Joint Board of Management Agenda
Aylmer Area Secondary Water Supply System & Port Burwell Area Secondary Water Supply System
March 19, 2025 – 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 December 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 December 4, 2024 be approved as presented.

(4) Reports

- AASWSS-25-01- Aylmer Area Secondary Water Supply System (AASWSS): 2024 Flow Consumption and Water Loss

Recommended Motion:

THAT Report No. AASWSS-25-01 entitled “Aylmer Area Secondary Water Supply System (AASWSS): 2024 Flow Consumption and Water Loss” be received.

- PBASWSS-25-01- Port Burwell Area Secondary Water Supply System (PBASWSS): 2024 Flow Consumption and Water Loss Report

Recommended Motion:

THAT Report No. PBASWSS-25-01 entitled “Port Burwell Area Secondary Water Supply System (PBASWSS): 2024 Flow Consumption and Water Loss Report” be received.

- AASWSS-25-02 - Aylmer Area Secondary Water Supply System: DWQMS Element 20: 2024 Drinking Water Quality Trends Report

Recommended Motion:

THAT Report No. AASWSS-25-02 entitled “Aylmer Area Secondary Water Supply System: DWQMS Element 20: 2024 Drinking Water Quality Trends Report” be received.

- PBASWSS-25-02 - Port Burwell Area Secondary Water Supply System: DWQMS Element 20: 2024 Drinking Water Quality Trends Report

Recommended Motion:

THAT Report No. PBASWSS-25-02 entitled “Port Burwell Area Secondary Water Supply System: DWQMS Element 20: 2024 Drinking Water Quality Trends Report” be received.

- AASWSS-25-03 - 2024 Fourth Quarter Operations Report

Recommended Motion:

THAT Report No. AASWSS-25-03 entitled “2024 Fourth Quarter Operations Report” be received.

- PBASWSS-25-03- 2024 Fourth Quarter Operations Report

Recommended Motion:

THAT Report No. PBASWSS-25-03 entitled “2024 Fourth Quarter Operations Report” be received.

- AASWSS-25-04 - Aylmer Area Secondary Water Supply System (AASWSS): 2024 Section 11 Annual Report and Schedule 22 Summary Report

Recommended Motion:

THAT Report No. AASWSS-25-04 entitled “Aylmer Area Secondary Water Supply System (AASWSS): 2024 Section 11 Annual Report and Schedule 22 Summary Report” be received.

- PBASWSS-25-04 - Port Burwell Area Secondary Water Supply System (PBASWSS): 2024 Section 11 Annual Report and Schedule 22 Summary Report

Recommended Motion:

THAT Report No. PBASWSS-25-04 entitled “Port Burwell Area Secondary Water Supply System (PBASWSS): 2024 Section 11 Annual Report and Schedule 22 Summary Report” be received.

(5) Correspondence

1. Township of Malahide – Letter of Support for Joint Canada Housing Infrastructure Fund
2. Municipality of Bayham – Letter of Support for Joint Canada Housing Infrastructure Fund
3. Municipality of Central Elgin – Letter of Support for Joint Canada Housing Infrastructure Fund
4. Southwestern Public Health – Letter of Support for Joint Canada Housing Infrastructure Fund
5. Ministry of the Environment, Conservation and Parks – Letter of Support for Joint Canada Housing Infrastructure Fund
6. Karen Vecchio, M.P.P. Elgin-Middlesex-London – Letter of Support for Joint Canada Housing Infrastructure Fund
7. Fire Chiefs - Letter of Support for Joint Canada Housing Infrastructure Fund
8. Elgin Area Primary Waters Supply System – Notice of Study Commencement
    a. Township of Malahide - Letter requesting inclusion in future correspondence related to the MCEA

(6) New Business

- PBASWSS Draft Letter of Support for Joint Canada Housing Infrastructure Fund

Recommended Motion:

THAT the PBASWSS supports Malahide's participation in a joint application to the Canada Housing Infrastructure Fund (CHIF) for the rehabilitation of the Port Burwell Area Secondary Water Supply System's transmission main on Nova Scotia Line;

AND FURTHER THAT the Board be authorized to sign a Letter of Support for the CHIF application.

(7) Adjournment

Recommended Motion:

THAT the Aylmer Area Secondary Water Supply System Joint Board of Management adjourn at _____ p.m. to meet again on June 18, 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 June 18, 2025 at 1:00 p.m.

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:

Board Members:
Municipality of Central Elgin – Norman Watson
Town of Aylmer – Pete Barbour
Township of Malahide – Chester Glinski
Municipality of Bayham - Tim Emerson

Staff:

Township of Malahide –Sam Gustavson, Jason Godby, Adam Boylan, and Allison Adams
Municipality of Central Elgin – Alex Piggott & Geoff Brooks
Town of Aylmer – Andy Grozelle

(1) Call to Order

Pete Barbour is appointed Chair and the meeting is called to order at 1:05p.m.

(2) Disclosure of Pecuniary Interest

None

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

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 September 4, 2024 be approved as presented**.**

Carried

Moved by: Chester Glinski
Seconded by: Tim Emerson

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.

Carried

(4) Reports

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

Moved by: Norman Watson
Seconded by: Chester Glinski

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

Carried

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

Moved by: Tim Emerson
Seconded by: Norman Watson

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

Carried

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

Moved by: Norman Watson
Seconded by: Chester Glinski

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

Carried

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

Moved by: Tim Watson
Seconded by: Chester Glinski

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

Carried

- PBASWSS-24-16 - Draft 2025 Budget Report

Moved by: Norman Watson
Seconded by: Tim Emerson

THAT Report No. PBASWSS-24-16, being the Draft 2025 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.

Carried

- AASWSS-24-13 - Draft 2025 Draft Budget

Moved by: Chester Glinski
Seconded by: Norman Watson

THAT Report No. AASWSS-24-13, 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.

Carried

(5) Correspondence

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

Moved by: Norman Watson
Seconded by: Chester Glinski

THAT correspondence from Town of Aylmer regarding Representation Aylmer Area Secondary Water Supply System Board be received;

AND THAT the board directs staff to review the matter and prepare a report to be presented back to the board for further consideration.

Carried

(6) New Business

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

(7) Adjournment

Moved by: Chester Glinski
Seconded by: Norman Watson

THAT the Aylmer Area Secondary Water Supply System Joint Board of Management adjourn at 1:41p.m. to meet again on March 19, 2025 at 1:00 p.m.

Carried

Moved by: Tim Emerson
Seconded by: Norman Watson

THAT the Port Burwell Secondary Water Supply System Joint Board of Management adjourn at 1:41 p.m. to meet again on March 19, 2025 at 1:00 p.m.

Carried

_____
Pete Barbour - Board Chair

_____
Clerk – Allison Adams

REPORT NO. **AASWSS-25-01**

TO: Aylmer Area Secondary Water Supply System- Joint Board of Management
DEPARTMENT: Public Works
MEETING DATE: March 19, 2025
SUBJECT: **AYLMER AREA SECONDARY WATER SUPPLY SYSTEM (AASWSS): 2024 FLOW CONSUMPTION AND WATER LOSS**

RECOMMENDATION:

THAT Report No. AASWSS-25-01 entitled "Aylmer Area Secondary Water Supply System (AASWSS): 2024 Flow Consumption and Water Loss" be received.

PURPOSE & BACKGROUND:

The AASWSS purchases water on an ongoing basis through the meter, which is located at the Elgin Middlesex Pumping Station (EMPS). All water conveyed through this meter is considered to be purchased water by the Secondary Board. From there, each municipality purchases water from the Secondary Board using various billing methods to supply their residents with potable water. The difference between the water purchased by the Board and that which was sold by the Secondary Board is known as non-revenue water.

As a distribution system that purchases potable water from the Primary Board, it is extremely important to very closely monitor and record flows on a continual basis. Not only is water loss management critical to obtaining a sustainable water system, but it also serves to protect the health of the residents by removing potential points of entry of a contaminant into the system.

COMMENTS & ANALYSIS:

The purpose of this report is to outline the flow consumption purchased and sold over the past year on the (450mm) waterline for the Board's review.

In 2024, the Aylmer Area Secondary Water Supply System purchased a total of 1,847,435 m^3 of water for 0.9987 cents/m^3. For the 2024 year, the secondary line used 63,774 m^3 more than the previous year. The Board was billed $1,845,033.33 in 2024 ($123,987.83 more than in 2023) by the Elgin Area Primary Water Supply System: Joint Board.

The 2024 summary of billable flows by each municipality is as follows:

- The Town of Aylmer purchased 1,717,542 m^3 (flow through billing chamber 16). This is an increase of 10,257 m^3 comparing 2024 to 2023 flows. The total volume invoiced to Aylmer represents all flow which entered the Town of Aylmer's Distribution System at chamber 16. No firefighting related flows are required to be submitted by the Town of Aylmer as this is included in their total volume purchased for all water which enters their water system as measured at the boundary meter at chamber 16.

- Malahide Township purchased 10,314 m^3 of water. (The sum of all customer meter readings as provided by the Township of Malahide. The total flow submitted also includes 155 m^3 used by Malahide for Firefighting purposes). This is a decrease of 687 m^3 comparing 2024 to 2023 flows.

- Central Elgin purchased 30,509 m^3 of water. (The sum of all customers' meter readings as provided by the Municipality of Central Elgin. The total flow submitted also includes 52 m^3 used by Central Elgin for Firefighting purposes). This is a decrease of 582 m^3 comparing 2024 to 2023 flows.

Standard Billing Practices:

For the Town of Aylmer, chamber 16 is used as the billing meter. Malahide and Central Elgin are billed using a different billing system. The sum of the residential meter readings, including fire hydrant usage and the sale of bulk water, are submitted to the Administering Municipality for billing purposes. For various reasons, both chambers 13 and 16 are not used as billing meters to bill back Malahide Township and Central Elgin.

2024 Water Loss Summary:

The 2024 overall summary is as follows:

- Total used from three Municipalities: 1,758,365m^3
- Total purchased from Primary Board: 1,847,435 m^3
- Total non-revenue lost water: 89,070 m^3

Water loss in the distribution system can be grouped into two main categories; 1) real loss which can be attributed to line leakage and service leakage, and 2) apparent loss which is unauthorized consumption, inaccuracies of billing meters, data used for billing and theft of water. Non-revenue water is the sum of both real loss and apparent loss for which the Secondary Board does not receive compensation.

Based on the flows submitted by Malahide, Central Elgin and the sum of chamber 16 equates to 1,758,365m^3 of water. The Primary Board billed the Secondary Board for 1,847,435 m^3 of water. Therefore, the difference is a non-revenue loss of 89,070 m^3 or 4.82% in 2024. Water loss in 2024 was 34,284 m^3. When comparing flows with 2023, there has been an increase to total water loss in 2024.

Acceptable Water Loss:

According to AWWA, if a water system has a water loss of 10% or below, it is considered to be acceptable. AWWA does mention that even though the loss is acceptable, continuous monitoring is necessary to ensure that the system does not go above 10%.

Water loss Breakdown:

Water loss is divided to each municipality based on the percentage of water purchased by each Municipality. As an example: If Malahide Township uses 1% of the annual volume of water that is conveyed through the system via the EMPS, then Malahide Township is responsible to pay for 1% of the lost water that occurs on the secondary waterline.

For 2024, each municipality's share of the water loss is as follows:

Formula: % of water purchased from the AASWSS X Total Non-Revenue Water = m3

- The Town of Aylmer: 97.68 X 89,070 m^3 = 87,004 m^3
- Malahide Township: 0.59% X 89,070 m^3 = 525 m^3
- Central Elgin: 1.73% X 89,070 m^3 = 1,541 m^3

SUMMARY:

Over the last year, the AASWSS was able to meet the AWWA standard for water loss at less than 10%. Overall the distribution system performed well in 2024.

Water loss management continues to be an important aspect of the operations and maintenance of the AASWSS budget. Even though the systems within the AWWA standard of less than 10% loss, continual monitoring and leak detection programs are essential tools that the Staff implement to ensure water loss is kept to a minimum.

ATTACHMENTS:

N/A

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

Reviewed by: J. Godby, Director of Public Works

Approved by: N. Dias, Chief Administrative Officer

REPORT NO. **PBASWSS-25-01**

TO: Port Burwell Area Secondary Water Supply System- Joint Board of Management
DEPARTMENT: Public Works
MEETING DATE: March 19, 2025
SUBJECT: **PORT BURWELL AREA SECONDARY WATER SUPPLY SYSTEM (PBASWSS): 2024 FLOW CONSUMPTION AND WATER LOSS REPORT**

RECOMMENDATION:

THAT Report No. PBASWSS-25-01 entitled “Port Burwell Area Secondary Water Supply System (PBASWSS): 2024 Flow Consumption and Water Loss Report” be received.

PURPOSE & BACKGROUND:

The PBASWSS purchases water on an ongoing basis through the main metering chamber known as MV1 which is located close to the Elgin Area Water Treatment Plant. All water conveyed through this chamber is considered to be purchased water by the Secondary Board. From there, each municipality purchases water from the Secondary Board using various billing methods to supply their residents with potable water. The difference between the water purchased by the Board and that which was sold by the Secondary Board is known as non-revenue water.

As a distribution system that purchases potable water from the Primary Board, it is extremely important to very closely monitor and record flows on a continual basis. Not only is water loss management critical to obtaining a sustainable water system, but it also serves to protect the health of the residents by removing potential points of entry of a contaminant into the system.

COMMENTS & ANALYSIS:

The purpose of this report is to outline the flow of consumptions purchased and sold over the past year on the (300 mm) waterline for the Board’s review.

In 2024, the Port Burwell Area Secondary Water Supply System purchased a total of 275,959 m^3 of water for 0.9987 cents/m^3. For the 2024 year, the secondary line used 11,135 m^3 more than the previous year. The PBASWSS was billed $275,600.35 in 2024

($20,071.67 more than 2023) by the Elgin Area Primary Water Supply System: Joint Board.

The total volume purchased is determined to be the annual sum of water conveyed through the billing meter located at the MV1 chamber. This meter is owned and maintained by the Primary Board. Each municipality was billed by the Administering Authority for their usage.

The 2024 summary of billable flows by each municipality is as follows:

- Central Elgin submitted flows of 9,436 m^3 for 2024. This is a decrease of 301 m^3 comparing 2024 to 2023 flows. No fire flows were reported by Central Elgin for Firefighting purposes.

- Malahide Township submitted flows of 92,894 m^3 for 2024. This is an increase of 6,344 m^3 comparing 2024 to 2023 flows. No fire flows were reported by Malahide for Firefighting purposes.

- Bayham submitted flows of 157,348 m^3 for 2023. This is an increase of 5,593 m^3 comparing 2024 to 2023 flows. No firefighting related flows are required to be submitted by Bayham Township as this is included in their total volume purchased for all water which enters their water system as measured at the boundary meter at V001 (water entering Vienna) and E038 (water entering Port Burwell).

<u>Standard Billing Practices:</u>

Flow breakdown for each municipality is determined by the following:

- Central Elgin flows are determined to be the total sum of all of their water accounts. These flows are submitted on an annual basis.

- Malahide flows are determined to be the sum of all of their water accounts + the total annual volume of water conveyed through chambers P.B.01, P.B.02 and Copenhagen booster station. These flows are submitted on an annual basis.

- Bayham flows are historically determined to be the sum of all water conveyed through billing chambers V001 and EO38 + the sum of their water customers between EO34, V001 and EO38. These flows are submitted on an annual basis.

For various reasons, the boundary meter chambers at EO14 and EO34 are not generally used for billing purposes. Those chambers are only used when there have been metering issues found at tertiary chambers.

2024 Water Loss Summary:

The 2024 overall summary is as follows:

- Total used from the three municipalities: 259,678 Cubic Meters.
- Total purchased from the Primary Board: 275,959 Cubic Meters.
- Total non-revenue lost water: 16,281 Cubic Meters.

Water loss in the distribution system can be grouped into two main categories; 1) real loss which can be attributed to line leakage and service leakage, and 2) apparent Loss which is unauthorized consumption, inaccuracies of billing meters, data used for billing and theft of water. Non-revenue water is the sum of both real loss and apparent loss for which the Secondary Board does not receive compensation.

Based on the flows submitted by Malahide, Central Elgin and the sum of Bayham flows equates to 259,678m^3 of water. The Primary Board billed the Secondary Board for 275,959m^3 of water. Therefore, the difference is a non-revenue loss of 16,281 m^3 or 5.9% in 2023. Water loss in 2024 was 16,755 m^3. When comparing flows with 2024, there has been a moderate decrease in total water loss in 2024.

Acceptable Water Loss:

According to AWWA, if a water system has a water loss of 10% or below, it is considered to be acceptable. AWWA does mention that even though the loss is acceptable, continuous monitoring is necessary to ensure that the system does not go above 10%.

Water loss Breakdown:

Water loss is divided to each municipality based on the percentage of water purchased by each Municipality. As an example, if Malahide Township uses 1% of the annual volume of water that is conveyed through the secondary transmission, then Malahide Township is responsible to pay for 1% of the lost water that occurs on the secondary waterline.

For 2024, each municipality's share of the water loss is as follows:

Formula: % of water purchased from the PBASWSS X Total Non-Revenue Water = m^3

- Municipality of Bayham: 60.6% X 16,281m^3 = 9,866 m^3
- Malahide Township: 35.77% X 16,755m^3 = 5,824 m^3
- Central Elgin: 3.63% X 16,755m^3 = 591 m^3.

SUMMARY:

Over the last year, the PBASWSS was able to meet the AWWA standards for water loss at less than 10%. Overall the distribution system performed well in 2024.

Water loss management is an ongoing practice that all municipalities that own water infrastructure should participate in on a continual basis. The Staff of the Administering Municipality, along with OCWA, regularly monitors SCADA flows and trends throughout the system, implements leak detection programs, and investigates emerging technologies, in an effort to minimize non-revenue loss on the distribution system.

ATTACHMENTS:

N/A

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

Reviewed by: J. Godby, Director of Public Works

Approved by: N. Dias, Chief Administrative Officer

REPORT NO. AASWSS-25-02

TO: Aylmer Area Secondary Water Supply System- Joint Board of Management
DEPARTMENT: Public Works
MEETING DATE: March 19, 2025
SUBJECT: **AASWSS: DWQMS ELEMENT 20: 2024 DRINKING WATER QUALITY TRENDS REPORT**

RECOMMENDATION:

THAT Report No. AASWSS-25-02 entitled “Aylmer Area Secondary Water Supply System: DWQMS Element 20: 2024 Drinking Water Quality Trends Report” be received.

PURPOSE & BACKGROUND:

On an annual basis, the Operating Authority, being the Ontario Clean Water Agency (OCWA), is required to submit to the owner, a drinking water quality trends report for the Aylmer Area Secondary Water Supply System (AASWSS). This report is subsequently reviewed with the owner which is a requirement of Element 20: Management Review of the DWQMS Operational Plan.

COMMENTS & ANALYSIS:

On February 3rd, 2025, the Ontario Clean Water Agency (OCWA) provided the drinking water quality trends report to the Staff of the Township of Malahide.

The attached report, as provided by OCWA, is a detailed summary of drinking water quality parameters that are monitored by the operators, which include chlorine residuals, microbiological testing, and trihalomethanes and haloacetic acids (HAAs). The attached report charts the minimum and maximum for these parameters over the last 10 years against the operational guidelines and adverse water quality limits set by O. Reg. 170/03.

On May 29th, 2024, Township Staff met with OCWA to conduct the annual Management Review meeting for the Transmission main. Additionally, the EMPS Management review was conducted separately by the OCWA hub responsible for the EMPS facility on December 17th, 2024. The meeting minutes from both of the Management Reviews that were conducted are also attached to this report for the Board's information. The purpose of the review is to evaluate the continuing suitability, adequacy and effectiveness of OCWA's Quality & Environmental Management System (QEMS).

SUMMARY:

The information provided to the Staff by OCWA is used to make certain that the Staff and Owners are aware of drinking water quality trends of the AASWSS. The report also helps the Owners make decisions in an effort to provide a continual safe supply of potable water for the residents connected to the AASWSS.

ATTACHMENTS:

1. OCWA Drinking Water Quality Trends Report 2024
2. Elgin Middlesex Pumping Station Management Review Minutes
3. Aylmer Secondary Transmission Main Management Review Minutes

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

Reviewed by: J. Godby, Director of Public Works

Approved by: N. Dias, Chief Administrative Officer

Overview

As part of the DWQMS Element 20: Management Review it is required to review the drinking water quality trends for the facility. This report details the drinking water quality parameters that are monitored for the Aylmer Area Secondary Water Supply System (AASWSS). These parameters are:

- Distribution Free Chlorine Residuals
- Distribution Water E.coli, Total Coliform and Hetertrophic Plate Count
- Distribution Water Trihalomethanes
- Distribution Water Haloacetic Acids

Free Chlorine

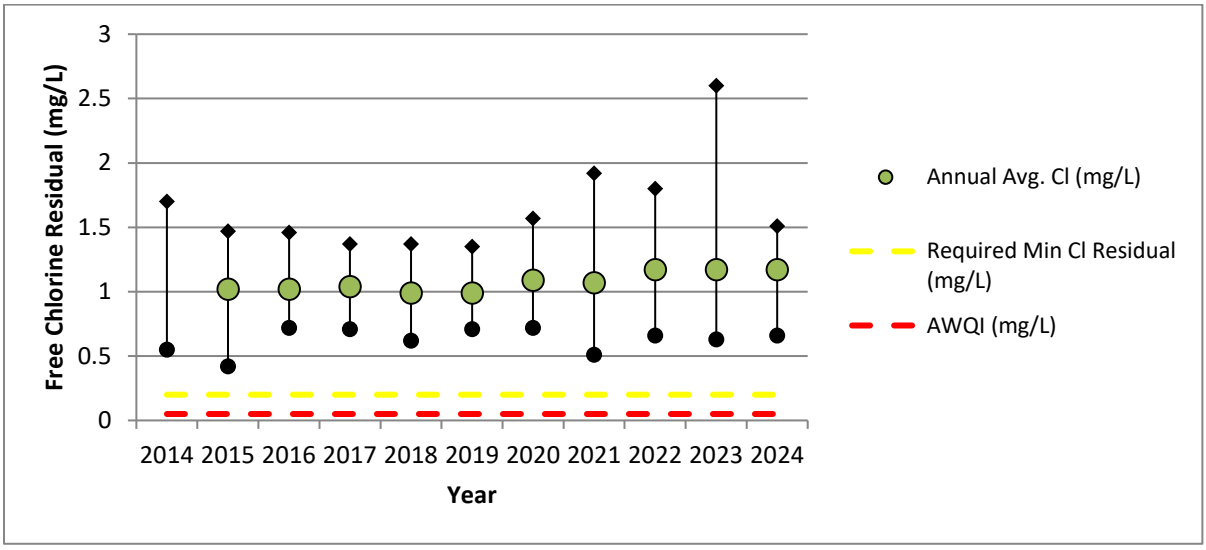
Each week seven residuals are taken on the system according to the regulations. The annual minimum and maximum chlorine residuals for the last ten years were:

Year	Minimum Free Chlorine Residual (mg/L)	Maximum Free Chlorine Residual (mg/L)
2014	0.55	1.70
2015	0.42	1.47
2016	0.72	1.46
2017	0.71	1.37
2018	0.62	1.37
2019	0.71	1.35
2020	0.72	1.57
2021	0.51	1.92
2022	0.66	1.80
2023	0.63	2.60
2024	**0.66**	**1.51**
Operational Guideline	**0.20**	**4.00**
AWQI Limit	**0.05**	**n/a**

The chart below depicts the minimum and maximum free chlorine residuals taken as grab samples in the Aylmer Area Secondary Water Supply System, comparing the last ten years (2014-2024) against the operational guideline and adverse water quality limits set by O. Reg. 170/03. The required minimum is 0.20mg/L, which is a guideline from the MECP for the drinking water system to achieve in all parts of the distribution system. If a residual is found below this requirement, action is required to increase this residual. The usual means of increasing the residual is by flushing in the area. An Adverse Drinking Water Quality Indicator (AWQI) occurs when the free chlorine residual taken as a grab sample is below 0.05mg/L, this residual is to be reported the MECP Spills Action Centre (SAC) and the local Medical Officer of Health. Immediate action is required to bring the residual above 0.2mg/L in the affected area and take any further action as directed by the Medical Officer of Health.

In 2024, the average free chlorine residual taken as a grab sample in the distribution system was 1.17mg/L. This is the same as the 2023 average for free chlorine residual. Refer to Chart 1.

Chart 1. Minimum and maximum free chlorine residuals throughout distribution system compared against the required minimum and the AWQI limit. Note: average chlorine residual data collection began in 2015.



Microbiological Samples

The distribution water in the Aylmer Area Secondary Water Supply System is sampled weekly for E.coli, Total Coliform and Hetertrophic Plate Count (HPC), following O.Reg.170/03. Each week three samples are tested for E. coli and Total Coliform and one sample is tested for HPC. The Ontario Drinking Water Quality Standard for E.coli and Total Coliform is not detectable for both. Hetertrophic Plate Count is used as an operational tool to determine if there is an issue.

There were two samples that had detectable Total coliform in 2021. On June 23rd, 2021 SGS Laboratories reported an AWQI of 4 cfu/100mL of Total coliform from Sample Station 86. On August 11th, 2021 SGS Laboratories reported a second AWQI of 1 cfu/100mL of Total coliform from Sample Station 80. Re-samples were collected upstream, downstream and at the source as required. All re-sample results were satisfactory.

In 2024, the range of HPC was <10 to <60cfu/mL. The table below shows the sample results compared for the last ten years (2013-2023).

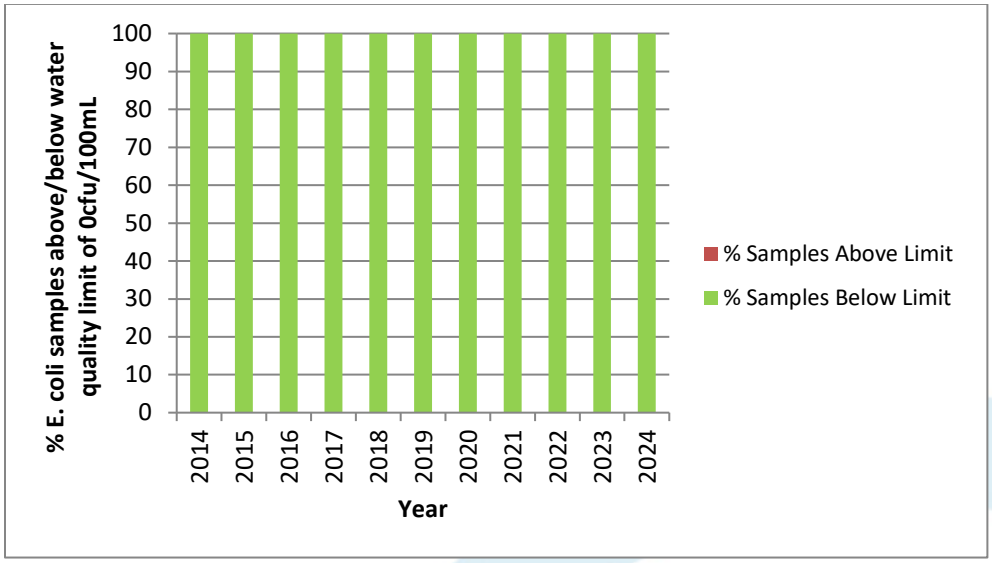
Year	# TC & EC Samples	E. coli Range (cfu/100mL)	Total Coliform Range (cfu/100mL)	# HPC Samples	Heterotrophic Plate Count Range (cfu/mL)
2013	156	0 – 0	0 – 0	52	<10 - 10
2014	156	0 – 0	0 – 0	52	<10 - >2000
2015	162	0 – 0	0 – 0	58	0 - 10
2016	156	0 – 0	0 – 0	52	<10 – 20
2017	156	0 – 0	0 – 0	52	<10 – 110
2018	156	0 – 0	0 – 0	52	<10 – 30
2019	161	0 – 0	0 – 0	55	<10 – 20
2020	156	0 – 0	0 – 0	57	0 – 80

2021	164	0 – 0	0 – 4*	54	0 – 20
2022	157	0 – 0	0 – 0	52	<10 - <10
2023	160	0 – 0	0 – 0	56	<10 - <60
2024	159	0 – 0	0 – 0	53	<10 - <10

*There were two AWQIs report in 2021. The first was reported on June 23rd, 2021 and the second on August 11th, 2021.

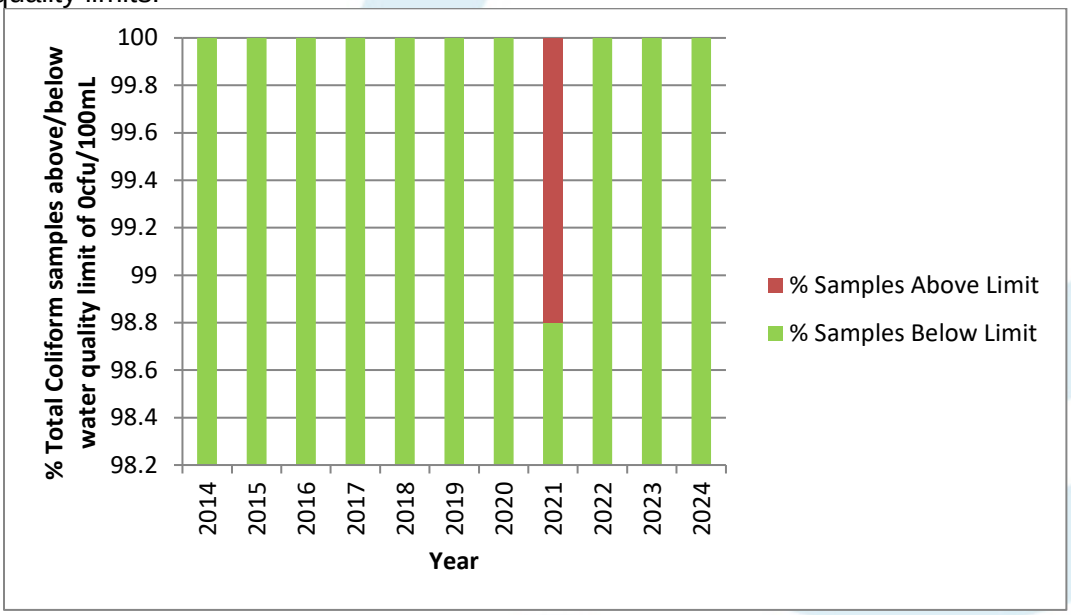
There have been no issues with E. coli in the last ten years, refer to Chart 2.

Chart 2. E. coli results from 2014 to 2024 as a percentage of samples below drinking water quality Limits.



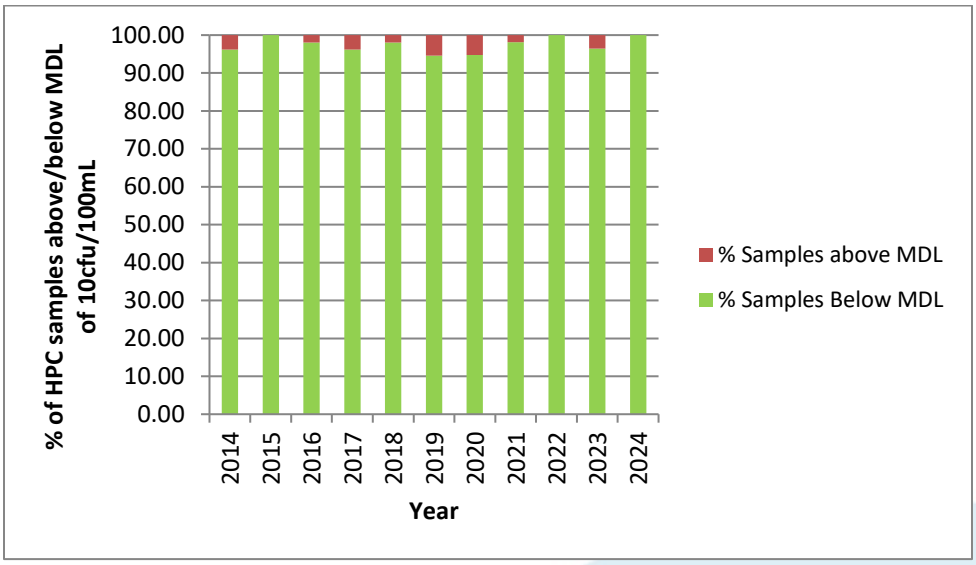
There were two issues with total coliform in 2021 but no other issues in the last ten years, refer to Chart 3.

Chart 3. Total coliform results from 2014 to 2024 as a percentage of samples below drinking water quality limits.



HPC results fluctuate, however, the majority of results show no issues (less than Method Detection Limit (MDL)), refer to chart 4 below. There is only a concern with high HPC results if they stay consistently high as this could indicate biofilm formation in the watermain.

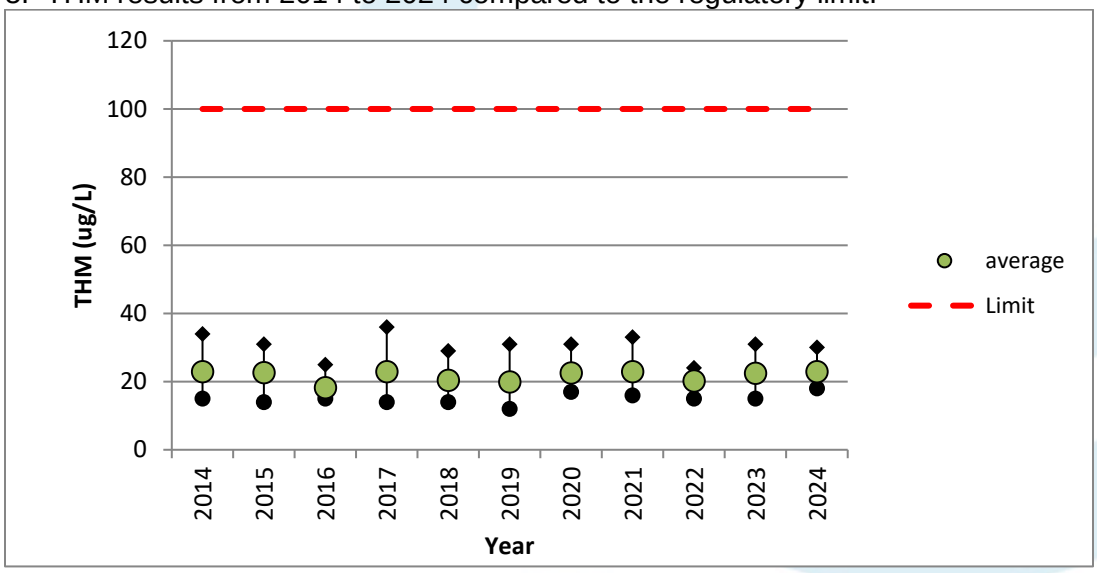
Chart 4. HPC results from 2014 to 2024 depicted as % below method detection limit (MDL) and % above MDL.



Trihalomethanes

The distribution system is sampled for Total Trihalomethanes (THMs) on a quarterly basis, as per O. Reg. 170/03. The Ontario Drinking Water Quality Standard for THM is 100µg/L. The range of THM results for the AASWSS in 2024 was 18 to 30µg/L. Refer to the chart 5 for the THM results for the last ten years; the 2024 running average of 23.00µg/L has increased 2.2% compared to 2023 (22.50µg/L).

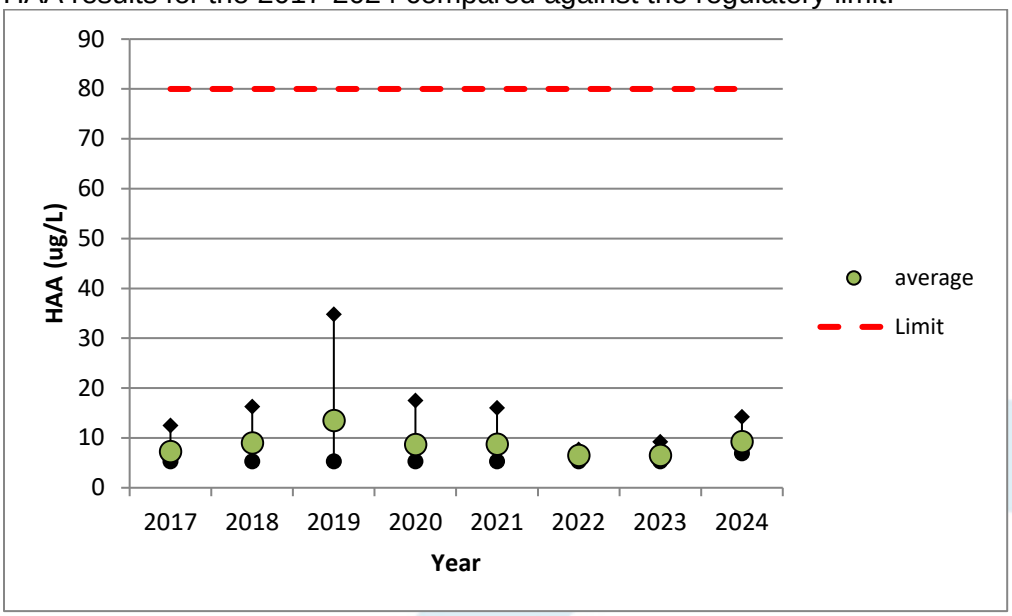
Chart 5. THM results from 2014 to 2024 compared to the regulatory limit.



Haloacetic Acids

The distribution system is sampled for Total Haloacetic Acids (HAAs) on a quarterly basis, as per O. Reg. 170/03. The Ontario Drinking Water Quality Standard for HAAs is 80µg/L. The range of HAA results for the Aylmer Area Secondary Water Supply System in 2024 was 5.3 to 9.2µg/L. Refer to chart 6 for the HAA results for the last six years (monitoring requirements came into effect in 2017). The running average of 9.3µg/L for 2024 has increased 42.5% since 2023 (6.5µg/L).

Chart 6. HAA results for the 2017-2024 compared against the regulatory limit.



Discussion

Overall the Aylmer Area Secondary Water Supply System provided quality water meeting all regulatory requirements.

Revision History

Date	Revision #	Reason for Revision	Revision By
2025-01-20	*0*	*Create Report*	*Matthew Belding*

QEMS Ontario Clean Water Agency	**Management Review Minutes** Elgin Middlesex Pumping Station (EMPS)	Issue Date: 2024-12-17 Pages: 1 of 12
Reviewed by: *QEMS Representative*	Approved by: *Operations Management*	

Drinking Water System Name:	**Owner and Location**:
Elgin Middlesex Pumping Station Portion of: *Aylmer Area Secondary Water Supply System* *St. Thomas Area Secondary Water Supply System* *City of London Distribution System*	*Aylmer Area Secondary Joint Board of Management* *St. Thomas Area Secondary Joint Board of Management* *City of London*

Review Period: *December 20, 2023 to December 1, 2024*

Meeting Information/Introduction

Date/Time:	December 17, 2024	**Location:**	St. Thomas City Hall

Attendees: Top Management: Greg Henderson (Senior Operations Manager), Jackie Muller (Regional Hub Manager), Courtney Miller (Regional Hub Business Manager)
QEMS Representative Alternative: Mark MacKenzie (Process and Compliance Technician)
Owner Representatives: Chris Andrews (St. Thomas), Karel Kamerman (St. Thomas), Shayne Reitsma (St. Thomas), Sam Gustavson (Aylmer)

Regrets: Cindy Sigurdson (Safety, Process and Compliance Manager-QMS Representative), Dan Huggins (City of London)

Distribution: Jackie Muller (Regional Hub Manager)

Minutes Taken By: Mark MacKenzie (Process and Compliance Technician)

Introduction: Purpose:
To evaluate the continuing suitability, adequacy and effectiveness of OCWA's QEMS.

Objectives:
The Management Review participants will review/discuss the standing agenda items and the data presented, identify deficiencies, make recommendations and/or initiate action plans to address identified deficiencies as appropriate.

The Management Review includes a review of the DWQMS operational plan, SAI/Intertek audit report(s), internal audit report(s) and other related operational documents/records as detailed in the meeting minutes.

This meeting covers the standing agenda items for the DWSs noted above. Details of the discussion, any deficiencies identified, decisions made and applicable action items related to each standing agenda item are described under the appropriate item number within the following table. Additional comments/discussion items are described under section 2.

The minutes from the previous Management Review on December 19, 2023 are also reviewed. Any follow up on actions and/or additional actions required are detailed under item i.

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
1 [a]	**Incidents of regulatory non-compliance:** There were no incidents of regulatory non-compliance identified in the MECP Inspections or reported to the MECP by OCWA. 2023-2024 MECP Inspection Ratings: 1. EMPS Aylmer - 100% 2. EMPS St. Thomas - 100% 3. EMPS London - 100% 4. EAPWSS - 100% Inspections for the 2024-2025 MECP Inspection year have not been completed in all systems. 2024-2025 MECP Inspection Ratings: 1. EMPS Aylmer - 100%	None	N/A	N/A
[b]	**Incidents of adverse drinking water tests:**			

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	There were no incidents of adverse water tests at the EMPS. There was (1) AWQI at the EAPWSS. AWQI #164418- result of online CT calculator alarming when filter 3 effluent turbidity spiked above 0.300 NTU. Online calculator does not consider the 95% Filter Effluent turbidity requirement. Developed SOP's for Daily CT Review and Manual CT Calculation, updated ESOP for Loss of CT During Treatment.	None	N/A	N/A
[c]	**Deviations from Critical Control Point limits and response actions:** Secondary Chlorination (Rechlorination) Free Chlorine Residual: Minimum 0.50 mg/L Maximum 2.50 mg/L Setpoints are requested within these defined limits at the owner's request. In 2024 (YTD) there were no exceedances of critical control limits (CCL).	Monthly Water Quality reports are included in the monthly O&M Report.	Greg Henderson	On-going monthly basis
[d]	**Effectiveness of the risk assessment process**: Aylmer, St. Thomas and City of London – 36-month review completed on August 21, 2024. Added Construction Activities to Loss of Water Supply, Loss of Power and Loss of Communications. Various risk scores were updated based on O&M and Capital	None	N/A	N/A

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	activities over the past 3 years. No new CCP's identified.			
[e]	**Internal and third-party Audit results:** Reviewed 2024 Internal Audit results from July 26, 2024 report. NC's - (0) OFI's - (3) **QEMS policy (El. 2):** Consider aligning the QEMS policy in OP-02 with the one available online OCWA website **Risk assessment outcomes (El. 7/8):** Consider adding "construction activities" at the EMPS and surrounding area – with possible hazard of loss of pressure and flows due to possibly undermined and/or struck infrastructure in the next risk assessment due Aug. 2024 **Preventive maintenance (El. 15):** Consideration should be given to scheduling third-party preventive maintenance activities for the chlorinators (this is a best practice implemented in other systems). **Third-party audit results:** External DWQMS Surveillance Audit results were received on September 16, 2024.	Policy updated to include link to OCWA website for most current policy. Construction activities were added to the risk assessment during the 36-month review. No changes to CCP's. Third party maintenance completed for the chlorinators.	Greg Henderson Greg Henderson Greg Henderson	Complete Complete Complete

QEMS Ontario Clean Water Agency	**Management Review Minutes** Elgin Middlesex Pumping Station (EMPS)	Issue Date: 2024-12-17 Pages: 5 of 12
Reviewed by: *QEMS Representative*	Approved by: *Operations Management*	

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	NC's - (0) OFI's - (3) **Element 2 QMS Policy:** There is an opportunity to ensure consistency between OP-02 and OCWA website by eliminating QMS Policy text within the former and just referencing the link. **Element 5 Document and Records Control:** There is an opportunity to ensure document control (e.g., revision history and header doesn't match for EF-ADMIN-2051 Weekly Sample Schedule [rev.17, 2016-08-31, V.10.0 in header]; EF-ADMIN-2052 Monthly Sample Schedule identifies an Initial upload into SharePoint Version 1.0 [2017-07-19] with V.6.0 in header). **Element 19 Internal Audit:** There is an opportunity to ensure that 26-Jul-2024 Internal Audit Report OFIs are added to the CAF Tracking Spreadsheet (provided 5-Sep-2024) in a timely manner.	Updated OP-02 , eliminated the text and provided a link to the most current Policy on OCWA website. Version history updated to indicate version history tracked on SharePoint. Updated CAF tracking with Internal Audit results.	Greg Henderson Cindy Sigurdson Greg Henderson	Complete Complete Complete
[f]	**Results of emergency response testing:**		N/A	N/A

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	Completed review and testing of CP-03 Critical Shortage of Staff in August 2024. Review and testing of CP-06 Security Breach was completed on December 11, 2024.	On-the-job training records completed. No OFI's identified.		
[g]	**Operational performance:** The operation of the facility meets all regulatory and contractual requirements. Water quality review is completed every 24 hours by duty operator at the EAPWSS. Monthly O&M Reports are sent to the client. 1. Chlorine residuals 2. Flows 3. Microbiological test results 4. THM's and HAA's (quarterly) 5. Work order Summary	None	N/A	N/A
[h]	**Raw water supply and drinking water quality trends:** 1. Annual Harmful Algal Bloom (HAB) sampling for microcystin (ELISA) at the Elgin Area WTP from June-October. 2. Monitor Lake Erie HAB Bulletin via NOAA. 3. Sharing water quality information with neighbouring systems (Chatham-Kent, West Elgin).	Consider additional raw water monitoring as part of future Capital works.	Greg Henderson	TBD

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	4. Storm sampling at Elgin Area WTP. 5. Geosmin detected in (6) raw water samples ranging from 4-7 ng/L. PAC dosages at Elgin Area WTP increased as required. Extended Geosmin sampling until 2 consecutive raw water tests of ND were received (final samples collected November 19th). 6. There were no abnormal drinking water quality trends observed at the EMPS.			
[i]	**Follow-up on action items from previous Management Reviews:** No outstanding action items.	None	N/A	N/A
[j]	**Status of management action items identified between reviews:** No new action items identified.	None	N/A	N/A
[k	**Changes that could affect the QEMS**: New Staff: Jackie Muller – Regional Hub Manager Cindy Sigurdson – Safety, Process & Compliance Manager New Role: Mark MacKenzie – Process & Compliance Technician	None	N/A	N/A
[l]	**Consumer feedback:** City of St. Thomas - (1) Taste and Odour complaint on March 27, 2024 regarding “salty” taste. No	None	N/A	N/A

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	known issues at Elgin Area WTP. Resident mentioned use of an in-home filtration system. Town of Aylmer - (1) Taste and Odour complaint on October 25, 2024 for "earthy/musty" smell. Increased PAC dosage at Elgin Area WTP. City of London – (2) Taste and Odour complaints. One September 23, 2024 for "earthy/musty" smell. Increased PAC dosage at Elgin Area WTP. One October 1, 2024 for "earthy/musty" smell. Increased PAC dosage at Elgin Area WTP.			
[m]	**Resources needed to maintain the QEMS:** The resources needed to maintain the QEMS are adequate with management and staff supporting the program, as well as the addition of the PCT position.	None	N/A	N/A
[n]	**Results of the infrastructure review:** 1. Monthly O&M Reports- Maintenance Summary 2. Capital Plans submitted to Aylmer (October 2, 2024), St. Thomas (October 7, 2024) and London (October 7, 2024). 3. Quarterly Meetings – Capital update status Aylmer • O&M manual updates were completed. • 3-year Major Electrical maintenance was completed in October.	None	N/A	N/A

QEMS Ontario Clean Water Agency	**Management Review Minutes** Elgin Middlesex Pumping Station (EMPS)	Issue Date: 2024-12-17 Pages: 9 of 12
Reviewed by: *QEMS Representative*	Approved by: *Operations Management*	

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	• Generator fuel system upgrades were completed. • Chlorination system third part service was completed • QMS External audits was completed. • Chlorine cylinders were completed. St. Thomas • O&M manual updates were completed. • 3-year Major Electrical maintenance was completed in October. • HLP discharge valve replacements were completed in November. • Generator fuel system upgrades were completed. • Painting of valves and piping in St. Thomas lower basement was not completed. • Replacement of steel suction header piping was not completed. • Replacement of suction butterfly isolation valves were not completed. • Chlorination system third part service was completed • QMS External audits was completed. • Chlorine cylinders were completed.			

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	London • O&M manual updates were completed. • 3-year Major Electrical maintenance was completed in October. • Surge building door replacement was completed in November. • HLP physical inspections to determine condition for future forecasting was completed. • Air compressor replacement was not completed. • Air compressor MCC replacement was not completed. Will look to have this included in the scope of the air compressor replacement project. • QMS External audits was completed.			
[o]	**Operational Plan currency, content and updates:** Operational Plans are updated in accordance with CAF findings.	None	N/A	N/A
[p]	**Staff suggestions:** None this past year.	None	N/A	N/A
[q]	**Review/consideration of any applicable Best Management Practices (BMPs):** Reviewed corporate compliance emails, MECP website and no BMP identified, considered or implemented at this time.	None	N/A	N/A

QEMS Ontario Clean Water Agency	**Management Review Minutes** Elgin Middlesex Pumping Station (EMPS)	Issue Date: 2024-12-17 Pages: 11 of 12
Reviewed by: *QEMS Representative*	Approved by: *Operations Management*	

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
2.	**Roundtable/Other:**	Will be initiating quarterly water working group meetings in 2025.	Courtney Miller	March 31, 2025
		Question from Aylmer, regarding the Yarmouth Yards industrial area and how much it will impact water demand from the EMPS. How will this affect future growth and expansion of the infrastructure?	N/A	N/A
		Reviewed monthly Operations reports for Q4. No further action required.	N/A	N/A
		New Aylmer water tower expected to be in service in Fall 2025. Will require discussion and co-ordination to integrate SCADA systems from various stakeholders.	Greg Henderson/Sam Gustavson	TBD
		SEBS pumping station will require SCADA integration from various stakeholders (timeline not known yet).	Greg/Sam	TBD
		OCWA to provide electronic copies of updated O&M manuals to Aylmer, St. Thomas and City of London.	Courtney Miller	TBD
		Addition of second Senior Operations Manager at the Elgin WTP as of January 6, 2024.	N/A	N/A

Details of next Management Review meeting:	
Next Meeting:	The next Management Review meeting will occur in 2025, date to be determined.

QEMS Ontario Clean Water Agency	**Management Review Minutes** Aylmer Area Secondary Supply System	Issue Date: 2024-05-29 Pages: 1 of 8
Reviewed by: *QEMS Representative*	Approved by: *Operations Management*	

Drinking Water System Name:	**Owner and Location**:
Aylmer Area Secondary Water Supply System	Aylmer Area Secondary Water Supply System Joint Board of Management, Administered by the Township of Malahide

Review Period: August 3rd, 2023 to May 28th, 2024

Meeting Information/Introduction

Date/Time: May 29th, 2024 13:00	Location: Township of Malahide - 87 John Street South, Aylmer

Attendees:
Top Management: Maegan Garber, SPC Manager, Vitaliy Talashok, Senior Operations Manager
Owner Representative: Sam Gustavson, WWOM, Jason Godby, Director of Public Works
QEMS Representative: Matt Belding, PCT Aylmer Cluster
Operator(s) for the DWS(s): Mike O'Rourke, Supervisor
Other: Meagan Lowden, PCT Paris Cluster

Regrets: Josh Manneke, Capital Manager

Distribution: Dale LeBritton, Sam Gustavson, Vitaliy Talashok, Josh Manneke & Maegan Garber

Minutes Taken By: Maegan Garber

Introduction:

The purpose and objectives of the Management Review was reviewed as follows:

Purpose:
To evaluate the continuing suitability, adequacy and effectiveness of OCWA's QEMS.

Objectives:
The Management Review participants will review/discuss the standing agenda items and the data presented, identify deficiencies, make recommendations and/or initiate action plans to address identified deficiencies as appropriate.

The Management Review includes a review of the DWQMS operational plan, SAI audit report(s), OCWA internal audit report(s) and other related operational documents/records as detailed in the meeting minutes. The information reviewed during the Management Review was provided/made available to attendees through email correspondence.

This meeting covers *all* standing agenda items for the DWSs noted above. Details of the discussion, any deficiencies identified, decisions made and applicable action items related to each standing agenda item are described under the appropriate item number within the following table.

The minutes from the previous Management Review held on *August 3rd, 2023* were also reviewed. Any follow up on actions and/or additional actions required are detailed under item i.

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
1 [a]	**Incidents of regulatory non-compliance:** An announced MECP Inspection was conducted on September 14th, 2023 by Angela Stroyberg. There were no incidents of regulatory non-compliance and no best management practices identified. The system received a 100% inspection rating.	N/A	N/A	N/A
[b]	**Incidents of adverse drinking water tests:** There were no AWQI to report in the review period.	N/A	N/A	N/A
[c]	**Deviations from Critical Control Point limits and response actions:** No CCPs identified for the system.	N/A	N/A	N/A
[d]	**Effectiveness of the risk assessment process**: As per OP-08A, the 36 month risk assessment was conducted on February 3rd, 2022 as required. The	N/A	N/A	N/A

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	annual review will be completed as part of the management review. Cyber security is required to be considered as part of the Annual Review and the Table updated to include it as a threat.			
[e]	**Internal and third-party Audit results:** An external systems audit was conducted by Sandra Tavares on September 6th, 2023. There were no non-conformances identified and 1 opportunities for improvement. An internal audit was conducted on May 24th, 2024 by Matt Belding. There were no non-conformances identified and 9 opportunities for improvement. The OFIs can be found on the Summary Table of Action Items.	See Summary Table of Action Items (#99-108).	See Summary Table of Action Items #99-108	See Summary Table of Action Items #99-108
[f]	**Results of emergency response testing:** On December 6th, 2023 the contingency plan CP-1, and CP-2 were reviewed and tested. The operators reviewed the response to a Raw sewage spill at Talbotville and a loss of consciousness at the filter building. There were no action items from the test.	N/A	N/A	N/A

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	The QEMS Representative maintains a tracking sheet to ensure the frequency of the CP reviews and tests is maintained.			
[g]	**Operational performance:** The AASWSS performed well over the past year. Maximo and PDM are review monthly by the PCT. Regular quarterly meetings occur with the client and Operations Reports are reviewed at this time.	N/A	N/A	N/A
[h]	**Raw water supply and drinking water quality trends:** The 2023 Drinking Water Quality Trends report was reviewed. There were no AWQIs reported in 2023. 2023 Annual report for the EAPWSS was reviewed. There was one notable event discussed. 1. Due to the reagent lines not being properly installed, OCWA can't determine that the analyzer functioned properly during the time frame, therefore continuous monitoring was not met.	N/A	N/A	N/A
[i]	**Follow-up on action items from previous Management Reviews:** The last Management Review was conducted on August 3rd, 2023. A review of the Summary Table of Action Items did outline action items that were	N/A	N/A	N/A

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	ongoing. These items have been reviewed and an update provided where required.			
[j]	**Status of management action items identified between reviews:** Action items identified between reviews were a result of internal and external audit results.	N/A	N/A	N/A
[k	**Changes that could affect the QEMS**: There have been several new staff hired during the review period. The QEMS Representative is actively initiating DWQMS training at staff meetings and providing corporately lead training opportunities to staff as well. Several changes have been made to the Operational Plan templates which have been communicated by Corporate Compliance. Once finalized, all changes will be made to the require procedures. OCWA's QEMS Policy was updated. Training will need to be provided to staff.	Training required on the new QEMS Policy.	QEMS Representative	2024-05-30
[l]	**Consumer feedback:**	N/A	N/A	N/A

QEMS Ontario Clean Water Agency	**Management Review Minutes** Aylmer Area Secondary Supply System	Issue Date: 2024-05-29 Pages: 6 of 8
Reviewed by: *QEMS Representative*	Approved by: *Operations Management*	

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	1. 02/16/2024 New homeowner complained of low pressure. Problem determined to be on the home owners side. 2. 03/15/2024 Terrace Lodge had reddish/brown water from hot water taps. Problem determined to be with water heater.			
[m]	**Resources needed to maintain the QEMS:** There are sufficient resources to maintain the QEMS.	N/A	N/A	N/A
[n]	**Results of the infrastructure review:** **<u>2023 Capital:</u>** - Chamber 13 UPS replacement (Completed) - Chamber 16 UPS replacement (Completed) - Hydrant and SS Maintenance (as required) - Leak Detection (water loss calculations have been completed, not completed as results were below 10%) - Chamber condition assessment and asset ID review (annual inspections completed by operations) **<u>2024 Capital:</u>** - Chamber 13 UPS replacement - Chamber 16 UPS replacement - Sample station maintenance - Hydrant replacement and repair	N/A	N/A	N/A

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	- Spare PLC - Summa Agreement			
[o]	**Operational Plan currency, content and updates:** The Operational Plan will be revised with the action items identified in the Summary Table of Action Items. A statement has been added to the Municipalities website to indicate how the Operational Plan can be accessed by the public. The Operational Plan was endorsed in January, 2023 to represent changes to OCWA's Top Management and the Owners Top Management. Re-endorsement will be required due to the QEMS Policy revisions and the changes to multiple procedures. MDWL Issue 4 was issued on May 7th, 2021. The DWWP Issue 3 was also issued on May 7th, 2021.			
[p]	**Staff suggestions:** None	N/A	N/A	N/A
[q]	**Review/consideration of any applicable Best Management Practices (BMPs):** There were no best practice recommendations in the last MECP inspection report nor has the MECP or OCWA issued any BMPs.	N/A	N/A	N/A

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	Should any BMPs be identified in the 2024 MECP Inspection report, they will be considered.			
2.	**Roundtable/Other:** No further discussion.	N/A	N/A	N/A

Details of next Management Review meeting:

Next Meeting:	The next Management Review meeting will occur in 2025, unless it is warranted to do so earlier.

REPORT NO. PBASWSS-25-02

TO: Port Burwell Area Secondary Water Supply System- Joint Board of Management
DEPARTMENT: Public Works
MEETING DATE: March 19, 2025
SUBJECT: **PBASWSS: DWQMS ELEMENT 20: 2024 DRINKING WATER QUALITY TRENDS REPORT**

RECOMMENDATION:

THAT Report No. PBASWSS-25-02 entitled “Port Burwell Area Secondary Water Supply System: DWQMS Element 20: 2024 Drinking Water Quality Trends Report” be received.

PURPOSE & BACKGROUND:

On an annual basis, the Operating Authority, being the Ontario Clean Water Agency (OCWA), is required to submit to the owner, a drinking water quality trends report for the Port Burwell Area Secondary Water Supply System (PBASWSS). This report is subsequently reviewed with the owner which is a requirement of Element 20: Management Review of the DWQMS Operational Plan.

COMMENTS & ANALYSIS:

On February 3, 2025, the Ontario Clean Water Agency provided the drinking water quality trends report to the Staff of the Township of Malahide.

The attached report, as provided by OCWA, is a detailed summary of drinking water quality parameters that are monitored by the operators, which include chlorine residuals, microbiological testing, and trihalomethanes. Haloacetic acids (HAAs) have also been included in sampling as a new requirement which began in 2017. The attached report charts the minimum and maximum for these parameters over the last 10 years against the operational guidelines and adverse water quality limits set by O. Reg. 170/03.

On May 29th, 2024, Township Staff met with OCWA to conduct the annual Management Review meeting for the Secondary System. The meeting minutes from the Management Review that was conducted are also attached to this report for the Board’s information. The purpose of the review is to evaluate the continuing suitability, adequacy and effectiveness of OCWA’s Quality & Environmental Management System (QEMS).

SUMMARY:

The information, provided to the Staff by OCWA, is used to make certain that the Staff and Owners are aware of drinking water quality trends of the PBASWSS. The report also helps the Owners make decisions in an effort to provide a continual safe supply of potable water for the residents connected to the PBASWSS.

ATTACHMENTS:

1. Drinking Water Quality Trends Report 2024,
2. Port Burwell Secondary Management Review Minutes

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

Reviewed by: J. Godby, Director of Public Works

Approved by: N. Dias, Chief Administrative Officer

QEMS Ontario Clean Water Agency	PBASWSS Drinking Water Quality Trends Report 2024	Issued: 2025-01-20 Rev.#: 0 Pages: 1 of 7
Reviewed by: SPC Manager	Approved by: Operations Management	

Overview

As part of the DWQMS Element 20: Management Review it is required to review the drinking water quality trends for the facility. This report details the drinking water quality parameters that are monitored for the Port Burwell Area Secondary Water Supply System (PBASWSS). These parameters are:

- Distribution Free Chlorine Residuals
- Distribution Water E.coli, Total Coliform and Hetertrophic Plate Count
- Distribution Water Trihalomethanes
- Distribution Water Haloacetic Acids

Free Chlorine

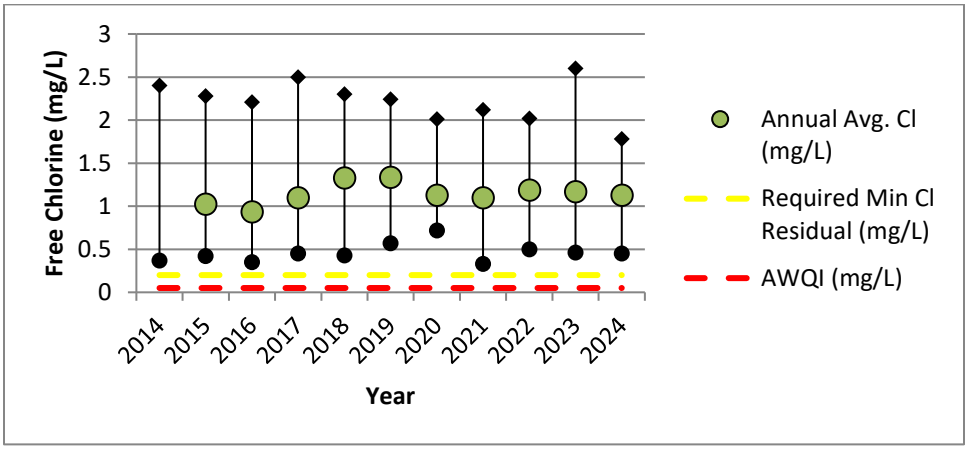
Each week seven residuals are taken on the system in accordance with O. Reg. 170/03. The annual minimum and maximum chlorine residuals for the last ten years were:

Year	Minimum Free Chlorine Residual (mg/L)	Maximum Free Chlorine Residual (mg/L)
2014	0.37	2.40
2015	0.42	2.28
2016	0.35	2.21
2017	0.45	2.50
2018	0.43	2.30
2019	0.57	2.24
2020	0.72	2.01
2021	0.33	2.12
2022	0.50	2.02
2023	0.46	2.60
2024	0.45	1.78
Operational Guideline	**0.20**	**4.00**
AWQI Limit	**0.05**	**n/a**

The chart below depicts the minimum and maximum free chlorine residuals taken as grab samples in the Port Burwell Area Secondary Water Supply System, comparing the last ten years (2014-2024) against the operational guideline and adverse water quality limits set by O. Reg. 170/03. The required minimum is 0.20mg/L, which is a guideline from the MECP for the drinking water system to achieve in all parts of the distribution system. If a residual is found below this requirement, action is required to increase this residual. The usual means of increasing the residual is by flushing in the area or by increasing the dosing set point at a re-chlorination facility. An Adverse Drinking Water Quality Indicator (AWQI) occurs when the free chlorine residual taken as a grab sample is below 0.05mg/L, this residual is to be reported the MECP Spills Action Centre (SAC) and the local Medical Officer of Health. Immediate action is required to bring the residual above 0.2mg/L in the affected area and take any further action as directed by the Medical Officer of Health.

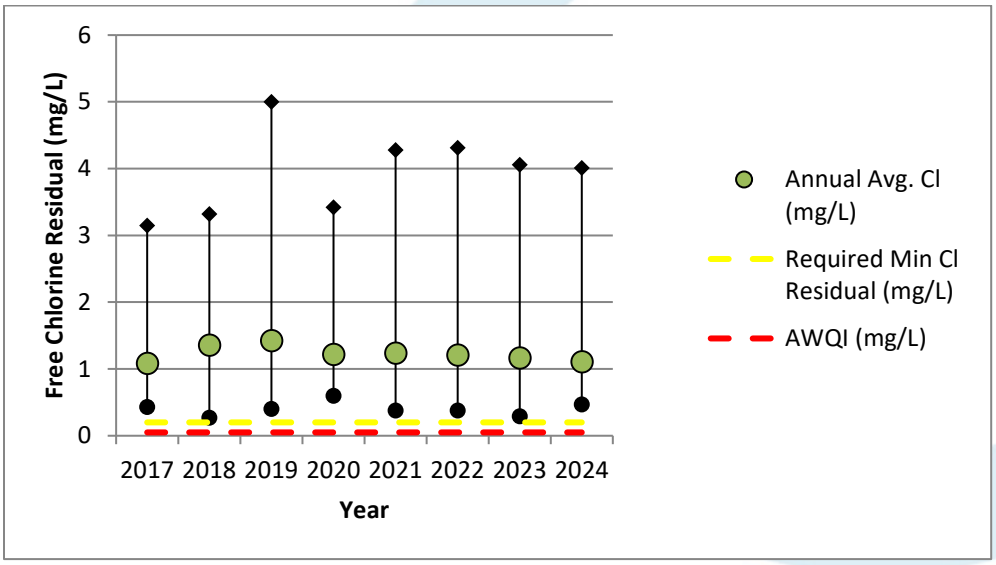
In 2024, the average free chlorine residual taken as a grab sample in the distribution system was 1.13mg/L. This is down 3.4% when comparing it to the 2023 average free chlorine residual (1.17mg/L). Refer to Chart 1.

Chart 1. Minimum and maximum free chlorine residuals throughout distribution system compared against the required minimum and the AWQI limit. Note: average residual indicated starting in 2015 data collection.



The free chlorine residual is continuously monitored at the Dexter Line Re-chlorination facility. The facility re-chlorinates only when the valve at the valve house is open to fill the Port Burwell Tower, which results in large fluctuations of residuals. Chart 2, shows the minimum, maximum and average free chlorine residuals at the Dexter Line Re-Chlorination Facility for 2017-2024.

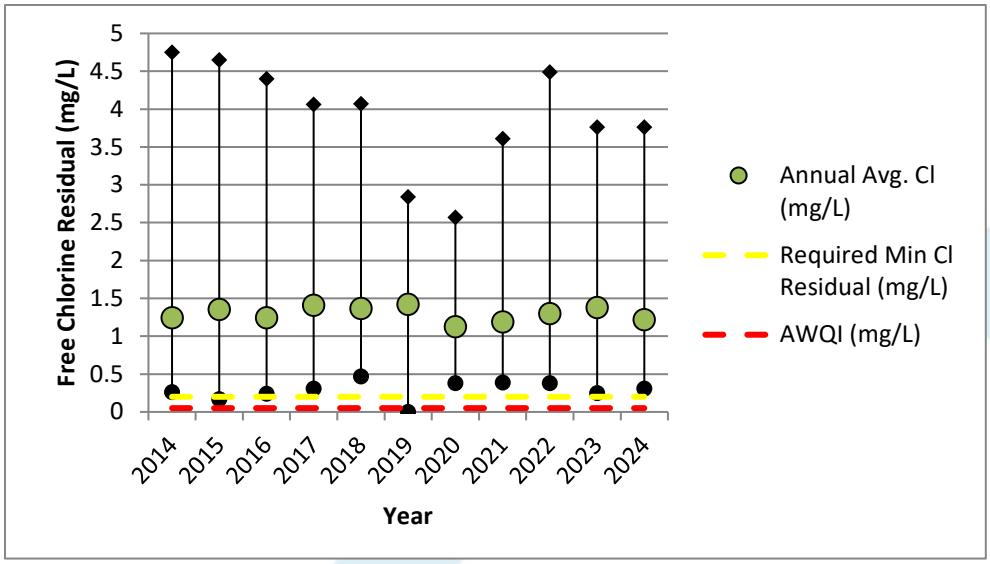
Chart 2. Minimum, maximum and average free chlorine residuals at the Dexter Line Re-chlorination Facility compared against the required minimum and the AWQI limit.



Free chlorine residuals are monitored at the Port Burwell Tower. There is only one watermain feeding the tower for filling and draining. The free chlorine residuals fluctuate based on the fill cycles. The facility is equipped with re-chlorination equipment that operates during the fill cycle in manual mode and when the tower is draining it operates based on a set point residual on the SCADA system. In 2024, the annual average free chlorine residual was 1.22mg/L, this is down

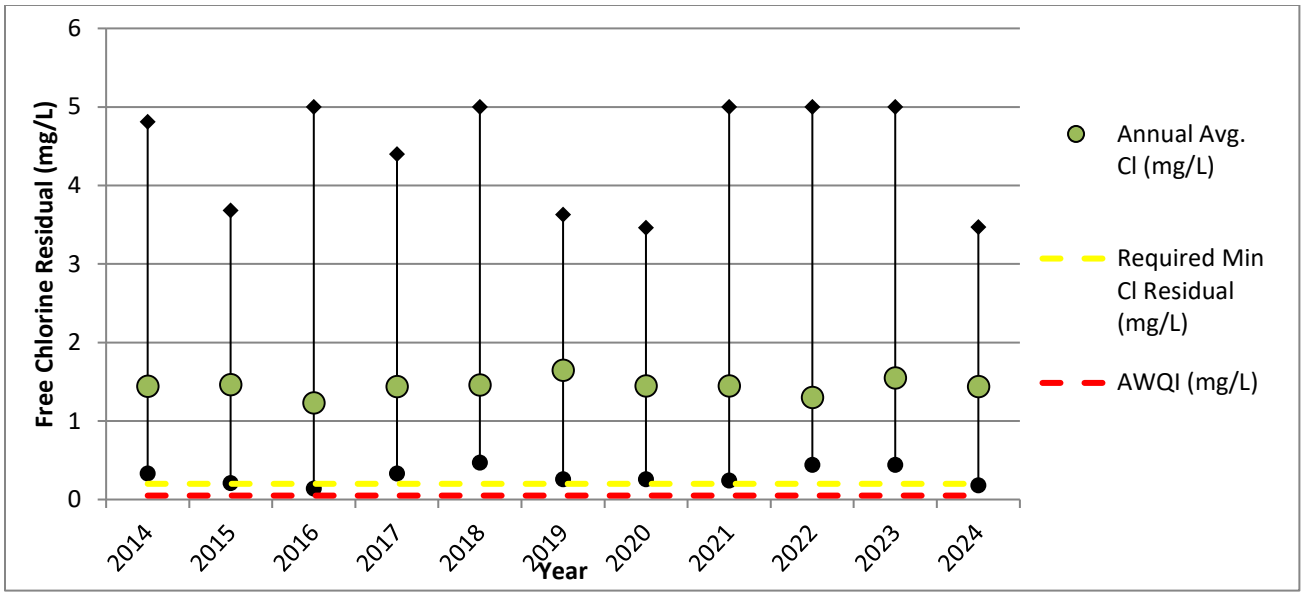
11.6% when compared to 2023 (1.38mg/L). Chart 3 below shows the annual minimum, maximum and average chlorine residuals for 2014 to 2024. When the tower is filling the free chlorine is generally lower, this water is from the Elgin Area Water Treatment Plant travels a great distance before getting to the tower. This is especially true during the summer months when chlorine demand is higher. In 2013 and 2015 the minimum residual was below the required free chlorine residual of 0.2mg/L. The operators of the system monitored the residual to ensure the system was adequately disinfected. Also, during these high chlorine demand seasons the operators will flush the system in order to rid the system of any residuals that don't meet the required 0.2mg/L. There were no Adverse Water Quality Incidents as a result of the lower residuals. The Dexter Line Re-Chlorination Facility was added to the system in 2017 to help improve the residuals in the system. In July of 2019 the chlorine system was temporally out of service due to panel work, which is the result of a chlorine residual reading of 0.0 mg/L, the residual was being monitored at both the Lakeview and Dexter Line facilities.

Chart 3. Minimum, maximum and average free chlorine residuals for 2014-2024 at the Port Burwell Tower.



The free chlorine residual is continuously monitored at the Lakeview Re-Chlorination facility where the incoming water is re-chlorinated in order to provide adequate residuals to the Bayham Distribution System. In 2024, the annual average free chlorine residual was 1.44mg/L. This is down 7.1% compared to 2023 (1.55mg/L).

Chart 4. Minimum, maximum and average free chlorine residuals at Lakeview Re-chlorination.



Microbiological Samples

The distribution water of the Port Burwell Area Secondary Water Supply System is sampled weekly for E.coli, Total Coliform and Heterotrophic Plate Count (HPC), following O. Reg.170/03. Each week three samples are tested for E. coli and Total Coliform and one sample is tested for HPC. The Ontario Drinking Water Quality Standard for E.coli and Total Coliform is non-detectable for both. Heterotrophic Plate Count is used as an operational tool to determine if there is an issue.

There was one sample that had a result of NDOGN (no data: over grown with non-target bacteria) in 2021. On October 15th, 2021 SGS Laboratories reported the AWQI from Sample Station 90. Samples were collected upstream, downstream and at the source as required. All re-sample results were satisfactory.

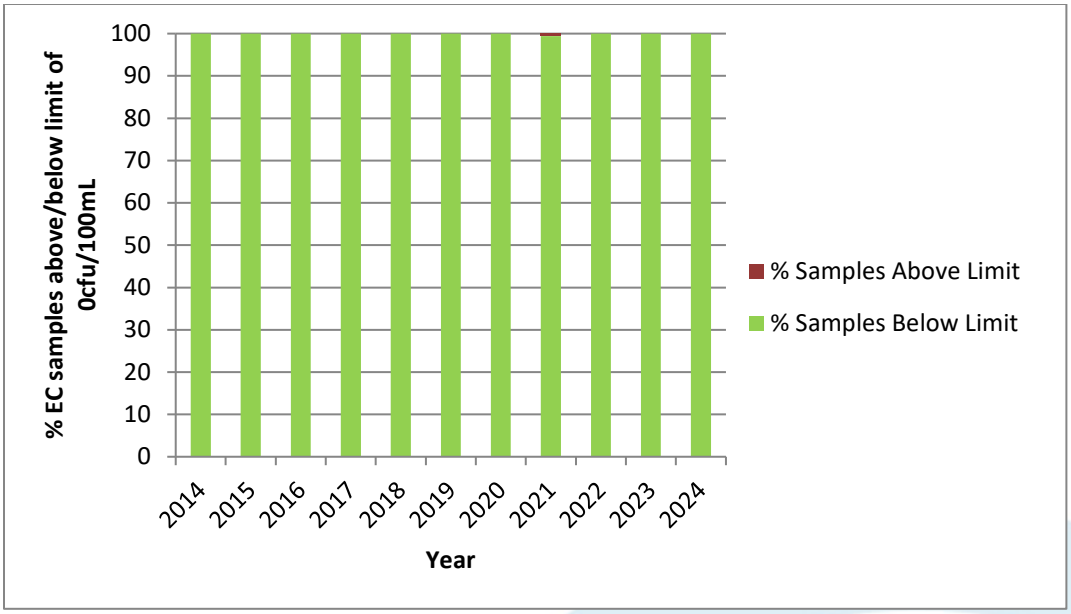
On October 18th, 2023 an AWQI was reported from SGS laboratories from sample station #94 for a Total Coliform result of 8cfu/100mL. Samples were collected upstream, downstream, and at the source as required. All resamples were satisfactory.

The table below shows the sample results compared for the last ten years (2014-2024).

Year	# TC & EC Samples	E. coli Range (cfu/100mL)	Total Coliform Range (cfu/100mL)	# HPC Samples	Heterotrophic Plate Count Range (cfu/mL)
2014	166	0 – 0	0 – 0	62	<10 - 1970
2015	170	0 – 0	0 – 0	66	0 - 30
2016	174	0 – 0	0 – 0	71	<10 - >2000
2017	156	0 – 0	0 – 0	52	<10 - 170
2018	156	0 – 0	0 – 0	52	<10 - 560
2019	154	0 – 0	0 – 0	57	<10 - 170
2020	156	0 – 0	0 – 0	52	0 - 10
2021	159	0 – NDOG	0 – NDOG	52	0 - 80

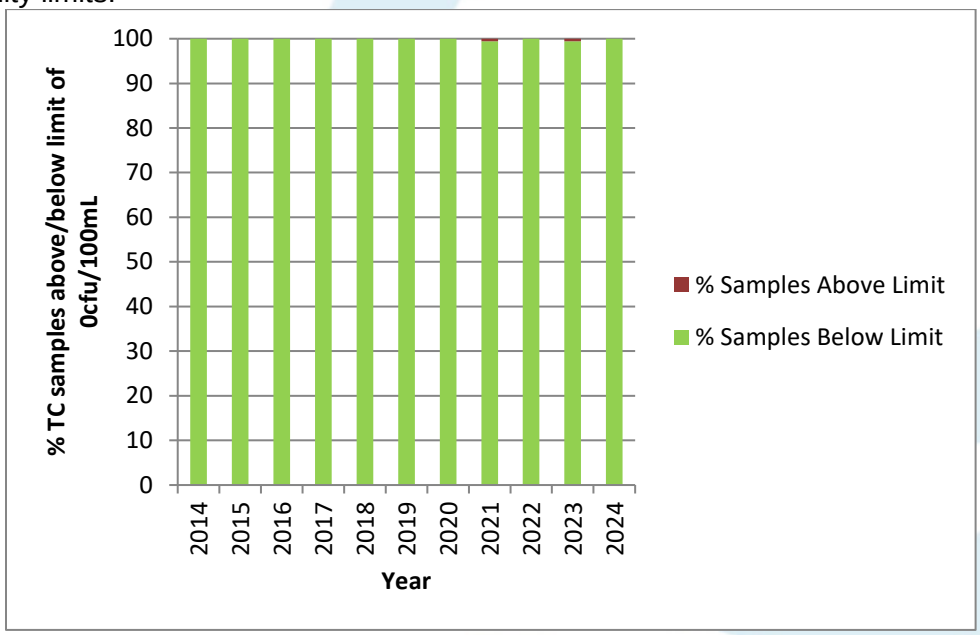
2022	160	0 – 0	0 – 0	52	<10 -<220
2023	163	0 - 0	0 – 8	50	<10 - <10
2024	159	0 – 0	0 – 0	53	<10 - <20

Chart 5. E. coli results from 2014 to 2024 as a percentage of samples below drinking water quality limits.



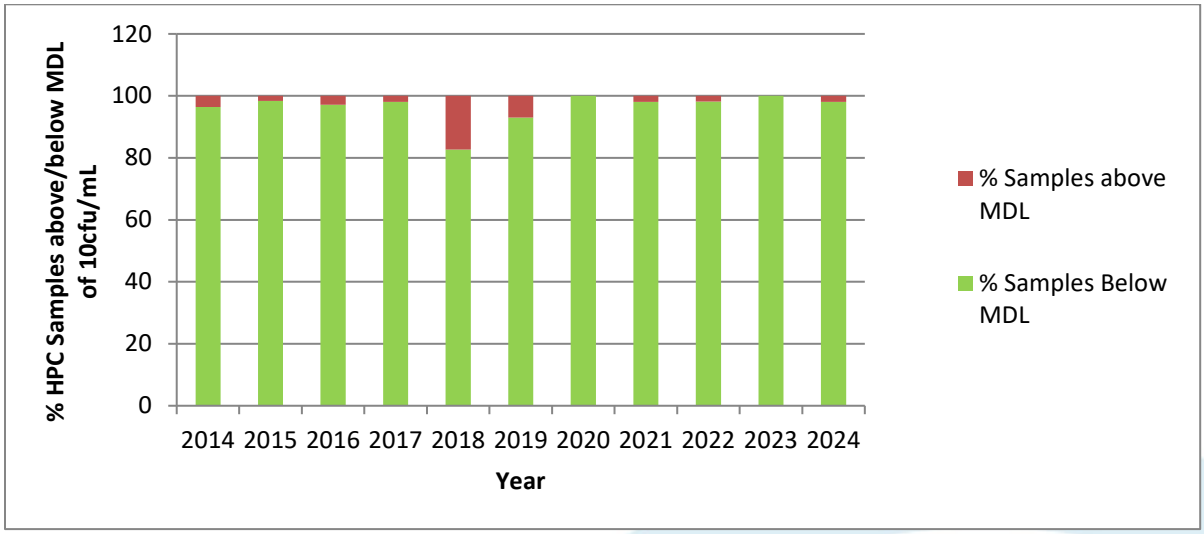
There was one result of NDOGN in 2021, and one in 2023 TC of 8cfu/100mL that was reported to MECP and MOH. Refer to Chart 6.

Chart 6. Total coliform results from 2014 to 2024 as a percentage of samples below drinking water quality limits.



HPC results fluctuate, however, the majority of results show no issues (less than Method Detection Limit (MDL)), refer to chart 7 below. There is only a concern with high HPC results if they stay consistently high as this could indicate biofilm formation in the watermains. There were elevated results in 2018, upon further investigation the results are coming from the Lakeview Re-chlorination facility. A new sampling location was constructed in 2019 and results have returned to normal.

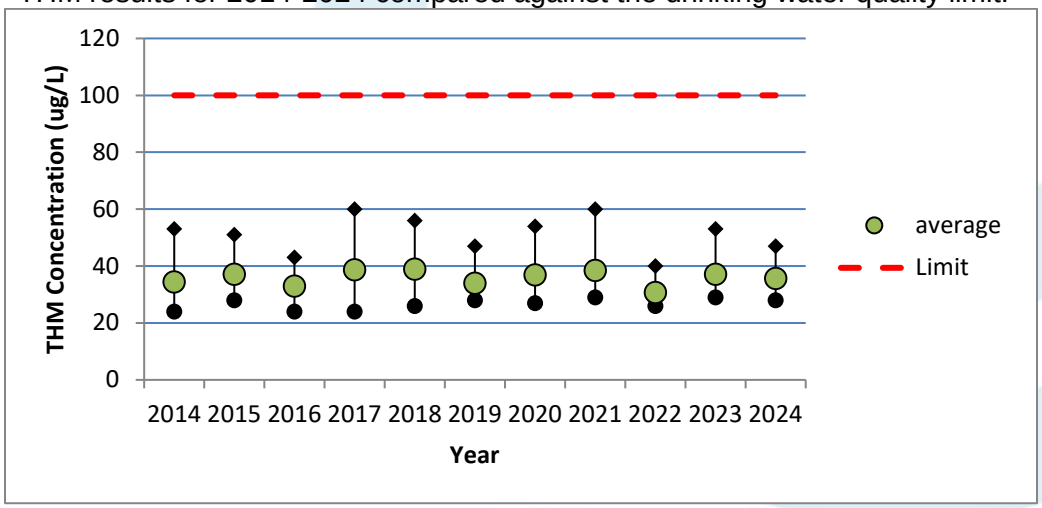
Chart 7. HPC results from 2014 to 2024 depicted as % below method detection limit (MDL) and % above MDL.



Trihalomethanes

The distribution system is sampled for Total Trihalomethanes (THMs) on a quarterly basis, as per O. Reg. 170/03. The Ontario Drinking Water Quality Standard for THMs is 100µg/L. The range of THM results for the Port Burwell Area Secondary Water Supply System in 2024 was 28 to 47µg/L compared to 2023 the range was 29 to 53µg/L. Refer to the chart 8 for the THM results compared for the last ten years. Overall, the running average of 35.75µg/L in 2024 has decreased by 4.0% compared to 2023 (37.25µg/L).

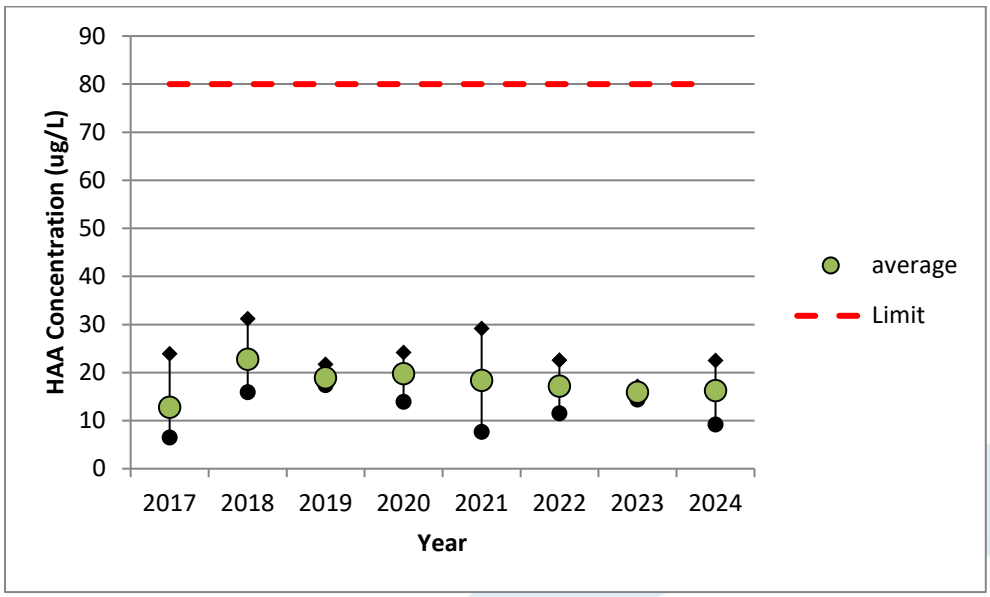
Chart 8. THM results for 2014-2024 compared against the drinking water quality limit.



Haloacetic Acids

The distribution system is sampled for Total Haloacetic Acids (HAAs) on a quarterly basis, as per O. Reg. 170/03. The Ontario Drinking Water Quality Standard for HAAs is 80µg/L. The range of HAA results for the Port Burwell Area Secondary Water Supply System in 2023 was 14.4 to 17.1µg/L compared to 11.5 to 22.6µg/L in 2022. Overall, the running average of 16.2µg/L in 2024 and has increase by 2.1% compared to 2023 (15.9µg/L).

Chart 9. HAA results for 2017-2024 compared against the drinking water quality limit.



Discussion

Overall the Port Burwell Secondary Supply System provides quality water meeting all regulatory requirements.

Revision History

Date	Revision #	Reason for Revision	Revision By
2025-01-20	*0*	*Create Report*	*Matthew Belding*

QEMS Ontario Clean Water Agency	**Management Review Minutes** Port Burwell Area Water Supply System	Issue Date: 2024-05-29 Pages: 1 of 9
Reviewed by: QEMS Representative	Approved by: Operations Management	

Drinking Water System Name:	**Owner and Location**:
Port Burwell Area Water Supply System	Port Burwell Area Secondary Water Supply System Joint Board of Management

Review Period: August 3rd, 2023 to May 28th, 2024

Meeting Information/Introduction

Date/Time:	May 29th, 2024	**Location:**	Township of Malahide - 87 John Street South, Aylmer

Attendees: Top Management: Vitaliy Talashok, Senior Operations Manager, Maegan Garber, SPC Manager
Owner Representative: Sam Gustavson, WWOM, Jason Godby, Director of Public Works
QEMS Representative: Matt Belding, PCT Aylmer Cluster
Operator(s) for the DWS(s): Mike O'Rourke, OCWA Supervisor
Other: Meagan Lowden, OCWA PCT Paris Cluster

Regrets: Josh Manneke, Capital Manager

Distribution: *Dale LeBritton, Jason Godby, Sam Gustavson, Vitaliy Talashok, Josh Manneke & Maegan Garber*

Minutes Taken By: Maegan Garber

Introduction:

Purpose:
To evaluate the continuing suitability, adequacy and effectiveness of OCWA's QEMS.

Objectives:
The Management Review participants will review/discuss the standing agenda items and the data presented, identify deficiencies, make recommendations and/or initiate action plans to address identified deficiencies as appropriate.

The Management Review includes a review of the DWQMS operational plan, SAI audit report(s), OCWA internal audit report(s) and other related operational documents/records as detailed in the meeting minutes. The information reviewed

during the Management Review was provided/made available to attendees prior to the meeting by email, and as a powerpoint at the meeting.

This meeting covers *the* standing agenda items for the DWSs noted above. Details of the discussion, any deficiencies identified, decisions made and applicable action items related to each standing agenda item are described under the appropriate item number within the following table. Additional comments/discussion items are described under section 2.

The minutes from the previous Management Review held on *August 3rd, 2023* were also reviewed. Any follow up on actions and/or additional actions required are detailed under item i.

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
1 [a]	**Incidents of regulatory non-compliance:** The last routine MECP Inspection was conducted on September 14th, 2023 by Karen Machado. An inspection rating of 100% was received. AWQI was noted in the report that occurred during the reporting period. The 2024 inspection has not yet been started.	N/A	N/A	N/A
[b]	**Incidents of adverse drinking water tests:** On October 18th, 2023 an AWQI was reported from a sample collected from SS#94 returned a total coliform result of 8cfu/100mL. The free residual chlorine at the time of the sample was 1.62mg/L. Samples were collected at the source, upstream, and downstream of the incident. All samples returned normal results.	N/A	N/A	N/A

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
[c]	**Deviations from Critical Control Point limits and response actions:** Critical control point limit exceedances were previously tracked using the critical control point limit reached tracking form. Since the implementation of the electronic logbooks, CCPs are now being tracked in the logbook using the Alarm-CCP label. There were a number of CCPs recorded in the e-logbook that identified high chlorine. See action item required to remind staff that high chlorine is not a CCP.	Review with staff the CCP limit reached SOP.	QEMS Representative	2024-05-30
[d]	**Effectiveness of the risk assessment process**: As per OP-08A, the 36 month risk assessment was conducted on February 3rd, 2022 as required. The annual review will be completed as part of the management review.	N/A	N/A	N/A
[e]	**Internal and third-party Audit results:** A reaccreditation audit was conducted on September 8th, 2023 by Sandra Tavares of SAI Global. There were no non-conformances and 2 Opportunities for Improvements (OFIs). The Internal Audit was conducted by Matt Belding on May 9th, 2024. There were no non-conformances and 12 OFIs identified in the report.	Refer to the Summary Table of Action Items (#106-117).	Refer to the Summary Table of Action Items (#106-117)	Refer to the Summary Table of Action Items (#106-117)

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
[f]	**Results of emergency response testing:** On December 6th, 2023 the contingency plan CP-1, and CP-2 were reviewed and tested. The operators reviewed the response to raw sewage spill and a loss of consciousness. There were no action items from the test. There were no action item from the testing. The QEMS Representative maintains a tracking sheet to ensure the frequency of the CP reviews and tests is maintained.	N/A	N/A	N/A
[g]	**Operational performance:** The PBASWSS performed very well over the past year. Chlorine residuals throughout the system remain adequate. Maximo and PDM are reviewed monthly by the PCT. Regular quarterly meetings occur with the client and Operations Reports are reviewed at this time.	N/A	N/A	N/A
[h]	**Raw water supply and drinking water quality trends:** The 2023 Drinking Water Quality Trends Report was reviewed. There was one adverse water quality incident reported in 2023. See above. 2023 Annual report for the EAPWSS was reviewed. There was one notable events discussed. 1. Due to the reagent lines not being properly installed, OCWA can't determine that the analyzer functioned properly during the time	N/A	N/A	N/A

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	frame, therefore continuous monitoring was not met.			
[i]	**Follow-up on action items from previous Management Reviews:** The last Management Review was conducted on August 3rd, 2023. A review of the Summary Table of Action Items did outline action items that were ongoing. These items have been reviewed and an update provided where required.	N/A	N/A	N/A
[j]	**Status of management action items identified between reviews:** Action items identified between reviews were a result of internal and external audit results.	N/A	N/A	N/A
[k	**Changes that could affect the QEMS**: There have been several new staff hired during the review period. The QEMS Representative is actively initiating DWQMS training at staff meetings and providing corporately lead training opportunities to staff as well. Several changes have been made to the Operational Plan templates which have been communicated by Corporate Compliance. Once finalized, all changes will be made to the require procedures. OCWA's QEMS Policy was updated. Training will need to be provided to staff.	Training required on the new QEMS Policy.	QEMS Representative	2024-05-30

QEMS Ontario Clean Water Agency	**Management Review Minutes** Port Burwell Area Water Supply System	Issue Date: 2024-05-29 Pages: 6 of 9
Reviewed by: QEMS Representative	Approved by: Operations Management	

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
[l]	**Consumer feedback:** There were no community complaints or concerns during the review period.	N/A	N/A	N/A
[m]	**Resources needed to maintain the QEMS:** There are sufficient resources to maintain the QEMS.	N/A	N/A	N/A
[n]	**Results of the infrastructure review:** **2023 Capital:** MV1 Valve house - Replace PLC UPS battery (Annual UPS inspections going to now be completed by Summa. A spare is onsite.) Dexter Line -Spare inventory purchase (On an as needed basis. Operations staff to review inventory when items are used and notify SOM & WWOM.) Port Burwell Tower -Corrosion inspection (Anode installation completed as part of the water tower inspection. Rectifier installed.) -Replace PLC UPS battery (complete) Lakeview -Replace PLC controller (complete)			

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	Transmission Main -hydrant/station maintenance (as needed) -SS#90 replacement (repaired) -Chamber maintenance (as needed) -Condition Assessment (completed) WWOM has ordered a UPS for Dexter but it is on back order. A review of the recommendations from Landmarks Tower inspection was completed with the attendees. No further action required at this time. **2024 Capital:** -Spare inventory for chemical feed system -Spare PLC UPS batteries -Spare PLC -Summa Service Agreement -Install flapper/duckbill on overflow outlet (Completed) -surface prep and repaint valves and plumbing (Completed) -Replace non-compliant ladder rungs in valve pit (Completed) -Hydrant maintenance -Sample station maintenance -Air release valve servicing/replacement	PRV installation to be completed at the following locations: E038, V001, E034. These recommendations stemmed from the Condition Assessment. Recommendations were incorporated into the Capital Plan. No further action required.	WWOM/QEMS Representative	2024-12-31
[o]	**Operational Plan currency, content and updates:** The Operational Plan was last revised 2023-08-04 with some procedures being updated. The Operational Plan	N/A	N/A	N/A

Meeting Minutes

Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/ Assigned To	Target Date
	will be revised with the action items identified in the Summary Table of Action Items. A statement has been added to the Municipalities website to indicate how the Operational Plan can be accessed by the public. The Operational Plan was endorsed in January, 2023 to represent changes to OCWA's Top Management and the Owners Top Management. Re-endorsement will be required due to the QEMS Policy revisions and the changes to multiple procedures. MDWL Issue 4 was issued on April 16th, 2021. The DWWP Issue 4 was also issued on April 16th, 2021.			
[p]	**Staff suggestions:** No suggestions.	N/A	N/A	N/A
[q]	**Review/consideration of any applicable Best Management Practices (BMPs):** The MECP inspection report did not identify any BMPs. There have been no formal BMPs by OCWA's corporate office or the MECP at this time. Should any BMPs be identified in the 2023 MECP Inspection report, they will be considered.	N/A	N/A	N/A
2.	**Roundtable/Other:** No further discussion.		N/A	N/A

QEMS Ontario Clean Water Agency	**Management Review Minutes** Port Burwell Area Water Supply System	Issue Date: 2024-05-29 Pages: 9 of 9
Reviewed by: QEMS Representative	Approved by: Operations Management	

Meeting Minutes				
Item #	**Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made**	**Actions Identified during Management Review**	**Responsibility/ Assigned To**	**Target Date**

Details of next Management Review meeting:	
Next Meeting:	The next Management Review meeting will occur in 2025, unless it is warranted to do so earlier.

REPORT NO. **AASWSS-25-03**

TO: Aylmer Area Secondary Water Supply System- Joint Board of Management
DEPARTMENT: Public Works
MEETING DATE: March 19, 2025
SUBJECT: **2024 FOURTH QUARTER OPERATIONS REPORT**

RECOMMENDATION:

THAT Report No. AASWSS-25-03 entitled “2024 Fourth Quarter Operations Report” be received.

PURPOSE & BACKGROUND:

The Ontario Clean Water Agency (OCWA) and the Staff of the Administering Municipality (Township Staff), formally meet on a quarterly basis to review the operations and maintenance of the AASWSS. OCWA and the Township Staff discuss recommended lifecycle/capital work, bacteriological/chemical sample results, regulatory compliance, and possible emerging issues. OCWA provides detailed operations reports and performance assessment reports at these meetings.

COMMENTS & ANALYSIS:

This report is a summary of the operations and maintenance for the fourth quarter of 2024, as well as a condensed summary of the overall operations for the year. This report is submitted to the Joint Board of Management to satisfy specific requirements of the QEMS Operational Plan for the AASWSS. Additionally, this approach ensures that the Joint Board of Management is kept informed on the operational performance of the water system on a continual basis by the Township Staff.

The Township Staff formally met with the OCWA on February 3rd, 2025, to review system operations for the third and fourth quarters. Some of the specific items that were discussed during these meetings are outlined below.

Compliance Summary:

There were no compliance issues reported during the third and fourth quarters of 2024. Furthermore, there were no compliance or exceedance issues reported in 2024.

Inspections:

The MECP conducted the annual inspection of the EMPS and transmission main on September 11, 2024. The final report received was received from the MECP on October 23, 2024 which identified no non-compliances and received an IRR of 100% for the inspection period.

QEMS Update:

The Essential/Emergency Service and Supply Contact List was updated on April 29th, 2024. Updates were made to Client Contacts as well as OCWA Staff.

An Internal audit was conducted by OCWA on May 5, 2024. There were nine Opportunities for Improvement (OFI) identified. The Audit findings and other standing agenda items listed in OP-20 were discussed during the Management Review which was held on May 29th. The operational plan has been updated to reflect these changes.

On June 24th, 2024 an External Audit was conducted by Sandra Tavares of Intertek. There were no non-conformances and one (1) OFI was identified during the audit. This item will be addressed at the 2025 Management Review.

Facility Emergency Plan testing was conducted on December 6th, 2024 to satisfy the requirements of OP-18. CP-03 Critical Shortage of Staff was reviewed and tested.

Performance Assessment:

In 2024, the average daily flow to the secondary system from the Elgin Area Primary Water Supply System (recorded leaving EMPS) was 5,034.37m^3/d. This is a 2.9% increase when compared to 2023 (4,888.62 m^3/d).

There were no adverse sample results in 2024. Weekly microbiological sample results were tested for E. coli, Total coliforms and HPC. Samples are shipped to SGS laboratories which is an accredited laboratory.

OCWA tested for free chlorine residuals throughout the distribution system two times per week. Quarterly samples were collected for Trihalomethanes (THMs) and Halo Acetic Acids (HAAs) in accordance with regulatory requirements. All sample results tested were well below the Maximum Allowable Concentrations (MAC) outlined in O.Reg. 170/03. OCWA continues to meet or exceed the Provincial Regulations pertaining to microbiological sampling requirements. Further information regarding sample results is outlined in the attached report.

Occupational Health & Safety:

OCWA completed the annual health and safety inspection on June 11th, 2024. There was one issue identified during the inspection which was communicated to OCWA's management to be addressed. No other concerns were identified.

General Maintenance:

OCWA conducted various maintenance activities in 2024. Activities include but are not limited to, regular readings and checks, the inspection and pumping of all chambers, including air release chambers, and monthly alarm testing. Annual flow meter calibrations were completed. OCWA completed spring and fall hydrant flushing and winterization of hydrants was also completed. Further information regarding maintenance completed in 2024 can be found in the attached report.

Alarms:

There were some alarms reported in the third quarter and fourth quarter. These alarms were minor in nature. The SCADA system allows Staff to effectively monitor and respond to alarms on a continuous basis. As the Operating Authority, OCWA responded to alarms as required, the details of which are outlined in the attached report.

Complaints & Concerns:

There were two complaints received from the general public that required a response from OCWA and Township Staff in the first quarter of 2024. Further information relating to these complaints is outlined in the attached report.

SUMMARY:

Quarterly meetings with OCWA are an effective tool used to keep the Township Staff well informed as to the operations and maintenance of the drinking water system. The information provided to the Board by OCWA is used to help the Joint Board of Management make well-thought-out decisions in an effort to provide a continual safe supply of potable water.

ATTACHMENTS:

1. 2024 OCWA Fourth Quarter Operations 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

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Aylmer Area Secondary Water Supply System Operations Report

Fourth Quarter 2024

Ontario Clean Water Agency, Southwest Region
Vitaliy Talashok, Sr. Operations Manager, Aylmer Cluster
Date: January 15, 2025

Facility Description

Facility Name:	Aylmer Area Secondary Water Supply System
Regional Manager:	Sam Sianas - (519) 319-2233
Sr. Operations Manager:	Vitaliy Talashok - (226) 378-8986
Business Development Manager:	Robin Trepanier - (519) 791-2922
Facility Type:	Municipal
Classification:	Class 2 Water Distribution
Drinking Water System Category:	Large Municipal Residential
Title Holder:	Municipality
Operation Status:	OCWA

Service Information

Area(s) Serviced:	Central Elgin, Malahide, and Aylmer
Population Serviced:	593
Malahide Direct Connections:	53
Central Elgin Connections:	175

Operational Description

This is an 18" watermain from St. Thomas to Aylmer with booster pumps at the Elgin Middlesex Pumping Station.

CLIENT CONNECTION MONTHLY CLIENT REPORT

Facility Name: Aylmer Area Secondary Water Supply System
ORG#: 6614

SECTION 1: COMPLIANCE SUMMARY

FIRST QUARTER:

There were no compliance issues to report for the first quarter.

SECOND QUARTER:

There were no compliance issues to report for the second quarter.

THIRD QUARTER:

There were no compliance issues to report for the third quarter.

FOURTH QUARTER:

There were no compliance issues to report for the fourth quarter.

SECTION 2: INSPECTIONS

FIRST QUARTER:

There were no MECP or MOL inspections conducted during the first quarter.

SECOND QUARTER:

There were no MECP or MOL inspections conducted during the second quarter.

THIRD QUARTER:

On September 11th MECP officer Angela Stroyberg conducted an inspection of the Aylmer Secondary System. All questions have been answered and documentation has been supplied. The final inspection report has not yet been received.

FOURTH QUARTER:

On October 23rd, the final inspection report was received and the inspection rating was 100%.

SECTION 3: QEMS UPDATE

FIRST QUARTER:

There were no QEMS updates to report during the first quarter.

SECOND QUARTER:

On April 29th the Essential/Emergency Service and Supply Contact List was updated. Changes were made to Client Contacts as well as OCWA Staff. The list is currently in its 36th revision. There were no additional QEMS updates in the second quarter.

On May 5th an internal audit was completed and nine opportunities for improvement (OFI's) were identified. These OFIs along with the other standing agenda items listed in OP-20 were discussed and considered at the management review which was held on May 29th. The operational plan has been updated.

On June 24th an external audit was completed by Intertek's Auditor Sandra Travares. One OFI was identified and will be considered at the next management review which will be held in 2025.

THIRD QUARTER:

There were no QEMS updates to report during the third quarter.

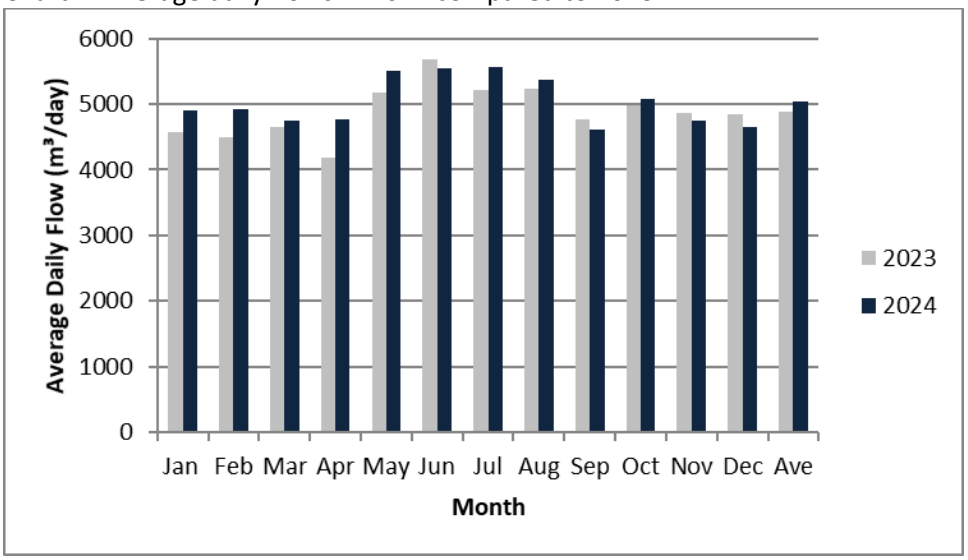
FOURTH QUARTER:

On December 6th Facility Emergency Plan testing was conducted to satisfy the requirements of OP-18. CP-03 Critical Shortage of Staff was reviewed and tested. There were no additional QEMS updates to report during the fourth quarter.

SECTION 4: PERFORMANCE ASSESSMENT REPORT

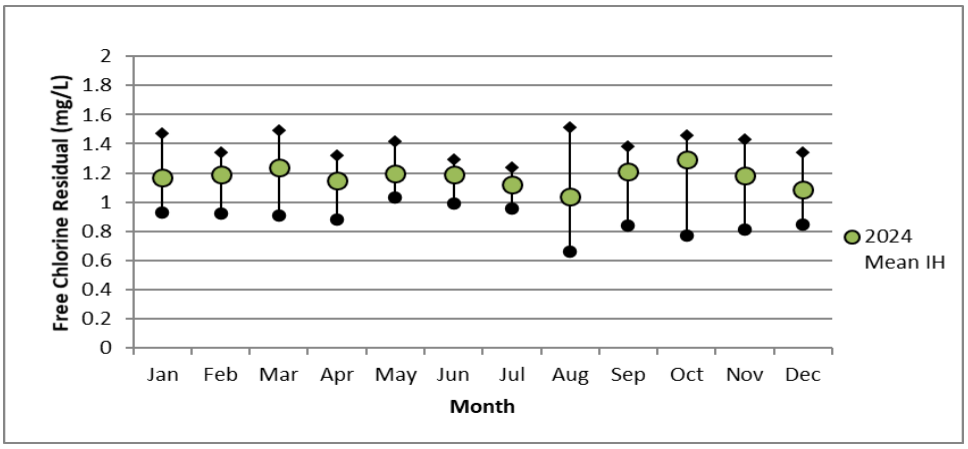
Flows are recorded at various points within the distribution system. The average daily flow to the system from the Elgin Area Primary Water Supply System in 2024 was 5,034.37m^3/d which is up 2.9% when compared to 2023 (4,888.62m^3/d). Chart 1 below depicts the average daily flows for 2024 compared to 2023.

Chart 1. Average daily flows in 2024 compared to 2023.



Chlorine residuals are obtained throughout the distribution system two times per week, with 4 residuals taken on sample days (usually Monday's) and three residuals taken at least 48 hours after the first set (usually on Friday's) to meet the regulatory requirements. The chart below depicts the minimum, maximum and average chlorine residuals taken in the distribution system for 2024. The concentration of free chlorine varies depending on the location that the sample taken (see chart below).

Chart 2. Free Chlorine Residual in the Distribution System in 2024.



Samples are obtained once per week at three locations along the transmission main. The following table summarizes the results of the microbiological sampling for 2024.

Month	# Samples	E. coli Range (cfu/100mL)	Total Coliform Range (cfu/100mL)	# Samples	Heterotrophic Plate Count Range (cfu/mL)
January	15	0 – 0	0 – 0	5	<10 - <10
February	12	0 – 0	0 – 0	4	<10 - <10
March	12	0 – 0	0 – 0	4	<10 - <10
April	15	0 – 0	0 – 0	5	<10 - <10
May	12	0 – 0	0 – 0	4	<10 - <10
June	12	0 – 0	0 – 0	4	<10 - <10
July	15	0 – 0	0 – 0	5	<10 - <10
August	12	0 – 0	0 – 0	4	<10 - <10
September	12	0 – 0	0 – 0	4	<10 - <10
October	15	0 – 0	0 – 0	5	<10 - <10
November	12	0 – 0	0 – 0	4	<10 - <10
December	15	0 – 0	0 – 0	5	<10 - <10

Trihalomethanes (THMs) are sampled on a quarterly basis; the 2024 current running average is 23.00µg/L. When comparing the current running average to the 2023 average (22.50µg/L) there has been an increase of 2.2%. The results remain well below the limit of 100 µg/L.

January 2024	-	20
April 2024	-	18
July 2024	-	24
October 2024	-	30
Running Average	100	23.00

Haloacetic Acids (HAAs) are required to be sampled on a quarterly basis. The 2024 current running average is 9.30µg/L. When comparing the current running average to the 2023 average (6.53µg/L) there has been an increase of 42.5%. The results remain well below the limit of 80µg/L.

	Limit	HAA Result

	(µg/L)	(µg/L)
January 2024	-	14.2
April 2024	-	6.9
July 2024	-	8.3
October 2024	-	7.8
Running Average	80	**9.30**

SECTION 5: OCCUPATIONAL HEALTH & SAFETY

FIRST QUARTER:

There were no additional Health & Safety issues identified in the first quarter.

SECOND QUARTER:

On June 11th 2024, the annual occupational health and safety inspection was completed. There was one issue identified and relayed to OCWA's management to be addressed. There were no additional Health & Safety issues identified in the second quarter.

THIRD QUARTER:

There were no additional Health & Safety issues identified in the third quarter.

FOURTH QUARTER:

There were no additional Health & Safety issues identified in the fourth quarter.

SECTION 6: GENERAL MAINTENANCE

FIRST QUARTER:

JANUARY

10: Pumped/inspected metering chambers
16: Chamber 13, Eastlink replaced modem
18: Chamber 16, reset modem and router and confirmed communication with on-call operator
25: Power fail/flood alarms tested at chamber 13
: Pumped/inspected air relief chambers
26: Power fail/flood alarms tested at chamber 16

FEBRUARY

13: Pumped/inspected air relief chambers
21: Power fail/flood alarms tested at chamber 13 and 16
23: Chamber 16, reset modem and confirmed communication with on-call operator

MARCH

07: Flowmetrix calibrated flow and pressure sensors at chamber 13 and 16
12: Flowmetrix calibrated flow meters at Roger Rd., Norton, Springwater, Belmont Rd., and Tower Ave.

25: Power fail/flood alarms tested at chamber 13 and 16
27: Pumped/inspected air relief chambers

SECOND QUARTER:

APRIL

09: Pumped and inspected meter chambers.
10: Started spring flushing see rounds sheets for more details.
15: Continued with spring flushing. See rounds sheets for more details.
16: Completed spring flushing of Aylmer secondary hydrants.
17: Pumped and inspected air relief chambers.

MAY
09: Completed annual safety inspection and check sheet.
15: Pumped and inspected air relief chambers.

JUNE
07: Worked on chamber inspections and valve turning from chamber 16 to Rogers Road.
11: Worked on valve turning just west of Rogers Road. Norton at Completed.
27: Worked on valve exercising and annual chamber inspections.

THIRD QUARTER
JULY
16: pumped and inspected air relief chambers
AUGUST
27: Communication lost at 1646 previous day. At 0815 power cycled to modem and router. Communication restored.
SEPTEMBER
3: Cycled power and flow meter had no power and fuse for f-plc blown at Chamber 16.
5: Suma on site to repair flow meter.
6: Execulink replaced router and its power supply. Power supply board replaced.
10: air relief and drain chambers pumped out and inspected.
11: Annuel chamber inspections and valve exercising.

FOURTH QUARTER
OCTOBER

11: Chamber 13 & 16 - Tested critical alarms

NOVEMBER

29: Chamber 13 & 16 – Tested critical alarms

DECEMBER

16: Chamber 13 & 16 – Tested critical alarms

SECTION 7: ALARM SUMMARY

FIRST QUARTER:

JANUARY

15: Chamber 13 no communication alarm, cycled power to modem. Spoke with Execulink, no issues on their end. Spoke with Eastlink also no issues. Communication had restored and trending seems normal.

FEBRUARY

No alarms to report for the month of February.

MARCH

07: Chamber 16 no communication alarm. cycled power to modem and router, communication restored.
: Chamber 16 no communication alarm. Communication restored while enroute to site. Spoke with Execulink who confirmed connection. They believe it to be an issue with the lines and will have Eastlink investigate.
09: Chamber 16 no communication alarm. cycled power to modem, communication restored.
: Chamber 16 no communication alarm. Contacted Execulink who attempted to access remotely. Suggested that we replace cables between modem and router.

SECOND QUARTER:

APRIL

13: Received alert from call service for communication failure at chamber 16. Logged onto SCADA and found all Aylmer, Port Burwell, Copenhagen OPC SPS and Springfield SPS had communication failures. Acknowledged alarm and contacted Execulink. Informed that they were experiencing power failures. Tried contacting Hydro One. Unable to get through due to high call volume. In contact with WWOM of township in case it was an internal issue. Contacted by WWOM of township at 10:07 and informed that communication had been restored to all sites

MAY

15: Received alert from Execulink via call service for communication failure. Acknowledged and logged onto SCADA. Site with full communication.

JUNE

No alarms to report for the month of June.

THIRD QUARTER

JULY

No alarms to report for month of July.

AUGUST

31: Received alert from call service for chamber 16 communication fault alarm. Acknowledged alarm and confirmed communication alarm loss via SCADA.

SEPTEMBER

7: PlC communication fault at Chamber 16. Router Reset in back cabinet.

FOURTH QUARTER

OCTOBER

4: Chamber 13 & 16 - Received alert from call service for communication failure. Logged onto SCADA and acknowledged alarms. Reviewed sites. All valves present and updating.

NOVEMBER

No alarms received

DECEMBER

No alarms received

SECTION 8: COMMUNITY COMPLAINTS & CONCERNS

FIRST QUARTER:

On February 16th, a complaint was received from the WWOM for low pressure at the residence of 48073 Talbot Street. Pressure was confirmed on SCADA at chamber 16 at 61PSI. Further investigation determined the issue to be on the homeowner side.

On March 15th, a complaint was received from Terrace Lodge of rusty/brown water from their hot water. Further investigation revealed the issue was isolated to the hot water and determined to be a plumbing issue.

SECOND QUARTER:

There were no complaints or concerns reported during the second quarter.

THIRD QUARTER:

There were no complaints or concerns reported during the third quarter.

FOURTH QUARTER:

There were no complaints or concerns reported during the fourth quarter.

AASWS01 Locates	
Month	**# of Locates Completed**
January	6
February	8
March	2
April	4
May	3
June	3
July	0
August	0
September	1
October	2
November	2
December	0

REPORT NO. **PBASWSS-25-03**

TO: Port Burwell Area Secondary Water Supply System- Joint Board of Management
DEPARTMENT: Public Works
MEETING DATE: March 19, 2025
SUBJECT: **2024 FOURTH QUARTER OPERATIONS REPORT**

RECOMMENDATION:

THAT Report No. PBASWSS-25-03 entitled “2024 Fourth Quarter Operations Report” be received.

PURPOSE & BACKGROUND:

The Ontario Clean Water Agency (OCWA) and the Township Staff, formally meet on a quarterly basis to specifically review the operations and maintenance of the PBASWSS. OCWA and Township Staff discuss recommended lifecycle/capital work, bacteriological/chemical sample results, regulatory compliance, and possible emerging issues. OCWA provides detailed operations reports and performance assessment reports at these meetings.

COMMENTS & ANALYSIS:

This report is a summary of the operations and maintenance for the fourth quarter of 2024, as well as a condensed summary of the overall operations for the year. This report is submitted to the Joint Board of Management to satisfy specific requirements of the QEMS Operational Plan for the PBASWSS. Additionally, this approach ensures that the Joint Board of Management is kept informed on the operational performance of the water system on a continual basis by Township Staff.

The Township Staff formally met with the OCWA on February 3rd, 2025, to review system operations for the third and fourth quarters. Some of the specific items that were discussed during these meetings are outlined below.

Compliance Summary:

There were no compliance issues reported during the third and fourth quarters of 2024. Furthermore, there were no compliance or exceedance issues reported in 2024.

Inspections:

The MECP conducted a physical inspection of the PBASWSS on July 18th, 2024 during the second quarter. The final inspection report was received on September 6th, 2024. The report identified no non-compliances and received an IRR of 100% for the inspection period.

QEMS Update:

The Essential/Emergency Service and Supply Contact List was updated on April 29th, 2024. Updates were made to Client Contacts as well as OCWA Staff.

An Internal audit was conducted by OCWA on May 9th, 2024. There were twelve Opportunities for Improvement (OFI) identified. The Audit findings and other standing agenda items listed in OP-20 were discussed during the Management Review which was held on May 29th. The operational plan has been updated to reflect these changes.

On June 21st, 2024 an External Audit was conducted by Sandra Tavares of Intertek. There were no non-conformances and one (1) OFI was identified during the audit. This item will be addressed at the 2025 Management Review.

Facility Emergency Plan testing was conducted on December 6th, 2024 to satisfy the requirements of OP-18. CP-03 Critical Shortage of Staff was reviewed and tested.

Performance Assessment:

In 2024, the average daily flow to the secondary system from the Elgin Area Primary Water Supply System (recorded at MV1) was 751 m^3/d. This is a 3.4% increase when compared to 2023 (727.4 m^3/d).

There were no adverse sample results in 2024. Weekly microbiological sample results were tested for E. coli, Total coliforms and HPC. Samples are shipped to SGS laboratories which is an accredited laboratory.

OCWA tested for free chlorine residuals throughout the distribution system two times per week. Quarterly samples were collected for Trihalomethanes (THMs) and Halo Acetic Acids (HAAs) in accordance with regulatory requirements. All sample results tested were well below the Maximum Allowable Concentrations (MAC) set forth in O.Reg. 170/03. OCWA continues to meet or exceed the Provincial Regulations pertaining to microbiological sampling requirements. Further information regarding samples results is outlined in attached report.

Occupational Health & Safety:

OCWA completed the annual health and safety inspection on June 11th, 2024. There were no issues identified during the inspection.

General Maintenance:

OCWA conducted various maintenance activities in 2024. Activities include but are not limited to, regular readings and checks, the inspection and pumping of air release chambers, and monthly alarm testing. Chemical feed system maintenance. Annual flow meter calibrations were completed. OCWA completed spring and fall hydrant flushing and winterization of hydrants was also completed. Further information regarding maintenance completed in 2024 can be found in the attached report.

Alarms:

There were a variety of alarms reported in the third quarter and fourth quarter. Most of these alarms were minor in nature. The SCADA system allows Staff to effectively monitor and respond to alarms on a continuous basis. As the Operating Authority, OCWA responded to alarms as required, the details of which are outlined in the attached report.

Complaints & Concerns:

There were two complaints received from the general public that required a response from OCWA and Township Staff in the third quarter of 2024. Further information relating to these complaints is outlined in the attached report.

SUMMARY:

Quarterly meetings with OCWA are an effective tool used to keep the Township Staff well informed as to the operations and maintenance of the drinking water system. The information provided to the Board by OCWA is used to help the Joint Board of Management make well thought out decisions in an effort to provide a continual safe supply of potable water.

ATTACHMENTS:

1. 2024 OCWA Fourth Quarter Operations 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

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Port Burwell Area Secondary Water Supply System Operations Report Fourth Quarter 2024

Ontario Clean Water Agency, Southwest Region
Vitaliy Talashok, Sr. Operations Manager, Aylmer Cluster
Date: January 15, 2025

Facility Description

Facility Name:	Port Burwell Area Secondary Water Supply System
Regional Manager:	Sam Sianas – 519-319-2233
Sr. Operations Manager:	Vitaliy Talashok – 226-378-8986
Business Development Manager:	Robin Trepanier – 519-791-2922
Facility Type:	Municipal
Classification:	Class 2 Water Distribution
Drinking Water System Category:	Large Municipal Residential
Title Holder:	Municipality
Operation Status:	OCWA

Service Information

Area(s) Serviced:	Municipality of Central Elgin, Malahide & Bayham
Population Serviced:	730
Malahide Direct Connections:	204
Central Elgin Connections:	75

Operational Description

This is a 12-inch watermain from the Elgin Area Water Treatment Plant to Port Burwell including an elevated tank west of Pt. Burwell. Includes re-chlorination at the tower and at Lakeview Re-Chlorination Facility.

CLIENT CONNECTION MONTHLY CLIENT REPORT

Facility Name: Port Burwell Secondary - Lakeview, Burwell tower, Valve house
ORG#: 5911

SECTION 1: COMPLIANCE SUMMARY

FIRST QUARTER:

There were no compliance issues to report for the first quarter.

SECOND QUARTER:

There were no compliance issues to report for the second quarter.

THIRD QUARTER:

There were no compliance issues to report for the third quarter.

FOURTH QUARTER:

There were no compliance issues to report for the fourth quarter.

SECTION 2: INSPECTIONS

FIRST QUARTER:

There were no MECP or MOL inspections conducted during the first quarter.

SECOND QUARTER:

A document request has been received and all requested documentation has been sent. The physical inspection of the system was conducted on July 18th, 2024, by MECP inspector Jim Miller.

THIRD QUARTER:

On September 6th, the final inspection report was received with an inspection rate of 100%.

FOURTH QUARTER:

There were no MECP or MOL inspections conducted during the fourth quarter.

SECTION 3: QEMS UPDATE

FIRST QUARTER:

There were no QEMS updates to report on during the first quarter.

SECOND QUARTER:

On April 29th the Essential/Emergency Service and Supply Contact List was updated. Changes were made to Client Contacts as well as OCWA Staff. The list is currently in its 36th revision. There were no additional QEMS updates in the second quarter.

On May 9th an internal audit was completed that identified twelve opportunities for improvement (OFI's). These OFI's along with the other standing agenda items in accordance with OP-20 were discussed and

considered at the management review which was held on May 29th. The operational plan was updated from the findings of the internal audit.

On June 21st an external audit was completed by Intertek Auditor, Sandra Travares. One OFI was identified and will be discussed and considered at the next management review scheduled for 2025.

THIRD QUARTER:

There were no QEMS updates to report on during the third quarter.

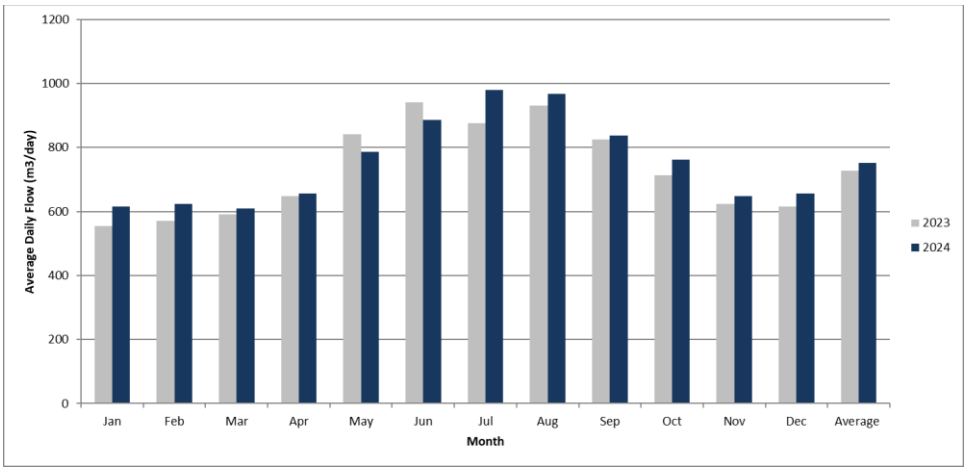
FOURTH QUARTER:

On December 6th Facility Emergency Plan testing was conducted to satisfy the requirements of OP-18. CP-03 Critical Shortage of Staff was reviewed and tested. There were no additional QEMS updates to report during the fourth quarter.

SECTION 4: PERFORMANCE ASSESSMENT REPORT

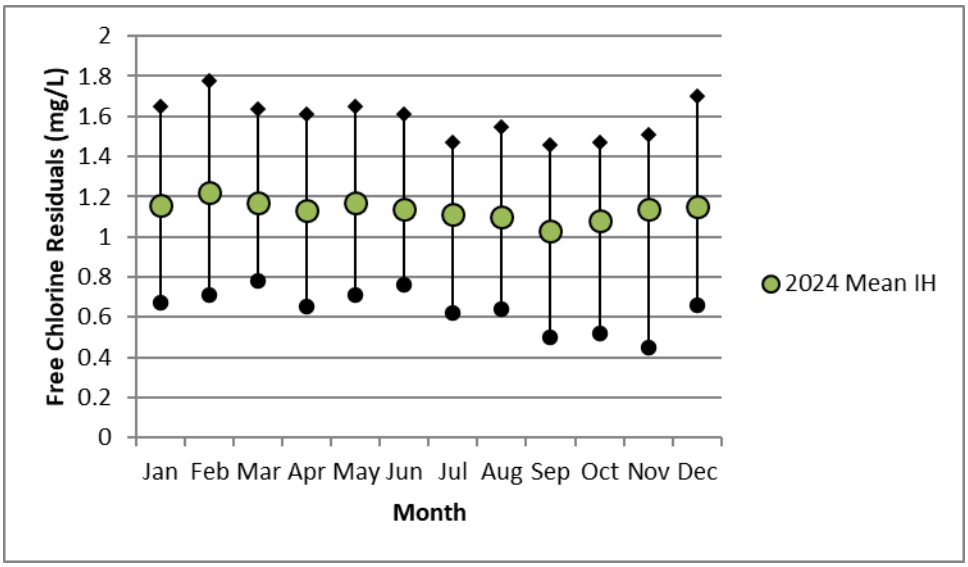
Flows are recorded at various points within the distribution system. The average daily flow to the system from the Elgin Area Primary Water Supply System (recorded at MV1) in 2024 was 751 m^3/d. This is up 3.4% when compared to 2023 (727.4 m^3/d). Chart 1 below depicts the average daily flow in 2024 compared to 2023.

Chart 1. Average daily flow from the EMPS in 2024 compared to 2023.



Chlorine residuals are obtained throughout the distribution system two times per week, with 4 residuals taken on sample days (usually Mondays) and three residuals taken at least 48 hours after the first set (usually on Fridays) to meet the regulatory requirements. Chart 2 below depicts the minimum, maximum and average chlorine residuals taken in the distribution system in 2024. The concentration of free chlorine varies depending on the location of sample taken. All results met regulatory requirements.

Chart 2. Minimum, maximum and average chlorine residuals in 2024.



The chlorine residuals are continuously monitored at the re-chlorination facilities at Dexter Line, the Tower and Lakeview. Chart 3 below provides the monthly average, minimum and maximum free chlorine residuals at the Dexter Line Re-Chlorination Facility in 2024.

Chart 3. Minimum, maximum and average chlorine residuals recorded at Dexter Line Re-chlorination in 2024.

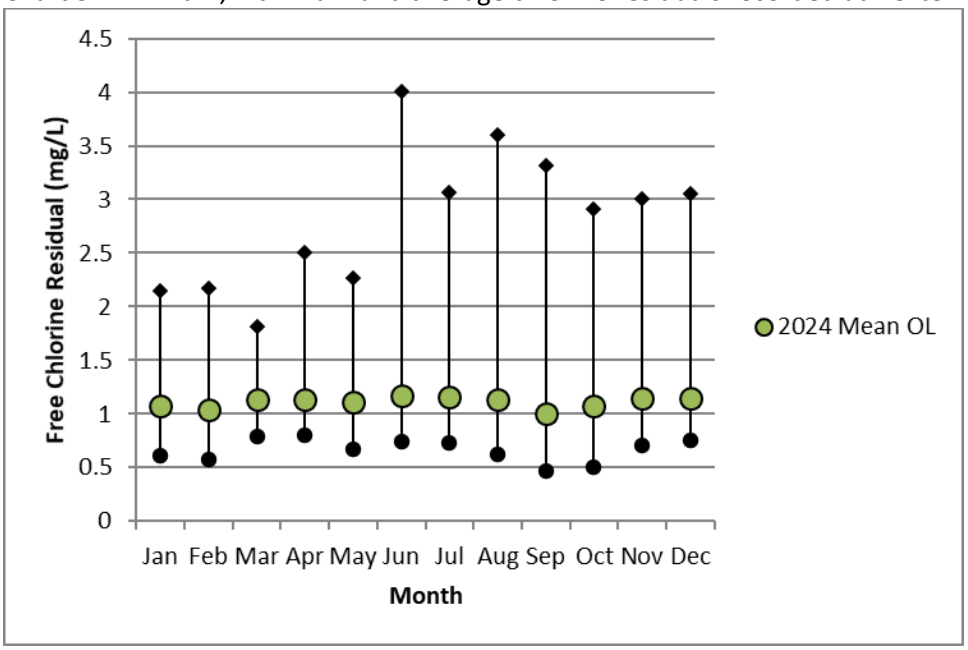


Chart 4 below provides the monthly average, minimum and maximum free chlorine residuals at the Port Burwell Tower in 2024. The residuals at the tower fluctuate depending on the fill cycles.

Chart 4. Minimum, maximum and average chlorine residuals recorded at Port Burwell Tower in 2024.

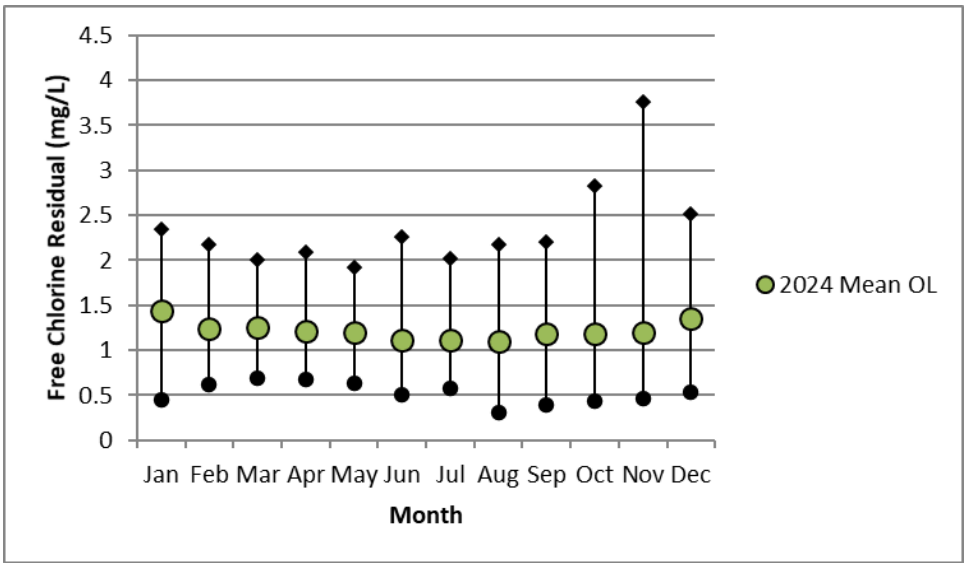
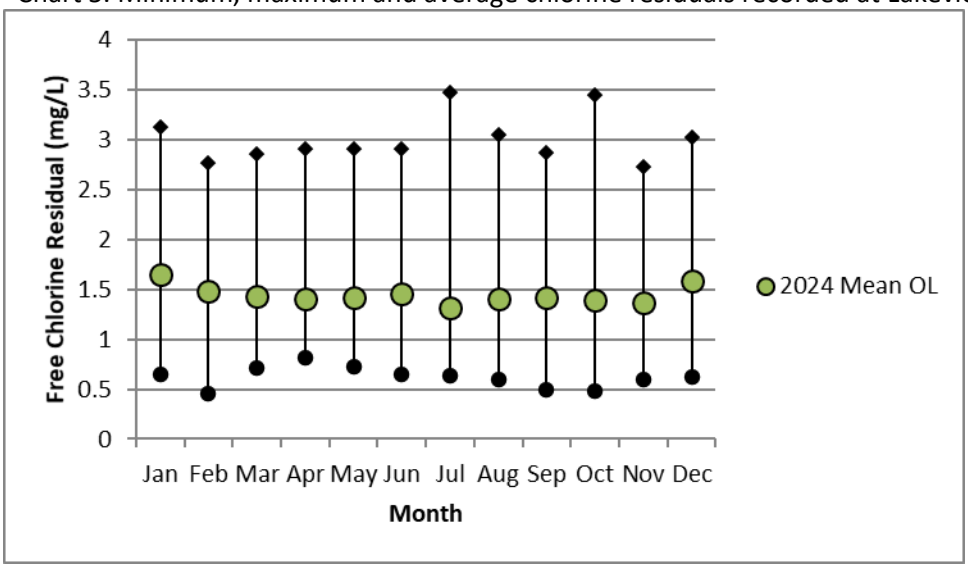


Chart 5 below provides the daily average, minimum and maximum free chlorine residuals at the Lakeview Re-chlorination Facility in 2024.

Chart 5. Minimum, maximum and average chlorine residuals recorded at Lakeview Re-chlorination in 2024.



Samples are obtained once per week at three locations in the distribution system. Table 1 summarizes the results of the microbiological sampling.

Table 1. Summary of microbiological sampling in 2024.

Month	# Samples	E. coli Range (cfu/100mL)	Total Coliform Range (cfu/100mL)	# Samples	Heterotrophic Plate Count Range (cfu/mL)
January	10	0 – 0	0 – 0	5	<10 - <10
February	8	0 – 0	0 – 0	4	<10 - <20
March	8	0 – 0	0 – 0	4	<10 - <10
April	10	0 – 0	0 – 0	5	<10 - <10

May	8	0 – 0	0 – 0	4	<10 - <10
June	8	0 – 0	0 – 0	4	<10 - <10
July	10	0 – 0	0 – 0	5	<10 - <10
August	8	0 – 0	0 – 0	4	<10 - <10
September	8	0 – 0	0 – 0	4	<10 - <10
October	10	0 – 0	0 – 0	5	<10 - <10
November	8	0 – 0	0 – 0	4	<10 - <10
December	10	0 – 0	0 – 0	5	<10 - <10

Trihalomethanes (THMs) are sampled on a quarterly basis; the current running average is 35.75µg/L. When comparing the current running average to the 2023 average (37.25µg/L) there has been a decrease of 4.0%. The results are well below the limit of 100 µg/L (refer to Table 2).

Table 2. Summary of THM sample results

	Limit (µg/L)	THM Result (µg/L)
January 2024		36
April 2024		28
July 2024		32
October 2024		47
Running Average	**100**	**35.75**

Haloacetic Acids (HAAs) are required to be sampled on a quarterly basis. The current 2024 running average is 16.23µg/L (refer to Table 3). When comparing the current running average to the 2023 average (15.9µg/L) there has been an increase of 2.2%. The results are well below the limit of 80µg/L.

Table 3. Summary of HAA sample results

	Limit (µg/L)	HAA Result (µg/L)
January 2024		22.5
April 2024		9.2
July 2024		21.8
October 2024		11.4
Running Average	80	**16.23**

SECTION 5: OCCUPATIONAL HEALTH & SAFETY

FIRST QUARTER:

There were no additional Health & Safety issues identified in the first quarter.

SECOND QUARTER:

On June 11th, 2024, the annual occupational health and safety inspection was completed. There were no issues identified. There were no additional Health & Safety issues identified in the second quarter.

THIRD QUARTER:

There were no additional Health & Safety issues identified in the third quarter.

FOURTH QUARTER:

There were no additional Health & Safety issues identified in the fourth quarter.

SECTION 6: GENERAL MAINTENANCE

FIRST QUARTER:

JANUARY

04: Valve house - Jutzi on site for chemical delivery.
05: Lakeview – On site with Eastlink technician due to loss of communication for primary internet. Repairs completed the pedestal west of site. Confirmed operation of primary internet before securing site.
09: Port Burwell tower - On site at Lakeview to cycle power to modem and router for Lakeview as per WWOM of township. Due to activity on cellular fail over for Port Burwell tower cycled power to modem and router as well. Once connection was re-established contacted Execulink to confirm both sites are running on primary. Now normal.
10: Valve house, Dexter Rechlor, Port Burwell tower and Lakeview Rechlor – Tested flood alarms.
28: PB02 meter chamber - Inspected meter chamber PB02 due to recent issues with sump pump after rain events. Sump pump failure. Water under main. Will return to pump chamber and test pump. ORO, OIC and WWOM of township notified via email. Pumped out meter chamber PB02. Reset GFCI and tested pump. Now working normally. Attached a temporary shroud over outlet box to help divert water until a proper repair can be completed.

FEBRUARY

05: Port Burwell tower - Landmark Municipal services on site to paint Pipes and valves inside tower chamber
06: Lakeview - On site with Koolen electric for replacement of both baseboard heaters and installation of exterior light. Breaker for heaters also replaced as it was found to be faulty.
06: Lakeview - On site with Koolen electric for replacement of both baseboard heaters and installation of exterior light. Breaker for heaters also replaced as it was found to be faulty.
22: Valve House - Jutzi on site for chemical delivery.

MARCH

07: Flowmetrix completed annual flow and pressure meter calibration at Dexter rechlor, Dexter and Imperial meter chamber and Waneeta Drive meter chambers.
08: Lakeview - Noticed a small leak on injection line between pump 2 and chlorine panel. Pressure cracks in line. Completed repair.
: Flowmetrix on site at PB01, PB02, EO38, VO01 and Lakeview rechlor for annual flow and pressure meter calibration
13: Flowmetrix on site at Port Burwell tower and EO14 for annual annual flow and pressure meter calibrations/
19: Port Burwell tower, Dexter & Lakeview rechlor - Tested critical alarms via SCADA by altering set points. Operation confirmed with alerts from call service. Set points returned to initial settings upon completion
20: Dexter rechlor - Tested flood alarms.
21: Valve house: Jutzi on site for chemical delivery.
27: Dexter rechlor - Replaced last section of chlorine panel after last isolation valve due to pinhole leak.
28: Dexter- Found chlorine panel with leak from treaded joint from previous days repair. Completed repair.

SECOND QUARTER:

APRIL

04: Lakeview - On site with Farmington mechanical for repair on eye wash station and replacement of ball valve. Isolated pipe which also isolated analyzer at 09:06. Analyzer reading 1.40 at this time. Paused pumps. New ball valve installed between old valve and eyewash station. After new ball valve installed

opened isolation valve at 09:11 returning analyzer to service. Analyzer reading 1.18. Waited until residual reached 1.32 before unpausing pumps. Actuator valve on eyewash station replaced with new valve. Issue found to be threads on actuator valve failed. Flushed through eyewash station. No further issues

05: Dexter Rechlor - Paused pumps isolated panel from distribution removed section of pipe between isolation valve and injection line. Removed connection piece that connects to isolation valve and installed on new elbow connection. Inspected o ring connected new piping to chlorine panel. Opened isolation valve and advanced pump two to prime panel. Connected injection line once flow was established from panel. Unpaused pumps and contacted on call operator to clear lockout and general alarms caused by pausing the pumps. Observed pump one return to service shortly after function switched to pump two. Watched pump two complete a full cycle. Tower now switching to discharge. Will return after completion of rounds to inspect panel further. Returned to site. In contact with duty OIC to put tower back to fill mode to check panel while in operation. Observed both pumps complete two full cycles without issue. All appears normal

18: Valve House - On site to receive chlorine delivery from Jutzi

23: Port Burwell tower - On site with Landmark for installation of duck bill valve at discharge end of overflow pipe. Disinfected valve and outlet with 12% NSF sodium hypochlorite solution before installation. Disinfected once more upon completion of installation

24: Lakeview - Found leak on discharge end of chlorine panel. Isolated panel from distribution. Paused both pumps and unfastened line from panel. Found issue to be pressure cracks in injection line. Slid fittings back and removed approximately 6" of line reattached line to panel. Opened valve to distribution and unpaused both pumps. Used zip ties to suspend line to help prevent weight of line causing further pressure cracks

26: Port Burwell tower - Found chlorine accumulating on tubing between pump 2 and panel. Paused pump and isolated from panel. Removed tubing. Upon inspection found pressure cracks on both ends of tubing. Using a new length of tubing attached new fittings on pump end of connection. Replaced o ring on check valve. Fittings and nut for panel end of connection reused as they we still in good condition. Reattached tubing. Paused pump 1. Isolated panel from distribution. Opened valve to cylinder, unpaused pump 2 and opened valve between pump 2 and panel. Advanced pump 2 to purge air from panel. Upon completion drained and isolated cylinder. Opened valve to distribution. Returned pumps to normal operation

30: Port Burwell tower, Lakeview & Dexter Rechlor - Tested critical alarms by altering set points via SCADA. Operation confirmed with alerts from call service. Set points returned to initial settings upon completion

MAY

01: Lakeview - Execulink technician on-site at 8:35 to replace bonder units for Lakeview and Port Burwell tower. While completing rounds found zero pressure on chlorine panel. Isolated panel from distribution and advanced pump one. After panel had reached 60 psi stopped pump. Pressure immediately started to fall. Isolated pumps from panel individually. Issue found to be with pump two. Pinched lines by hand. Degassing check valve failure. Proceeded to Port Burwell tower at 8:43 to obtain a degassing valve. Back on site at Lakeview at 08:51. Removed and replaced degassing check valve on pump two with new valve. Opened valve isolating pump two from panel. Advanced pump one. Stopped pump one once reaching 55 psi. Panel now holding pressure. Opened valve isolating panel from distribution and ensured pumps were returned to service. Now normal. Execulink's technician now completed bonder replacement

Dexter - On site with Execulink's technician to replace bonder unit. Completed rounds and checks. Reviewed data logger. Verified analyzer. Visually inspected chambers. No unusual noises. Technician completed task and is now off site.

PB02 – Sump pump failure due to GFCI being tripped. Returned and pumped out meter chamber. Attempted resetting GFCI within chamber. GFCI failed. Notification sent to ORO, duty OIC and WWOM of township.

03: Lakeview - Completed rounds and checks. Reviewed data logger. Calibrated analyzer. Topped up chlorine tank. Chlorine panel low pressure. Isolated panel from distribution. Advanced pump two to pressurize

panel. Panel pressure built quickly. Panel slowly losing pressure once pump stopped. Isolated pump one from panel and advanced pump two. Panel pressure slowly dropping. Isolated pump two and opened valve isolating pump one and advanced pump one. Panel now holding pressure. Tightened all connections on pump two. Opened valve isolating pump two and advanced pump two. Observed panel for 10 minutes. No further pressure loss at this time. Opened valve isolating panel from distribution and ensured panel and pumps returned to service.

08: Valve house and Dexter rechlor – Tested flood alarms.

09: Valve house – Jutzi on site for chemical delivery.

10: Port Burwell tower - Found a small amount of crystallization on panel side connection for pump two chlorine line. Will return after acquiring replacement part to complete repair. Isolated pump two from panel removed and replaced union, coupling nut and fittings for new like for like. Tools and replacement parts disinfected with 12%NSF sodium hypochlorite before beginning work. After completing repairs opened valve isolating pump two. Isolated panel from distribution. Opened valve to cylinder and advanced pump two to purge air and prime panel. No signs of leakage. Drained and isolated cylinder. Opened valve to distribution and ensured pumps in normal operation

13: Port Burwell tower - While completing rounds noted lower than normal pressure on panel and lower than normal high chlorine for previous day. Upon inspection found an air bubble in diaphragm chamber on pump two. Isolated panel from distribution, opened valve to cylinder and advanced pump two. No change. Isolated and paused pump two. Removed and disassembled degassing valve from pump two. Cleaned out crystallization with water and clean towel. Sprayed with 12%NSF sodium hypochlorite before reassembling and reinstalling on pump two. Opened valve isolating pump two and advanced pump. Pressure built quickly but started dropping slowly after pump had stopped. Unpaused pump to observe function. Noticed tiny circulating air bubbles in intake channel leading to injection check valve just as the check valve failed drawing air into line. Paused pump and isolated. Removed injection check valve and replaced with new disinfected valve. Opened valve isolating pump two and advanced pump to prime panel. Drained and isolated. Opened valve to distribution and ensured pump returned to normal operation. Panel retaining pressure

21: Port Burwell tower, Dexter and Lakeview rechlor - Tested critical alarms by altering set points via SCADA. Operation confirmed with alert from call service. All set points returned to initial settings upon completion.

<u>JUNE:</u>

05: Valve house and Dexter rechlor – Tested flood alarms

06: Valve house – On site with Jutzi for chemical delivery

07: Port Burwell tower - Found large air bubble in diaphragm chamber as well as smaller bubbles in line for pump two. Isolated panel from distribution. Opened valve to cylinder and advanced pump. No change. Paused and isolated pump. Removed degassing check valve. Disassembled and cleaned ball and seal with > 1% sodium hypochlorite solution and clean cloth. Reassembled check valve sprayed with solution and reinstalled. Advanced pump to clear bubbles. Cylinder now filling. Drained and isolated cylinder. Opened valves isolating pump and panel from distribution. Unpaused pump. Now normal

18: Port Burwell tower, Dexter and Lakeview rechlor – Tested critical alarms

21: Port Burwell tower - Chlorine panel had low pressure. Opened cylinder and isolated panel. Advanced pump 1. Pressure regained quickly however dropped as soon as pump stop. Thoroughly inspected panel no signs of leakage. Pinched degassing line. Panel slowly building pressure. Paused and isolated pump one. Removed degassing check valve and replaced ball and seal within. Also replaced washer between valve and pump. Reassembled, opened valve isolating pump from panel and advanced pump to clear air from line and prime panel. Stopped pump once 60 psi was achieved. Unpaused pump. Panel still losing pressure. Spoke with OIC and advised that the issue is most likely with the dosing check valve. Paused pump and

isolated pump one. Removed dosing check valve replaced ball and seal within as well as 'o' ring between the valve and pump. Union cracked while reassembling. Cut line immediately after union and replaced with new union and fittings as well as 'o' ring between valve and union. Opened valve isolating pump from panel and advanced pump 1 to purge air and prime panel. Stopped advance once 60 psi achieved. Drained and isolated cylinder opened valve to distribution and returned pump to service. Waited 10 minutes. Panel now holding at 51 psi.

THIRD QUARTER:

JULY

04: Operator on site at the valve house with Jutzi for chemical delivery.

08: While Operator was checking communications equipment at Dexter Rechlor noticed light on module in PLC that is usually on constantly is flickering on and off. Email notification sent to ORO, PCT, duty OIC and WWOM of township.

10: While Operator was reviewing trending at Lakeview rechlor noticed unusual readings. Isolated panel from distribution and opened valve to cylinder. Advanced pump one. Cylinder filling, pump was normal.
Advanced pump two. No movement. Operator continued to troubleshoot the pump with so resolution. Can check log for all actions taken. Contacted OIC and reported findings. Instructed to contact on call operator and have pumps set to manual rotation and pump one set as duty pump and pump two removed from service until issue can be further investigated. Panel and pumps returned to initial settings upon completion .All tools and replacement parts sprayed with > 1% sodium hypochlorite solution prior to use.

11: Operator Inspected pump 2 at Lakeview. Checked Diaphragm all appeared normal.
Checked all fittings and discovered degasser connection wasn't allowing air to go through properly.
Reconnected and now working as intended. Will contact on call operator and allow pump 2 to be put back into rotation. Will inform primary operator.

11: Jutzi(Chlorine) delivery at Valve House

12: Operator on site at Dexter Rechlor to cycle power to cellular fail over after receiving alert from WWOM of Township due to lack of connection. Cycled power. Contacted Execulink technician and verified connection reestablished

15: 1023- Operator arrived at Dexter Rechlor. Facility running on UPS power. Issue due to passing storm. Checked UPS screen. 3% battery remaining. Setup portable generator and connected UPS and chlorine pumps. Completed rounds and checks. Reviewed data logger. Calibrated analyzer. Utility power restored while securing facility. Returned plugs to appropriate outlets and turned off generator. Will return to stow generator after completion of rounds to allow generator to cool.
1318-Generator now cool to touch at Dexter Rechlor. Returned to facility and secured site.

17: While completing rounds at Dexter Re chlor operator noticed low panel pressure and found leak on line between pump 1 and panel. Operator resolved issue and put back into operation. Refer to log book for more details.

18: 0845- On site at Dexter rechlor with Execulink technician (09:47) to investigate issues with cellular fail over connection. Device relocated to obtain a better signal until antenna can be attached to the exterior of facility.
1108- On site at Lakeview rechlor to replace battery in Telog data logger.

19: 1145-While Operator was completing rounds at the Port Burwell Tower noticed low pressure on chlorine panel. Resolved the issue. Refer to log book for further details. 1259- While completing rounds at Lakeview rechlor noticed low pressure on chlorine panel.
Resolved the issue.

24: At the request of the WWOM of the township reset telog data recorder at Lakeview Re chlor due to loss of communication. Now normal

25: On site at Lakeview Rechlor with Farmington Mechanical for installation of pressure relief valve. 6" check valve and two spool pieces (up and downstream of flow meter) removed. Sample port removed and replaced. Also new injection quill as well as stainless steel isolation valve for injection quill installed. Refer to log book for

further details. Chlorine delivered by Jutzi water technologies at valve house. 14 jugs, returned empty jugs to Jutzi water technologies.
26: Execulink technician on site at Dexter rechlor to relocate antenna for cellular fail over. Unable to mount high enough on facility to obtain a good signal. Technician to return with mount to complete relocation.
29: Cycled power to cellular fail over devices for Lakeview and Port Burwell tower due to notifications on 27th. In contact with Execulink and verified connection.
30: On site at Port Burwell Tower with Corrosion Service for annual cathodic protection inspection.

AUGUST
06: On site with Flow metrix at Lakeview rechlor. New antenna installed on exterior of facility as well as a power upgrade for Telog data logger. 1321-As per conversation with primary operator, set tower chlorine pump duty rotation to manual from SCADA to force rotation to CHP01 in response to low chlorine alarm. 1336-Returned Tower chlorine pump duty rotation to auto from SCADA as per conversation with primary operator.
16: Operator contacted ORO/OIC, increased Cl pump speed from 75% to 80% at Port Burwell Tower in effort to prevent Low Cl alarms from recurring. Noted air bubble in injection line for CHP-02, rotated CHP-01 into service and set duty rotation to manual. will inspect further tomorrow.
22: On site at the Valve House with Jutzi for chemical delivery

SEPTEMBER
02: Noticed low panel pressure at Lakeview rechlor. Operator resolved the issue.
05: On site with PBR Excavating and Farmington mechanical for saddle repair at 50942, 53158, 51819- Nova Scotia Line. 3 different sites.
06: On site with PBR Excavating and CC Dance at 50942 Nova Scotia Line for removal of old service and installation of SS repair sleeve.
17: Operator pumped out chambers EO08, EO10, EO11, EO12, EO13 & VC01 in preparation for Annual chamber inspections.
18: Worked on chamber inspections and valve turning.
19: Operator On site with Jutzi(Chlorine) for chemical delivery at valve house.
26: Pumped out chambers EO-05,17,18,19.21,23,26,27,30,31,32&33 in preparation for Annual valve turning/ chamber inspections
27: Farmington Mechanical on site for installation of new Pressure Relief Valve at Lakeview rechlor inside chamber.

Fourth Quarter
OCTOBER
2: install new chlorine injector at Dexter Rechlore
3: Trade tech backflow preventor inspection, Dexter, Lakeview and Tower
8: Completed fall hydrant flushing.
10: pipe installation for PRV which will being installed at a later date. Farmington Mechanical successfully removed the 90degree stainless steel elbow just after the flow meter, and will be welding the PRV mount today on it.
11: Farmington Mechanical are now finished installing the new pipe for a PRV to be put into place. Bypass now closed and isolation valves for opened. Everything now running properly.
18: Reset modem inside PLC as suggested by Execulink due to connection issues. Everything now appears normal. Dexter Rechlor
NOVEMBER
6: Fixed leak in chlorine panel. Replaced valve where pump frame connects to hose into system at Dexter Rechlor
21: Dexter analyzer calibration and electrolyte change

26: Completed analyzer calibration and changing electrolyte fluid at Tower.
27: Switched check valve on chlorine pump 2 as panel wasn't hold pressure
28: Farmington mechanical added Pressure Relief Valve at v001 and e038.
DECEMBER
3: Execulink communication change at valve house and lakeview
4: Changed out line from pump to panel on pump 2 due to pin hole leak in line at dexter rechlor.
17: Farmington mechanical on site for pressure relief valve inspection. Koolen electric on site for transformer. Valve house
23: Execulink communication change at Dexter rechlor.

SECTION 7: ALARMS

FIRST QUARTER:

JANUARY

12: Lakeview - Received alarm for Control Panel failure Lakeview rechlor (17:01). Logged onto SCADA Laptop to find no power to site. But still has Communication. Chlorine level reading 1.61ppm free, pressure: 315.1kpa, flow rate 2.42l/sec. Will continue to monitor site through SCADA. Contacted Hydro One about power failure in the area. Expected repair is for 11pm tonight. Received alert from Hydro One that power restoration had been moved to 3pm January 13th. Shortly after conversation lost communication to Lakeview rechlor and Port Burwell Tower. Heading to site (23:13).

13: Lakeview - Arrived on site at Lakeview rechlor due to power failure alarm.
:Set up portable generator to UPS and now restoring communication too SCADA (00:44). Restored communication to Lakeview rechlor, can now see tower as well which is currently in high level. Chlorine analyzer reading 1.55ppm free, grab taken: 1.48ppm free.
:Port Burwell tower - Arrived on site at the tower after receiving a high level alarm. Tower not overflowing currently. Chlorine level on analyzer reading: 1.70ppm free, grab taken: 1.67ppm free. Tower discharging currently all appears normal (01:54).
:Lakeview - Arrived back on site at Lakeview rechlor. Refilled generator with gas and reset router to restore communication to Tower (10:15). Communication to tower restored. Chlorine level at 1.45ppm free and discharging at 8.25l/sec. Put MV1 into pressure mode to run off Lakeview to prevent tower overflowing if communication cuts off from the tower again. Expected Utility power restoration expected to be around 2pm now. Power restored to site. Disassembled generator and returned everything back to normal operation (15:40). MV1 returned to "level only" mode, and pressure control source returned to MV1/MV2.

FEBRUARY

28: Lakeview - Received power failure alarm. Acknowledged alarm and proceeded to site. Arrived on site. Power has been restored. Possibly power flicker due to the heavy thunderstorm. Visually inspected chlorine panel and ensured both pumps had power. Chlorine analyzer also functioning. Verified that communications were up for both the tower and Lakeview. Heater was on. All appeared normal and functioning as intended. Secured site

29: Valve House - Received communication loss alarm. Unknown location. Spectrum operator did mention they had Hydro One outages all over, however not active in our area.
Acknowledged alarm on Win911 system, again no location stated. SCADA alarms email came through showing the comm loss to be at PB3. I was then able to log in to iPad and verify it to be MV1. All appeared normal on SCADA iPad. Contacted water treatment plant on Dexter Line to see if it was anything in conjunction with them. They also had no current alarms on the screen. He also looked into MV1 and confirmed that all appeared normal and functioning as intended. Contacted Execulink, who confirmed it was due to maintenance on their end between 0421 and 0435

MARCH

29: Port Burwell tower - Received notification from Execulink via answering service that Port Burwell Tower modem needed to be reset. Proceeded to site. Checked back building - Tower modem is at Lakeview Re-chlor. Arrived on site at Lakeview Re-chlor. Reset PB Tower modem. Checked SCADA iPad - comms appear to be restored. Observed SCADA for several minutes to confirm no further anomalies/drops in comms. No faults observed, logged off from SCADA.

SECOND QUARTER:

APRIL

04: Lakeview - Received alert from Execulink via Spectrum requesting a modem reset. Proceeded to site. After arriving on site reset modem, router and the micro hard unit. Contacted Execulink to confirm connection had been re-established. Execulink tech confirmed communication was good at their end. Secured site.

17: Lakeview - Received power fail alarm. On-site power is restored. Chlorine pumps operating. Checked UPS and circuit breakers. All normal.

23: Dexter Rechlor – Received alert for general pump fault. Reset pump 2 on SCADA, watched both pumps cycle. Reviewed trending small blip but otherwise looks normal.

MAY

04: Port Burwell Tower, & Dexter Re-chlor - Received notification of power failure alarms at Copenhagen BPS, Port Burwell Tower, & Dexter Re-chlor as part of planned power outage from 07:00 - 11:00 for pole replacements. Logged onto Malahide SCADA - acknowledged alarms, checked readings for affected sites. Copenhagen BPS lost reading from pressure meter, flow 0.74 L/s. All readings at Dexter/PB Tower normal. Cl residuals 0.90/ 1.24 ppm respectively. Will continue to monitor SCADA for further issues for duration of outage. Acknowledged PB Tower backup dialer. Tower began filling. Cl residual rose briefly then dropped, plateauing ~0.90 ppm. Dexter Re-chlor Cl residual holding steady ~0.83 ppm. Lost Cl analyzer reading at PB Tower as backup power failed - reading defaulted to 0.00 causing low Cl alarm. Proceeding to site to confirm residual by hand. Last reading 0.90 ppm. Acknowledged PB Tower low Cl alarm via dialer. Arrived at PB Tower. Took Cl residual by hand - 1.00 free ppm @ 09:56. Spoke with ORO - anticipate loss of Cl reading at Dexter Re-Chlor shortly as UPS power runs out. Will monitor Cl levels at both sites by hand until power is restored at 11:00. Lost comms at Dexter Re-chlor. Last Cl reading 0.85 ppm. Proceeding to site to confirm Cl residual by hand. Arrived at Dexter Re-chlor. Took residual by hand - 0.81 free ppm @ 10:40. Power restored to all sites. Comms functional again, all alarms/faults cleared from Malahide SCADA. Acknowledged power now normal alarm at PB Tower backup dialer. Observed Dexter Re-chlor Cl pumps running to confirm function. Checked SCADA readings for all sites - all appears normal, no equipment faults in wake of power failure. Dexter / Tower Cl residual readings 1.09 / 1.36 ppm respectively. Secured Dexter Re-chlor. Proceeded to PB Tower. Observed Cl pump function. All appears normal, no other equipment faults noted. Secured site.

23: Dexter rechlor- Received smoke detector alarm. Proceeded to site. Found nothing out of the ordinary on-site. Checked all electrical and everything seems good. Spoke with ORO and as per instructions disconnected smoke detector noticed a lot of dead bugs fell out from inside.

25: Valve house - Received UPS fault alarm. Tested UPS on battery power for 10 minutes, went from 100-95%. Put back on utility power, all seems normal. Reviewed scada trending, all good. Spoke with ORO he said UPS may not have surge protection. Referred to manual it indicates that UPS protects equipment from power surges.

JUNE

20: Dexter rechlor - Received alert from call service for power failure and pump fault on both chlorine pumps. Acknowledged alarms. Arrived on site at 04:06. Late arrival due to alarms at multiple sites. Site still without power. End of battery life alarm sounding from UPS. Residual 1.04, 45 psi on panel. 4.41 l/s. Reviewed data logger. Residual was at a minimum of 1.04 during outage. Attempted to set up generator. Could not start. Secured site @ 04:27 and proceeded to Port Burwell tower to obtain generator. On site at Port Burwell tower @ 04:32. Tested generator. Functioning. Secured site at 04:36. Arrived at Lakeview at 04:39. Secured generator to facility, started and connected UPS and both chlorine pumps. Pump 1 began dosing once start up had completed. Shortly after received a comm fault for Lakeview. Cycled power to all communication devices and ensured all connections were fully seated. Comms restored. Residual at 1.85, panel pressure at 55 psi and UPS battery at 7% charge. Secured site at 05:03. Received alert from call service for pump faults on both chlorine pumps. Acknowledged alarm and notified OIC. OIC arrived on site at 08:45 to check status of facility, Hydro One currently just east of facility restoring power. Chlorine level on analyzer reading 1.11ppm free. Grab 1.09ppm free. Filled up emergency generator with gas as it was empty on arrival, and shorty after power was restored.

Rearmed backup dialer and disconnected emergency generator. Reconnected chlorine pumps and all other equipment back to utility power.

Secured and left site. All appears normal.

23: Dexter rechlor- Received alert from call service no message just dead air. Given number for APAM dialer system. Phoned alarm and found Dexter rechlor pump 2 in general fault. Acknowledged alarm and logged onto SCADA. Residual was at 1.11 ppm, flow at 16.13 l/s and pump 1 active. Reset general alarm on pump 2. Also reset pump faults at Lakeview rechlor that were active and acknowledged since power was restored Thursday morning. Reset alarms and reviewed trending. Site working as intended

THIRD QUARTER:

JULY

27: 1344- Received alert from call service for power panel failure at Lakeview Rechlor. Called dialer “alarm fault cleared: alarm input quality is good”. Checked SCADA. Pumps dosing. Reviewed trending all normal. As pumps will not run on UPS. Suspected power flicker.

1626- Received alert from Execulink via call service that cellular fail over has lost connection. Reviewed SCADA. Primary leg still working. Will reset on Monday during rounds provided primary connection remains stable.

1733- Received alert from Execulink via call service that cellular fail over has lost connection at Port Burwell Tower. Reviewed SCADA. Primary leg still working. Will reset on Monday during rounds provided primary connection remains stable.

31: Received alert from call service for high flow alarm at Lakeview rechlor. In contact with Bayham Water. Alarm caused by hydrant flushing.

AUGUST

01: Received alarm for high level Port Burwell tower. Called Dialer and acknowledged alarm. Logged onto SCADA laptop to find no communication to all sites. No comm due to Execulink maintenance from 1am to 6am. Communication restored the next morning.

05: 1425- Received alarm for Dexter line Pump 2 fault no longer active. 1433-Logged onto scada iPad to find Dexter Rechlor facility on utility power, Chlorine level within normal range. Checked on chlorine pumps and found pump two had tripped due to most recent severe weather that role through. Reset pump remote fault. Everything now appears normal, both chlorine pumps working as intended.

07: 0835- Operator Received alert from call service for panel power failure. In contact with water treatment plant. Alarm due to monthly generator testing.

15: 1215-Received alert for PT1 low inlet pressure at Valve house. In contact with water treatment plant. Alarm due to maintenance at the plant. 1309-Operator received alert from call service for low chlorine at Port Burwell Tower. Readings: pressure- 35psi, percentage full- 74.056. In contact with WWOM of township. Informed water treatment plant currently not supplying water at this time due to maintenance resulting in low level at tower.

16: 18:22 - Received notification of Port Burwell Tower analyzer low Cl alarm. 18:26 - Opened Malahide SCADA. Current residual 0.50, tower filling. Acknowledged low Cl alarm from SCADA. 18:36 - Observed SCADA & reviewed trending. Residual holding steady from 0.50-0.53 ppm. Proceeding to site to confirm analyzer reading. 19:21 - Arrived on site. Current residual 0.53, tower still filling. 19:26 - Checked analyzer reading against handheld colourimeter. Handheld reading 0.67 ppm, analyzer reading 0.52 ppm. As per conversation with ORO, re-calibrated analyzer to match handheld reading. 19:56 - Observed site and SCADA readings for 30 minutes. Residual never dropped below 0.66 ppm. Secured site.

20: 00:56 - Received notification of MV1 low inlet pressure alarm.00:56 - Received notification of MV1 low inlet pressure alarm. 01:01 - Opened Malahide SCADA. Current inlet pressure 220.6 kPa. Reviewed trending - pressure appears to begin declining @ 23:16 08/19. 01:10 - Spoke with EAWTP operator. Operator explained that MV1 is currently isolated while performing maintenance on their side. Expected restoration of service between 07:00 - 08:00. Checked PB Tower - level currently at 8.81 m, discharging. Informed ORO of issue. Will continue to monitor SCADA for duration of event. 03:44 - Checked SCADA. No change at MV1, current pressure 39.36 kPa. PB Tower level 8.49 m. 06:06 - Inlet pressure returned to normal at MV01 (404.38 kPa). PB tower still discharging, current level 8.13.

26: Received alert from call service for panel power failure fault at Dexter Rechlor, UPS fault and hypochlorite pumps 1&2 speed feedback fault. Acknowledged alarms via SCADA. Residual 1.17ppm. Flow 16.24 l/s. SCADA showing both pumps running. Residual remained constant. Proceeded to site. Arrived on site at 20:55. Could hear generator running at neighboring property. Residual upon entry was 1.17. Checked UPS battery life. 66% remaining. In contact with Hydro One. Informed crew data patched to area. Estimated power restoration 10:45. Stayed on site until power restored. Power restored at 10:38. Residual 1.55ppm. Flow 0.51. Tower now discharging. Ensured all equipment powered up. Secured site at 22:41.

27th: Received alert from call service for low chlorine at Port Burwell Tower. Acknowledged alarm. Proceeded to site. Arrived at 23:05. Upon entry residual at 0.32ppm. Low pressure on chlorine panel. Obtained a grab sample. Calibrated analyzer from 0.32 to 0.52ppm. False low. Small air bubbles in line on pump 1. By movement of bubbles dosing check valve not working properly. Paused and isolated pump 1. Removed and disassembled dosing valve. Slight fouling on ball. Replaced ball and seal. Reassembled. Isolated panel from distribution and opened valve to cylinder. Opened valve isolating pump 1 and advanced pump. Also advanced pump 2 as there were also air bubbles present in that line. Once purged. Drained and isolated cylinder. Opened valve to distribution. Panel now holding at 50 psi. Tower switched to fill mode during repairs. Analyzer reading 0.94ppm. Secured site at 23:29.

28th: Received alert from call service for hypochlorite pump 2 general alarm at Dexter Rechlor. Logged onto SCADA acknowledged alarm and reset alarm on pump two. Observed both pumps complete one full dosing cycle. No further issues at this time.

SEPTEMBER

01: Received notification from Execulink via call service that secondary internet connection “flapping “ in and out at Dexter Rechlor. Logged onto SCADA and reviewed trending. No loss of communication. Will cycle device during rounds tomorrow

05: 0228 - Received notification of Dexter re-chlor low Cl alarm. 0236 - Opened Malahide SCADA. Current residual reading 0.51 ppm, alarm inactive. Acknowledged alarm and cleared from banner. 0254 -

Reviewed trending - no obvious source of issue. Alarm recurred as residual dropped back to 0.50. Proceeding to site. 0339 - Arrived on site. Current analyzer reading 0.47 ppm.
0350 - Inspected chlorine board - lines/fittings appear in good condition, no leaks observed. Current pressure 50 psi. 0353 - Took Cl residual by hand - 0.72 free ppm @ 0353. Re-calibrated Cl analyzer from 0.47 to 0.72. 0407 - Monitored Cl residual - holding steady at approx. 0.70 ppm. Do not expect recurrence of alarm. Secured site.

09: 1:10 - received notification of low Cl residual alarm at dexter rechlor. 01:20 - Opened Malahide SCADA. Alarm now inactive, residual currently 0.53. Acknowledged alarm and cleared from banner. 01:25 - Residual dropped back to 0.50 and alarm recurred. Acknowledged alarm, proceeding to site. 02:19 - Arrived on site. Current residual 0.49 ppm, Pressure in chlorine board reading 50 psi. 02:28 - Inspected chlorine panel - pumps/piping appear to be in good condition, no leaks observed. chlorine usage appears normal. 02:32 - Tested chlorine analyzer reading against handheld colourimeter. Obtained residual of 0.74 free ppm @ 0232. Re-ran test and confirmed handheld result (0.72 free ppm @ 0234). Re-calibrated Cl analyzer from 0.49 to 0.74 ppm. 02:50 - Monitored residual from analyzer/SCADA to confirm stability of residual. No issues observed. Secured site.

20: 21:18 - Received notification of Port Burwell Tower analyzer low Cl reading. 21:21 - Opened Malahide SCADA. Current residual 0.45 ppm, tower filling. 22:14 - Arrived on site. Analyzer residual 0.40 ppm - checked against handheld colourimeter and obtained reading of 0.50 ppm. Current Cl line pressure 0 psi, pump 2 injector check valve appears to be allowing backflow causing loss of dosage. 22:26 - Rotated to pump 1 from Malahide SCADA and observed similar backflow issue. Rotated duty back to pump 2. 22:59 - Pulled apart spare check valve and thoroughly rinsed all components with water. Re-assembled spare check valve and confirmed normal function. Stopped pump 2 and isolated on chlorine board. Replaced chlorine pump 2 injector check valve with clean spare. Returned all junctions to place and re-primed pump. 23:11 - Pump 2 now building pressure in chlorine board, currently at 20 psi. Confirmed chlorine flow to cylinder. opened isolation valve from chlorine board to water supply.
23:36 - As per conversation with ORO, reduced low chlorine alarm setpoint to 0.40 ppm to prevent alarm recurrence. Also set pump 2 to lead duty and set rotation to manual to prevent pump 1 from rotating into service as per conversation with ORO.
23:44 - Pressure in Cl lines now normal - 55 psi. Current analyzer reading 0.43 ppm - confirmed against handheld colourimeter and obtained residual of 0.50 free ppm @ 2344. Re-calibrated Cl analyzer to match handheld reading. Secured site.

29: 09:38 - Received notification of low chlorine alarm at PB Tower. Refer to log book for details.

FOURTH QUARTER

OCTOBER

1: Low chlorine alarm tower

3: Low chlorine alarm tower

3: Low chlorine Lakeview

4: Communication alarm Lakeview. Logged onto SCADA and acknowledged alarms. Reviewed sites. All valves present and updating.

26: Received notification of Dexter Re-Chlor low inlet pressure alarm. Contacted Port Stanley WTP - informed operator of fluctuations and inquired if they had seen anything similar. Operator said they had not observed anything similar during the timeframe in question. No further fluctuations in flow/pressure readings observed since flow from MV1 ended at 14:55. Informed ORO of findings and secured site.

27: Received notification of Dexter Re-Chlor low inlet pressure alarm.
Contacted Malahide WWOM. Issue is caused by testing being conducted by fire dept. testing should finish shortly, will continue to monitor SCADA until completion.

31: Received call at 21 19 for plc 01 sys comm fault alarm port Burwell e034 communication fault alarm Acknowledged alarm 21 20

Logged on to scada and checked lakeview chamber. Pt1 was 309.2 at1 was 1.64 and ft1 was 4.46. Numbers were changing and trending looked good. Checked other port Burwell facilities on scada and all appeared normal. Continued to track trending.

NOVEMBER

6: Received alert from call service for communication alarm. Acknowledged alarm and logged onto SCADA. Valves are present and fluctuating. Lakeview Rechlor

7: Received communication alarm at 1404

Checked scada at 1406 and no values for lakeview

Arrived on site at 1415 and cycled power

Communication restored at 1430 and values populated in scada. Lakeview Rechlor

10: Received alert from call service for communication failure. Logged onto SCADA. Values present and fluctuating. Lakeview Rechlor

15: Received pump 1 fault alarm Dexter Rechlor

16: Received call from call service at 1608 for e034 plc comm fault alarm

Logged on to scada to acknowledge alarm at 1610

Looked at lakeview on scada and appeared to have communication still. At1 was 1.14, pt1 was 310.5 and ft1 was 6.96 and the values were changing they weren't stuck.

Checked port Burwell tower communications and appeared to have communication as well.

Checked plc diagnostics on scada and plc comm fault reset

Reviewed trending and all appeared normal. Lakeview Rechlor

DECEMBER

12: Received alarm at 1008 for panel power failure

Arrived on site at 1030

Lights wouldn't work and fan wasn't on but analyzer, data logger, chlorine pumps and flow meter were working

Opened panel next to breaker labeled lights and fan, pushed reset button and than start/stop button

Fan turned on and lights worked. Lakeview Rechlor.

15: Received alert from call service for PLC communication failure. Logged onto SCADA and acknowledged alarm. All values present and updating. Port Burwell Tower.

16: Received alert from call service for PLC communication failure. Phoned to acknowledge alarm. Alarm not present. Logged onto SCADA. No alarm in banner. All values present and refreshing.

17: Received alert from call service for PLC communication failure. Acknowledged alarm and logged onto SCADA. All values present and refreshing. Port Burwell Tower.

18: received alert from call service for PLC communication failure. Logged onto SCADA and acknowledged alarm. Confirmed values present and refreshing. Port Burwell Tower 22:23.

Received alert from call service for PLC communication failure. Logged onto SCADA and acknowledged. Confirmed values present and refreshing. Port Burwell Tower 05:02.

19: Received alert from call service for PLC communication failure. Acknowledged alarm and logged onto SCADA. Confirmed values present and refreshing. Port Burwell Tower 11:04.

Received alert from call service for PLC communication failure. Acknowledged alarm and logged onto SCADA. Confirmed values present and refreshing. Port Burwell Tower 20:01.

20: Received alert from call service for PLC communication failure. Acknowledged alarm and logged onto SCADA. Confirmed values present and refreshing. Port Burwell Tower 01:06.

21: Comm Fault alarm lasting from 16:25 - 16:27. Alarm was inactive when SCADA iPad was opened - readings at site appear normal. Port Burwell Tower.

Comm Fault alarm lasting from 13:51 - 14:57. Monitored SCADA iPad during course of alarm event - readings remained normal throughout, updating as normal. Port Burwell Tower.

27: Comm fault lasting from 03:07 - 03:47. Monitored SCADA iPad during course of alarm event - readings remained normal throughout. Port Burwell Tower.

Comm fault lasting from 10:29 - 10:56. Monitored SCADA iPad during course of alarm event - readings remained normal throughout. Port Burwell Tower.
Recieved notification of comm fault @ 12:03, fault had cleared by the time SCADA iPad was accessed @ 12:04. Readings appear normal. Port Burwell Tower.
Comm fault lasting from 14:07 - 14:27. Monitored SCADA iPad during course of alarm event - readings remained normal throughout. Port Burwell Tower.
Comm fault lasting from 17:04 - 18:13. Monitored SCADA iPad for duration of alarm event - readings remained normal throughout. Port Burwell Tower.
Comm fault lasting from 19:04 until alarm was disabled by Malahide WWOM @ 19:25. Monitored SCADA iPad during course of alarm event - readings remained normal throughout. Port Burwell Tower.
28: received notification of comm fail at PB Tower.

22:19 - lost readings on SCADA iPad from 22:11 - 22:19. unable to clear error from PLC tab. cycled power to communications hardware for site. Faults continue to occur, does not appear to have had an affect. Swapped internal DSL cable with spare on site and cycled power to unit again.

29: PLC Comm fault lasting from 07:44 - 08:35. Monitored SCADA iPad during course of alarm event - readings remained normal throughout. Port Burwell Tower.
PLC Comm fault lasting from 02:52 - 04:39. Monitored SCADA iPad during course of alarm event - readings remained normal throughout before dropping @ 04:38. Cleared error from PLC tab. Readings returned and comm fault cleared. Port Burwell Tower.
PLC Comm fault lasting from 23:09 - 01:00. Monitored SCADA iPad during course of alarm event - readings remained normal throughout before dropping @ 00:57. Cleared error from PLC tab. Readings returned and comm fault cleared. Port Burwell Tower.
30: Lakeview power outage lasting from 04:29 - 05:55. Monitored SCADA iPad during course of outage - no issues observed.

31: Received plc communication alarm at 0115. Logged onto scada and alarm had already cleared and everything was normal Received plc communication alarm at 0345. Logged onto scada and alarm had already cleared and everything was normal

SECTION 8: COMPLAINTS & CONCERNS

FIRST QUARTER:

There were no community complaints or concerns during the first quarter.

SECOND QUARTER:

There were no community complaints or concerns during the second quarter.

THIRD QUARTER:

JULY

12: A complaint was received from a resident filling their hot tub and noted a ring of black/redish floaties around the walls of their tub. Flushing completed in the area and follow-up completed by the WWOM.

23: A compliant was received by the Township that there may be a watermain/service leak at two locations: 51819 Nova Scotia Line and west of Nova Scotia Line & Springfield Road. Both leaks were confirmed and were repaired September 5th.

FOURTH QUARTER:

There were no community complaints or concerns during the fourth quarter.

PBSW01 Locates	
Month	**# of Locates Completed**
January	1
February	4
March	5
April	0
May	29
June	4
July	18
August	10
September	8
October	1
November	0
December	0

REPORT NO. AASWSS-25-04

TO: Aylmer Area Secondary Water Supply System- Joint Board of Management
DEPARTMENT: Public Works
MEETING DATE: March 19, 2025
SUBJECT: **AYLMER AREA SECONDARY WATER SUPPLY SYSTEM: 2024 SECTION 11 ANNUAL REPORT AND SCHEDULE 22 SUMMARY REPORT**

RECOMMENDATION:

THAT Report No. AASWSS-25-04 entitled "Aylmer Area Secondary Water Supply System (AASWSS): 2024 Section 11 Annual Report and Schedule 22 Summary Report" be received.

PURPOSE & BACKGROUND:

Schedule 22 of O. Reg. 170/03 under the Safe Drinking Water Act requires that the Operating Authority prepare and submit a report to the Owner no later than March 31st of each calendar year. In addition, the Operating Authority, being the Ontario Clean Water Agency (OCWA), is required to complete Section 11 of O. Reg. 170/03 under the Safe Drinking Water Act. The Section 11 Annual Report must be made available to the public free of charge if requested.

The purpose of the two reports that are submitted by OCWA is to advise the Owner on the operation of the system, the quality of the water, and the quantity of water used throughout the drinking water system for the previous year.

COMMENTS & ANALYSIS:

OCWA has prepared and submitted the 2024 Ministry of the Environment, Conservation and Parks (MECP) Annual Summary report for the AASWSS. The Operating Authority is required to complete the Section 11 Annual Report by February 28th of each calendar year. The members of the Joint Board of Management are to receive copies of the Schedule 22 report by March 31st of each calendar year. It should be noted that the Aylmer Secondary, Section 11 report combines pertinent information for both the Elgin Middlesex Pumping Station (EMPS) and the Transmission main. This is done to display all sampling for the system on one document to provide a clearer interpretation of all samples collected for the entire system. There are two separate Schedule 22 reports

which are completed for the Aylmer Secondary. One report is for the EMPS and the other is for the Transmission main. Copies of these reports for both the EMPS and the Transmission Main were provided to the members of the Joint Board of Management before the required dates by email. Reports are also submitted by the Elgin Area Primary Water Supply System - Joint Board of Management for the Elgin Area Water Treatment Plant and are available to Board members upon request.

The contents of the Schedule 22 reports prepared by OCWA include:

- Overview of the system;
- Compliance with regulations;
- Corrective Actions related to non-compliance;
- Flow summary for the previous year.

The contents of the Section 11 report prepared by OCWA include:

- Description of the water system;
- A summary of adverse water quality incidents;
- Population served;
- Expenses incurred;
- A summary of microbiological and chemical testing over the year.

Attached to this report are the 2024 Section 11 Annual Report and the Schedule 22 Summary Reports for both the Elgin Middlesex Pumping Station (EMPS) as well as for the AASWSS Transmission Main (Watermain from EMPS to the Malahide/Aylmer Border). As the Board is aware, these are both components of the AASWSS. Both the EMPS and the Transmission Main are operated by two separate hubs of OCWA. As such, reports are required to be completed for each component of the Secondary System.

Compliance with Regulations:

The MECP conducted the annual inspection of the Elgin Middlesex Pumping Station and the transmission main on September 11th, 2024. The final inspection report was received on October 23, 2024. 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 the inspection period.

Availability of Reports:

Copies of the Section 11 and 22 reports are to be made available for inspection by the public during normal working hours. The Staff have posted the reports on the Township of Malahide's website and are available at the front desk upon request. If the general public requests a copy of the report, one must be made available free of charge.

SUMMARY:

The purpose of the report is to summarize compliance with the regulations, corrective actions and flow monitoring for the previous year's operation of the water system. It also promotes transparency between the MECP, the general public, and the municipal drinking water system. It is an effective tool to confirm to both the public and the MECP that municipal drinking water systems provide a safe supply of drinking water.

ATTACHMENTS:

1. Section 11 Annual Report (Combined report for EMPS and Transmission Main)
2. Schedule 22 AASWSS Annual Summary Report (Transmission Main)
3. Schedule 22 AASWSS EMPS Annual Summary 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

Ontario **Drinking-Water Systems Regulation O. Reg. 170/03**

Drinking-Water System Number:	260004722
Drinking-Water System Name:	Aylmer Area Secondary Water Supply System
Drinking-Water System Owner:	Aylmer Area Secondary Water Supply System Joint Board of Management c/o Township of Malahide
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2024 through December 31, 2024

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes [X] No [ ]

Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Township of Malahide Office
87 John Street South
Aylmer, ON
N5H 2C3
www.malahide.ca

Elgin Area Primary Water Supply System
Treatment Plant
43665 Dexter Line, Union, ON

Complete for all other Categories.

Number of Designated Facilities served:

N/A

Did you provide a copy of your annual report to all Designated Facilities you serve?
Yes [ ] No [ ]

Number of Interested Authorities you report to: N/A

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?
Yes [ ] No [ ]

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

Systems that receive their drinking water directly from the Aylmer EMPS:

Drinking Water System Name	Drinking Water System Number
Aylmer Area Secondary Water Supply System	260004722

Systems that receive their drinking water indirectly from the Aylmer EMPS:

Drinking Water System Name	Drinking Water System Number
Municipality of Central Elgin	260004761
Malahide Distribution System	260004774
Aylmer Distribution System	260002136

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

Yes [X] No [ ]

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

[X] Public access/notice via the web
[X] Public access/notice via Government Office
[ ] Public access/notice via a newspaper
[X] Public access/notice via Public Request
[ ] Public access/notice via a Public Library
[ ] Public access/notice via other method ____

Describe your Drinking-Water System

The Elgin Middlesex Pumping Station (EMPS) receives water from the Elgin Area Primary Water Supply System (EAPWSS), which is located to the east of Port Stanley. Water from the EAPWSS is pumped into the EAPWSS site reservoirs located at the EMPS. The total capacity of the 2 reservoirs is 54,600$m^{3.}$ Through various secondary water supply systems, the EMPS serves the Cities of London, St. Thomas, Town of Aylmer, and Municipalities of Central Elgin, Malahide and Southwold.

The EMPS is a shared facility. Booster pumps are dedicated to directing water to the City of London, St. Thomas Secondary and/or Aylmer Secondary Water Supply Systems. A gas chlorine system is utilized to provide re-chlorination for water being directed to the St. Thomas and Aylmer Area Secondary Supply Systems. The facility also houses a 600kW standby diesel generator that provides emergency power to pump water into the St. Thomas and Aylmer systems during a power interruption.

Three pipelines exit the EMPS: one pipeline exits to the South, to Highway 3 and then runs in an Easterly direction to service the municipalities on the Aylmer Area Secondary System; the second pipeline exits to the south of the EMPS property and extends west to service the St. Thomas Area Secondary System; the third pipeline runs North along Highbury Avenue, servicing the City of London distribution system.

List all water treatment chemicals used over this reporting period

- Gas Chlorine

Were any significant expenses incurred to?

[ ] Install required equipment
[X] Repair required equipment
[X] Replace required equipment

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

EMPS

- Surge Anticipating and Pressure Reducing Valve inspections and repairs
- Flow Control Valve inspections and repairs
- DWQMS External Audit
- Generator diesel fuel
- Chlorinator vacuum regulator replacement
- Chlorine cylinders
- TSSA Generator fuel system upgrades
- Chlorinator system service and repairs

Distribution

- Chamber 16 flowmeter repair
- New UPS at Chamber 13 and 16
- Sump pump repaired at chamber 13.
- Shelf spare PLC and I/O module purchased
- New SCADA computer purchased and installed
- Changed Cisco Routers for Juniper Routers at all locations.
- Valve exercising
- Air valve chamber inspection
- SCADA server cleaned/Instrument Calibration as per Summa Agreement
- SCADA maintenance

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

Distribution System

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
N/A	N/A	N/A	N/A	N/A	N/A

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

	Number of Samples	Range of E.Coli Results (CFU/100 mL) (min #)-(max #)	Range of Total Coliform Results (CFU/100 mL) (min #)-(max #)	Number of Heterotrophic Plate Count (HPC) Samples	Range of HPC Results (CFU/1 mL) (min #)-(max #)
EMPS Aylmer	57	(0) – (0)	(0) – (0)	53	(<10) - (50)
Distribution	159	(0) – (0)	(0) – (0)	53	(<10) – (<10)

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

EMPS Aylmer

Parameter	Number of Grab Samples (Continuous Monitoring)	Min	Max	Avg
Free Chlorine Residual (mg/L)	8760	0.53	1.91	1.07

Note: *The free chlorine residual spiked on occasion during 2024. Each spike corresponded with a pump start-up. None of the spikes lasted longer than 5 minutes after pump start-up.*

Distribution System

Parameter	No. of Samples Collected for period being reported	Range of Results	
		Minimum	Maximum
Free Chlorine Residual (mg/L)	348	0.66	1.51

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

EMPS Aylmer

Parameter	Sample Date	Result Value	Unit of Measure	MAC	Exceedances	
					MAC	½ MAC
THM (NOTE: result value is based on one sample)	January 2, 2024 April 2, 2024 July 2, 2024 October 1, 2024	18 19 23 29	µg/L µg/L µg/L µg/L	–	–	–
THM Running Annual Average (RAA)	2024	22	µg/L	100	No	No
HAA (NOTE: result value is based on one sample)	January 2, 2024 April 2, 2024 July 2, 2024 October 1, 2024	6.5 6.1 6.7 8.3	µg/L µg/L µg/L µg/L	–	–	–
HAA Running Annual Average (RAA)	2024	6.9	µg/L	80	No	No

ND = Non-detect

Distribution System

Parameter	Sample Date	Sample Results	Unit of Measure	MAC	Exceedances	
					MAC	1/2 MAC
Trihalomethane: Total (ug/L)	January 2, 2024 April 2, 2024 July 2, 2024 October 1 , 2024	20 18 24 30	µg/L	-	-	-
THM Running Annual Average (RAA)	2024	23.0	µg/L	100.00	No	No
Haloacetic Acid: Total (ug/L)	January 2 2024 April 2, 2024 July 2, 2024 October 2, 2024	14.2 6.9 8.3 7.8	µg/L	-	-	-
HAA Running Annual Average	2024	9.3	µg/L	80.00	No	No

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

February 21st, 2025

Jason Godby
Director of Public Works
87 John Street South
Aylmer, ON N5H 2C3

Re: Safe Drinking Water Act, O. Reg. 170/03 Schedule 22 Summary Report

Dear Mr. Godby,

Attached is the 2024 Summary Report for the Aylmer Area Secondary Water Supply System. This report is completed in accordance with Schedule 22 of O. Reg. 170/03, under the Safe Drinking Water Act.

This Summary Report is to be provided to the members of the Aylmer Area Secondary Water Supply System Joint Board of Management by March 31, 2025.

Section 12 of O. Reg. 170/03, requires the Annual Report required under Section 11 of O. Reg. 170/03 and the Summary Report be made available for inspection by any member of the public during normal business hours, without charge. The reports should be made available for inspection at the office of the township, or at a location that is reasonably convenient to the users of the water system.

Please feel free to contact me should you require any additional information regarding these reports. I can be reached at 519-870-7841.

Sincerely,

Matthew Belding
Process and Compliance Technician

c.c. Sam Sianas, OCWA's Regional Hub Manager
Vitaliy Talashok, OCWA's Senior Operations Manager
Maegan Garber, Safety, OCWA's Process and Compliance Manager
Sam Gustavson, Malahide's Water/Wastewater Operations Manager

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Annual Summary Report

For the

Aylmer Area Secondary Water Supply System

2024

Prepared for the Township of Malahide,
Administering Municipality for the Aylmer Area
Secondary Water Supply System Joint Board of Management

By the Ontario Clean Water Agency

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SECTION 1: Overview

This summary report for the Aylmer Area Secondary Water Supply System is published in accordance with Schedule 22 of Ontario's Drinking Water Systems Regulation for the reporting period of January 1st, 2024 to December 31st, 2024. The Aylmer Area Secondary Water Supply System (waterworks number 260004722) is categorized as a Large Municipal Residential Drinking Water System.

The Aylmer Area Secondary Water Supply System is operated under the Municipal Drinking Water Licence (MDWL) 302-101 and Drinking Water Works Permit (DWWP) 302-201.

This report was prepared by the Ontario Clean Water Agency (OCWA) on behalf of the administering authority, the Township of Malahide.

SECTION 2: Compliance

The Aylmer Area Secondary Water Supply System was operated and maintained in such a manner that water supplied to the consumers satisfied the requirements in the Safe Drinking Water Act, Municipal Drinking Water License and Drinking Water Works Permit.

The annual routine MECP Inspection of the Aylmer Area Secondary Water Supply System was conducted on September 11th, 2024, by Provincial Officer, Angela Stroyberg. The final inspection report identified no non-compliances with regulatory requirements.

SECTION 3: Corrective Action

The routine MECP Inspections have an Inspection Rating Record, which evaluates the system to provide information for the owner/operator on areas that need to be improved. The particular areas that were evaluated for the Aylmer Area Secondary Water Supply System were: Certification and Training, Distribution System, Logbooks, Operation Manuals, Reporting and Corrective Actions, Treatment Processes, and Water Quality Monitoring. This system received 0 out of 189 non-compliance ratings and as such received 100% for the Final Inspection Rating.

SECTION 4: Summary and Discussion of Quantity of Water Supplied

In accordance with Schedule 22-2(3) 1, a summary and discussion of the quantity of water supplied during the reporting period is outlines below. There is no rated capacity specified in the Municipal Drinking Water Licence.

Attached as Appendix A is a summary of flow from the Elgin Middlesex Pumping Station which supplies all of the water to the Aylmer Area Secondary Water Supply System. This data is collected at the Elgin Middlesex Pump Station.

The average daily flow supplied to the Aylmer Area Secondary Water Supply System was 5,064 m^3/day, which is a 3.6% increase from the previous year. The maximum daily flow for 2024 was 9,055 m^3/day, which is a 23.3% increase from the previous year.

Attached as Appendix B are the flow totals for all meters that are located in the Aylmer Area Secondary Water Supply System.

APPENDIX A

The table below is a summary of quantities and flow rates from the Elgin Middlesex Booster Pumping Station meter for 2024 compared to 2023 values.

Month	2024 Total Flow (m^3)	2023 Total Flow (m^3)	2024 Average Day Flow (m^3)	2023 Average Day Flow (m^3)	% Difference between 2024 and 2023	2024 Max Day Flow (m^3)	2023 Max Day Flow (m^3)	% Difference Between 2024 and 2023
January	143,327	128,095	4,623	4,132	11.9	5379	4,929	9.1
February	146,901	130,138	5,246	4,648	12.9	5403	5,137	42.9
March	153,849	139,300	4,963	4,494	10.4	5179	7,344	-29.5
April	138,398	132,518	4,613	4,417	4.4	5831	5,119	13.9
May	165,442	163,740	5,337	5,282	1.0	6507	6,690	-2.8
June	176,384	156,963	5,879	5,232	12.4	6154	6,688	-8.1
July	169,080	167,832	5,454	5,414	0.7	6755	5,816	9.6
August	153,097	162,576	4,939	5,244	-5.8	6087	5,821	3.1
September	153,760	138,026	5,125	4,601	11.4	5960	6,237	-9.1
October	157,734	164,554	5,088	5,308	-4.1	6061	5,653	6.6
November	146,074	146,169	4,869	4,872	-0.1	5027	5,367	1.5
December	143,389	153,750	4,625	4,960	-6.7	9053	5,439	66.5
Total Flow	1,847,435	1,783,661	-	-	-	-	-	-
Average	-	-	5,064	4,887	3.6	-	-	-
Maximum	-	-	-	-	-	9053	7,344	23.3

APPENDIX B

The table below is a summary of quantities and flow rates from the meters on the system for 2024 compared to 2023 values.

Meter	2024 Total Flow (m^3)	2023 Total Flow (m^3)	% Difference between 2024 and 2023
Chamber 13	1,808,352	1,753,219	3.1
Chamber 16	1,717,542	1,721,990	-0.3
Tower Rd.	2,994	2,531	18.3
Belmont Rd.	2,536	2,911	-12.9
Springwater Rd.	287	307	-6.5
Norton/Church	2114	2,137	-1.1
Rogers Rd.	3,488	3,701	-5.8

ELGIN-MIDDLESEX PUMPING STATION
AYLMER AREA SECONDARY WATER SUPPLY SYSTEM
2024 COMPLIANCE REPORT
(Schedule 22 Summary Report)

Facility Name: Elgin-Middlesex Pumping Station -
Aylmer Area Secondary Water Supply System

Mailing Address: Elgin Area Primary Water Supply System
P.O. Box 220
Port Stanley, ON N5L 1J4

Average Daily Flow	5,075 m³/day
Max. Daily Flow	9,053 m³/day
Source Water	Elgin Area Primary Water Supply System

CONTACT INFO:

Contract Administration:
Township of Malahide Office
87 John Street South, Aylmer, ON N5H 3C2
Contact: Mr. Jason Godby
Director of Public Works

Operator:
Ontario Clean Water Agency.
P.O. Box 220, Port Stanley, Ontario N5L 1J4
Contact: Mr. Greg Henderson - Senior Operations Manager
(226) 378-5154

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System Approvals:

The Aylmer Area Secondary Water Supply System (AASWSS) is supplied water through the Elgin Middlesex Pump Station (EMPS), which receives water from the Elgin Area Primary Water Supply System (EAPWSS) on Dexter Line, east of Port Stanley, Ontario. During the reporting period, the Aylmer Area Secondary Water Supply System was operated pursuant to the approvals, licenses and permits listed below.

The supply and distribution of water to the system was governed by the following Municipal Drinking Water Licenses (MDWL) and Drinking Water Works Permits (DWWP):

- MDWL No. 302-101, issue 4, on May 7, 2021
- DWWP No. 302-201, issue 3, on May 7, 2021

The DWWP and MDWL were issued in accordance with the Safe Drinking Water Act (SDWA), 2002.

Treated Water Requirements:

The requirements fall under the Drinking Water Systems Regulation (O.Reg.170/03) and the Ontario Drinking Water Quality Standards (O.Reg.169/03) under the Safe Drinking Water Act, 2002.

Staff Complement and Training:

In 2024, the Aylmer facility at the EMPS was operated and maintained under the operating authority, Ontario Clean Water Agency. The operational and maintenance staff are based at the EAPWSS and share their time between the two facilities. Employees responsible for the operations and maintenance of the facility included one (1) senior operations manager, two (2) team leads, eight (8) full time operations staff, four (4) full time maintenance staff, one (1) technical support specialist, one (1) asset maintenance specialist and four (4) administrative support positions.

In 2024, all employees received Director Approved and practical on-the-job training which contributed to annual Ministry of the Environment, Conservation and Parks (MECP) training requirements.

History of Facility:

The EMPS is an integrated booster station occupied by three secondary systems, which are fed from two in-ground storage reservoirs, each having a capacity of 27.3 million liters. The two storage reservoirs and the site upon which the three booster stations are situated are owned by the EAPWSS. The original St. Thomas pump station, constructed in 1966, services St. Thomas, and sections of the Municipalities of Central Elgin and Southwold. Two more pump stations were completed in 1994 that service the Town of Aylmer, Municipality of Malahide, and the City of London.

The Aylmer Area Secondary Water Supply System (AASWSS) portion of the EMPS comprised of two high-lift pumps that deliver water through a transmission main that services the AASWSS. A gas re-chlorination system provides re-chlorination for water being directed to the AASWSS.

In the event of a power failure, an on-site generator can provide sufficient standby power to operate the facility and run an Aylmer pump.

Remote monitoring and control of all three pump stations is performed by staff at the EAPWSS. Remote monitoring and control capabilities are made possible via the EAPWSS and the EMPS SCADA systems.

Process Description:

The EMPS receives treated water from the EAPWSS, which treats water at the water treatment plant located on the shores of Lake Erie to the east of Port Stanley. Water from the plant is pumped into the EAPWSS site reservoirs located at the EMPS where it is subsequently fed via a series of headers to each of the pumping stations serving the AASWSS, the City of London Distribution System, and the St. Thomas Area Secondary Water Supply System (STASWSS).

Post-Treatment:

The AASWSS and STASWSS both utilize a gas chlorination system for secondary disinfection. The system consists of two scaled 68 kg gas chlorine cylinders and three chlorinators equipped with booster pumps and a dosing capacity of 1-60kg/h.

High Lift Pumping Station:

The two high lift pumps provide redundant pumping capacity into the AASWSS. The Aylmer pumps are equipped with variable frequency drives (VFD) with each pump having a rated capacity of 130 L/sec. With the current VFDs being utilized as soft and stop variable frequency drives.

Maintenance:

Site maintenance was carried out by Ontario Clean Water Agency (OCWA) field services staff based at the EAPWSS. Specialty maintenance services are provided, on an as needed basis by external service providers.

All maintenance scheduling is monitored through a computerized maintenance management system (Maximo).

In addition to the routine preventative maintenance program, several maintenance projects were completed at the EMPS in 2024. A summary of non-routine maintenance is available in Appendix D, of the 2024 Annual Report.

Sampling Procedures:

All samples collected by licensed OCWA personnel are submitted to a Canadian Association for Laboratory Accreditation (CALA) accredited laboratory for both bacterial and chemical analysis.

Distribution water samples are taken twice per week at the inlet to the reservoirs and submitted for bacteriological analysis. The distribution water entering the AASWSS is sampled weekly and submitted to an external laboratory for bacteriological analysis. Chlorine residual, for the water entering AASWSS, is monitored continuously from the EAPWSS by means of the SCADA system.

On a quarterly basis the distribution water entering the reservoirs, as well as the water entering the AASWSS is sampled and submitted to an accredited laboratory for the testing of disinfection by-products total trihalomethanes (THM) and haloacetic acids (HAA). Twice annually, the distribution water entering the reservoirs is sampled and submitted to an accredited laboratory for testing of lead concentrations.

All water quality sampling at the EMPS was performed in accordance with Ontario Regulation 170/03.

Water Quality Monitoring and Flow Measurement:

Water quality is monitored remotely by means of a free chlorine analyzer that was verified by EAPWSS staff. See Appendix A for a summary of 2024 water quality data. Flow leaving the EMPS directed to AASWSS is measured utilizing a magnetic flow measuring device. See Appendix B for 2024 total daily flow values and Appendix C for 2024 daily instantaneous peak flow rates.

Statement of Comparison:

The Municipal Drinking Water License for the AASWSS does not identify a rated capacity for the system. The pumping station has an available capacity of 22,464 m³/day, whereby instantaneous peak flow capacity is rated at 260 L/s.

The maximum total daily flow witnessed by the system in 2024 was 9,053 m³/day, approximately 40% of the system's capacity. The maximum instantaneous peak flow witnessed by the system in 2024 was 144 L/s, approximately 55% of the capacity. The average total daily flow witnessed by the system in 2024 was 5,075 m³/day, approximately 23% of the capacity.

Ministry of the Environment Conservation and Parks Inspections:

The MECP conducts an annual inspection of the Aylmer portion of the EMPS annually along with the AASWSS operated by the Ontario Clean Water Agency. A MECP inspection took place September 11, 2024 and the final inspection report was issued on October 22, 2024. There were no non-compliances identified in the inspection report. The final inspection rating received for the 2024-2025 fiscal year was 100%.

Benefiting Municipalities:

Following the adoption of the Municipal Water and Sewer Transfer Act in 1997, the Ontario Ministry of the Environment and Conservation and Parks transferred the ownership of the three booster stations from the Province of Ontario to the water systems' benefiting municipalities. As a result, the AASWSS portion of the EMPS and associated equipment is owned by the Aylmer Area Secondary Water Supply System Joint Board of Management, the London portion of the EMPS is owned by the Corporation of the City of London, and the St. Thomas Area Secondary Water System portion of the EMPS and associated appurtenances are owned by the St. Thomas Area Secondary Water System Joint Board of Management. Jointly these water systems benefit, and are managed on behalf of, the communities of Aylmer, Central Elgin, London, Malahide, Southwold and St. Thomas. A list of municipalities that receive water directly and indirectly from the AASWSS at the EMPS is provided in Appendix D.

The Ontario Clean Water Agency operates and maintains the EMPS, under contract to the AASWSS, The Corporation of the City of London and the STASWSS.

This report was prepared by Ontario Clean Water Agency, the Operating Authority for the Aylmer portion of the EMPS, on behalf of the Aylmer Area Secondary Water Supply System Joint Board of Management.

APPENDIX A – 2024 EMPS AYLMER
WATER QUALITY SUMMARY

MONTH	POST TREATMENT
	Free Cl_2 mg/L
January	
Minimum	0.78
Maximum	1.54
Average	1.12
February	
Minimum	0.87
Maximum	1.42
Average	1.15
March	
Minimum	0.77
Maximum	1.91
Average	1.14
April	
Minimum	0.73
Maximum	1.55
Average	1.09
May	
Minimum	0.71
Maximum	1.43
Average	1.04
June	
Minimum	0.78
Maximum	1.60
Average	1.05
July	
Minimum	0.61
Maximum	1.28
Average	0.97
August	
Minimum	0.53
Maximum	1.48
Average	0.93
September	
Minimum	0.56
Maximum	1.53
Average	1.00
October	
Minimum	0.55
Maximum	1.63
Average	1.14
November	
Minimum	0.69
Maximum	1.61
Average	1.10
December	
Minimum	0.85
Maximum	1.50
Average	1.09
Yearly Minimum	0.53
Yearly Maximum	1.91
Yearly Average	1.07

Note: Chlorine residuals obtained from SCADA.

APPENDIX B

EMPS AYLMER TOTAL DAILY FLOW - 2024

Date	January m^3	February m^3	March m^3	April m^3	May m^3	June m^3	July m^3	August m^3	September m^3	October m^3	November m^3	December m^3	
1	4,732	5,403	4,860	4,989	5,388	5,361	5,000	6,069	4,857	5,604	4,737	4,310	
2	4,532	5,140	4,680	4,902	5,684	5,173	6,367	5,780	5,062	4,946	4,547	4,848	
3	4,811	5,129	5,094	4,753	5,224	5,394	6,082	5,970	5,162	5,715	4,677	4,734	
4	5,045	5,106	4,846	5,182	4,859	5,411	6,755	5,943	5,688	5,263	4,817	4,199	
5	5,234	5,291	5,081	5,091	5,242	5,808	6,406	5,386	5,509	4,925	4,844	4,677	
6	4,560	5,325	4,573	4,520	5,467	5,890	5,962	5,247	5,603	5,114	5,027	4,377	
7	4,573	5,131	4,926	4,949	5,215	5,255	5,452	5,583	5,029	5,895	4,901	4,406	
8	5,069	5,340	4,910	5,277	5,690	5,148	6,560	6,004	4,724	5,565	4,924	3,698	
9	5,185	4,939	4,532	5,286	5,396	5,208	5,924	5,814	5,960	6,061	4,563	4,620	
10	5,205	5,110	4,313	5,831	4,960	5,465	5,379	4,994	5,562	5,382	4,864	4,775	
11	5,197	4,783	4,835	5,185	5,222	5,113	5,954	5,141	5,414	5,041	4,793	4,861	
12	4,752	4,981	4,580	4,646	4,828	5,796	6,012	5,924	5,201	5,010	4,987	4,730	
13	4,633	4,707	5,055	5,037	5,563	5,829	5,399	5,846	5,609	4,549	4,809	4,234	
14	4,768	4,821	4,588	3,335	5,677	5,747	5,826	5,923	4,541	5,052	4,531	4,873	
15	4,741	4,450	5,179	2,949	5,751	5,546	5,405	6,087	3,275	5,076	4,497	4,525	
16	4,812	4,794	4,556	3,051	5,641	5,924	6,055	5,730	2,682	4,887	4,915	4,603	
17	4,782	4,862	4,590	3,263	4,685	6,154	5,729	5,160	2,943	4,943	4,621	4,637	
18	5,020	4,537	4,995	4,823	5,649	6,138	5,352	5,024	2,274	4,491	4,906	4,864	
19	5,143	4,888	4,640	4,553	5,443	5,994	5,468	5,253	3,123	5,233	4,619	4,430	
20	4,726	4,854	4,850	5,005	5,719	5,721	5,328	6,011	3,464	5,010	4,877	4,407	
21	4,604	5,050	4,384	4,565	6,039	5,763	5,796	5,250	4,404	4,928	4,667	9,053	
22	4,875	4,919	4,936	5,002	6,507	5,950	5,926	5,256	4,225	5,409	4,689	4,810	
23	5,152	4,839	4,739	5,021	5,817	5,518	5,872	5,609	4,738	5,034	4,782	4,560	
24	4,692	4,591	4,719	5,149	5,986	5,519	5,818	5,496	4,949	4,705	4,342	4,248	
25	5,116	4,636	4,690	5,016	5,213	5,639	5,594	5,000	4,842	4,831	4,657	4,438	
26	5,208	5,105	4,881	5,052	5,412	5,344	5,256	5,798	5,290	4,927	4,679	3,989	
27	4,984	4,974	4,759	5,359	5,529	5,052	5,806	5,394	4,768	4,748	4,449	4,494	
28	4,516	4,870	4,576	4,857	5,050	5,668	5,650	5,381	5,361	4,968	4,703	4,693	
29	5,379	4,448	4,710	5,660	5,606	5,094	5,955	5,254	4,572	4,872	4,662	4,710	
30	5,147		4,719	5,158	6,052	4,892	4,692	5,635	4,902	5,122	4,321	4,357	
31	4,949		4,585		5,963		6,087	4,942		5,083		4,269	
Total	152,142	143,023	147,381	143,466	170,477	166,514	178,863	171,900	139,731	158,388	141,408	144,429	1,857,722
Minimum	4,516	4,450	4,313	2,949	4,685	4,892	4,692	4,942	2,274	4,491	4,321	3,698	2,274
Maximum	5,379	5,403	5,179	5,831	6,507	6,154	6,755	6,087	5,960	6,061	5,027	9,053	9,053
Average	4,908	4,949	4,754	4,782	5,499	5,550	5,770	5,545	4,658	5,109	4,714	4,659	5,075

APPENDIX C

EMPS AYLMER DAILY INSTANTANEOUS PEAK FLOW - 2024

Date	January L/s	February L/s	March L/s	April L/s	May L/s	June L/s	July L/s	August L/s	September L/s	October L/s	November L/s	December L/s	
1	122	122	122	122	131	131	130	126	131	132	131	121	
2	122	122	122	122	131	131	134	124	130	130	131	122	
3	130	122	122	129	130	133	128	123	143	124	131	122	
4	130	122	122	130	131	131	123	123	130	140	131	121	
5	130	122	122	131	130	131	123	123	123	122	131	122	
6	130	122	128	129	131	126	123	123	123	124	129	121	
7	129	130	130	133	130	123	123	125	123	123	124	121	
8	131	129	129	129	129	122	124	132	123	129	123	121	
9	130	128	129	130	123	122	124	133	124	126	137	120	
10	130	129	129	133	123	123	131	132	125	124	129	127	
11	128	130	129	122	123	122	124	131	132	123	123	122	
12	122	128	129	125	124	131	124	136	131	123	144	120	
13	123	129	128	121	138	130	129	131	131	122	124	121	
14	122	127	124	122	123	131	123	129	131	122	123	128	
15	122	123	122	125	132	131	124	123	130	123	122	121	
16	122	122	122	134	131	132	128	123	131	131	122	130	
17	122	122	122	129	131	131	135	122	130	129	122	121	
18	130	121	123	130	130	130	135	123	131	130	123	120	
19	123	123	123	130	131	129	123	128	131	131	122	122	
20	121	123	129	130	131	124	123	122	123	130	131	120	
21	122	122	130	127	130	123	123	131	124	137	130	122	
22	122	130	130	131	130	123	124	130	123	130	130	121	
23	121	130	130	130	123	123	124	131	123	129	142	121	
24	129	130	129	130	123	144	131	131	124	130	130	121	
25	130	129	130	123	123	122	135	130	131	123	130	121	
26	130	128	128	123	123	130	131	132	131	123	130	121	
27	129	130	129	123	123	130	131	139	132	123	130	127	
28	129	129	122	123	123	130	131	131	130	123	122	129	
29	130	122	121	123	131	129	131	132	131	122	122	129	
30	129		122	135	131	129	134	130	131	123	122	128	
31	128		121	131	131		128	131		124		129	
Minimum	121	121	121	121	123	122	123	122	123	122	122	120	120
Maximum	131	130	130	135	138	144	135	139	143	140	144	130	144
Average	126	126	126	128	128	128	127	129	129	127	128	123	127

Ontario **Drinking-Water Systems Regulation O. Reg. 170/03**

Drinking-Water System Number:	260004722
Drinking-Water System Name:	**Elgin Middlesex Pumping Station – Aylmer Area Secondary Water Supply System**
Drinking-Water System Owner:	Aylmer Area Secondary Water Supply System Joint Board of Management c/o Township of Malahide
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2024 through December 31, 2024

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes [X] No [ ]

Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Township of Malahide Office
87 John Street South
Aylmer, ON
N5H 2C3
www.malahide.ca

Elgin Area Primary Water Supply System
Treatment Plant
43665 Dexter Line, Union, ON

Complete for all other Categories.

Number of Designated Facilities served:

N/A

Did you provide a copy of your annual report to all Designated Facilities you serve?
Yes [ ] No [ ]

Number of Interested Authorities you report to: N/A

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?
Yes [ ] No [ ]

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

Systems that receive their drinking water directly from the Aylmer EMPS:

Drinking Water System Name	Drinking Water System Number
Aylmer Area Secondary Water Supply System	260004722

Systems that receive their drinking water indirectly from the Aylmer EMPS:

Drinking Water System Name	Drinking Water System Number
Municipality of Central Elgin	260004761
Malahide Distribution System	260004774
Aylmer Distribution System	260002136
Ontario Police College Distribution System	260002161

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

Yes [X] No [ ]

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

[X] Public access/notice via the web
[X] Public access/notice via Government Office
[ ] Public access/notice via a newspaper
[X] Public access/notice via Public Request
[ ] Public access/notice via a Public Library
[ ] Public access/notice via other method ____

Describe your Drinking-Water System

The Elgin Middlesex Pumping Station (EMPS) receives water from the Elgin Area Primary Water Supply System (EAPWSS), which is located to the east of Port Stanley. Water from the EAPWSS is pumped into the EAPWSS site reservoirs located at the EMPS. The total capacity of the 2 reservoirs is 54,600$m^{3.}$ Through various secondary water supply systems, the EMPS serves the Cities of London, St. Thomas, Town of Aylmer, and Municipalities of Central Elgin, Malahide and Southwold.

The EMPS is a shared facility. Booster pumps are dedicated to directing water to the City of London, St. Thomas Secondary and/or Aylmer Secondary Water Supply Systems. A gas chlorine system is utilized to provide re-chlorination for water being directed to the St. Thomas and Aylmer Area Secondary Supply Systems. The facility also houses a 600kW standby diesel generator that provides emergency power to pump water into the St. Thomas and Aylmer systems during a power interruption.

Three pipelines exit the EMPS: one pipeline exits to the South, to Highway 3 and then runs in an Easterly direction to service the municipalities on the Aylmer Area Secondary System; the second pipeline exits to the south of the EMPS property and extends west to service the St. Thomas Area Secondary System; the third pipeline runs North along Highbury Avenue, servicing the City of London distribution system.

List all water treatment chemicals used over this reporting period

Gas Chlorine at the EMPS

Were any significant expenses incurred to?

[ ] Install required equipment
[X] Repair required equipment
[X] Replace required equipment

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

EMPS

- Surge Anticipating and Pressure Reducing Valve inspections and repairs
- Flow Control Valve inspections and repairs
- DWQMS External Audit
- Generator diesel fuel
- Chlorinator vacuum regulator replacement
- Chlorine cylinders
- TSSA Generator fuel system upgrades
- Chlorinator system service and repairs

Distribution

- Chamber 16 flowmeter replacement
- Leak Detection on Rogers Rd.
- New UPS at Chamber 13 and 16
- Sump pump repaired at chamber 13
- Shelf spare PLC and I/O module purchased
- New SCADA computer purchased and installed
- Changed Cisco Routers for Juniper Routers at all locations.
- SCADA server cleaned/Instrument Calibration as per Summa Agreement
- SCADA maintenance

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

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
N/A	N/A	N/A	N/A	N/A	N/A

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

	Number of Samples	Range of E.Coli Results (CFU/100 mL) (min #)-(max #)	Range of Total Coliform Results (CFU/100 mL) (min #)-(max #)	Number of Heterotrophic Plate Count (HPC) Samples	Range of HPC Results (CFU/1 mL) (min #)-(max #)
EMPS Aylmer	57	(0) – (0)	(0) – (0)	53	(<10) - (50)
Distribution	159	(0) – (0)	(0) – (0)	53	(<10) – (<10)

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

EMPS Aylmer

Parameter	Number of Grab Samples (Continuous Monitoring)	Min	Max	Avg
Free Chlorine Residual (mg/L)	8760	0.53	1.91	1.07

Distribution System

Parameter	No. of Samples Collected for period being reported	Range of Results	
		Minimum	Maximum
Free Chlorine Residual (mg/L)	348	0.66	1.51

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

EMPS Aylmer

Parameter	Sample Date	Result Value	Unit of Measure	MAC	Exceedances	
					MAC	½ MAC
THM (NOTE: result value is based on one sample)	January 2, 2024 April 2, 2024 July 2, 2024 October 1, 2024	18 19 23 29	µg/L µg/L µg/L µg/L	–	–	–
THM Running Annual Average (RAA)	2024	22	µg/L	100	No	No
HAA (NOTE: result value is based on one sample)	January 2, 2024 April 2, 2024 July 2, 2024 October 1, 2024	6.5 6.1 6.7 8.3	µg/L µg/L µg/L µg/L	–	–	–
HAA Running Annual Average (RAA)	2024	6.9	µg/L	80	No	No

ND= Non-Detect

Distribution System

Parameter	Sample Date	Sample Results	Unit of Measure	MAC	Exceedances	
					MAC	1/2 MAC
Trihalomethane : Total (ug/L)	January 2, 2024 April 2, 2024 July 2, 2024 October 1 , 2024	20 18 24 30	µg/L	-	-	-
THM Running Annual Average (RAA)	2024	23.0	µg/L	100.00	No	No
Haloacetic Acid: Total (ug/L)	January 2 2024 April 2, 2024 July 2, 2024 October 2, 2024	14.2 6.9 8.3 7.8	µg/L	-	-	-
HAA Running Annual Average	2024	9.3	µg/L	80.00	No	No

ND= Non-Detect

APPENDIX E EMPS Chemical Consumption - 2024	
Month	**Total Chlorine Gas Usage - Kg**
January	127.1
February	121.1
March	116.3
April	116.6
May	127.5
June	140.7
July	143.5
August	149.3
September	161.9
October	225.2
November	174.6
December	168.2
Yearly Total	**1772**

Please note: Aylmer and St.Thomas combined cl2 usage

REPORT NO. PBASWSS-25-04

TO: Port Burwell Area Secondary Water Supply System- Joint Board of Management
DEPARTMENT: Public Works
MEETING DATE: March 19, 2025
SUBJECT: **PORT BURWELL AREA SECONDARY WATER SUPPLY SYSTEM: 2024 SECTION 11 ANNUAL REPORT AND SCHEDULE 22 SUMMARY REPORT**

RECOMMENDATION:

THAT Report No. PBASWSS-25-04 entitled "Port Burwell Area Secondary Water Supply System (PBASWSS): 2024 Section 11 Annual Report and Schedule 22 Summary Report" be received.

PURPOSE & BACKGROUND:

Schedule 22 of O. Reg. 170/03 under the Safe Drinking Water Act requires that the Operating Authority prepare and submit a report to the Owner by no later than March 31st of each calendar year. In addition, the Operating Authority, being the Ontario Clean Water Agency (OCWA), is required to complete Section 11 of O. Reg. 170/03 under the Safe Drinking Water Act. The Section 11 Annual Report must be made available to the public free of charge if requested.

The purpose of the two reports that are submitted by OCWA is to advise the Owner on the operation of the system, the quality of the water, and the quantity of water used throughout the system for the previous year. In 2025, these reports have been combined into one individual report which satisfies the regulatory requirements for Section 11 and Schedule 22.

COMMENTS & ANALYSIS:

OCWA has prepared and submitted the 2024 Ministry of the Environment, Conservation and Parks (MECP) Annual Summary report for the PBASWSS. The Operating Authority is required to complete the Section 11 Annual Report by February 28th of each calendar year. The members of the Joint Board of Management are to receive copies of the Schedule 22 report by March 31st of each calendar year. Copies of the combined report were provided to the members of the Joint Board of Management before the required date by email. Reports are also submitted by the Elgin Area Primary Water Supply System

- Joint Board of Management for the Elgin Area Water Treatment Plant and are available to Board members upon request.

The contents of the Schedule 22 report prepared by OCWA include:

- Overview of the system;
- Compliance with Regulations;
- Corrective Actions related to non-compliances;
- Flow summary for the previous year.

The contents of the Section 11 report prepared by OCWA include:

- Description of the water system;
- A summary of adverse water quality incidents;
- Population served;
- Expenses incurred;
- A summary of microbiological and chemical testing over the year.

Attached for the Joint Board of Management's review is a copy of the combined Section 11 and Schedule 22 Report.

Compliance with Regulations:

The MECP conducted a physical inspection of the PBASWSS on July 18th, 2024. The final inspection report was received on September 6th, 2024. 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 the inspection period.

Availability of Reports:

Copies of the Section 11 and Schedule 22 reports are to be made available for inspection by the public during normal working hours. The Staff have posted the combined Section 11 and Schedule 22 report on the Township of Malahide's website and are available at the front desk upon request. If the general public requests a copy of the report, one must be made available free of charge.

SUMMARY:

The purpose of the reports is to summarize compliance with the regulations, corrective actions and flow monitoring for the previous year's operation of the water system. It also guarantees transparency between the MECP, the general public and the municipal drinking water system. It is an effective tool to confirm to both the public and the MECP that municipal drinking water systems are providing a safe supply of potable water.

ATTACHMENTS:

1. OCWA 2024 Combined Section 11 and Schedule 22 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

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

February 21st, 2025

Jason Godby
Director of Public Works
87 John Street South
Aylmer, ON N5H 2C3

Re: Safe Drinking Water Act, O. Reg. 170/03 Section 11 and Schedule 22 Summary Report

Dear Mr. Godby,

Attached is the 2024 Summary Report for the Port Burwell Area Secondary Water Supply System. This report is completed in accordance with Section 11 and Schedule 22 of O. Reg. 170/03, under the Safe Drinking Water Act.

This Summary Report is to be provided to the members of the Port Burwell Area Secondary Water Supply System Joint Board of Management by March 31, 2025.

Section 12 of O. Reg. 170/03, requires the Annual Report required under Section 11 of O. Reg. 170/03 and the Summary Report be made available for inspection by any member of the public during normal business hours, without charge. The reports should be made available for inspection at the office of the township, or at a location that is reasonably convenient to the users of the water system.

Please feel free to contact me should you require any additional information regarding these reports. I can be reached at 519-870-7841.

Sincerely,

Matthew Belding
Process and Compliance Technician

c.c. Sam Sianas, OCWA's Regional Hub Manager
Vitaliy Talashok, OCWA's Senior Operations Manager
Maegan Garber, OCWA's Safety, Process and Compliance Manager
Sam Gustavson, Malahide's Water/Wastewater Operations Manager

Port Burwell Area Secondary Water Supply System

Waterworks # 260004735
System Category – Large Municipal Residential

Annual Water Report

Prepared For: Port Burwell Area Secondary Water Supply System Joint Board of Management

Reporting Period of January 1st – December 31st 2024

Issued: February 21st, 2025

Revision: 0

Operating Authority:

OCWA
ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

This report has been prepared to satisfy the annual reporting requirements in O.Reg 170/03 Section 11 and Schedule 22

Table of Contents

Revision History

Date	Revision #	Revision Notes
2025-02-21	0	Report issued

Report Availability

This system does not serve more than 10,000 residence and the annual reports will be available to residents at the Township of Malahide Municipal Office who the administering Municipality of the system. The report will also be made available on the Township of Malahide's Municipal website. Notification will be at the Municipal Office and copies provided free of charge, if requested. The Township of Malahide is located at, 87 John Street South, Aylmer ON.

The Port Burwell Area Secondary System supplies water to the following systems:

Drinking Water System Name	Drinking Water System #	Copy of Annual Report Provided
Bayham Distribution System	260004748	Yes

Compliance Report Card

Compliance Event	Date	# of Events
Ministry of Environment Inspections	July 18th, 2024	1
Ministry of Labour Inspections	N/A	0
QEMS External Audit	June 21st, 2024	1
AWQI's/BWA	N/A	0
Non-Compliance	N/A	0
Community Complaints	July 12th, 2024 July 23rd, 2024	2
Spills	N/A	0
Watermain Breaks	N/A	0

System Process Description

Distribution:

The Port Burwell Area Secondary Water Supply System transmission main extends from the Elgin Area Water Treatment Plant servicing Central Elgin, Malahide and Bayham. The watermain serves approximately 279 direct connections to the system (service population estimated at 725). Tertiary lines are connected to the system through metering chambers. The entire system services approximately 3992 people (included population of connected drinking water systems). The system has 50 sub-surface chambers for isolation, metering, air relief and draining. Along the main there are sample stations and hydrants for monitoring and flushing.

The Port Burwell Area Secondary Water System is controlled and monitored by the SCADA system. There is an elevated storage facility located on Nova Scotia Line, which is controlled by the valve house on Dexter Line. This Tower (Port Burwell Tower) has a capacity of 1518m3. The system is re-chlorinated at three locations: the Dexter Line Re-Chlorination Facility, the Port Burwell Tower and Lakeview Re-Chlorination Facility. The re-chlorination facilities contain sodium hypochlorite dosing pumps connected to a Programmable Logic Controller (PLC), with a flow paced signal from the flow meter and chlorine analyzer for residual control by the PLC.

Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
Sodium Hypochlorite	Secondary Disinfection	Jutzi

Summary of Non-Compliance

Adverse Water Quality Incidents:

Date	AWQI #	Parameter	Result	Details	Legislation	Corrective Action Taken	Corrective Action Date
There were no adverse water quality incidents reported during the reporting period.							

Non-Compliance:

Legislation	requirement(s) system failed to meet	duration of the failure (i.e. date(s))	Corrective Action	Status
There was no non-compliance issues reported during the reporting period.				

Non-Compliance Identified in a Ministry Inspection:

Legislation	requirement(s) system failed to meet	duration of the failure (i.e. date(s))	Corrective Action	Status
There was no non-compliances identified in the inspection report.				

The Port Burwell System was inspected on July 18th, 2024 by Provincial Officer, Jim Miller of the Ministry of Environment, Conservation and Parks (MECP). The routine MECP inspections have an Inspection Rating Record, which evaluates the system to provide information for the owner/operator on areas that need to be improved. The particular areas that were evaluated for the Port Burwell System were: Treatment Processes, Operations Manuals, Logbooks, Certification and Training, Water Quality Monitoring, and Reporting and Corrective Actions. The 2024 inspection report identified no non-compliances and thus received an Inspection Rating Record of 100%.

Flows

The current Municipal Drinking Water Licence does not specify a rated capacity for this system. There are several metering sites throughout the system to capture flows.

The flow entering the Port Burwell Area Secondary Water Supply System is monitored at the Port Burwell Valve House (MV1). Refer to Table 1 for the flows through MV1 during the reporting period. The average daily flow for 2024 was 752 m^3/day, which is an increase of 3.6% from 2023 average day flows. The maximum daily flow for 2024 was 1,185 m^3/day, which is a decrease of 13.5% from the previous year.

Table 1: Flows to the PBASWSS from the Port Burwell Valve House Meter (MV1)

Month	2024 Total Flow (m^3)	2023 Total Flow (m^3)	2024 Average Daily Flow (m^3/day)	2023 Average Daily Flow (m^3/day)	% Difference between 2024 and 2023	2024 Max Daily Flow (m^3/day)	2023 Max Daily Flow (m^3/day)	% Difference Between 2024 and 2023
January	17,647	15,322	569	494	15.2	783	702	11.5
February	18,676	16,428	667	587	13.7	764	717	6.6
March	19,459	17,551	628	566	10.9	798	969	-17.6
April	19,110	20,147	637	672	-5.1	813	800	1.6
May	23,728	26,112	765	842	-9.1	1,109	1,236	-10.3
June	28,364	26,152	945	872	8.5	1,165	1,370	-15.0
July	29,707	28,147	958	908	5.5	1,165	1,134	2.7
August	27,274	28,994	880	935	-5.9	1,185	1,340	-11.6
September	27,842	24,176	928	806	15.2	1,009	1,053	-4.2
October	23,784	23,558	767	760	1.0	922	899	2.6
November	19,890	18,838	663	628	5.6	809	738	9.6
December	20,478	19,399	661	626	5.6	850	783	8.6
Total Flow	275,959	264,824	-	-	-	-	-	-
Average	-	-	756	725	4.3	-	-	-
Max	-	-	-	-	-	1,185	1,370	-13.5

There are various flow meters within the PBASWSS. These assist with providing flow data for billing purposes, chlorine dosing and line loss studies. Table 2 provides the monthly meter flows for each of these meters. The table below is a summary of flow volumes from the various flow meters in the PBASWSS.

Table 2: Flow Volumes from Various Flow Meters In the PBASWSS

Month	VC02 FWD (m^3)	VC02 REV (m^3)	VC03 (m^3)	Tower Inlet (m^3)	Tower Outlet (m^3)	Lakeview (m^3)	EO38 (m^3)	VO01 (m^3)
January	14,303	23	3,294	10,135	10,238	10,576	5,537	3,660
February	17,599	21	4,057	9,541	9,525	12,848	6,489	4,428
March	13,979	20	3,209	9,868	9,935	10,094	5,036	3,795
April	15,247	58	3,559	10,030	10,050	10,663	5,481	4,043
May	23,002	54	5,407	10,536	10,637	16,508	9,424	5,533
June	19,469	52	4,617	10,321	10,180	14,262	9,675	4,257
July	23,438	69	5,592	10,113	10,145	17,402	11,631	4,657
August	24,509	97	5,835	10,839	10,836	18,155	11,012	5,567
September	19,035	59	4,487	10,388	10,314	13,825	7,760	4,816
October	18,580	88	4,392	10,855	10,920	13,152	7,659	4,396
November	17,043	19	3,936	10,209	10,122	11,763	5,550	4,448
December	16,305	17	3,789	10,659	10,807	11,530	5,784	4,316
Total Flow	222,509	577	52,174	123,494	123,709	160,778	91,038	53,916

Regulatory Sample Results Summary

Microbiological Testing:

	No. of Samples Collected	Range of E.Coli Results		Range of Total Coliform Results		No. of HPC Samples	Range of HPC Results	
		Min	Max	Min	Max		Min	Max
Distribution Water	159	0	0	0	0	53	<10	<20

Operational Testing:

	No. of Grab Samples Collected	Range of Results	
		Minimum	Maximum
Free Chlorine Residual, DW Field (mg/L)	364	0.45	1.78

Summary of Lead Testing:

Schedule 15.1 Sampling:

The Port Burwell System is exempt from Schedule 15.1 sampling due to the customers on the PBASWSS belonging to each Municipality and are covered under their sampling program.

Organic Parameters:

These parameters are tested quarterly as a requirement under O.Reg 170/03.

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Distribution Water					
Trihalomethane: Total (ug/L) Annual Average - DW	2024	35.75	100	0	0
Haloacetic Acids: Total (ug/L) Annual Average- DW	2024	16.2	80	0	0

MAC = Maximum Allowable Concentration as per O.Reg 169/03

Additional Legislated Samples:

There was no additional sampling required.

Major Maintenance Summary

Distribution Maintenance:

Details
- Relief Valve installed at E038, E034 and V001 to mitigate pressure transients from hydrant use east of the water tower - Dexter Line manhole access cover repair - Isolate and Inspect 4” Surge Relief Valve at MV1 - Replaced UPS battery at Dexter line - Port Burwell Tower-Installed Duckbill on overflow -Repainted Valves and Piping -Replaced non-compliant ladder rung in valve pit - Lakeview baseboard heaters replaced - Lakeview Eyewash ball valve and actuator replaced - Shelf spare PLC and I/O module purchased - New SCADA computer purchased and installed - Changed Cisco Routers for Juniper Routers at all locations. - Valve exercising - Air valve chamber inspection - SCADA server cleaned/Instrument Calibration as per Summa Agreement - SCADA Maintenance

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the TOWNSHIP of MALAHIDE
A proud tradition, a bright future.

March 7, 2025

Canada Housing Infrastructure Fund (CHIF)

RE: Letter of Support – Township of Malahide's Participation in a Joint Canada Housing Infrastructure Fund (CHIF) for Rehabilitation of the Port Burwell Area Secondary System Transmission Main

I am writing on behalf of the Township of Malahide and our partner municipalities in Bayham and Central Elgin to seek your urgent support for the Port Burwell Area Secondary Water Supply System (PBASWSS)—a lifeline for over 3,000 residents and key to unlocking new housing opportunities and densification in our region. This aging system, which is currently stymying any housing development along the corridor, has reached a critical juncture. Without immediate investment, its ongoing deterioration threatens not only the health, safety, and economic vitality of our communities, but also the future growth potential needed to address housing shortages in our area.

For over five decades, the PBASWSS has reliably delivered clean water to families, schools, seniors' homes, businesses, and essential services like fire departments. Yet today, the transmission main, stretching 31.3 kilometers, is showing its age. Failures are becoming increasingly frequent and costly, with the 7-kilometer PVC section alone experiencing an average of one major break per year. Each break results in disruptions to water supply, boil water advisories, and risks to fire protection—placing residents and critical services in jeopardy.

The current state of the system is not only a threat to public health but has also stifled housing development along the corridor. The potential for new housing and increased densification in the region is being undermined by the inadequate infrastructure. Only by rehabilitating and upgrading this critical water supply system can we unlock the potential for future housing development to meet the needs of our growing population.

All Canadians deserve access to clean, safe, and affordable water as a basic human right. However, the system inherited by Malahide, Bayham, and Central Elgin through the Municipal Water and Sewage Transfer Act currently lacks the population density to sustain the necessary investments for long-term growth viability. Our municipalities and residents have paid their fair share, but our water rates are now among the highest in the province. With the system aging, these rates continue to climb, and without intervention, they risk becoming unaffordable for many households. This financial strain further underscores the urgent need for financial support.

The stakes are particularly high given the rapid growth projected in our region. The forthcoming EV battery factory in St. Thomas will bring thousands of jobs and new

residents to the area, placing demand on our already fragile system. To support this growth and ensure that new housing developments can be realized, we must act now.

This project will not only address immediate risks but also secure a sustainable water supply for generations, supporting future housing projects and densification efforts. Replacing the PVC section will reduce service interruptions and public health risks, while realigning critical sections of asbestos cement pipe will mitigate environmental vulnerabilities. These efforts will ensure that families, schools, healthcare facilities, and businesses across the region have reliable access to safe water, while bolstering fire protection, supporting economic development, and enabling housing growth.

We are asking for your support in securing funding to help make this project a reality. Your assistance could make all the difference in ensuring our communities' access to clean, safe water, addressing housing needs, and fostering the growth and prosperity of our region. We would be honored to meet with you to discuss this critical need further and explore how we can work together to ensure a sustainable future for the residents of Malahide, Bayham, and Central Elgin.

Thank you for your time and attention to this pressing matter. We look forward to your response and hope we can count on your support.

Sincerely,
TOWNSHIP OF MALAHIDE

Dominique Giguère
Mayor
Township of Malahide
dgiguere@malahide.ca

Municipality of
BAYHAM

A: P.O. Box 160, 56169 Heritage Line
Straffordville, ON N0J 1Y0
T: 519-866-5521
F: 519-866-3884
E: bayham@bayham.on.ca
W: www.bayham.on.ca

February 14, 2025

Re: Letter of Support – Bayham's Participation in a Joint Canada Housing Infrastructure Fund (CHIF) for Rehabilitation of the Port Burwell Area Secondary System Transmission Main

The Municipality of Bayham is participating in a joint Canada Housing Infrastructure Fund (CHIF) application to rehabilitate a seven-kilometre stretch of water transmission main along Nova Scotia Line. The application also involves the Municipality of Central Elgin and the Township of Malahide as joint owners of the Port Burwell Area Secondary Water Supply System (PBASWSS) and its associated infrastructure.

At its February 6, 2025 Regular meeting, Council passed the following resolution in support of the application:

> Moved by: Councillor Emerson
> Seconded by: Deputy Mayor Weisler
>
> **THAT** Report CAO-04/25 re Letter of Support – Canada Housing Infrastructure Fund (CHIF) be received for information;
>
> **AND THAT** the Council of The Corporation of the Municipality of Bayham supports Bayham's participation in a joint application to the Canada Housing Infrastructure Fund (CHIF) for the rehabilitation of the Port Burwell Area Secondary Water Supply System's transmission main on Nova Scotia Line;
>
> **AND THAT** the Mayor be authorized to prepare and sign a Letter of Support from Bayham for the CHIF application.
>
> CARRIED

Receipt of these funds would significantly improve Bayham's water supply and housing prospects by ensuring timely rehabilitation of critical regional water infrastructure to support existing and potential residential development in Vienna and Port Burwell.

Sincerely,

Ed Ketchabaw
Mayor
Municipality of Bayham
eketchabaw@bayham.on.ca

February 14, 2025

Hon. Nate Erskine-Smith
Minister of Housing, Infrastructure and Communities
180 Kent Street
Suite 1100
Ottawa, Ontario K1P 0B6

Re: Canada Housing Infrastructure Fund Application- Port Burwell Area Secondary Water Supply System

Dear Minister Smith,

I am writing to express support on behalf of the Municipality of Central Elgin for the joint application for the Canada Housing Infrastructure Fund regarding the Port Burwell Area Secondary Water Supply System (PBASWSS).

Central Elgin is a partner with the Municipality of Bayham and the Township of Malahide on the PBASWSS, which is managed by a Joint Board of Management. The Port Burwell Secondary watermain runs along Dexter Line in Central Elgin to Port Bruce in the Township of Malahide and along Nova Scotia Line to provide potable water to Port Burwell and Vienna within the Municipality of Bayham.

Since 2019, the watermain has been the subject of four complete failures affecting the supply of water to Bayham. In 2023, the Joint Board of Management commissioned a Pipeline Desktop Condition Assessment Report that recommends the replacement of seven kilometers of watermain on Nova Scotia Line at an approximate cost of $21 million. Through the terms of reference for the Port Burwell Area Secondary Water Supply System, the Municipality of Central Elgin is responsible for 3.91% of the construction cost. That amount is included in our water wastewater rates study with the expenditure forecasted for 2028.

Minister, the replacement of the seven kilometer stretch of the Port Burwell Secondary watermain will secure the provision of critical services to our neighbours and ensure stable infrastructure for the three affected municipalities. Support provided through the CHIF will significantly reduce the cost to Central Elgin ratepayers and facilitate more timely and viable growth opportunities for our region. We are very proud of the legacy of local collaboration exemplified by the PBASWSS and hope to count the federal government among our valued partners.

At its Regular Meeting dated Monday, February 10, 2025, the Council of the Corporation of the Municipality of Central Elgin passed the following Resolution:

SOUTHWESTERN Public Health
Oxford • Elgin • St.Thomas

St. Thomas Site
Administrative Office
1230 Talbot Street
St. Thomas, ON
N5P 1G9

Woodstock Site
410 Buller Street
Woodstock, ON
N4S 4N2

January 24, 2025

To Whom It May Concern,

RE: Letter of Support – Canada Housing Infrastructure Fund (CHIF)

This letter is to confirm Southwestern Public Health supports the Municipality of Bayham's participation in the joint application to the Canada Housing Infrastructure Fund for the rehabilitation of the Port Burwell Area Secondary Water Supply System's transmission main on Nova Scotia Line.

Since this transmission line has been the subject of four failures affecting the water system in Bayham since 2019, we feel its rehabilitation is critical to help ensure a safe water supply for the users. These repeat failures strain our community's resources, increase operational costs, and jeopardize the availability of safe and clean drinking water. Without intervention, the risk of system failures and water contamination will only increase. This project is essential to ensure long-term sustainability, reliability, and safety of the community's drinking water supply.

Thank you for considering their application. Should you have any questions, please do not hesitate to contact us at 519-631-9900.

Sincerely,

David Smith
Acting Chief Executive Officer
Southwestern Public Health

Dr. Ninh Tran
Medical Officer of Health
Southwestern Public Health

Ontario

Ministry of the Environment, Conservation and Parks
Southwest Region
733 Exeter Road
London, ON N6E 1L3
Phone: 519-873-5000

Ministère de l'Environnement, de la Protection de la nature et des Parcs
Région Sud-Ouest
733 rue Exeter
London, ON N6E 1L3
Tél: 519-873-5000

March 5, 2025

To Whom it may concern,

The Municipality of Bayham, including the Village of Port Burwell, is part of the geographic area overseen by the London District Office of the Ministry of the Environment, Conservation and Parks.

London District staff have no ongoing compliance concerns with the Municipality of Bayham or the Port Burwell Area Secondary Water Supply System. The municipality's concerns regarding the condition of the transmission main servicing the Village of Port Burwell and other communities are considered valid based on our knowledge and observations of the system.

To support the health and safety of the residents of the Village of Port Burwell and the other communities whose population receives their drinking water from the Port Burwell Area Secondary Water Supply System, the London District office supports the application from the Municipality of Bayham for funding to rehabilitate the transmission main.

Regards,

Mark Smith

Water Compliance Supervisor
London District Office
Drinking Water and Environmental Compliance Division
Ministry of the Environment, Conservation and Parks

HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Karen Vecchio
Member of Parliament
Elgin—Middlesex—London

March 6, 2025

TO: **The Honourable Nate Erskine-Smith**
Minister of of Housing, Infrastructure and Communities

RE: **Canada Housing Infrastructure Fund Application- Port Burwell Area Secondary Water Supply System**

Dear Minister Smith,

I am writing to share my support for the joint application from the Municipality of Bayham, the Township of Malahide, and the Municipality of Central Elgin under the Canada Housing Infrastructure Fund Application- Port Burwell Area Secondary Water Supply System (PBASWSS).

Funding from the Canada Housing Infrastructure Fund (CHIF) for the PBASWSS project would support the upgrades of seven kilometers of a water transmission main along Nova Scotia Line which transitions into Dexter Line. The Port Burwell Secondary watermain will service the residents of Vienna and Port Burwell residing in the Municipality of Bayham and ensure stable infrastructure for all three affected municipalities.

I am pleased that the Municipality of Bayham, the Township of Malahide, and the Municipality of Central Elgin, which are managed by a Joint Board of Management, are working in conjunction to ensure that residents of Port Burwell and Vienna are provided the critical service of water. Since 2019, this watermain has been exposed to four complete failures affecting the water supply to the residents of the Municipality of Bayham. Following these failures, the Joint Board of Management commissioned a Pipeline Desktop Condition Assessment Report which advises the replacement of the seven kilometers of watermain.

Again, I am writing in support of the local collaboration demonstrated from my riding with the Canada Housing Infrastructure Fund Application- Port Burwell Area Secondary Water Supply System and welcome any further discussion on this application.

Sincerely,

Karen Vecchio
Member of Parliament
Elgin-Middlesex-London

Ottawa
House of Commons
Room 449 Confederation Building
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Fax: 613-996-0194
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Constituency
215-750 Talbot Street
St. Thomas, Ontario N5P 1E2
Tel: 519-637-2255
Fax: 519-637-3358
Toll Free: 866-404-0406
www.karenvecchiomp.ca

February 19, 2025

Hon. Nate Erskine-Smith
Minister of Housing, Infrastructure and Communities 180 Kent Street Suite 1100 Ottawa, Ontario K1P 0B6

RE: Letter of Support – Canada Housing Infrastructure Fund (CHIF)

Dear Minister Smith,

We, the undersigned Fire Chiefs of the Municipality of Bayham, Township of Malahide, and Municipality of Central Elgin, are writing to express our strong support for the proposed joint grant application to the Canada Housing Infrastructure Fund for the rehabilitation of the Port Burwell Area Secondary Water Supply System's transmission main on Nova Scotia Line. This project is crucial to enhancing fire protection capabilities in our municipalities and surrounding rural areas.

This watermain is prone to failures due to pressure transients during hydrant use. Since 2019, there have been four watermain breaks causing a complete loss of service to the Bayham Water Distribution System, leaving this community without water or fire protection until the repairs were completed.

In 2023, while actively fighting a fire in Bayham, a pipeline failure occurred, resulting in a complete loss of water supply to the affected community. These pressure fluctuations have caused pipeline breaks, disrupting firefighting operations at critical moments and directly impacting our ability to respond effectively to emergencies.

The proposed new watermain will address these issues by incorporating design features to better withstand pressure transients, reducing pipeline failures. This will ensure a more stable water supply during fires, minimizing response times and improving firefighting effectiveness, particularly in high-demand situations.

Additionally, the rehabilitated transmission main will allow water to be shuttled to surrounding rural areas, which often struggle with limited water access during emergencies, ensuring adequate firefighting resources for those regions.

The current infrastructure is insufficient to meet these challenges, and the proposed upgrade is crucial to improving the safety and fire protection capabilities of our communities.

We strongly support this project and urge your full backing to enhance the effectiveness of our firefighting efforts. Thank you for your consideration.

Sincerely,

Harry Baranik
Fire Chief, Municipality of Bayham

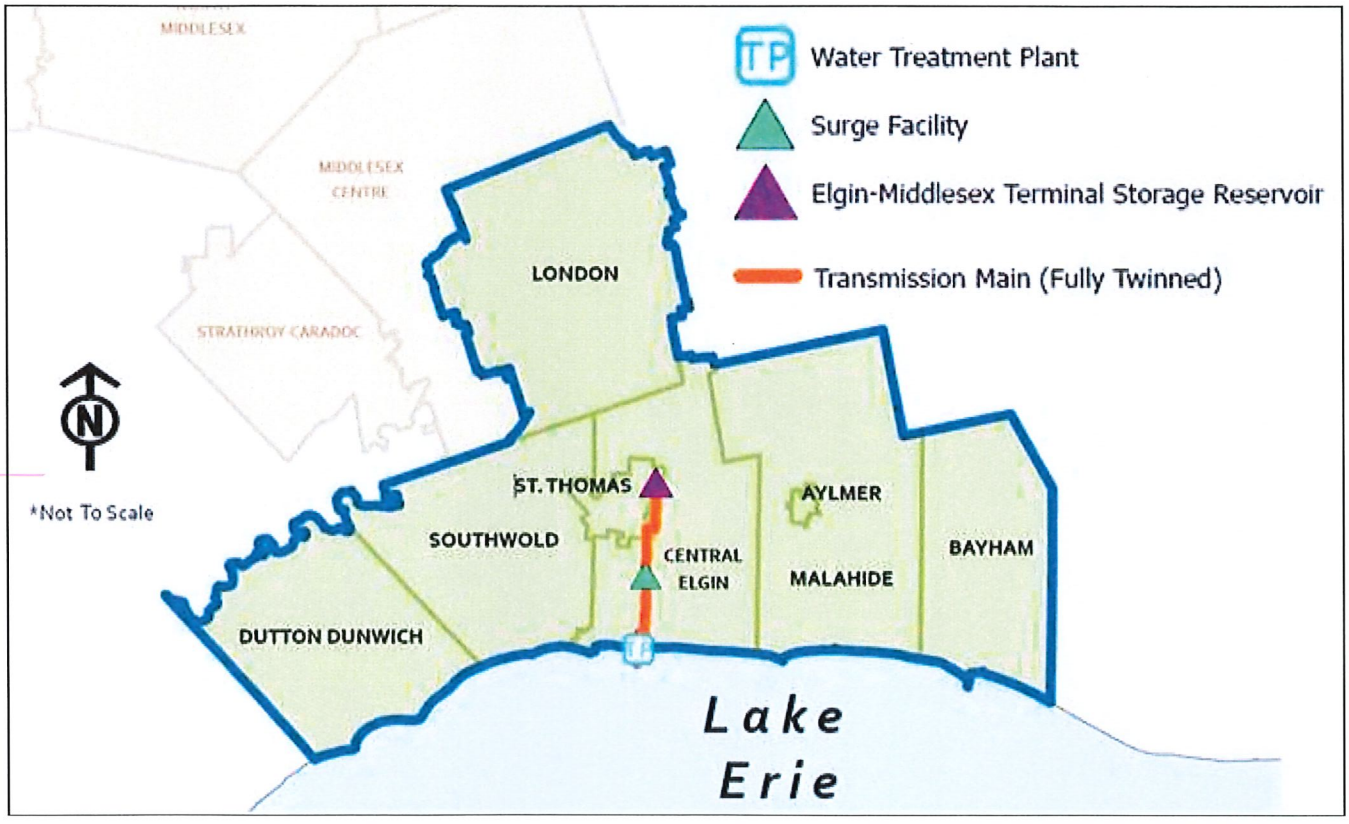
Jeff Spoor
Fire Chief, Township of Malahide

Ray Ormerod
Fire Chief, Municipality of Central Elgin

Elgin Area
Primary Water Supply System

Elgin Area Primary Water Supply System
Master Plan
Notice of Study Commencement

The Elgin Area Primary Water Supply System (EAPWSS), through its consultant AECOM has initiated a Municipal Class Environmental Assessment (MCEA) Master Plan study to develop and assess a range of water servicing strategies to accommodate near, mid and long-term future growth, while maintaining the reliability and sustainability of the utility. See Map for existing infrastructure and member municipalities.



This MCEA Master Plan Study will document existing conditions, water demand forecasts, water modelling, and engage key stakeholders, the general public and Indigenous Communities and provide recommendations for the regional water system to address system growth and infrastructure needs to maintain levels of service.

The Process

This study will be completed in accordance with the Ontario Environmental Assessment Act and will follow Approach #1 of the Municipal Engineers Association Municipal Class EA (as amended in 2020) Master Planning process. At the conclusion of the study, a suite of recommended water projects will be identified including the MCEA Schedule (Exempt, Schedule B or C) for any regional water supply system project(s). This Master Plan will be completed at a broad level of assessment,

therefore requiring more detailed investigations at project specific level for any recommended Schedule B or C projects.

The EAPWSS invites anyone with an interest in the study to have an opportunity to provide feedback and help inform the decision-making process. A Virtual Public Information Centre (PIC) will be held in June 2025, to introduce the study, present existing conditions, the alternative servicing strategies, evaluation criteria, and the recommended servicing strategies including the associated water projects and schedule. Invitation notices to the PIC will be emailed to those on the mailing list and will be posted on the Project Webpage:

https://www.huronelginwater.ca/elgin-area-water-supply-system-master-plan/

For more information or if you want to be placed on our mailing list for updates, please contact us at:

Marcy McKillop, P.Eng
Environmental Services Engineer
Regional Water Supply
Lake Huron and Elgin Area Primary Water Supply Systems
235 North Centre Road, Suite 200
London ON, N5X 4E7
Tel:519-930-3505 x4976
Email: mmckillop@huronelginwater.ca

Paul Adams, CPT
Environmental Planner,
AECOM Canada ULC.
250 York Street, Suite 410
London ON, N6A 6K2
Tel: 519-636-6448
Email: paul.adams2@aecom.com

The personal information submitted in relation to this Master Plan is collected under the authority of the Municipal Act, 2001, S.O. 2001, c.25 and will be reviewed to provide subsequent Master Plan study development, communications and events. With the exception of personal information, all comments will form part of the public record for this Master Plan in accordance with the Municipal Class Environmental Assessment, which is a planning process approved under Ontario's *Environmental Assessment Act.*

Questions about this collection should be addressed to Marcy McKillop, Environmental Services Engineer at 235 North Centre Road, Suite 200, London, ON N5X 4E7. Tel: 519-930-3505 ext. 4976, email: mmckillop@huronelginwater.ca

This Notice was Issued on February 14th 2025.

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Marcy McKillop, P.Eng
Environmental Services Engineer
Regional Water Supply
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Tel: 519-636-6448
Email:
paul.adams2@aecom.com

Sent via email: mmckillop@huronelginwater.ca
paul.adams2@aecom.com

RE: Elgin Area Primary Water Supply System (EAPWSS) Master Plan Municipal Class Environmental Assessment (MCEA)

Dear Marcy,

We have received the Notice of Study Commencement for the EAPWSS Master Plan Municipal Class Environmental Assessment (MCEA) study.

As the EAPWSS is aware, the Township of Malahide acts as the administering municipality for the Joint Boards of Management for both the Aylmer Area Secondary Water Supply System (AASWSS) and the Port Burwell Area Secondary Water Supply System (PBASWSS), which both receive all their water from the EAPWSS.

The AASWSS Joint Board is comprised of three-member municipalities: the Town of Aylmer, the Municipality of Central Elgin, and the Township of Malahide.

Similarly, the PBASWSS Joint Board consists of three-member municipalities: the Municipality of Bayham, the Municipality of Central Elgin, and the Township of Malahide.

Accordingly, as the administering municipality acting on behalf of both the AASWSS and PBASWSS, we are requesting that each of the aforementioned water boards be included in all future correspondence related to the MCEA and be notified of the scheduled meeting time for the Virtual Public Information Centre (PIC) to be held in June 2025.

Sincerely,

Jason Godby
Director of Public Works

Cc: AASWSS Joint Board of Management Members
PBASWSS Joint Board of Management Members
Nathan Dias, CAO, Township of Malahide
Allison Adams, Manager of Legislative Services/Clerk, Township of Malahide
Sam Gustavson, Water/Wastewater Operations Manager, Township of Malahide

March 19, 2025

Canada Housing Infrastructure Fund (CHIF)

RE: Letter of Support – Port Burwell Area Secondary Water Supply System Joint Board of Management Member Support for Joint application to the Canada Housing Infrastructure Fund (CHIF) for Rehabilitation of the Port Burwell Area Secondary System Transmission Main

The Member Representatives of the Joint Board of Management for the Port Burwell Area Secondary Water Supply System (PBASWSS) are writing this letter collectively to seek your urgent support for the PBASWSS—a lifeline for over 3,000 residents and key to unlocking new housing opportunities and densification in our region. This aging system, which is currently stymying any housing development along the corridor, has reached a critical juncture. Without immediate investment, its ongoing deterioration threatens not only the health, safety, and economic vitality of our communities, but also the future growth potential needed to address housing shortages in our area.

For over five decades, the PBASWSS has reliably delivered clean water to families, schools, seniors' homes, businesses, and essential services like fire departments. Yet today, the transmission main, stretching 31.3 kilometers, is showing its age. Failures are becoming increasingly frequent and costly, with the 7-kilometer PVC section alone experiencing an average of one major break per year. Each break results in disruptions to water supply, boil water advisories, and risks to fire protection—placing residents and critical services in jeopardy.

The current state of the system is not only a threat to public health but has also stifled housing development along the corridor. The potential for new housing and increased densification in the region is being undermined by the inadequate infrastructure. Only by rehabilitating and upgrading this critical water supply system can we unlock the potential for future housing development to meet the needs of our growing population.

All Canadians deserve access to clean, safe, and affordable water as a basic human right. However, the system inherited by Malahide, Bayham, and Central Elgin through the Municipal Water and Sewage Transfer Act currently lacks the population density to sustain the necessary investments for long-term growth viability. Our municipalities and residents have paid their fair share, but our water rates are now among the highest in the province. With the system aging, these rates continue to climb, and without intervention, they risk becoming unaffordable for many households. This financial strain further underscores the urgent need for financial support.

The stakes are particularly high given the rapid growth projected in our region. The forthcoming EV battery factory in St. Thomas will bring thousands of jobs and new residents to the area, placing demand on our already fragile system. To support this growth and ensure that new housing developments can be realized, we must act now.

This project will not only address immediate risks but also secure a sustainable water supply for generations, supporting future housing projects and densification efforts. Replacing the PVC section will reduce service interruptions and public health risks, while realigning critical sections of asbestos cement pipe will mitigate environmental vulnerabilities. These efforts will ensure that families, schools, healthcare facilities, and businesses across the region have reliable access to safe water, while bolstering fire protection, supporting economic development, and enabling housing growth.

We are asking for your support in securing funding to help make this project a reality. Your assistance could make all the difference in ensuring our communities' access to clean, safe water, addressing housing needs, and fostering the growth and prosperity of our region. We would be honored to meet with you to discuss this critical need further and explore how we can work together to ensure a sustainable future for the residents of Malahide, Bayham, and Central Elgin.

Thank you for your time and attention to this pressing matter. We look forward to your response and hope we can count on your support.

Sincerely,

Port Burwell Area Secondary Water Supply System Board Members

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PBASWSS Board Member, Tim Emerson
Municipality of Bayham Councillor

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PBASWSS Board Member, Chester Glinski
Township of Malahide Councillor

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PBASWSS Board Member, Norman Watson
Municipality of Central Elgin Councillor