the *Safe Drinking Water Act* and associated regulations. Where risk is deemed to be high and/or compliance is an ongoing concern, violations will be forwarded to this Ministry's Investigation and Enforcement Branch.

Section 19 of the Safe Drinking Water Act (Standard of Care) creates a number of obligations for individuals who exercise decision-making authority over municipal drinking water systems. Please be aware that the Ministry has encouraged such individuals, particularly municipal councillors, to take steps to be better informed about the drinking water systems over which they have decision-making authority. These steps could include asking for a copy of this inspection report and a review of its findings. Further information about Section 19 can be found in "*Taking Care of Your Drinking Water: A guide for members of municipal council*" found under "Resources" on the Drinking Water Ontario website at: <https://www.ontario.ca/environment-and-energy/taking-care-your-drinking-water-guide-members-municipal-councils>

The IRR is a summarized quantitative measure of the drinking water system's annual inspection and is published in the Ministry's Chief Drinking Water Inspector's Annual Report. The Risk Methodology document describes the risk rating methodology which has been applied to the findings of the Ministry's municipal residential drinking water system inspection results.

If you have any questions or concerns regarding the rating, please contact Mark Smith, Water Compliance Supervisor, at mark.smith@ontario.ca or (519) 873-5020.

Yours truly,



Jim Miller
Provincial Officer
London District Office
jim.w.miller@ontario.ca

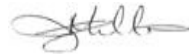
cc. Mr. Sam Sianas OCWA
Mr. Matthew Belding OCWA
Mr. Sam Gustavson, Malahide
Southwestern Public Health
Cattfish Creek Conservation Authority
London District File



PORT BURWELL AREA SECONDARY WATER SUPPLY SYSTEM
Physical Address: , , ,

INSPECTION REPORT

System Number: 260004735
Entity: ONTARIO CLEAN WATER
AGENCY
PORT BURWELL AREA
SECONDARY WATER SUPPLY
SYSTEM JOINT BOARD OF
MANAGEMENT
Inspection Start Date: July 16, 2024
Site Inspection Date: July 18, 2024
Inspection End Date: September 03, 2024
Inspected By: Jim Miller
Badge #: 1102



(signature)

INTRODUCTION

Purpose

This announced focused 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 Port Burwell Area Secondary Water Supply Joint Board of Management and operated by the Ontario Clean Water Agency (OCWA).

The Port Burwell Area Secondary Water Supply System receives treated water from the Elgin Area Water Treatment Plant.

The Port Burwell Area Secondary Water Supply System supplies water to the Bayham Distribution System, Central Elgin Distribution System, and the Malahide Distribution System.

Provincial Officer Jim Miller conducted an announced physical inspection of the Port Burwell Area Secondary Water Supply System, Drinking Water System Works # 260004735 on July 18, 2024.

Systems/Components

All locations associated with secondary disinfection were visited as part of this inspection of the drinking water system re-chlorination facilities located within the distribution system:

1. Dexter Re-chlorination Facility
2. Lakeview Re-chlorination Facility
3. Port Burwell Tower and Re-chlorination Facility

Permissions/Approvals

This drinking water system was subject to specific conditions contained within the following permissions and/or approvals (please note this list is not exhaustive) at the time of the inspection in addition to the requirements of the SDWA and its regulations:

1. Ministry of the Environment Port Burwell Area Secondary Water Supply System Joint Board of Management, Drinking Water Works Permit (DWWP) Number 303-201, Issue Number 4.
2. Ministry of the Environment Port Burwell Area Secondary Water Supply System Joint Board of Management, Municipal Drinking Water Licence (MDWL) Number 303-101, Issue Number 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

This should not be construed as a confirmation of full conformance with all potential applicable BMPs. 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.

INSPECTION DETAILS

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

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

Question ID	DWMR1018001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Did the owner ensure that equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner ensured that equipment was installed as required. The owner had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit. During the onsite inspection, the equipment located at the Re- Chlorination Facilities were reviewed against the description in the DWWP, Number 303-201, Issue Number 4. The equipment at the Dexter Re-Chlorination Facility, Port Burwell Tower Re- chlorination Facility and the Lakeview Road Re-Chlorination Facility was observed to be comparatively consistent with the descriptions in the DWWP issued April 16, 2021.			

Question ID	DWMR1021001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Were Form 2 documents prepared as required?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Form 2 documents were prepared as required.			

Question ID	DWMR1025001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: 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?			

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

All parts of the drinking water system were disinfected as required.

Question ID	DWMR1024001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			
Question: Did records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection was operated as required?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Records confirmed that the water treatment equipment which provides chlorination or chloramination for secondary disinfection was operated as required. At the time of inspection, all equipment including online continuous analyzers; data loggers; duty and stand-by metering pumps were operational and connected to the system. Documentation reviewed for the inspection period, indicate that the free chlorine residual for the distribution system was within acceptable limits.			

Question ID	DWMR1033001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-2 (3); SDWA O. Reg. 170/03 7-2 (4);			
Question: Was secondary disinfectant residual tested as required for the large municipal residential distribution system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Secondary disinfectant residual was tested as required. All distribution free chlorine residual measurements provided by the Owner/Operating Authority during the inspection review were appropriately documented including the time, date, free residual and the person who analyzed the sample. The operator typically sampled seven (7) times each week from multiple locations in the distribution system on a 4 and 3 rotation, with minimum 48 hours apart each week.			

Question ID	DWMR1035001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-5 (1)1-4;			
Question: Were operators examining continuous monitoring test results and did they examine the results within 72 hours of the test?			

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

Operators were examining continuous monitoring test results as required.

Question ID	DWMR1038001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-5 (1)1-4;			
Question: Was continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements performing tests for the parameters with at least the minimum frequency and recording data with the prescribed format?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was performing tests for the parameters with at least the minimum frequency and recording data with the prescribed format.			

Question ID	DWMR1037001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-5 (1)5-10; SDWA O. Reg. 170/03 6-5 (1.1);			
Question: Were all continuous monitoring equipment utilized for sampling and testing required by O. Reg. 170/03, or Municipal Drinking Water Licence or Drinking Water Works Permit or order, equipped with alarms or shut-off mechanisms that satisfied the standards described in Schedule 6?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All required continuous monitoring equipment utilized for sampling and testing were equipped with alarms or shut-off mechanisms that satisfied the standards			

Question ID	DWMR1040001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-5 (1)1-4; SDWA O. Reg. 170/03 6-5 (1)5-10;			
Question: Were all continuous analysers calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All continuous analysers were calibrated, maintained, and operated as required.			

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Question ID	DWMR1108001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-5 (1)5-10; SDWA O. Reg. 170/03 6-5 (1.1);			
Question: Where continuous monitoring equipment used for the monitoring of free chlorine residual, total chlorine residual, combined chlorine residual or turbidity, required by O. Reg. 170/03, Municipal Drinking Water Licence, Drinking Water Works Permit, or order triggered an alarm or an automatic shut-off, did a qualified person respond as required and take appropriate actions?			
Compliance Response(s)/Corrective Action(s)/Observation(s): A qualified person responded as required and took appropriate actions.			

Question ID	DWMR1099001	Question Type	Information
Legislative Requirement(s): Not Applicable			
Question: Do records show that water provided by the drinking water system met the Ontario Drinking Water Quality Standards?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Records showed that not all water sample results met the Ontario Drinking Water Quality Standards. After reviewing laboratory results and monitoring data provided by the operating authority it was found that water provided by the system fully met the requirements of the prescribed drinking water quality standards during the inspection review period with the following exception: Notification was provided via Adverse Water Quality Incident (AWQI) # 163834 - Notice of Adverse Test Results of Total Coliform 8 cfu/100mL on October 18, 2023, regarding a water sample collected on October 16, 2023. All resample results showed non-detect for E. Coli and Total Coliform.			

Question ID	DWMR1081001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 10-2 (1); SDWA O. Reg. 170/03 10-2 (2); SDWA O. Reg. 170/03 10-2 (3);			

Question:

Were distribution microbiological sampling requirements prescribed by Schedule 10-2 of O. Reg. 170/03 for large municipal residential systems met?

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

Distribution microbiological sampling requirements were met.

A review of the statement of analytical results for the inspection period confirmed that a minimum of three (3) distribution samples were taken each week and analyzed for E. coli, total coliform and HPC.

In accordance with O. Reg. 170/03, Schedule 10-2, and based on the population served of less than 1000 persons, the Owner/Operating Authority is required to take a minimum of eight (8) distribution system samples each month, ensuring that at least one sample is taken in each week of the month. Each of the distribution samples are to be analyzed for E. coli, total coliform and 25% of the samples must be analyzed for background colony counts based on a heterotrophic plate count (HPC).

Question ID	DWMR1096001	Question Type	Legislative
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Legislative Requirement(s):

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.

During the documentation review, records reviewed verify that chlorine residuals are being collected at the same time and location as microbiological samples from the treatment plant and the water distribution system.

The Owner/Operator has fulfilled the requirements prescribed by O. Reg. 170/03 6-3(1) which requires a water sample be taken and tested for a microbiological parameter, the owner of the drinking water system and the operating authority for the system shall ensure that another sample is taken at the same time from the same location and is tested immediately for,
(a) free chlorine residual, if the system provides chlorination and does not provide chloramination; or
(b) combined chlorine residual, if the system provides chloramination.

Question ID	DWMR1086001	Question Type	Legislative
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Legislative Requirement(s):

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);

Question:

Were haloacetic acid sampling requirements prescribed by Schedule 13-6 of O. Reg. 170/03 met?

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

Haloacetic acid sampling requirements were met.

In accordance with Ontario Regulation 170/03 Schedule 13-6.1, the owner and operating authority shall ensure that at least one distribution water sample that is likely to have an elevated potential for the formation of Haloacetic acids (HAAs) is collected and tested for Haloacetic acids each calendar quarter.

Haloacetic Acid monitoring was completed on the following dates during the inspection period: July 4, 2023 (17.1 ug/L) October 3, 2023 (16.4 ug/L) January 2, 2024 (22.5 ug/L) and April 2, 2024 (9.2 ug/L).

The samples were collected at the sample Lakeview Re-chlorination Station.

All sample results for this inspection period show that the distribution water is within acceptable limits for Trihalomethanes as listed in Ontario Regulation 169/03.

Question ID	DWMR1087001	Question Type	Legislative
<p>Legislative Requirement(s): 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);</p>			
<p>Question: Were trihalomethane sampling requirements prescribed by Schedule 13-6 of O. Reg. 170/03 met?</p>			
<p>Compliance Response(s)/Corrective Action(s)/Observation(s): Trihalomethane sampling requirements were met.</p> <p>In accordance with Ontario Regulation 170/03 Schedule 13-6, the owner and operating authority shall ensure that at least one distribution water sample that is likely to have an elevated potential for the formation of Trihalomethanes is collected and tested for Trihalomethanes each calendar quarter.</p> <p>Trihalomethane monitoring was completed on the following dates during the inspection period: July 4, 2023 (38.0 ug/L) October 3, 2023 (53.0 ug/L) January 2, 2024 (36.0 ug/L) and April 2, 2024 (28.0 ug/L).</p> <p>The samples were collected at station #94.</p> <p>All sample results for this inspection period show that the distribution water is within</p>			

acceptable limits for Trihalomethanes as listed in Ontario Regulation 169/03.

Question ID	DWMR1104001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 16-6 (1); SDWA O. Reg. 170/03 16-6 (2); SDWA O. Reg. 170/03 16-6 (3); SDWA O. Reg. 170/03 16-6 (3.1); SDWA O. Reg. 170/03 16-6 (3.2); SDWA O. Reg. 170/03 16-6 (4); SDWA O. Reg. 170/03 16-6 (5); SDWA O. Reg. 170/03 16-6 (6);			
Question: Were immediate verbal notification requirements for adverse water quality incidents met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Immediate verbal notification requirements for adverse water quality incidents were met.			

Question ID	DWMR1101001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 17-1; SDWA O. Reg. 170/03 17-10 (1); SDWA O. Reg. 170/03 17-11; SDWA O. Reg. 170/03 17-12; SDWA O. Reg. 170/03 17-13; SDWA O. Reg. 170/03 17-14; SDWA O. Reg. 170/03 17-2; SDWA O. Reg. 170/03 17-3; SDWA O. Reg. 170/03 17-4; SDWA O. Reg. 170/03 17-5; SDWA O. Reg. 170/03 17-6; SDWA O. Reg. 170/03 17-9;			
Question: For large municipal residential systems, were corrective actions, including any steps directed by the Medical Officer of Health, taken to address adverse conditions?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Corrective actions were taken to address adverse conditions.			

Question ID	DWMR1103001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 15.1-10;			
Question: Were corrective actions as directed by the Medical Officer of Health taken by the owner and operating authority to address exceedances of the lead standard in plumbing?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Corrective actions were taken as directed by the Medical Officer of Health.			

Question ID	DWMR1113001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 10.1 (3);			
Question: Were changes to the system registration information provided to the ministry within ten (10) days of the change?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Changes to the system registration information were provided as required.			

Question ID	DWMR1060001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Did the operations and maintenance manual(s) meet the requirements of the Municipal Drinking Water Licence?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The operations and maintenance manual(s) met the requirements of the Municipal Drinking Water Licence. The Operations Manual contains the following sections: Overview, System Description, Flow Chart of the Port Burwell Secondary Distribution System, Sample Locations, Chamber Locations. The Appendix Section contains the following: Municipal Drinking Water Licence, Drinking Water Works Permit, Standard Operating Procedures, SCADA Manual, Manufacturer Equipment Manuals, AWWA Standards, and Review and Revision History. Version Rev. 3, August 19, 2021.			

Question ID	DWMR1062001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-5;			
Question: 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?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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 log records regarding O. Reg. 170/03 7-5 reviewed during the inspection period, identified			

the names of all operators of the facility and their respective signatures and/or initials. It should be noted that any entries in the log must be identified by the person making the entry in the logs. An example of this is if multiple operators make entries in the log. If this occurs, those persons must clearly identify who made the entry (i.e. by signature or initial).

Question ID	DWMR1071001	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Did the owner provide security measures to protect components of the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner provided security measures to protect components of the drinking water system. At the time of inspection, the PBASWSS facilities were securely locked. Operators typically visit the remote facilities multiple times during the week in order to ensure that the system integrity has not been compromised.			

Question ID	DWMR1073001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 23 (1);			
Question: Was an overall responsible operator designated for all subsystems which comprise the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): An overall responsible operator was designated for all subsystem. At the time of inspection, the Overall Responsible Operator (ORO) designated for the PBASWSS Transmission Main was identified and possesses certification equal to or greater than the classification levels of the system (Water Distribution and Supply Sub-System 2).			

Question ID	DWMR1074001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 25 (1);			
Question: Were operators-in-charge designated for all subsystems which comprise the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Operators-in-charge were designated for all subsystems. During the inspection period, it was found that the Operators responsible for the operations of			

the PBASWSS recorded the names of the operator-in-charge (OIC) in the facility log records.

The Owner must ensure that one or more operators are designated as operator-in-charge (OIC) for each day that the facility is in operation. An OIC can be any operator with an applicable certificate to the type of operated subsystem.

An operator-in-training (OIT) cannot be designated as an OIC; any log entries made by the OIT must be approved by the OIC and clearly documented in the log at the time of entry.

In accordance with O. Reg. 128/04 s. 25 (1) The owner or operating authority of a subsystem or a person authorized by the owner or operating authority shall designate one or more operators as operators-in-charge of the subsystem. O. Reg. 128/04, s. 25 (1).

Question ID	DWMR1075001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 22;			
Question: Were all operators certified as required?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All operators were certified as required. A review of the operational staff certificates at the PBASWSS indicates that during the inspection period, all operators of the drinking water system/subsystems had adequate certification.			

Question ID	DWMR1076001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			
Question: Were adjustments to the treatment equipment only made by certified operators?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Adjustments to the treatment equipment were only made by certified operators. Documentation provided at the time of inspection (logbooks and other record keeping mechanisms) indicated that only certified operational staff made adjustments to treatment processes.			



Stakeholder References

Key Reference and Guidance Material for Municipal Residential Drinking Water Systems

Many useful materials are available to help you operate your drinking water system. Below is a list of key materials owners and operators of municipal residential drinking water systems frequently use.

To access these materials online click on their titles below or use your web browser to search for their titles. Contact the Ministry if you need assistance or have questions at 1-866-793-2588 or waterforms@ontario.ca.

For more information on Ontario's drinking water visit www.ontario.ca/page/drinking-water



Click on the publication below to access it

- [Drinking Water System Profile Information Form - 012-2149E](#)
- [Laboratory Services Notification Form – 012-2148E](#)
- [Adverse Test Result Notification Form – 012-4444E](#)
- [Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils](#)
- [Procedure for Disinfection of Drinking Water in Ontario](#)
- [Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids](#)
- [Filtration Processes Technical Bulletin](#)
- [Ultraviolet Disinfection Technical Bulletin](#)
- [Guide for Applying for Drinking Water Works Permit Amendments, & License Amendments](#)
- [Certification Guide for Operators and Water Quality Analysts](#)
- [Training Requirements for Drinking Water Operator](#)
- [Community Sampling and Testing for Lead: Standard and Reduced Sampling and Eligibility for Exemption](#)
- [Drinking Water System Contact List – 7128E01](#)
- [Ontario's Drinking Water Quality Management Standard - Pocket Guide](#)
- [2020 Watermain Disinfection Procedure](#)
- [List of Licensed Laboratories](#)



Ministry of the Environment, Conservation and Parks
Drinking Water System Inspection Report Appendix B

Inspection Rating Record and Inspection Risk Methodology

APPLICATION OF THE RISK METHODOLOGY USED FOR MEASURING MUNICIPAL RESIDENTIAL DRINKING WATER SYSTEM INSPECTION RESULTS



The Ministry of the Environment (MOE) has a rigorous and comprehensive inspection program for municipal residential drinking water systems (MRDWS). Its objective is to determine the compliance of MRDWS with requirements under the Safe Drinking Water Act and associated regulations. It is the responsibility of the municipal residential drinking water system owner to ensure their drinking water systems are in compliance with all applicable legal requirements.

This document describes the risk rating methodology, which has been applied to the findings of the Ministry's MRDWS inspection results since fiscal

year 2008-09. The primary goals of this assessment are to encourage ongoing improvement of these systems and to establish a way to measure this progress.

MOE reviews the risk rating methodology every three years.

The Ministry's Municipal Residential Drinking Water Inspection Protocol contains up to 14 inspection modules and consists of approximately 120 regulatory questions. Those protocol questions are also linked to definitive guidance that ministry inspectors use when conducting MRDWS inspections.

ontario.ca/drinkingwater

Determining Potential to Compromise the Delivery of Safe Water

The questions address a wide range of regulatory issues, from administrative procedures to drinking water quality monitoring. The inspection protocol also contains a number of non-regulatory questions.

A team of drinking water specialists in the ministry assessed each of the inspection protocol regulatory questions to determine the risk (not complying with the regulation) to the delivery of safe drinking water. This assessment was based on established provincial risk assessment principles, with each question receiving a risk rating referred to as the Question Risk Rating. Based on the number of areas where a system is deemed to be non-compliant during the inspection, and the significance of these areas to administrative, environmental, and health consequences, a risk-based inspection rating is calculated by the ministry for each drinking water system.

It is important to be aware that an inspection rating less than 100 per cent does not mean the drinking water from the system is unsafe. It shows areas where a system's operation can improve. The ministry works with owners and operators of systems to make sure they know what they need to do to achieve full compliance.

The inspection rating reflects the inspection results of the specific drinking water system for the reporting year. Since the methodology is applied consistently over a period of years, it serves as a comparative measure both provincially and in relation to the individual system. Both the drinking water system and the public are able to track the performance over time, which encourages continuous improvement and allows systems to identify specific areas requiring attention.

The ministry's annual inspection program is an important aspect of our drinking water safety net. The ministry and its partners share a common commitment to excellence and we continue to work toward the goal of 100 per cent regulatory compliance.

The risk management approach used for MRDWS is aligned with the Government of Ontario's Risk Management Framework. Risk management is a systematic approach to identifying potential hazards, understanding the likelihood and consequences of the hazards, and taking steps to reduce their risk if necessary and as appropriate.

The Risk Management Framework provides a formula to be used in the determination of risk:

$$\text{RISK} = \text{LIKELIHOOD} \times \text{CONSEQUENCE}$$

(of the consequence)

Every regulatory question in the inspection protocol possesses a likelihood value (L) for an assigned consequence value (C) as described in **Table 1** and **Table 2**.

TABLE 1:

Likelihood of Consequence Occurring	Likelihood Value
0% - 0.99% (Possible but Highly Unlikely)	L = 0
1 - 10% (Unlikely)	L = 1
11 - 49% (Possible)	L = 2
50 - 89% (Likely)	L = 3
90 - 100% (Almost Certain)	L = 4

TABLE 2:

Consequence	Consequence Value
Medium Administrative Consequence	C = 1
Major Administrative Consequence	C = 2
Minor Environmental Consequence	C = 3
Minor Health Consequence	C = 4
Medium Environmental Consequence	C = 5
Major Environmental Consequence	C = 6
Medium Health Consequence	C = 7
Major Health Consequence	C = 8

The consequence values (0 through 8) are selected to align with other risk-based programs and projects currently under development or in use within the ministry as outlined in **Table 2**.

The Question Risk Rating for each regulatory inspection question is derived from an evaluation of every identified consequence and its corresponding likelihood of occurrence:

- All levels of consequence are evaluated for their potential to occur
- Greatest of all the combinations is selected.

The Question Risk Rating quantifies the risk of non-compliance of each question relative to the others. Questions with higher values are those with a potentially more significant impact on drinking water safety and a higher likelihood of occurrence. The highest possible value would be 32 (4×8) and the lowest would be 0 (0×1).

Table 3 presents a sample question showing the risk rating determination process.

TABLE 3:							
Does the Operator in Charge ensure that the equipment and processes are monitored, inspected and evaluated?							
Risk = Likelihood × Consequence							
C=1	C=2	C=3	C=4	C=5	C=6	C=7	C=8
Medium Administrative Consequence	Major Administrative Consequence	Minor Environmental Consequence	Minor Health Consequence	Medium Environmental Consequence	Major Environmental Consequence	Medium Health Consequence	Major Health Consequence
L=4 (Almost Certain)	L=1 (Unlikely)	L=2 (Possible)	L=3 (Likely)	L=3 (Likely)	L=1 (Unlikely)	L=3 (Likely)	L=2 (Possible)
R=4	R=2	R=6	R=12	R=15	R=6	R=21	R=16

Application of the Methodology to Inspection Results

Based on the results of a MRDWS inspection, an overall inspection risk rating is calculated. During an inspection, inspectors answer the questions related to regulatory compliance and input their “yes”, “no” or “not applicable” responses into the Ministry’s Laboratory and Waterworks Inspection System (LWIS) database. A “no” response indicates non-compliance. The maximum number of regulatory questions asked by an inspector varies by: system (i.e., distribution, stand-alone); type of inspection (i.e., focused, detailed); and source type (i.e., groundwater, surface water).

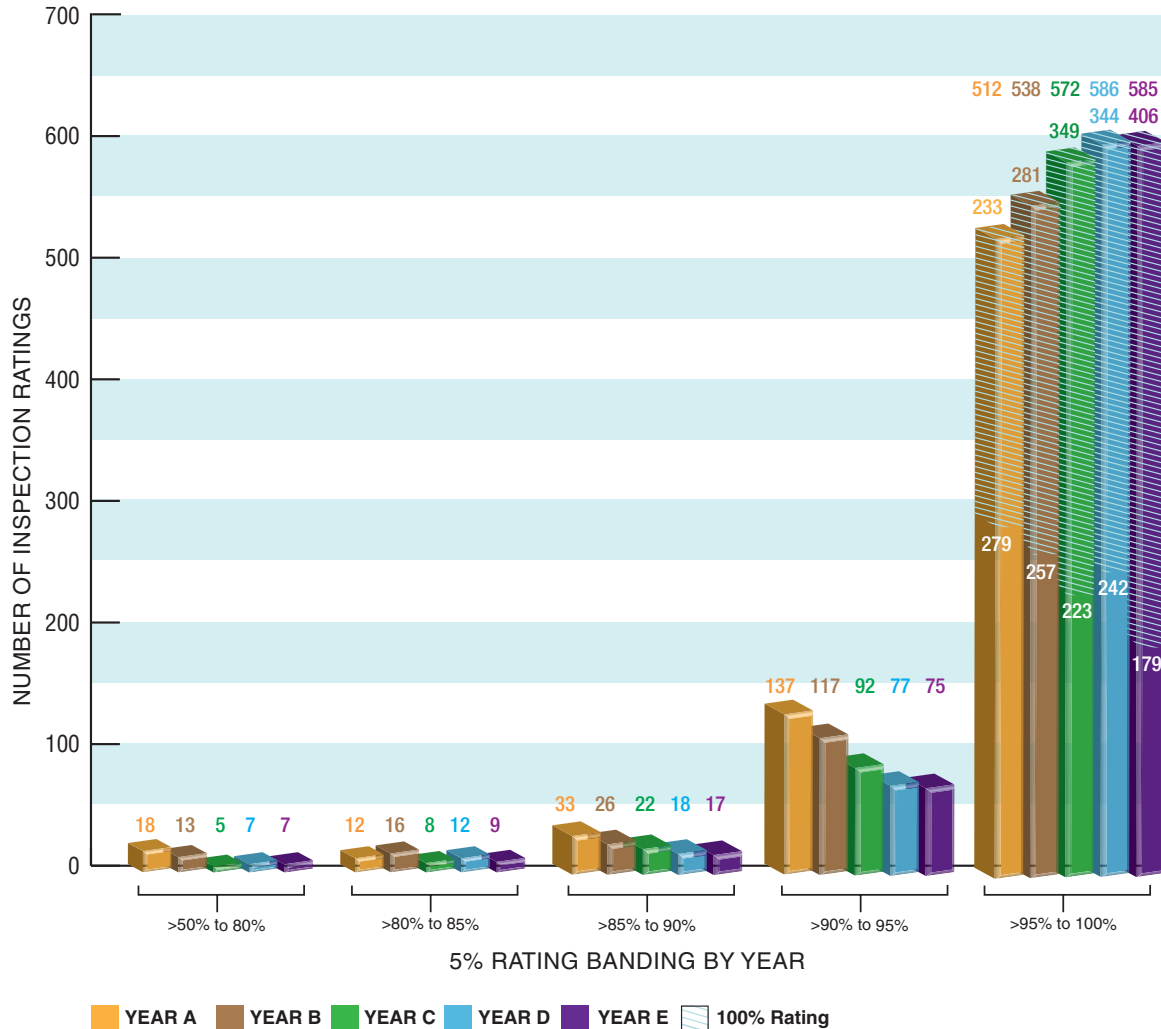
The risk ratings of all non-compliant answers are summed and divided by the sum of the risk ratings of all questions asked (maximum question rating). The resulting inspection risk rating (as a percentage) is subtracted from 100 per cent to arrive at the final inspection rating.

Application of the Methodology for Public Reporting

The individual MRDWS Total Inspection Ratings are published with the ministry's Chief Drinking Water Inspector's Annual Report.

Figure 1 presents the distribution of MRDWS ratings for a sample of annual inspections. Individual drinking water systems can compare against all the other inspected facilities over a period of inspection years.

Figure 1: Year Over Year Distribution of MRDWS Ratings



Reporting Results to MRDWS Owners/Operators

A summary of inspection findings for each system is generated in the form of an Inspection Rating Record (IRR). The findings are grouped into the 14 possible modules of the inspection protocol,

which would provide the system owner/operator with information on the areas where they need to improve. The 14 modules are:

- | | | | |
|-------------------------|------------------------|--|---|
| 1. Source | 5. Process Wastewater | 9. Contingency and
Emergency Planning | 12. Water Quality Monitoring |
| 2. Permit to Take Water | 6. Distribution System | 10. Consumer Relations | 13. Reporting, Notification
and Corrective Actions |
| 3. Capacity Assessment | 7. Operations Manuals | 11. Certification and Training | 14. Other Inspection Findings |
| 4. Treatment Processes | 8. Logbooks | | |

For further information, please visit www.ontario.ca/drinkingwater

DWS Name:	PORT BURWELL AREA SECONDARY WATER SUPPLY SYSTEM
DWS Number:	260004735
DWS Owner:	PORT BURWELL AREA SECONDARY WATER SUPPLY SYSTEM JOINT BOARD OF MANAGEMENT
Municipal Location:	AYLMER
Regulation:	O.REG. 170/03
DWS Category:	DW Municipal Residential
Type of Inspection:	Focused
Compliance Assessment Start Date:	Jul-16-2024
Ministry Office:	London District Office

Maximum Risk Rating: 356

Inspection Module	Non Compliance Risk (X out of Y)
Certification and Training	0/42
Logbooks	0/14
Operations Manuals	0/14
Reporting & Corrective Actions	0/84
Treatment Processes	0/151
Water Quality Monitoring	0/51
Overall - Calculated	0/356

Inspection Risk Rating:	0.00%
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Final Inspection Rating:	100.00%
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DWS Name:	PORT BURWELL AREA SECONDARY WATER SUPPLY SYSTEM
DWS Number:	260004735
DWS Owner Name:	PORT BURWELL AREA SECONDARY WATER SUPPLY SYSTEM JOINT BOARD OF MANAGEMENT
Municipal Location:	AYLMER
Regulation:	O.REG. 170/03
DWS Category:	DW Municipal Residential
Type of Inspection:	Focused
Compliance Assessment Start Date:	Jul-16-2024
Ministry Office:	London District Office

All legislative requirements were met. No detailed rating scores.

Maximum Question Rating: 356

Inspection Risk Rating: 0.00%

FINAL INSPECTION RATING: 100.00%



REPORT NO. AASWSS-24-14

TO: Aylmer Area Secondary Water Supply System- Joint Board of Management

DEPARTMENT: Public Works

MEETING DATE: December 4, 2024

SUBJECT: AYLMER AREA SECONDARY WATER SUPPLY SYSTEM – 2024 REVIEW AND PROVISION OF INFRASTRUCTURE REPORT

RECOMMENDATION:

THAT Report No. AASWSS-24-14 entitled “Aylmer Area Secondary Water Supply System – 2024 Review and Provision of Infrastructure Report” be received.

PURPOSE & BACKGROUND:

The Drinking Water Quality Management Standard (DWQMS) requires a procedure to be in place to review on an annual basis, the adequacy of the existing infrastructure. The review is undertaken to ensure the integrity of the drinking water system is not compromised.

The Operational Plan requires the Staff to report to the Joint Board of Management, on the condition of infrastructure on an annual basis. In addition, the Operating Authority being the Ontario Clean Water Agency (OCWA), is required to submit to the Owner on an annual basis, the following information:

- Recommended maintenance to the system
- Capital and lifecycle projects
- Water quality issues that may be related to infrastructure deficiencies
- The overall condition of the water system.

COMMENTS & ANALYSIS:

Transmission Main:

On October 1, 2024, Vitaliy Talashok, of OCWA presented the Staff with the 6-year Recommended Capital and Major Maintenance spreadsheet for the Transmission main portion of the AASWSS. OCWA is also required to submit infrastructure reports based on inspections, testing, and general observations of infrastructure by the OCWA operators. Additional reports are submitted throughout the year such as hydrant flushing, chamber and air release inspection reports, and valve operation.

This report is an overall summary of OCWA’s 6-year recommended Capital and Major Maintenance for the water system. Recommendations are derived through on-site

inspections, review of maintenance records, DWQMS Risk Assessment outcomes, discussions with operations staff, and review of laboratory data.

Attachments to this report identify the Operating Authority's recommendations for maintenance, upgrades, and replacement projects for the Joint Board of Management's consideration. This report is submitted to the Joint Board of Management to satisfy the requirements of the QEMS (Elements 14 and 15) of the AASWSS Operational Plan. This approach ensures the Owners are kept informed on the overall condition of the water system.

The following analysis and evaluation were provided:

Maintenance:

All equipment has been maintained as per OCWA's Work Maintenance System (WMS). OCWA replaced the Hansen WMS with Maximo in late 2017. Maximo provides an enhanced tracking and maintenance system for work completed on infrastructure equipment.

OCWA has recommended the following items for 2025:

- Sample Station Maintenance Repairs (unplanned maintenance)
- Replacement of Sample Station #81
- Hydrant Maintenance and Repairs (unplanned maintenance)
- Chamber Condition Assessment and Asset ID review
- Summa SCADA Service Agreement

Capital Projections:

The Operating Authority has provided a 6-year capital projection spreadsheet for the transmission line.

The total six-year projection for expenditures recommended by OCWA for the transmission main is \$198,000.00. All recommendations are outlined in the attached spreadsheet. It should be noted that some of these recommended items are placeholders to be considered in future budgets as they relate to leak detection and condition assessment studies.

Overall, the system has continued to perform well. It is essential that the Joint Board of Management continues with lifecycle replacements of aging infrastructure. When the system is well maintained through preventative maintenance, it promotes increased reliability and reduces the likelihood of reactive maintenance and costly service interruptions.

Elgin Middlesex Pumping Station (EMPS):

On October 10, 2024, Greg Henderson, of OCWA presented the Staff with the 6-year Recommended Capital and Major Maintenance spreadsheet for the EMPS portion of the AASWSS.

This report is an overall summary of the current condition of the EMPS which includes pumps, motors, chlorination system, SCADA system, Stand-by generator, fuel system, piping, and associated equipment. This report does not pertain to the AASWSS transmission main. The transmission main is operated by a different branch of OCWA.

This report is an overall summary of OCWA's 6-year Recommended Capital and Major Maintenance. Recommendations are derived through on-site inspections, review of maintenance records, DWQMS Risk Assessment outcomes, discussions with operations staff, and review of laboratory data.

Attachments to this report identify the Operating Authority's recommendations for maintenance, upgrades and replacement projects for the Joint Board of Management's consideration. This report is submitted to the Joint Board of Management to satisfy the requirements of the QEMS (Elements 14 and 15) of the AASWSS Operational Plan. This approach ensures the Owners are kept informed on the overall condition of the water system.

The following analysis/evaluation is provided:

Maintenance:

All equipment has been maintained as per OCWA's Work Maintenance System (WMS). OCWA replaced the Hansen WMS with Maximo in late 2017. Maximo provides enhanced tracking and maintenance for work completed on infrastructure equipment.

OCWA has recommended the following items for 2024 at the EMPS:

- DWQMS Audits
- Chlorine Cylinders (estimated chemical cost for re-chlorination)
- Chlorinator System Repairs (estimated contingency for annual repair costs)
- Diesel Fuel for Stand-by Generator
- Non-Identified Major Repairs (unforeseen maintenance costs)
- Pump Discharge Control Valve Rebuilding
- Surge Anticipating and Pressure Reducing Valve Inspection and Re-build (annual inspection)

Capital Projections:

The Operating Authority has provided a 6-year capital projection spreadsheet for the EMPS.

The total six-year projection for expenditures recommended by OCWA for the EMPS is \$759,250.00. There is a recommendation in 2027 for a new stand-by generator which

makes for a significant amount of the projected amount noted above for the next 6 years. All recommendations are outlined in the attached spreadsheet.

Overall, the system has continued to perform well. It is essential that the Joint Board of Management continues with lifecycle replacements of aging infrastructure at the EMPS. When the system is well maintained through preventative maintenance, it promotes increased reliability and reduces the likelihood of reactive maintenance and costly service interruptions.

FINANCIAL IMPLICATIONS:

OCWA has identified multiple recommendations for expenditures which may be required over the next six years. For 2025, they have recommended a total of \$53,000.00 in expenditures for the transmission main, and \$24,500.00 in expenditures at the EMPS. Items entered into the spreadsheets attached are reviewed annually by Staff and included in current and future budgets for the Board's consideration as deemed necessary.

ATTACHMENTS:

1. Transmission Main - OCWA Capital Letter and 6-year Recommended Capital/ Major Maintenance Spreadsheet
2. EMPS - OCWA Capital Letter and 6-year Recommended Capital/ Major Maintenance Spreadsheet

Prepared by: S. Gustavson, Water/Waste Water Operations Manager

Reviewed by: J. Godby, Director of Public Works

Approved by: N. Dias, Chief Administrative Officer



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 www.ocwa.com

15-Aug-20

Sam Gustavson
 The Corporation of the Township of Malahide
 87 John Street South
 Aylmer, Ontario
 N5H 2C3

RE: Aylmer Area Secondary Water Supply System

Dear Sam

On behalf of the Ontario Clean Water Agency (OCWA), we have enclosed a rolling six-year list of major maintenance recommendations as per our Services Agreement dated January 1st, 2018. OCWA suggests the following improvements/upgrades to ensure the long-term health and operation of the Aylmer Area Secondary Water Supply System. Please note that as per the requirements of the Drinking Water Quality Management Standard (DWQMS) version 2.0, the outcomes of the risk assessment conducted on the Aylmer Area Secondary Water Supply System dated February 5th, 2019 were considered and any related items have been included in the recommendations.

At a time amenable to both parties, OCWA's Operations Manager will meet with the Town's Public Works Director to discuss the recommendations, projected expenses, and to decide on a course of action. Dialogue with and approvals from the Town are key components of the process. Please find a summary of the report in the chart below.

Aylmer Area Secondary Water Supply System	2021	2022	2023	2024	2025	2026
Replacement of chamber signs along transmission line	\$ 5,000.00	\$ -	\$ -	\$ -	\$ -	\$ -
Chamber 13 UPS Replacement	\$ -	\$ -	\$ 1,000.00	\$ -	\$ -	\$ 1,500.00
Chamber 16 UPS Replacement	\$ -	\$ -	\$ 1,000.00	\$ -	\$ -	\$ 1,500.00
Air valve replacement/refurbishment program (chamber 3,5,7A,8,10A,11,13,15A,16)	\$12,000.00	\$ 12,000.00	\$ -	\$ -	\$ -	\$ 20,000.00
Sample station #82 replacement	\$10,000.00	\$ -	\$ -	\$ -	\$ -	\$ -
Sample station maintenance/repairs/rebuild kits	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00
Hydrant Maintenance and repairs	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00
Chamber condition assessment and Asset ID review	\$ -	\$ -	\$25,000.00	\$ -	\$ -	\$ -
Pipeline condition assessment (smartball technology)	\$ -	\$ -	\$ -	\$100,000.00	\$100,000.00	\$ -
Leak Detection: Accoustic on water services, hydrants, valves	\$ -	\$ 25,000.00	\$25,000.00	\$ -	\$ -	\$ -
Chambers 13 and 16 PLC Micrologix Controller replacement	\$ -	\$ 30,000.00	\$ -	\$ -	\$ -	\$ -
Total	\$34,000	\$74,000	\$59,000	\$107,000	\$107,000	\$30,000

As your service provider, OCWA has a comprehensive understanding of the strengths, unique issues and challenges associated with operating the Aylmer Area Secondary Water Supply System. It is OCWA's intention to work with the Township to determine the scope, budget, and timelines to complete any approved work.

We look forward to continuing to work with you as a trusted partner and advisor in the years to come.

Sincerely,

Mike Taylor
Ontario Clean Water Agency

The Corporation of the Township of Malahide

(6-Year Recommended Capital/Major Maintenance from 2025 to 2030)

The Ontario Clean Water Agency has identified the following capital projects/major maintenance for your review and approval.

Ref. No.	Scope of Work							Compliance	DWQMS RA Outcome*	Health & Safety	Repair / Maintenance	Lifecycle Replacement	Improvement	Spare Parts Inventory	Approved by Client	Rationale for Project
		2025	2026	2027	2028	2029	2030									
Aylmer Area Secondary Water Supply System																
1	Fire Hydrant Painting	\$ -	\$ -	\$ -	\$ 2,000	\$ -	\$ -									To be completed after fire flow testing. Completed in 2023
2	Chamber 13 (Orwell) UPS Replacement	\$ -	\$ -	\$ 1,500	\$ -	\$ -	\$ -									Typical lifecycle of these UPS units are only 2-3 years. Recommend to replace every few years. This was last replaced in December 2019. Will be tested every year
3	Chamber 16 (Aylmer) UPS Replacement	\$ -	\$ -	\$ 1,500	\$ -	\$ -	\$ -									Typical lifecycle of these UPS units are only 2-3 years. Recommend to replace every few years. This was last replaced in December 2019. Will be tested every year
4	SCADA server upgrades		\$36,000													SCADA upgrades
5	Air release valve replacement/refurbish program (chamber 3,5,7A,8,10A,11,13,15A,16)	\$ -	\$ -	\$ 20,000	\$ -	\$ -	\$ -									Air release valves were all replaced in 2010. Recommend to start replacing air valves in 2020 through to 2025. (In 2021, 10A, 11, 13, 15A were all refurbished in 2021). Plan is to complete rebuilds in 2022 with Chamber 16 and start again in 2026. In 2020 chamber 3, 5, 7A and 8 was rebuilt.
6	Sample station #81 replacement	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ -									Requires replacement of sample station #81 in 2025.
7	Sample station maintenance/repairs/rebuild kits	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000									Purchase spare rebuild kits and on-going maintenance to sample stations, ball valves and plungers.
8	Hydrant Maintenance and repairs	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000									Replace any failed parts discovered during annual fire hydrant flushing.
9	Chamber condition assessment and Asset ID review	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ -									Recommend to undertake detailed condition assessment of all chambers and assets in 2025
10	Sample Station Painting	\$ -	\$ -	\$ -	\$ 2,000	\$ -	\$ -									To maintain the exterior condition of sample stations. Completed in 2023
11	Spare PLC						\$ 3,000									Costs to be shared across 4 systems.
12	Summa Service Agreement	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000									Annual Service support contract
13	Leak Detection: Accoustic on water services, hydrants, valves	\$ -	\$ -	\$ -	\$ -	\$ 25,000	\$ -									Conduct leak detection on all services, hydrants, valves. Placeholder should unaccounted for water increases
Total Capital Estimate		\$53,000	\$54,000	\$41,000	\$22,000	\$43,000	\$21,000									2025 Vitaliy Talashok: Senior Operations Manager 2025 Sam Sianas: Regional Hub Manager

* NOTE: a requirement of DWQMS v. 2.0 is to consider the outcomes of the risk assessment (RA) documented under Element 8 as part of the system's infrastructure review

Legend:

- H High priority recommended to be completed in upcoming year
- M Medium priority recommended to be completed in 1 to 3 years
- L Low priority recommended to be completed in years 4 to 5



43665 Dexter Line
 Union, ON
 N0L 2L0

TEL: 519-782-3101
www.ocwa.com

02-Oct-24

Sam Gustavson
 Township of Malahide
 87 John Street South
 Aylmer, ON

Re: 2025 Capital Recommendations

Sam,

On behalf of the Ontario Clean Water Agency (OCWA), we have enclosed a rolling five-year list of major maintenance recommendations as per our Services Agreement dated July 1st 2022. OCWA suggests the following improvements/upgrades to ensure the long-term health and operation of your facilities. Please note that as per the requirements of the Drinking Water Quality Management Standard (DWQMS) version 2.0, the outcomes of the risk assessment conducted for your facility were considered and any related items have been included in the recommendations.

At a time amenable to both parties, I will meet with you to discuss the recommendations, projected expenses, and to decide on a course of action. Dialogue with and approvals from the Aylmer Area Secondary Water Supply System Board are key components of the process. Please find a summary of the report in the chart below.

FACILITY	2024	2025	2026	2027	2028	2029	2030
Aylmer Portion EMPS	\$24,500	\$63,750	\$89,750	\$392,750	\$94,750	\$31,750	\$62,000
Total	\$24,500	\$63,750	\$89,750	\$392,750	\$94,750	\$31,750	\$62,000

As your service provider, OCWA has a comprehensive understanding of the strengths, unique issues and challenges associated with operating the EMPS facility. It is OCWA's intention to work with the Aylmer Area Secondary Water Supply System Board to determine the scope, budget, and timelines to complete any approved work.

We look forward to continuing to work with you as a trusted partner and advisor in the years to come.

Sincerely,

Greg Henderson
 Sr. Operations Manager

Aylmer Area Secondary Water Supply System - EMPS

2025-Year Recommended Capital/Major Maintenance from 2025 to 2030)

The Ontario Clean Water Agency has identified the following capital projects/major maintenance for your review and approval.

Ref. No.	Scope of Work								Compliance	DWQMS RA Outcome*	Health & Safety	Repair / Maintenance	Lifecycle Replacement	Improvement	Spare Parts Inventory	Approved by Client	Rationale for Project
		2024	2025	2026	2027	2028	2029	2030									
Malahide - EMPS																	
1	Review and Update O&M manual								•							•	Updates required based on finding while conducting a review of the SCADA alarms and PCN updates
2	DWQMS Audits	\$2,500	\$3,750	\$2,750	\$2,750	\$2,750	\$2,750	\$4,000	•						•	Annual Review and 3 year Re-Accreditation	
3	Chlorine Cylinders (Expenditure request no longer required, direct bill)	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000		•	•				•	On-going annual cost to support operations. Shared cost with St Thomas	
4	Chlorinator System (Chlorinators, Booster Pumps) Repairs	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500		•	•				•	Rebuilding/Repairs, annual repair costs. 2022 increased to cover replacement of one booster pump/motor. Shared cost with St Thomas.	
5	Diesel Fuel	\$1,500	\$2,500	\$1,500	\$2,500	\$1,500	\$1,500	\$2,500			•				•	On-going annual cost to support operations and every second year fuel polishing in addition to fuel. Shared cost with St Thomas	
6	Non Identified Major Repairs	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000			•				•	Possible equipment failures or repairs (motors, HVAC, electrical, UPS, PLC, pumps, generator engine.)	
7	Generator Full Load testing every 2 years		\$2,000		\$2,000		\$2,000				•				•	Ensure proper operation under full load conditions. Shared cost with St Thomas	
8	Generator & Transfer Switch Replacement				\$350,000							•			•	Generator & Transfer Switch Replacement. 2018 condition assessment indicates assets are 1995 vintage and at the end of life cycle. Note: This would be a \$500K order of magnitude shared project cost with St Thomas.	
9	Surge Anticipating and Pressure Reducing inspection and rebuild	\$5,000			\$10,000			\$10,000			•				•	Annual inspection	
10	Pump Dismantle - Physical Component Inspection and Measurements		\$10,000	\$10,000		\$10,000	\$10,000				•				•	Physical inspection to determine actual condition for future forecasting and rebuild requirements. Scheduled recommended maintenance.	
11	Chlorinator System Upgrade - Engineering			\$20,000						•		•			•	Chlorinators replaced in 2019. 2025 is a place holder. System to be reviewed based on size requirements. Note: This would be a shared project cost with St Thomas cost based on overall system design and functionality. (Order of Magnitude on upgrade \$75 - 125K).	
12	Chlorinator System Upgrade					\$50,000									•	Chlorinators replaced in 2019. 2025 is a place holder. System to be reviewed based on size requirements. Note: This would be a shared project cost with St Thomas cost based on overall system design and functionality. (Order of Magnitude on upgrade \$75 - 125K).	
13	PLC Replacement / Version Upgrades			\$40,000						•		•			•	10 year life cycle. (Order of Magnitude pricing). Scheduling based on replacement cycle.	
14	Update Asset Condition Report				\$10,000				•						•	Undertake an update of the 2018 asset condition report	
15	VFD Replacements		\$25,000									•			•	VFD HL01 and HL02 Cooling Fan and Capacitor Replacement	
16	Painting - piping, pumps, valves		\$5,000										•		•		
17	Chlorine Analyzer Upgrade					\$15,000			•						•		
18	London/Aylmer By-pass Header Gate Valve Actuator Repalcement							\$30,000				•			•		

Aylmer Area Secondary Water Supply System - EMPS

2025-Year Recommended Capital/Major Maintenance from 2025 to 2030)

The Ontario Clean Water Agency has identified the following capital projects/major maintenance for your review and approval.

Ref. No.	Scope of Work								Compliance	DWQMS RA Outcome*	Health & Safety	Repair / Maintenance	Lifecycle Replacement	Improvement	Spare Parts Inventory	Approved by Client	Rationale for Project
		2024	2025	2026	2027	2028	2029	2030									
19	Chlorine System Annual Service	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	●							●	
20	Owner Requests															●	Owner requested capital works.
Total Capital Estimate		\$24,500	\$63,750	\$89,750	\$392,750	\$94,750	\$31,750	\$62,000									

* **NOTE:** a requirement of DWQMS v. 2.0 is to consider the outcomes of the risk assessment (RA) documented under Element 8 as part of the system's infrastructure review

Legend:

- H High priority recommended to be completed in upcoming year
- M Medium priority recommended to be completed in 1 to 3 years
- L Low priority recommended to be completed in years 4 to 5

- Approved By Client
- ▲ Client approval deferred pending review of asset ownership and responsibilities as defined by the new Joint Occupancy & Use Agreement.

Note: No recommendations put forth based on possible ownership transfers

2025 Recommended Capital Presented by:
Greg Henderson, Sr. Operations Manager

2025 Recommended Capital Approved by:
Sam Gustavson, Water/Waste Water Operations Manager



REPORT NO. PBASWSS-24-15

TO: Port Burwell Area Secondary Water Supply System- Joint Board of Management

DEPARTMENT: Public Works

MEETING DATE: December 4, 2024

SUBJECT: PORT BURWELL AREA SECONDARY WATER SUPPLY SYSTEM – 2024 REVIEW AND PROVISION OF INFRASTRUCTURE REPORT

RECOMMENDATION:

THAT Report No. PBASWSS-24-15 entitled “Port Burwell Area Secondary Water Supply System – 2024 Review and Provision of Infrastructure Report” be received.

PURPOSE & BACKGROUND:

The Drinking Water Quality Management Standard (DWQMS) requires a procedure to be in place to review on an annual basis, the adequacy of the existing infrastructure. The review is undertaken to ensure that the integrity of the drinking water system is not compromised.

The Operational Plan requires the Staff to report to the Joint Board of Management on the condition of infrastructure on an annual basis. In addition, the Operating Authority, being the Ontario Clean Water Agency (OCWA), is required to submit to the Owner (being the Joint Board of Management) on an annual basis, the following information:

- Recommended maintenance to the system
- Capital and lifecycle projects
- Water quality issues that may be related to infrastructure deficiencies
- The overall condition of the water system.

COMMENTS & ANALYSIS:

On October 1, 2024, Vitaliy Talashok, of OCWA presented the Staff with the 6-year Recommended Capital and Major Maintenance spreadsheet. OCWA is also required to submit infrastructure reports based on inspections, testing, and general observations of infrastructure by the OCWA operators. Additional reports are submitted throughout the year such as hydrant flushing, chamber and air release inspection reports, and valve operation.

This report is an overall summary of OCWA’s 6-year recommended Capital and Major Maintenance for the water system. Recommendations are derived through on-site inspections, review of maintenance records, DWQMS Risk Assessment outcomes,

discussions with operations staff, and review of laboratory data. OCWA does not provide condition/recommendations for physical structures such as the Port Burwell Tower, Lakeview Re-chlorination, Dexter Re-chlorination, and MV1 as it is outside of their scope.

Attachments to this report identify the Operating Authority's recommendations for maintenance, upgrades, and replacement projects for the Joint Board of Management's consideration. This report is submitted to the Joint Board of Management to satisfy the requirements of the QEMS (Elements 14 and 15) of the PBASWSS Operational Plan. This approach ensures that the Owners are kept informed on the overall condition of the water system.

The following analysis/evaluation is provided:

Maintenance:

All equipment has been maintained as per OCWA's Work Maintenance System (WMS). OCWA replaced the Hansen WMS with Maximo in late 2017. Maximo provides an enhanced tracking and maintenance system for work completed on infrastructure equipment.

Facilities: (MV1, Dexter Line Re-chlorination, Port Burwell Tower, Lakeview Re-chlorination):

OCWA has recommended the following items for 2024:

- Facility Condition Assessment and Review at MV1 Valve house
- Spare inventory for chemical feed system (pumps, injectors, Chlorine probes, backpressure valves, prv's, pH probes, tubing, fittings)
- Ladder Inspection at Water tower
- Summa SCADA Service Agreement
- Hydrant Maintenance and Repairs (unplanned maintenance)
- Sample Station Maintenance Repairs (unplanned maintenance)
- Air Release Valve Servicing/ Replacement
- Chamber Maintenance (drain, air release, metering, isolation)

Capital Projections:

The Operating Authority has provided a 6-year capital projection spreadsheet for the transmission line.

The total six-year projection for expenditures recommended by OCWA for the transmission main is \$524,863.00. All recommendations are outlined in the attached spreadsheet. It should be noted that some of these recommended items are placeholders to be considered in future budgets as they relate to condition assessment studies.

Overall, the system has performed well with significant improvements over the past few years. It is essential that the Board continues with lifecycle replacements of aging infrastructure. When the system is well maintained through preventative maintenance, it promotes increased reliability and reduces the likelihood of reactive maintenance and costly service interruptions.

FINANCIAL IMPLICATIONS:

OCWA has identified multiple recommendations for expenditures which may be required over the next six years. For 2025, they have recommended a total of \$68,500.00 in capital and repair expenditures. Items entered into the spreadsheet attached are reviewed annually by the Staff and included in current and future budgets for the Board's consideration if deemed necessary.

ATTACHMENTS:

1. Port Burwell Secondary: 2024 OCWA 6-year Recommended Capital/ Major Maintenance Spreadsheet

Prepared by: S. Gustavson, Water/Waste Water Operations Manager

Reviewed by: J. Godby, Director of Public Works

Approved by: N. Dias, Chief Administrative Officer



One Yonge Street, Suite 1700 TEL: 1-800-667-6292
 Toronto, Ontario FAX: 416-314-8300
 M5E 1E5 www.ocwa.com

August 15th, 2020

Sam Gustavson
 The Corporation of the Township of Malahide
 87 John Street South
 Aylmer, Ontario
 N5H 2C3

RE: Port Burwell Area Secondary Water Supply System

Dear Sam

On behalf of the Ontario Clean Water Agency (OCWA), we have enclosed a rolling six-year list of major maintenance recommendations as per our Services Agreement dated January 1st, 2018. OCWA suggests the following improvements/upgrades to ensure the long-term health and operation of the Port Burwell Area Secondary Water Supply System. Please note that as per the requirements of the Drinking Water Quality Management Standard (DWQMS) version 2.0, the outcomes of the risk assessment conducted for the Port Burwell Area Secondary Water Supply System dated February 5th, 2019 were considered and any related items have been included in the recommendations.

At a time amenable to both parties, OCWA's Operations Manager will meet with yourself to discuss the recommendations, projected expenses, and to decide on a course of action. Dialogue with and approvals from the Township are key components of the process. Please find a summary of the report in the chart below.

Port Burwell Area Secondary Water Supply System	2021	2022	2023	2024	2025	2026
MV1 Valve house	\$8,000	\$15,000	\$1,500	\$0	\$12,500	\$1,500
Dexter Line Re-chlorination Facility	\$6,500	\$5,000	\$6,500	\$5,000	\$19,000	\$5,000
Port Burwell Tower	\$8,500	\$15,000	\$1,500	\$0	\$12,500	\$1,500
Lakeview Re-chlorination Facility	\$0	\$15,000	\$0	\$4,000	\$12,500	\$1,500
Installation of new sampling station at Quaker Road	\$10,000	\$0	\$0	\$0	\$0	\$0
Hydrant maintenance and repairs, painting and numbering	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Sample station maintenance, repairs, rebuild kits, painting	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
PVC watermain/chamber condition assessr	\$0	\$0	\$0	\$0	\$110,000	\$50,000
Install new hydrant at end of system	\$0	\$0	\$0	\$15,000	\$0	\$0
Chamber maintenance (air release, drain, isolation, metering)	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Total	\$50,000	\$67,000	\$26,500	\$41,000	\$183,500	\$76,500

As your service provider, OCWA has a comprehensive understanding of the strengths, unique issues and challenges associated with operating the Port Burwell Area Secondary Water supply System. It is OCWA's intention to work with the Township to determine the scope, budget, and timelines to complete any approved work.

We look forward to continuing to work with you as a trusted partner and advisor in the years to come.

Sincerely,

Mike Taylor
Senior Operations Manager

The Corporation of the Township of Malahide: Port Burwell Area Secondary Water Supply System

(6-Year Recommended Capital/Major Maintenance from 2025 to 2030)

The Ontario Clean Water Agency has identified the following capital projects/major maintenance for your review and approval.

Ref. No.	Scope of Work	Year						Compliance	DWQMS RA Outcome*	Health & Safety	Repair / Maintenance	Lifecycle Replacement	Improvement	Spare Parts Inventory	Approved by Client	Rationale for Project
		2025	2026	2027	2028	2029	2030									
MV1 Valvehouse																
1	Facility Condition Assessment and Asset Review	\$ 12,500	\$ -	\$ -	\$ -	\$ -	\$ -									Recommend to undertake detailed condition assessment of all chambers and buildings in 2025.
2	Main line pressure regulating valve PRV (flow control valve): Rebuild of valve	\$ -	\$ -	\$ 8,000	\$ -	\$ -	\$ -									Recommend to undertake detailed inspection/servicing/rebuild of PRV in 2028. Rebuilt in 2022
3	Replace PLC UPS batteries	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -	\$ -									Required every 2-3 years. Prevents PLC from losing power due to battery failure. Replacement to be completed in 2025.
Total Estimate - Recommended Capital		\$12,500	\$1,500	\$1,500	\$1,500	\$0	\$0									
Dexter Line Re-Chlorination Facility																
1	Facility Condition Assessment and Asset Review	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -									Recommend to undertake detailed condition assessment of all chambers and buildings in 2025.
2	Spare inventory for chemical feed system (pumps, injectors, chlorine probes, backpressure valves, prv's, pH probes, tubing, fittings)	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000									Brand new chlorine system. Requires spare parts on the shelf.
3	Replace PLC UPS batteries	\$ -	\$ -	\$ 1,500	\$ -	\$ -	\$ -									Required every 2-3 years. Prevent PLC from losing power due to battery failure. Original from 2016.
Total Estimate - Recommended Capital		\$5,000	\$5,000	\$6,500	\$5,000	\$5,000	\$5,000									
Port Burwell Tower																
1	Facility Condition Assessment and Asset Review/ROV Inspection	\$ -	\$ 17,500	\$ -	\$ -	\$ -	\$ -									Recommend to undertake detailed condition assessment of all chambers and buildings in 2026. Perform ROV Inspection of Port Burwell Tower.
2	Replace heaters in building underneath tower	\$ -	\$ -	\$ -	\$ 3,500	\$ -	\$ -									Heater Placeholder for replacement as needed
3	Replace PLC UPS batteries	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -	\$ -									Required every 2-3 years. Prevents PLC from losing power due to battery failure. Plan is to be replaced in 2020.
4	Storage/workshop: internal works	\$ -	\$ -	\$ -	\$ 1,000	\$ -	\$ -									Storage building installed 2020. Internal upgrades as required.
5	SCADA server upgrades		\$48,000													SCADA upgrades
6	Water Tower Inspection with potential Anode Installation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -									5 Year Inspection of Tower with consideration for Anode installation
7	Ladder inspection	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000									Recommend it to do every year
8	Spare PLC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -									Spare PLC to be shared across 4 systems.
9	Summa Service Agreement	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000									Annual Service Agreement for support.
10	Install dehumidifier in valve pit, direct drain to valve pit	\$ -	\$ -	\$ -	\$ -	\$ 950	\$ -									Per Landmark 2023 Recommendations
11	Increase height of catwalk handrail from 36" to 42"	\$ -	\$ -	\$ -	\$ -	\$ 27,500	\$ -									Per Landmark 2023 Recommendations
12	Remove and replace non-compliant rungs from catwalk	\$ -	\$ -	\$ -	\$ -	\$ 20,000	\$ -									Per Landmark 2023 Recommendations
13	Relocate hinges on roof hatch	\$ -	\$ -	\$ -	\$ -	\$ 750	\$ -									Per Landmark 2023 Recommendations
14	Repair & Test Cathodic Protection, replace anode	\$ -	\$ 9,663	\$ -	\$ -	\$ -	\$ -									Per Landmark 2023 Recommendations
15	Remove existing fall arrest system and replace with CSA system	\$ -	\$ 12,000	\$ -	\$ -	\$ -	\$ -									Per Landmark 2023 Recommendations
16	Install S.S. 'D' ring at bottom of ladder to catwalk	\$ -	\$ 1,500	\$ -	\$ -	\$ -	\$ -									Per Landmark 2023 Recommendations
17	Replace 4 pc corrodible 'D' rings with S.S. type	\$ -	\$ 3,000	\$ -	\$ -	\$ -	\$ -									Per Landmark 2023 Recommendations
18	Water Tower Power Wash	\$ -	\$ 30,000	\$ -	\$ -	\$ -	\$ -									Recommend to power wash tower to remove and build-up and maintain costing life expectancy.
Total Estimate - Recommended Capital		\$6,000	\$129,163	\$6,000	\$12,000	\$55,200	\$9,000									
Lakeview Re-Chlorination Facility																
1	Facility Condition Assessment and Asset Review/Roof Repair	\$ -	\$ 12,500	\$ -	\$ -	\$ -	\$ -									Recommend to undertake detailed condition assessment of all chambers and buildings in 2025. Roof was completed in 2023.
2	Replace PLC UPS batteries	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -	\$ -									Required every 2-3 years. Prevents PLC from losing power due to battery failure. Batteries purchased in 2020.
3	Replace building exhaust fan	\$ -	\$ 2,500	\$ -	\$ -	\$ -	\$ -									Possible replacement of building exhaust fan in 2020. Original fan will be approximately 10 years old in 2020.
Total Estimate - Recommended Capital		\$0	\$16,500	\$0	\$1,500	\$0	\$0									

The Corporation of the Township of Malahide: Port Burwell Area Secondary Water Supply System

(6-Year Recommended Capital/Major Maintenance from 2025 to 2030)

The Ontario Clean Water Agency has identified the following capital projects/major maintenance for your review and approval.

Ref. No.	Scope of Work						2030	Compliance	DWQMS RA Outcome*	Health & Safety	Repair / Maintenance	Lifecycle Replacement	Improvement	Spare Parts Inventory	Approved by Client	Rationale for Project	
		2025	2026	2027	2028	2029											
Transmission Main																	
1	Chamber Condition Assessment and Asset Review	\$ -	\$ -	\$ 50,000	\$ -	\$ -	\$ -									Condition assessment on app 50 chambers along transmission main	
2	Leak Detection	\$ -	\$ -	\$ -	\$ -	\$ -	TBD									Leak Detection scheduled should unaccounted for water percentage increase.	
3	Hydrant maintenance and repairs, painting and numbering	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000									Replace any failed parts discovered during annual fire hydrant flushing . Was painted in 2023, will do it in 2028	
4	Sample Station maintenance, repairs, rebuild kits,painting	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000									Purchase spare rebuild kits and on-going maintenance to sample stations, ball valves and plungers.	
5	Sample Station Replacement	\$ -	\$ -	\$ -	\$ 7,000	\$ 7,000	\$ 7,000									Replacement of sample stations 90, 91, and 92	
6	Air Release Valve Servicing/Replacement	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ -									Air valve maintenance program	
7	Chamber maintenance (drain, metering, isolation)	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000									Refer to excel spreadsheet for asset inventory and history of work completed and required on all chambers from MV1 through to E038 including new Dexter Line. Example of work includes replacement of air release valves, flowmeters, chamber work etc...	
Total Estimate - Recommended Capital		\$45,000	\$25,000	\$75,000	\$32,000	\$32,000	\$32,000										
Total Capital Estimate		\$68,500	\$177,163	\$89,000	\$52,000	\$92,200	\$46,000										

2025 Recommended Capital Presented by:
2025 Recommended Capital Approved by:

Vitaliy Talashok: Senior Operations Manager
Sam Sianas: Regional Hub Manager

* NOTE: a requirement of DWQMS v. 2.0 is to consider the outcomes of the risk assessment (RA) documented under Element 8 as part of the system's infrastructure review

Legend:

- H High priority recommended to be completed in upcoming year
- M Medium priority recommended to be completed in 1 to 3 years
- L Low priority recommended to be completed in years 4 to 5



REPORT NO. PBASWSS-24-16

TO: Joint Management Board
DEPARTMENT: Corporate & Financial Services
MEETING DATE: December 4, 2024
SUBJECT: 2025 Draft Budget

RECOMMENDATION:

THAT Report No. PBASWSS-24-16, being the 2025 Draft Budget, be received;

AND THAT the 2025 Budget be approved as presented;

AND THAT the 2025 water rate be approved in the amount of 3.64 per cubic metre.

PURPOSE & BACKGROUND:

The Port Burwell Area Secondary Water Supply System (PBASWSS) currently supplies water to approximately 1,469 metered connections in the municipalities of Central Elgin, Malahide, and Bayham. The PBASWSS purchases water from the Elgin Area Primary Water Supply System (EAPWSS) which draws its water from Lake Erie. The secondary system consists of approximately 31.3 km of transmission mains, a water tower, and two chlorination facilities.

Rate History		
Year	Billing Rate	Change (%)
2025*	3.64	5.0%
2024	3.47	5.0%
2023	3.30	4.3%
2022	3.15	4.1%

**Subject to Board approval*

The water system is metered at each municipal boundary and utilizes a rate structure with a volume charge on a per cubic metre basis. The adjacent table provides a history of the system's current and recent volume rates. In 2023, the Board approved the PBASWSS 2023 Water Rate Study which recommended a long-term financial plan based on updated operating and capital forecasts. The 2025 Draft Budget continues to build upon that analysis by recommending a set of fiscally responsible changes that are in line with provincial legislation and which smooth the impact of future rate increases on partnering municipalities and their users.

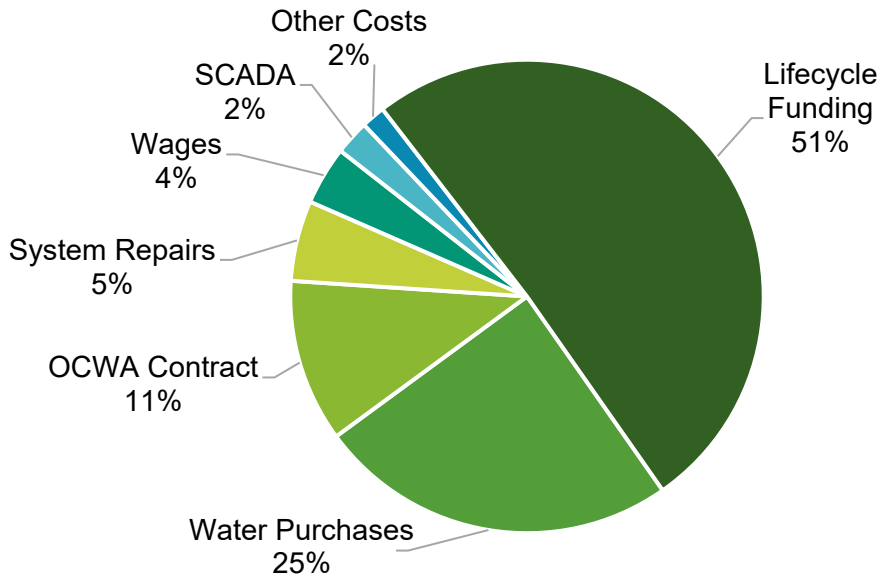
COMMENTS & ANALYSIS:

The 2025 Draft Budget recommends a 2025 water rate of 3.64 per cubic metre to fund

the system’s gross annual operating budget of \$559,600 and annual lifecycle costs of \$576,300. This rate increase is in line with PBASWSS’s 2023 Rate Study. A summary of PBASWSS’s annual costs is provided below.

2025 Draft Operating Budget			
	2024 Budget	2024 Forecast	2025 Budget
<u>Annual Operating Costs</u>			
Water Purchases	\$270,000	253,800	\$280,000
OCWA Contract	119,400	124,900	126,400
System Repairs	62,500	40,000	62,500
Wages	44,300	44,300	45,400
SCADA	26,300	23,500	26,800
Other Costs	18,500	16,650	18,500
Total	\$541,000	\$503,150	\$559,600
<u>Annual Revenues</u>			
Water Billing	\$937,000	\$881,744	\$987,000
Other	50,000	135,000	148,900
Total	\$987,000	\$1,016,744	\$1,135,900
Lifecycle Funding	\$446,000	\$513,594	\$540,800

Gross Annual Expenditures



Purchase of Water

Purchases of treated water from the Elgin Area Primary Water Supply System (EAPWSS) account for 25% of PBASWSS costs. Based on recent flow data,

consumption estimates, and therefore water purchase costs as well as billing revenue, have increased for the 2025 Draft Budget. For long-term forecasting, it is assumed that the primary billing rate will increase by 3.5% each year until 2027 and 3% thereafter.

Water Volumes	2024 Budget	2024 Forecast	2025 Budget
Water Volume (m ³)	270,000	254,105	271,215
EAPWSS Rate (m ³)	0.9988	0.9988	1.0338
Water Purchases (\$)	270,000	253,800	280,000

Ontario Clean Water Agency (OCWA) Operations Contract

The Ontario Clean Water Agency (OCWA) and the PBASWSS entered into an agreement effective 2023 to 2027 whereby OCWA is to provide for the management, operations and maintenance services of the secondary system's water facilities. In accordance with the agreement, OCWA charges PBASWSS a fixed monthly fee which is adjusted by CPI at the end of each year. Services provided beyond the terms of the agreement are charged at an additional cost. Such costs are accounted for in the budgeting process.

OCWA arranges insurance coverage with respect to facilities it operates on the secondary system's behalf. For 2025's insurance renewal, updates have been made to asset replacement values as a result of inflationary pressures in recent years for non-residential construction materials which is reflected in the 2025 Draft Budget.

System Repairs & Maintenance

Staff are not recommending any changes to PBASWSS's allowance for system repairs and maintenance. Average annual system repairs and maintenance costs from 2022 to 2024 are projected to be approximately \$56,000. The 2025 Draft Budget maintains its existing budget allotment of \$62,500 in light of this trend.

Wages

As the administrator of the secondary system, Township of Malahide staff recover a portion of their costs for time spent on PBASWSS activities. The majority (70%) of labour costs relate to the Manager of Water & Wastewater Operations. The Township's Director of Public Works, Treasurer, Public Works Coordinator and Finance Clerk also support the ongoing operations of the PBASWSS. Overall, wage costs for the secondary system continue to be less than the cost of a single full-time employee.

Other Costs

Approximately 2% of costs relate to the SCADA system, a computer-based system for gathering and analyzing real-time data to monitor and control equipment, an annual financial audit by an independent third-party auditor, and miscellaneous supplies as

required by staff.

Annual Revenues

A change in consumption estimates and a recommended rate increase of 5% account for annual revenue increases for 2025. The table below provides a summary of assumptions used for annual revenue estimates.

Water Volumes	2024 Budget	2024 Forecast	2025 Budget
Water Volume (m ³)	270,000	254,105	271,215
Billing Rate (m ³)	3.47	3.47	3.64
Water Billings (\$)	\$937,000	\$881,744	\$987,000
<i>Water loss is billed back to secondary system owners and therefore does not affect sales estimates</i>			

A change in estimate has also been made to investment income to reflect investment returns on PBASWSS's growing reserve balance.

Capital Budget

Ontario Clean Water Agency (OCWA) provides operation, maintenance and management services for the Board's water facilities and systems. Each year, staff receive capital and maintenance forecasts from OCWA which, along with estimates of other inflationary pressures provided by staff, are used to formulate the annual draft capital budget for the Board's consideration. PBASWSS's average annual capital cost between 2025 to 2030 is approximately \$52,400 excluding a transmission main replacement project estimated at \$21 million in 2028. PBASWSS's average annual capital funding is \$666,400 over the same period.

PBASWSS will not be able to fund its \$21 million watermain replacement east of the Port Burwell water tower feeding into the Municipality of Bayham without additional contributions from partnering municipalities.

Based on forecasted reserve projections,

PBASWSS is expected to have \$4,662,867 in capital funding available for the 2028 Budget year, subject to annual 5% rate increases. PBASWSS's reserves can be used to fund a portion of the 2028 transmission main replacement with the remainder to be funded based on each partnering municipality's proportionate ownership share of the PBASWSS (based on consumption).

PBASWSS Reserves	\$3,000,000
Central Elgin (3.91%)	\$703,800
Malahide (34.51%)	\$6,211,800
Bayham (61.58%)	\$11,084,400
Total Project Cost	\$21,000,000

Lifecycle Funding

The PBASWSS utilizes a sinking fund method to determine the provision of revenue required for asset replacement. This method first estimates the future value of the asset at the time of replacement. This is done by inflating the original cost of the asset at an assumed annual inflation rate. Annual contributions, when invested, will grow with

interest to equal the future replacement cost.

The 2025 Draft Budget includes annual lifecycle funding of \$576,300 for the eventual replacement of assets. Based on estimated replacement values, as presented in the table below, PBASWSS is currently able to fund 20% of its future lifecycle costs.

Asset Category	Replacement Value	Annual Funding Requirement
Watermains	\$93,900,000	\$2,621,000
Machinery & Equipment	5,338,000	290,000
SCADA	326,000	24,000
Total	\$99,564,000	\$2,935,000

Long-term Financial Viability

The PBASWSS's expansive infrastructure serves only 1,469 connections. With lifecycle costs totaling nearly \$100 million, this requires an investment per connection of \$67,700 to replace existing infrastructure. When accounting for operating costs, it is estimated the secondary system's required water rate to achieve full cost recovery is likely closer to \$11 per cubic metre, triple the system's proposed 2025 rate. It is staff's opinion that the rate bases served by PBASWSS, who already must contend with high water rates, cannot afford such a change. As such, the future financial viability of the system will likely depend on funding from upper levels of government to fund required infrastructure replacements.

PBASWSS and its municipal partners will experience this funding gap firsthand once it initiates its transmission main replacement for 7 kilometres east of the Port Burwell Tower. The project is well beyond what can be financed by PBASWSS. Central Elgin, Malahide and Bayham will be required to download the unfinanced portion of the project whose cost will be borne by their respective rate bases, likely translating to significant municipal water rate increases for each municipality. A significant portion of Malahide and Bayham's annual repayment limits, as set by the Province, will be used to finance this project resulting in less debt capacity to pursue other strategic initiatives such as growth-related infrastructure investments.

PBASWSS Reserves	\$4,800,000
Central Elgin (3.91%)	633,420
Malahide (34.51%)	5,590,620
Bayham (61.58%)	9,975,960
Total Project Cost	\$21,000,000

Based on the age (1970) and composition of the secondary system's transmission mains, additional watermain replacements are inevitable over the next few decades, particularly on the system's west end. When such replacements are required, it is projected that municipal owners, specifically the Municipality of Bayham as the majority owner, will likely not be able to fund it through the use of their remaining debt capacity. It is recommended that the PBASWSS engage with the Province on this issue to ensure

this vital service remains affordable for residents.

ATTACHMENTS:

1. 2025 Draft Budget

Prepared by: A. Boylan, Director of Corporate Services/Treasurer

Approved by: N. Dias, Chief Administrative Officer

Port Burwell Area Secondary Water Supply System | Capital Budget

	Current	Future Years				
	2025	2026	2027	2028	2029	2030
<u>MV1 Capital Costs</u>						
UPS Replacement Program	\$0	\$1,500	\$0	\$1,500	\$0	\$0
Facility Condition Assessment and Asset Review	\$12,500	\$0	\$0	\$0	\$0	\$0
Main line pressure regulating valve PRV rebuild	\$0	\$0	\$8,000	\$0	\$0	\$0
<u>Dexter Line Re-Chlorination Facility Capital Costs</u>						
UPS Replacement Program	\$0	\$0	\$1,500	\$0	\$0	\$0
Facility Condition Assessment and Asset Review	\$0	\$0	\$0	\$0	\$0	\$0
<u>Port Burwell Tower Capital Costs</u>						
UPS Replacement Program	\$0	\$1,500	\$0	\$1,500	\$0	\$0
Water Tower Inspections (Tank & Facility)	\$0	\$17,500	\$0	\$0	\$0	\$0
Ladder Inspections	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Dehumidifier in valve pit	\$0	\$0	\$0	\$0	\$950	\$0
Increase height of catwalk handrail	\$0	\$0	\$0	\$0	\$27,500	\$0
Replace catwalk rungs	\$0	\$0	\$0	\$0	\$20,000	\$0
Relocate hinges on roof hatch	\$0	\$0	\$0	\$0	\$750	\$0
Repair & test cathodic protection, anode	\$0	\$9,663	\$0	\$0	\$0	\$0
Replace fall arrest system with CSA system	\$0	\$12,000	\$0	\$0	\$0	\$0
Install S.S. 'D' ring at bottom of ladder to catwalk	\$0	\$1,500	\$0	\$0	\$0	\$0
Replace 4 pc corrodible 'D' rings with S. S. type	\$0	\$3,000	\$0	\$0	\$0	\$0
Water Tower Power Wash	\$0	\$30,000	\$0	\$0	\$0	\$0
<u>Lakeview Re-Chlorination Facility Capital Costs</u>						
UPS Replacement Program	\$0	\$1,500	\$0	\$1,500	\$0	\$0
Replace buiding exhaust fan	\$0	\$2,500	\$0	\$0	\$0	\$0

Port Burwell Area Secondary Water Supply System | Capital Budget

	Current	Future Years				
	2025	2026	2027	2028	2029	2030
<u>Transmission Main Capital Costs</u>						
Facility Condition Assessment and Asset Review	\$0	\$0	\$50,000	\$0	\$0	\$0
Sample Station Replacement	\$0	\$0	\$0	\$7,000	\$7,000	\$7,000
SCADA Server Upgrades	\$0	\$48,000	\$0	\$0	\$0	\$0
Air Release Valve Replacement	\$20,000	\$0	\$0	\$0	\$0	\$0
Watermain Replacement (7km east of watertower)	\$0	\$0	\$0	\$21,000,000	\$0	\$0
Total Capital Costs	\$35,500	\$131,663	\$62,500	\$21,015,500	\$59,200	\$10,000
<u>Capital Financing</u>						
Reserves	\$35,500	\$131,663	\$62,500	\$4,815,500	\$59,200	\$10,000
Contributions from Owners						
Central Elgin	\$0	\$0	\$0	\$633,420	\$0	\$0
Malahide	\$0	\$0	\$0	\$5,590,620	\$0	\$0
Bayham	\$0	\$0	\$0	\$9,975,960	\$0	\$0
Total	\$35,500	\$131,663	\$62,500	\$21,015,500	\$59,200	\$10,000
<u>Reserves</u>						
Opening Reserve Balance	\$2,977,430	\$3,518,230	\$4,024,167	\$4,662,867	\$621,567	\$1,178,967
Add: Contributions to Reserves	\$576,300	\$637,600	\$701,200	\$774,200	\$616,600	\$692,600
Less: Capital Costs	-\$35,500	-\$131,663	-\$62,500	-\$4,815,500	-\$59,200	-\$10,000
Closing Reserve Balance	\$3,518,230	\$4,024,167	\$4,662,867	\$621,567	\$1,178,967	\$1,861,567



REPORT NO. AASWSS-24-15

TO: Joint Management Board
DEPARTMENT: Corporate & Financial Services
MEETING DATE: December 4, 2024
SUBJECT: **2025 Draft Budget**

RECOMMENDATION:

THAT Report No. AASWSS-24-15, being the 2025 Draft Budget, be received;
 AND THAT the 2025 Budget be approved as presented;
 AND THAT the 2025 water rate, in the amount of 1.46 per cubic metre, be approved.

PURPOSE & BACKGROUND:

The Aylmer Area Secondary Water Supply System (AASWSS) currently supplies water to 3,137 metered connections in the municipalities of Central Elgin (Eastern Area), Malahide (East and West of Aylmer), and the Town of Aylmer. The AASWSS purchases water from the Elgin Area Primary Water Supply System (EAPWSS) which draws its water from Lake Erie. The secondary system consists of approximately 13.8 km of transmission mains, a pumping station, and four hydrants.

Rate History		
Year	Billing Rate	Change (%)
2025*	1.4600	3.5%
2024	1.4100	3.5%
2023	1.3622	3.5%
2022	1.3161	4.0%

**Subject to Board approval*

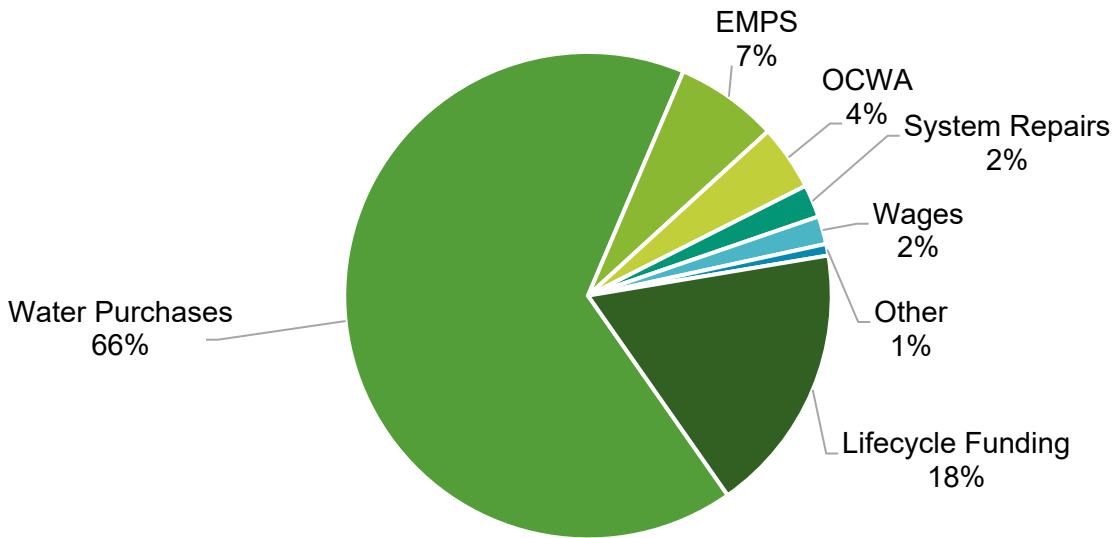
The water system is metered at each municipal boundary and utilizes a rate structure with a volume charge on a per cubic metre basis. The adjacent table provides a history of the system’s current and recent volume rates. In 2023, the Board approved the AASWSS 2023 Water Rate Study which recommended a long-term financial plan based on updated operating and capital forecasts. The 2025 Draft Budget continues to build upon that analysis by recommending a set of fiscally responsible changes that are in line with provincial legislation and which smooth the impact of future rate increases on partnering municipalities and their users.

COMMENTS & ANALYSIS:

The 2025 Draft Budget recommends a 2025 water rate of 1.46 per cubic metre to fund the system’s gross annual operating budget of \$2,194,150 and annual lifecycle costs of \$348,850. This rate increase is in line with AASWSS’s 2023 Rate Study. A summary of AASWSS’s annual costs is provided below.

2025 Draft Operating Budget			
	2024 Budget	2024 Forecast	2025 Budget
<u>Annual Operating Costs</u>			
Water Purchases	\$1,761,000	\$1,864,600	\$1,827,000
EMPS	188,500	178,300	188,500
OCWA	112,600	116,822	119,900
System Repairs	60,000	20,000	60,000
Wages	51,300	51,300	51,300
Other	20,750	20,800	21,300
Total	\$2,194,150	\$2,251,822	\$2,268,000
<u>Annual Revenues</u>			
Water Billing	\$2,486,000	\$2,632,400	\$2,580,000
Other	57,000	225,000	183,000
Total	\$2,543,000	\$2,857,400	\$2,763,000
Lifecycle Funding	\$348,300	\$598,078	\$430,000

Gross Annual Expenditures



Purchase of Water

Purchases of treated water from the Elgin Area Primary Water Supply System (EAPWSS) account for 66% of AASWSS costs. Based on recent flow data, consumption estimates, and therefore water purchase costs as well as billing revenue, have increased for the 2025 Draft Budget. For long-term forecasting, it is assumed that the primary billing rate will increase by 3.5% each year until 2027 and 3% thereafter.

Water Volumes	2024 Budget	2024 Forecast	2025 Budget
Water Volume (m ³)	1,763,116	1,768,500	1,767,250
EAPWSS Rate (m ³)	0.9988	0.9988	1.0338
Water Purchases (\$)	\$1,761,000	\$1,766,400	\$1,827,000

Elgin-Middlesex Pumping Station (EMPS)

The Elgin-Middlesex Pump Station at the Elgin Terminal Reservoir houses the pumps, piping, control systems, pressure surge controls and associated piping related secondary pumping systems for the City of London, the St. Thomas Secondary Water System, and the Aylmer Secondary Water System. The Elgin Board recently agreed to own and maintain the common building and building-related assets and entered into a long-term Joint Use and Occupancy Agreement with the secondary water systems and the City of London. The agreement established a fee for occupancy on a square meter basis. AASWSS's 2025 occupancy is \$46,400. EAPWSS retains this fee in a dedicated reserve fund which is utilized for the maintenance and repair of the building and building-related assets. The cost of operating its pumps and associated equipment within the EMPS continues to be the responsibility of AASWSS.

The Elgin Area Primary Water System bills AASWSS for its proportionate use of booster stations within the EMPS. A fixed fee is charged for the operation and maintenance of the booster stations. Utilities costs, primary electricity, are charged based on AASWSS's proportionate flows. These costs can vary year to year depending on hydro rates and flows.

Staff have noted that prior year costs associated with the EMPS have typically fallen below budget estimates. For 2025, the EMPS budget is recommended to remain static to reduce the potential for unwanted future surpluses and to provide capacity in this year's budget to allocate resources to higher priority discretionary budgets such as system maintenance and lifecycle contributions.

Ontario Clean Water Agency (OCWA) Operations Contract

The Ontario Clean Water Agency (OCWA) and the AASWSS entered into an agreement effective 2023 to 2027 whereby OCWA is to provide for the management, operations and maintenance services of the secondary system's water facilities. In accordance with the agreement, OCWA charges AASWSS a fixed monthly fee which is adjusted by CPI

at the end of each year. Services provided beyond the terms of the agreement are charged at an additional cost. Such costs are accounted for in the budgeting process.

OCWA arranges insurance coverage in respect to facilities it operates on the secondary system’s behalf. For 2025’s insurance renewal, updates have been made to asset replacement values as a result of inflationary pressures in recent years for non-residential construction materials which is reflected in the 2025 Draft Budget.

System Repairs & Maintenance

Staff are not recommending an increase to AASWSS’s allowance for system repairs and maintenance this year. Average annual system repairs and maintenance costs from 2022 to 2024 are projected to be approximately \$30,800. The 2025 Draft Budget includes an allotment of \$60,000. Unused funds are distributed to reserves to fund future capital replacement.

Wages

As the administrator of the secondary system, Township of Malahide staff recover a portion of their costs for time spent on ASSWSS activities. The majority (70%) of labour costs relate to the Manager of Water & Wastewater Operations. The Township’s Director of Public Works, Treasurer, Public Works Coordinator and Finance Clerk also support the ongoing operations of the AASWSS. Overall, wage costs for the secondary system continue to be less than the cost of a single full-time employee.

Other Costs

Approximately 1% of costs relate to the SCADA system, a computer-based system for gathering and analyzing real-time data to monitor and control equipment, an annual financial audit by an independent third-party auditor, and miscellaneous supplies as required by staff.

Annual Revenues

A change in consumption estimates and a recommended rate increase of 3.50% account for annual revenue increases for the 2024. The table below provides a summary of assumptions used for annual revenue estimates.

Water Volumes	2024 Budget	2024 Forecast	2025 Budget
Water Volume (m ³)	1,763,116	1,768,500	1,767,250
Billing Rate (m ³)	1.4100	1.4100	1.4600
Water Billings (\$)	\$2,486,000	\$2,632,400	\$2,580,000
<i>Water loss is billed back to secondary system owners and therefore does not affect sales estimates</i>			

Capital Budget

Ontario Clean Water Agency (OCWA) provides operation, maintenance and management services for the Board's water facilities and systems. Each year, staff receive capital and maintenance forecasts from OCWA which, along with estimates of other inflationary pressures provided by staff, are used to formulate the annual draft capital budget for the Board's consideration. AASWSS's average annual capital cost between 2025 to 2030 is approximately \$113,700. With average annual capital funding of \$628,900 over the same period, AASWSS is well-positioned to build its reserves at a rate that will be sufficient to fund the eventual replacement of its assets, in particular, its transmission mains.

Lifecycle Funding

The AASWSS utilizes a sinking fund method to determine the provision of revenue required for asset replacement. This method first estimates the future value of the asset at the time of replacement. This is done by inflating the original cost of the asset at an assumed annual inflation rate. Annual contributions, when invested, will grow with interest to equal the future replacement cost.

The 2025 Draft Budget includes annual lifecycle funding of \$495,000 for the eventual replacement of assets. Based on estimated replacement values, as presented in the table below, AASWSS is currently able to fund 77% of its future lifecycle costs.

Asset Category	Replacement Value	Annual Funding Requirement
Watermains	\$41,400,000	\$479,000
Machinery & Equipment	4,218,000	117,000
SCADA	500,000	44,000
Total	\$45,900,000	\$640,000

As reflected in the capital budget, the AASWSS does not require significant capital costs in the immediate future and therefore has time to build its financial capacity and close its infrastructure funding gap. AASWSS's largest financial hurdle is the eventual replacement of its transmission main. The transmission main, with proper maintenance, is expected to last 100 years. It was built in 1993 and therefore is not due for replacement for another 70 years.

ATTACHMENTS:

1. 2025 Draft Budget

Prepared by: A. Boylan, Director of Corporate Services/Treasurer

Approved by: N. Dias, Chief Administrative Officer

Aylmer Area Secondary Water Supply System | Capital Budget

	Current	Future Years				
	2025	2026	2027	2028	2029	2030
EMPS Capital Costs						
Generator and Transfer Switch Replacement (50%)	\$0	\$0	\$350,000	\$0	\$0	\$0
Pump Dismantle - Physical Component and Measurements	\$0	\$0	\$10,000	\$0	\$0	\$0
Chlorinator System Upgrade	\$0	\$20,000	\$0	\$50,000	\$0	\$0
PLC Replacement / Version Upgrades	\$0	\$40,000	\$0	\$0	\$0	\$0
Update Asset Condition Report	\$0	\$0	\$10,000	\$0	\$0	\$0
Major Electrical Maintenance (3 Year)	\$0	\$0	\$5,000	\$0	\$0	\$0
VFD Replacements	\$25,000	\$0	\$0	\$0	\$0	\$0
Painting - piping, pumps, valves	\$5,000	\$0	\$0	\$0	\$0	\$0
Chlorine Analyzer Upgrade	\$0	\$0	\$0	\$15,000	\$0	\$0
By-pass Header Gate Valve Actuator Replacement	\$0	\$0	\$0	\$0	\$30,000	\$0
Transmission Main Capital Costs						
Spare PLC	\$0	\$0	\$0	\$0	\$0	\$3,000
UPS replacement program	\$0	\$0	\$3,000	\$0	\$0	\$0
Air Valves	\$0	\$0	\$20,000	\$0	\$0	\$0
Sample Station #81	\$10,000	\$0	\$0	\$0	\$0	\$0
SCADA Server Upgrades	\$0	\$36,000	\$0	\$0	\$0	\$0
Leak Detection	\$0	\$0	\$0	\$0	\$25,000	\$0
Chamber Condition Assessment and ID Review	\$25,000	\$0	\$0	\$0	\$0	\$0
Total Capital Costs	\$65,000	\$96,000	\$398,000	\$65,000	\$55,000	\$3,000
Reserves						
Opening Reserve Balance	\$3,620,342	\$4,050,342	\$4,502,542	\$4,702,542	\$5,275,942	\$5,929,242
Add: Contributions to Reserves	\$495,000	\$548,200	\$598,000	\$638,400	\$708,300	\$785,400
Less: Capital Costs	-\$65,000	-\$96,000	-\$398,000	-\$65,000	-\$55,000	-\$3,000
Closing Reserve Balance	\$4,050,342	\$4,502,542	\$4,702,542	\$5,275,942	\$5,929,242	\$6,711,642



Office of the Chief Administrative Officer
The Corporation of the Town of Aylmer
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October 18, 2024

Chair Barbour and Members
of the Aylmer Area Secondary Water Supply System Board

Re: Representation Aylmer Area Secondary Water Supply System Board

I am writing on behalf of the Town of Aylmer to address concerns regarding representation on the Aylmer Area Secondary Water System Board (AASWSS).

Before delving into these concerns, I want to first express our satisfaction with the administration of the Secondary Water System and the excellent service provided by the AASWSS staff. In particular, Mr. Gustavson has consistently demonstrated dedication by working closely with area municipalities coordinating regular maintenance, emergency repairs, and supporting the Town during emergencies. We are confident that AASWSS staff are committed to the best interests of both the waterline and the member municipalities.

However, the Town of Aylmer is concerned about the issue of representation on the Board and believes that the current composition does not adequately reflect the usership of the system.

As the Board is aware, the AASWSS was established by Transfer Order at around the same time as the Elgin Area Primary Water Supply System (EAPWSS). The transfer orders are not perfect. Over the years, the EAPWSS has taken steps to rectify errors in its transferring orders to better support its user. For instance, EAPWSS recently acted to clarify the transfer orders to better establish ownership at Elgin-Middlesex Pumping Station (EMPS).

While the EAPWSS transfer orders appear to accurately reflect representation, the AASWSS transfer order does not. The Town is requesting that the AASWSS Board take similar steps to rectify the

AASWSS transfer orders to establish a board member composition that better reflects usership.

As the Board Members are aware, the Primary Board membership is predominantly composed of representatives from the City of London and St. Thomas, holding five of the seven seats (70%). This approach upholds the principle that appointees should represent the usership upon the system.

Schedule 'A' to Transfer Order Aylmer Area W1/1998 does not include provisions to allow for representation to be addressed outside of municipal reorganization or a new municipality utilizing the Aylmer Secondary Line.

The Town of Aylmer funded approximately 96% of the initial construction of the Secondary Line and represents between 95-98% of the annual allocations upon the line. Aylmer's investment and ongoing funding of this system results in the Town holding a greater vested interest and potential financial burden in the Secondary Line.

We believe that Aylmer's interest in the secondary line, along with its financial responsibility for future capital replacements, necessitates fair representation. We are aware of the significant financial challenges facing the other secondary line in the area and believe that Aylmer has a direct interest in ensuring that our line is properly funded and avoiding large spikes in user rates when replacement is required.

Given this, Aylmer is requesting the AASWSS Board support the Town's request to amend the Transfer Order to ensure users are properly represented.

As outlined in section 1 (I) of the transfer order:

'Representatives of the Joint Water Board will act in the best interests of the system as a whole and of the System users.'

Aylmer believes that fair representation is simply not possible when 95% of the usership only carries 1/3 of the vote upon the Joint Board. We are respectfully requesting the AASWSS Board recognize this inequality and support Aylmer in our effort to secure two (2) more seats to be assigned upon the Board. The Town is recommending that the Board's composition include one member from the Township of Malahide, one member from the Municipality of Central Elgin, and three from the Town of Aylmer.

Yours Truly,

DocuSigned by:
Jack Couckuyt
78A3E6BAFA44482...

Mayor Jack Couckuyt
on behalf of Aylmer Council