

Agenda

Lake Huron Primary Water Supply System Joint Board of Management

4th Meeting of the Elgin Area Primary Water Supply System Joint Board of Management

October 5, 2023, 2:00 PM

Committee Room #5

The Lake Huron Water Supply System and its benefiting municipalities are situated on the traditional lands of the Anishinaabek(Uh-nish-in-ah-bek), Haudenosaunee(Ho-den-no-show-nee), Lūnaapéewak(Len-ah-pay-wuk) and Attawandaron (Add-a-won-da-run) peoples.

We honour and respect the history, languages and culture of the diverse Indigenous people who call this territory home.

This region is currently home to many First Nations, Inuit and Métis people today and we are grateful to have the opportunity to live and work in this territory.

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7.	Confidential	
7.1	Litigation/Potential Litigation/Matters Before Administrative Tribunals	
	A matter pertaining to litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board with respect to matters that may result in potential litigation by the Lake Huron Primary Water Supply System.	
8.	Adjournment	

Lake Huron Primary Water Supply System Report

3rd Meeting of the Lake Huron Primary Water Supply System Joint Board of Management
June 1, 2023

Attendance: Meeting held on Thursday, June 1, 2023, commencing at 2:00 PM.

PRESENT: A. DeViet (Chair); M. Dietrich, S. Franke, S. Hillier, J. Keogh, S. Lehman, D. Maguire, P. Van Meerbergen, P. Walden and G. Willsie and J. Bunn (Committee Clerk)

ALSO PRESENT: A. Henry and K. Scherr

1. Call to Order

1.1 Disclosures of Pecuniary Interest

That it BE NOTED that no pecuniary interests were disclosed.

2. Adoption of Minutes

2.1 Minutes of the 2nd Meeting held on Thursday, March 2, 2023

HILLIER AND FRANKE

That the minutes of the 2nd meeting of the Lake Huron Primary Water Supply System Joint Board of Management, from the meeting held on March 2, 2023, **BE NOTED AND FILED. CARRIED**

Motion Passed

3. Consent Items

3.1 Quarterly Compliance Report (1st Quarter 2023: January - March)

WILLSIE AND FRANKE

That, on the recommendation of the Chief Administrative Officer, the report dated June 1, 2023, with respect to the general, regulatory and contractual obligations of the Lake Huron Primary Water Supply System, for January to March 2023, **BE RECEIVED. CARRIED**

Motion Passed

- 3.2 Environmental Management System and Quality Management System
WILLSIE AND FRANKE

That, on the recommendation of the Chief Administrative Officer, the report dated June 1, 2023, with respect to the Environmental Management System and the Quality Management System, **BE RECEIVED. CARRIED**

Motion Passed

- 3.3 Quarterly Operating Financial Status - 1st Quarter 2023
WILLSIE AND FRANKE

That, on the recommendation of the Chief Administrative Officer, the report dated June 1, 2023, with respect to the Quarterly Operating Financial Status of the Lake Huron Primary Water Supply System for the 1st Quarter of 2023, **BE RECEIVED. CARRIED**

Motion Passed

- 3.4 Water System Operation - Contract Status Update
WILLSIE AND FRANKE

That, on the recommendation of the Chief Administrative Officer, the report dated June 1, 2023, with respect to the Water System Operation Contract Status Update, **BE RECEIVED. CARRIED**

Motion Passed

- 3.5 Energy Procurement, Conservation and Management Strategy
WILLSIE AND FRANKE

That, on the recommendation of the Chief Administrative Officer, the report dated June 1, 2023, with respect to the Energy Procurement, Conservation and Management Strategy, **BE RECEIVED. CARRIED**

Motion Passed

3.6 Asset Management - 2023 State of the Infrastructure Report

WILLSIE AND FRANKE

That, on the recommendation of the Chief Administrative Officer, the report dated June 1, 2023, with respect to Asset Management and the 2023 State of the Infrastructure, **BE RECEIVED. CARRIED**

Motion Passed

3.7 Asset Management - 2023 Levels of Service Report

WILLSIE AND FRANKE

That, on the recommendation of the Chief Administrative Officer, the report dated June 1, 2023, with respect to Asset Management and the 2023 Levels of Service, **BE RECEIVED. CARRIED**

Motion Passed

4. Items for Discussion

4.1 Public Access and Tour Policy

VAN MEERBERGEN AND WALDEN

That, on the recommendation of the Chief Administrative Officer, the Public Access and Tour Policy, as appended to the report dated June 1, 2023, **BE ENDORSED** by the Lake Huron Primary Water Supply System Joint Board of Management. **CARRIED**

Motion Passed

4.2 Environmental and Quality Policy - Climate Change Update

LEHMAN AND HILLIER

That, on the recommendation of the Chief Administrative Officer, the following actions be taken with respect to the report dated June 1, 2023, related to the Environmental and Quality Policy Climate Change Update:

- a) the above-noted report **BE RECEIVED**; and,
- b) the updated Environmental and Quality Policy, as appended to the above-noted report, **BE ENDORSED** by the Lake Huron Primary Water Supply System Joint Board of Management. **CARRIED**

Motion Passed

4.3 2022 Audited Financial Statements and Auditors Report

MAGUIRE AND DIETRICH

That, on the recommendation of the Chief Administrative Officer, the 2022 Audited Financial Statements and Independent Auditors' Report, as appended to the report dated June 1, 2023, **BE RECEIVED AND ACCEPTED** by the Lake Huron Primary Water Supply System Joint Board of Management. **CARRIED**

Motion Passed

4.4 LH1216 Closed Loop Chlorine Control Project

WILLSIE AND VAN MEERBERGEN

That, on the recommendation of the Chief Administrative Officer, the following actions be taken with respect to the report, dated June 1, 2023, related to the Closed Loop Chlorine Control Project (LH1216):

- a) the project budget **BE INCREASED** by \$35,000, for a total approved budget of \$135,000; it being noted that the funds will be provided from the Asset Replacement Reserve Fund; and,
- b) the above-noted report **BE RECEIVED. CARRIED**

Motion Passed

5. Deferred Matters/Additional Business

None.

6. Next Meeting Date

October 5, 2023

7. Confidential

FRANKE AND WALDEN

That the Lake Huron Primary Water Supply System Joint Board of Management convene In Closed Session for the purpose of considering the following:

7.1 Litigation/Potential Litigation/Matters Before Administrative Tribunals

A matter pertaining to litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board with respect to an event which may result in litigation by the Lake Huron Primary Water Supply System against a consulting engineering firm retained by the Lake Huron Primary Water Supply System.

7.2 Litigation/Potential Litigation/Matters Before Administrative Tribunals

A matter pertaining to litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board with respect to an event which may result in litigation against the Lake Huron Primary Water Supply System.

Motion Passed

The Lake Huron Primary Water Supply System Joint Board of Management convened In Closed Session from 2:19 PM to 2:34 PM.

8. Adjournment

The meeting adjourned at 2:34 PM.

Board of Management Report

Subject: Quarterly Compliance Report (2nd Quarter 2023: April - June)

Overview:

- There were no adverse water quality incidents (AWQI) reported during this quarter.
- There was one regulatory non-compliance related to flow monitoring, which occurred during an emergency incident and subsequent unplanned shutdown.
- There are no new or proposed regulatory changes which might have a significant impact on the regional water system.

Recommendation

That the Board of Management for the Lake Huron Primary Water Supply System **RECEIVE** this report for information.

Background

Pursuant to Board of Management resolution, this Compliance Report is prepared on a quarterly basis to report on general, regulatory, and contractual compliance issues relating to the regional water system. For clarity, the content of this report is presented in two basic areas, namely regulatory and contractual, and does not intend to portray an order of importance or sensitivity nor is it a complete list of all applicable regulatory and contractual obligations.

Discussion

Regulatory Issues

Recent Regulatory Changes: At the time of drafting this report, there were no new regulatory changes for this reporting period which may significantly impact the Lake Huron Primary Water Supply System (LHPWSS).

New Environmental Registry of Ontario (ERO) Postings: At the time of drafting this report, there were no new postings on the ERO that may have a significant impact on the LHPWSS.

Quarterly Water Quality Reports: The [Water Quality Quarterly Report](#) for the period of April 1 – June 30, 2023, was completed by the operating authority, and is posted on the Water Systems' website for public information.

Note: In order to better comply with the *Accessibility for Ontarians with Disabilities Act, 2005*, the detailed tables of water quality test results which were previously appended to this Report have been removed. The full list of test results of drinking water quality parameters is posted on the water system's website and available in print at the Board's Administration Office in London upon request. In addition, detailed water quality information is also published within the water system's Annual Report required by O.Reg. 170/03 under the *Safe Drinking Water Act*.

Adverse Water Quality Incidents (AWQIs): There were no AWQI reported by the operating authority or adverse laboratory results reported by the third-party accredited laboratory during this quarter.

There was one regulatory non-compliance that occurred on April 13, 2023, during an emergency incident. On April 12, 2023, there was a failure of the Lake Huron Water Treatment Plant (WTP) east discharge header valve, resulting in an unplanned system shutdown. As a result of the valve failure the discharge header chamber was flooded. The treated water flow meters are regulatory instruments that were impacted by this flooding. Upon return to service, the WTP was operating without treated water flow readings for a period of eighteen minutes. Continuous flow measurement and recording is a regulatory requirement as per the system's Municipal Drinking Water Licence (MDWL). When the flow meter issue was discovered, the operating authority immediately shut down the WTP and contacted the Ministry of the Environment, Conservation and Parks (MECP). Permission was obtained to operate the WTP without the regulatory treated water flow meters, given the unplanned emergency shutdown and the need to recover the system's storage reservoirs. The operating authority was able to resolve the flow meter issue later that day. It was noted by the MECP that this may be a non-compliance documented during the next annual inspection.

Compliance Inspections: There were no compliance inspections conducted during the reporting period.

Contractual Issues

ARTICLE 3, "Operation and Maintenance of the Facilities – General": Board staff informally meets with OCWA on a monthly basis to discuss operations and maintenance related issues, and formally on a quarterly basis to review contractual performance. The 2023 second quarter Contract Report was received from OCWA on July 27, 2023, and was discussed at the quarterly administration meeting between Board staff and OCWA on August 16, 2023. Copies of the monthly Operations and Maintenance Reports, and quarterly Contract Reports are available at the Board's Administration Office in London upon request.

Conclusion

Board staff will continue to review new and proposed legislation for potential impacts to the LHPWSS. Board staff will continue to meet with the operating authority on a regular basis to discuss regulatory and contractual compliance issues, and ensure any non-compliances are addressed in a timely manner.

Prepared by: Erin McLeod, CET
Quality Assurance & Compliance Manager

Submitted by: Andrew J. Henry, P.Eng.
Director, Regional Water

Recommended by: Kelly Scherr, P.Eng., MBA, FEC
Chief Administrative Officer

Board of Management Report

Subject: Environmental Management System and Quality Management System

Overview:

- This report provides a summary of Environmental Management System (EMS) and Quality Management System (QMS) activities that took place during the second quarter of 2023 (Q2).
- A Management Review meeting was held on June 07, 2023. The meeting minutes are attached to this report as [Appendix A](#).
- An EMS internal audit to verify conformance with the ISO 14001:2015 EMS was conducted on May 15-19, 2023. An EMS Internal Audit Summary Report is included as [Appendix B](#).
- A QMS internal audit to verify conformance with the Ontario Drinking Water Quality Management Standard (DWQMS) was conducted on June 22 to 23, 2023. A DWQMS Internal Audit Summary Report is included as [Appendix C](#).

Recommendation

That the Board of Management for the Lake Huron Primary Water Supply System **RECEIVE** this report for information.

Background

Environmental Management System (EMS)

The Lake Huron Primary Water Supply System (LHPWSS) has an Environmental Management System (EMS) which has been registered to the ISO 14001 standard since 2003. The LHPWSS underwent a three-year registration audit in October 2020 and was recommended for registration to the ISO 14001:2015 standard for a three-year period (ending in Feb. 2024).

The continued utilization and registration of the EMS to the ISO 14001 standard is a requirement of the Service Agreement with Ontario Clean Water Agency (OCWA), the contracted Operating Authority for the LHPWSS.

Quality Management System (QMS)

The existing EMS has been integrated with a QMS that meets the requirements of the province's Drinking Water Quality Management Standard, 2017 (DWQMS). The combined EMS/QMS is maintained by the contracted Operating Authority.

The *Safe Drinking Water Act, 2002* (SDWA) and the water system's Municipal Drinking Water License (MDWL) require that an accredited Operating Authority be in operational charge of the drinking water system. To become accredited, the Operating Authority must implement and maintain a QMS, which includes an Operational Plan meeting the requirements of the DWQMS and must undergo yearly external audits.

OCWA successfully received full scope DWQMS re-accreditation in October 2022 and is currently accredited for the three-year period ending in 2025.

Discussion

Management Review

The documented EMS/QMS and its performance requires Management Review by Top Management a minimum of once every calendar year to ensure that the management team of the Board and the Operating Authority stay informed of environmental and quality related issues. Items discussed at the Management Review meetings include, but are not limited to, water quality test results, environmental and quality performance, legislative changes, identified non-conformances, corrective and preventive actions, staff suggestions, changing circumstances and business strategies, and resource requirements. Corrective and preventive actions include not only those to address non-conformance issues and opportunities for improvement identified as part of internal and external audits, but also non-compliance issues identified by the Ministry of the Environment, Conservation and Parks (MECP), suggestions from staff, and opportunities for improvement identified during the Management Review process.

To carry out more effective Management Review meetings, the Board of Management's administration has opted to conduct shorter meetings at more frequent intervals. Although each required Management Review input may not be covered at every meeting, over the course of the year all required inputs are reviewed at least once. Management Review meetings are held in a combined format for both the LHPWSS and the Elgin Area Primary Water Supply System (EAPWSS).

A Management Review meeting was held on June 07, 2023. The meeting minutes are included as [Appendix A](#) for the information of the Board of Management.

Internal Audits

Pursuant to the international ISO 14001 standard and the provincial DWQMS, periodic "internal" audits are performed by the Board of Management's administration to ensure continued compliance with legislated, contractual, and other requirements, as well as conformance with the ISO 14001 standard and DWQMS. Internal audits also ensure that the ongoing operation of the drinking water system conforms to the EMS and QMS as implemented. As required by the standards, internal audits are performed a minimum of once every calendar year.

An EMS internal audit to verify conformance with the ISO 14001:2015 EMS was conducted on May 15-19, 2023. An EMS Internal Audit Summary Report is included as [Appendix B](#) for the information of the Board of Management.

A QMS internal audit to verify conformance with the Ontario DWQMS was conducted on June 22 to 23, 2023. A DWQMS Internal Audit Summary Report is included as [Appendix C](#) for the information of the Board of Management.

External Audits

Annual surveillance audits (third-party external audits) are conducted for both the EMS and QMS, with a recertification audit taking place every third year. The external registrar for both the EMS and QMS is currently SAI Global. External audits review all aspects of the EMS or QMS, including the scope and results of internal audits, subsequent management reviews, and corrective action processes.

There were no external audits conducted in Q2, 2023.

Corrective and Preventive Actions

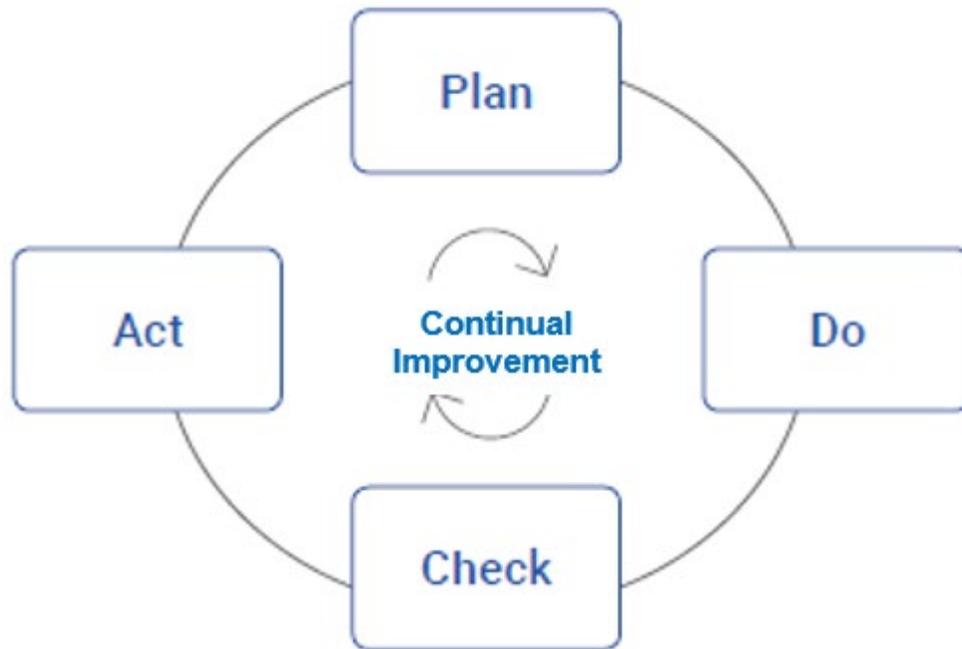
For the EMS/QMS to be effective on an on-going basis, an organization must have a systematic method for identifying actual and potential non-conformities, making corrections, and undertaking corrective and preventive actions, preferably identifying, and preventing problems before they occur. The Internal Audit process and Management Review are the two main drivers for proactively identifying potential problems, opportunities for improvement and for the implementation of corrective actions for the LHPWSS. Preventive actions may originate from identified opportunities for improvement as part of an audit, but also staff suggestions and discussions with management.

It is important to note that action items should not be construed as compliance failures, but rather an action to be undertaken which will improve the LHPWSS's overall performance.

Action items are the result of the "Plan-Do-Check-Act" continual improvement process. The identification of action items is a critical component of continual improvement and an essential element of management systems. The identification of action items should be seen as a positive element, as this drives continual improvement.

A key concept of the Plan-Do-Check-Act continual improvement process (Figure 1) is that it does not require nor expect 100% conformance but promotes an environment of continual improvement by identifying shortfalls, implementing corrective and preventive measures, and setting objectives and targets for improvement.

Figure 1: Plan-Do-Check-Act Continual Improvement Process



The following summarizes the thirty-six (36) new approved action items that have been added to the EMS/QMS action item tracking system during Q2:

- Thirteen (13) new action items were added as a result of the ISO 14001:2015 EMS Internal Audit;
- Two (2) new action items were added as a result of the Management Review meeting on June 07, 2023;
- Seven (7) new action items were added as a result of an April 12 and 13, 2023 discharge header valve failure; and
- Fourteen (14) new action items were added as a result of the DWQMS internal audit.

As of September 21, 2023, there are currently thirty-nine (39) open action items in the LHPWSS tracking system. All action items are prioritized and addressed using a risk-based approach, and deadlines established given reasonable timeframes and resources that are available. Board of Management staff are pleased with the performance of the corrective and preventive action process and have no concerns with the number of open action items.

Conclusion

The Internal Audits and frequent Management Review meetings continue to effectively identify and manage system deficiencies. The EMS/QMS for the LHPWSS continues to be suitable, adequate, and effective. Activities by OCWA continue to address the need for change, and the management systems are being revised and refined as required.

Prepared by: Jennifer Levitt
Compliance Coordinator

Erin McLeod, CET
Quality Assurance & Compliance Manager

Submitted by: Andrew J. Henry, P.Eng.
Director, Regional Water

Recommended by: Kelly Scherr, P.Eng., MBA, FEC
Chief Administrative Officer

Attachments: [Appendix A](#) – Management Review Meeting Minutes (March 7, 2023)
[Appendix B](#) – EMS Internal Audit Summary Report (dated May 28, 2023)
[Appendix C](#) – DWQMS Internal Audit Summary Report (June 08 and 09, 2023)

Appendix A: Management Review Meeting Minutes (June 07, 2023)

Lake Huron & Elgin Area Primary Water Supply Systems EMS/QMS Management Review

Date: June 07, 2023

Time: 1:00pm

Location: Virtual – Microsoft Teams

Attendees: Andrew Henry (RWS), Erin McLeod (RWS), Jennifer Levitt (RWS), Allison McCann (OCWA), Matt Bender (OCWA), Randy Lieber (OCWA), Greg Henderson (OCWA)

Regrets: Denny Rodrigues (OCWA),

N.B.: Management Review meetings are held in a combined format for both the Lake Huron Primary Water Supply System (LHPWSS) and the Elgin Area Primary Water Supply System (EAPWSS).

-----Meeting Notes-----

1. Review and Approval of Previous Meeting Minutes (Mar. 7, 2023)

The minutes from the previous meeting (Mar. 7, 2023) are posted to SharePoint. Minutes circulated to comment. No concerns noted and documents are approved.

2. Results of Board Meetings (EAPWSS & LHPWSS) - June 1, 2023

Huron Board Meeting (June 1, 2023)

- Quarterly Compliance Report: The report was received for information.
- EMS/QMS Report: The report was received for information.
- Environmental & Quality Policy – Climate Change Update Report: The report was received for information. The Board endorsed the updated Policy.

Elgin Board Meeting (June 1, 2023)

- Quarterly Compliance Report: The report was received for information.
- EMS/QMS Report: The report was received for information. General discussion on the lake temperature trend and the subsequent long-term implications of climate change, algal bloom projections for this season, nitrate, and phosphorus run-off from the US, and per- and polyfluoroalkyl substances (PFAS) as an emerging issue.

- Environmental & Quality Policy – Climate Change Update Report: The report was received for information. The Board endorsed the updated Policy.

3. Environmental & Quality Policy (EAPWSS & LHPWSS)

The Environmental & Quality Policy's for the EAPWSS and LHPWSS have been updated to include a commitment to climate change mitigation and adaptation. Both documents are signed and dated June 01, 2023.

4. Environmental Objectives (EAPWSS & LHPWSS)

At the January 2023 Board meeting the 5-year trends were discussed and the Environmental Objectives were approved.

EAPWSS - Objective #1 – Electricity

- Capital projects – no significant status updates
- Remote Stations (EMPS) – we have started compiling the electricity consumption data to establish a baseline

EAPWSS - Objective #2 - Chemicals

- Capital projects – no significant status updates

LHPWSS - Objective #1 - Electricity

- Capital projects – no significant status updates
- Remote Stations (McGillivray, EHPS, KMBPS) – we have started compiling the electricity consumption data to establish baselines

Matt - Comment - Substantial work has been done on the energy strategy for the WTP including the pumping strategy.

LHPWSS - Objective #2 - Chemicals

- Capital projects – no significant status updates
- Remote Stations (EHPS, KMBPS) – no significant status updates

LHPWSS - Objective #3 – Process Water

- Capital projects - no significant status updates
- Monitoring – Preliminary results indicate there are impacts to filter performance including increased backwashes due to head loss

Matt – Comment – The OCWA Process and optimization team has been engaged to perform an assessment.

Erin – Comment – Still waiting on Stantec’s final Water Quality Facility Plan report which may include recommendations for the backwash programming.

5. EMS Monitoring and Measurement Results (EAPWSS & LHPWSS) - 2021 Energy Reporting

Deferred to next meeting.

6. EMS Internal Audit Report (LHPWSS)

No non-conformities were noted during the audit however, thirteen (13) Opportunities for Improvement (OFIs) were identified. See the report entitled ‘*ISO 14001:2015 Environmental management systems Internal Audit Report*’, dated May 28, 2023, for detailed information. All OFI’s have been added to the action item tracking spreadsheet and have been assigned to the appropriate person for completion.

7. EMS Internal Audit Report (EAPWSS)

One non-conformity was noted during the internal audit related to TSSA requiring the fuel distributor to inspect the underground fuel storage tank once every ten years, and the GenCare Hazard Report dated November 16, 2021, identified sixteen (16) deficiencies that were required to be addressed. A discussion included root cause analysis and corrective actions. Refer to the tracking spreadsheet for details.

Sixteen (16) Opportunities for Improvement were also identified.

See the report entitled ‘*ISO 14001:2015 Environmental management systems Internal Audit Report*’, dated May 28, 2023, for detailed information. The NC and OFI’s have been added to the action item tracking spreadsheet and have been assigned to the appropriate person for completion.

8. Compliance Obligations Update

Health Canada – Recent Publications:

[Guidelines for Canadian Drinking Water Quality: Guideline Technical Document - Boron](#) (March 2023)

Ontario – Consultation and Regulatory Decision Notices:

[Decision: Broader Public Sector Energy Reporting and Conservation and Demand Management Plans](#)

Source: Ministry of Energy

Date Posted/Notice Received: March 21, 2023

Comments Due: N/A

Summary:

Public sector organizations are required to report their annual energy use to the Ministry of Energy. The previously existing regulation (O.Reg. 507/18) was revoked and replaced with a new regulation, O.Reg. 25/23: Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans. O. Reg 25/23 took force on Feb. 23, 2023. The policy intent and many of the provisions of the former energy reporting regulation remain in place. Key changes in the new regulation include:

- Streamlined reporting and tracking of energy use by moving reporting to the new Energy Star Portfolio Manager® electronic reporting system.
- Phased in the energy consumption and greenhouse emissions reporting periods.
- Updated prescriptive elements of the regulation.

Potential Impacts: None anticipated. It has been confirmed with the Ministry of Energy that while reporting for water & sewage treatment plants is mandatory, reporting for water & sewage pumping stations remains voluntary.

Other Consultations:

[Public Consultation: 2022-2026 Draft Lake Huron Lakewide Action and Management Plan](#)

Source: Member agencies of the Lake Huron Partnership (led by the governments of Canada and US)

Date Posted/Notice Received: March 13, 2023

Comments Due: May 13, 2023

Summary:

The 2012 Great Lakes Water Quality Agreement commits Canada and the US to prepare and issue a Lakewide Action and Management Plan (LAMP) for each of the five Great Lakes every five years on a rotational basis.

The draft 2022-2026 LAMP for Lake Huron identifies key priorities and guides the coordination of binational environmental protection and restoration activities aimed at preserving and protecting Lake Huron's water quality and ecosystem health.

The draft report indicates that overall, Lake Huron is considered to be in 'Fair' condition. The lake ecosystem is relatively healthy, but Lake Huron is not in 'Fair' condition in all aspects. The status of Lake Huron as a source of safe, high quality drinking water is listed as 'Good'. The major threats to Lake Huron include chemical contaminants, invasive species, nutrient pollution, and the degradation of habitat. Significant impacts due to climate change are being observed in the Lake Huron ecosystem and are projected to continue in the future.

The report identifies 52 actions that will be undertaken to address priority environmental threats to water quality and the ecosystem health of Lake Huron.

Potential Impacts: None anticipated.

[Pre-Consultation: Development of the 2024-2028 Lake Erie Lakewide Action and Management Plan](#)

Source: Member agencies of the Lake Erie Partnership (led by the governments of Canada and US)

Date Posted/Notice Received: March 13, 2023

Comments Due: April 17, 2023

Summary:

Lake Erie Partnership has begun to develop the 2024-2028 Lake Erie LAMP, which is scheduled for completion by the end of 2023. Interested parties were given an opportunity to provide input to the plan at an early stage, specifically regarding environmental conditions, issues, or concerns about Lake Erie that should be considered in the development of the Lake Erie LAMP, and any suggestions on actions or approaches that could be taken to address them. A draft Lake Erie LAMP will be made available for comment later this year.

Potential Impacts: None anticipated.

9. LHPWSS Adverse Water Quality Incident (AWQI) – Feb. 21, 2023

A June Board Report outlined the February 21, 2023, AWQI. A brief summary is as follows:

OCWA took one filter out of service to complete a maintenance activity. Upon completion of the maintenance activity, as OCWA was preparing to place the filter back into service, they discovered an issue with the filter effluent valve which resulted in flow unintentionally passing through the filter. At the same time the filter turbidimeter was experiencing a signal fault, resulting in a failure to continuously monitor the filter effluent turbidity as required by regulation. The failure to continuously monitor is a non-compliance and was subsequently reported as an AWQI. A corrective action form was completed with all action items being added to the action item tracking sheet.

10. Corrective Action Forms (LHPWSS)

There have been a few incidents since last meeting, but they have been reviewed and captured on Corrective Action Forms and the action item tracking system also documenting root cause analysis. 90-day verification/effectiveness checks are still being conducted.

- March 7, 2023 - Hydraulic leak on chlorine delivery truck
- March 16, 2023 - Hydraulic leak on sump pump
- April 12, 2023 - East discharge header valve failure

See associated Corrective Action Form tracking spreadsheet for more information.

11. QMS - Effectiveness of the Risk Assessment Process (EAPWSS & LHPWSS)

Allison – Comment - April 2023 meeting took place to cross-reference and compare the EMS Aspects Assessment & QMS Risk Assessment. As a result of the review an update is in process for generators, spill containment, Residuals Management Facility (RMF), and the service water systems.

12. QMS Operational Plan Currency, Content and Updates (EAPWSS & LHPWSS)

Allison – Comment - Updating Operational Plans, version 16.0 for EAPWSS, version 15.0 for LHPWSS. There were no changes other than updating the raw water characteristics for 2022.

13. Results of Emergency Response Testing (EAPWSS & LHPWSS)

Allison – comment - Completed for the year, both EAPWSS and LHPWSS. Elgin testing included power failure, and chlorine gas leak. Huron testing included power failure, and AWQI. The Feb. 2023 AWQI was used as a full scale test.

Erin – Comment - Of note was a fire drill at Huron (May 2023). It was reported that Security heard the fire alarm, but there are still some 'dead areas' around the plant as some contractors did not hear alarm. Test record should be documented.

Randy – Comment - issue is likely with the speakers, better system required. Contractors not responding need to be identified. Muster points may need to be reviewed for sites, and procedures should be updated accordingly.

Matt – Comment - Capital recommendation required for 2024.

Allison – Comment - Received feedback from Chris regarding the fire drill. It was noted that when the announcement was made there was no direction given on what muster point to meet at. This caused confusion amongst staff on which muster point to meet at. Muster point will clearly be identified during the next fire drill.

ACTION ITEM: Andrew Henry to have Lisa to follow up with Randy on fire test. Deadline: June 9, 2023.

14. Overall Decision on the Suitability, Adequacy and Effectiveness of the Management Systems (EAPWSS & LHPWSS)

Discussion took place on the management systems as a whole, reflecting back over the past year. Top management confirmed that the management systems continue to be suitable, adequate, and effective. The management systems are capable of meeting expected outcomes. The following observations support this conclusion.

Internal audits continue to identify issues, including non-conformances, and recommend opportunities for improvement. During the May 2023 EMS internal audits, the consultant

(Acclaims Environmental) specifically highlighted two management system processes as being excellent: the management of change process, and OCWA's onboarding program for new staff. Staff commitment and a culture of continual improvement were also positive findings highlighted in these recent audit reports.

There is evidence of continual improvement with regard to meeting environmental objectives and targets. Recently completed and planned capital projects are anticipated to continue the improvement and optimization. Continual improvement is evident in the maintenance program (Maximo), maintenance system, and Asset Management System which recently won an award.

The management systems and staff have the support of RWS and OCWA leadership. Top management noted that the Water Boards have provided both direct and indirect comments that they are pleased with our management systems, the consistency and effectiveness of it. Top management also noted they are impressed with the continual improvement, that action items get addressed, and that we are looking at efficiencies and effectiveness.

15. Other Business

15a. Asset Management System - Award

The Lake Huron & Elgin Area Water Supply Systems and Dillon Consulting were awarded the [Tereo Innovator Award](#) by the Canadian Network of Asset Managers (CNAM) at their national conference on May 3, 2023 for their recent updated and adopted Asset Management Plan (AMP). This award recognizes demonstrated and innovative business performance through the adoption of asset management tools and techniques. Congratulations to RWS and OCWA staff who participated in making the asset management framework such a success.

16. PFAS – Research Project Update

The City of London informed RWS that a local manufacturing company had conducted laboratory analysis for PFAS on their site. One of the samples collected and analyzed was reported to be from City of London tap water sample. Greenway Laboratory sent us the analytical laboratory results. Requirements / findings of the test are limited and unknown. **ACTION ITEM:** Erin McLeod to follow up on the notification to inquire on findings, standards etc. for the laboratory results. Deadline: June 15, 2023.

The LHPWSS and EAPWSS are participating in a PFAS initiative research project in partnership with University of Waterloo. Sampling may begin later this year, but standards and methodologies are yet to be developed.

16a. Incident Management System (IMS) Update

Andrew – Comment - A consultant will be assisting in updating the IMS, including orientation training for RWS staff and OCWA management/leads (as needed). GEM



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File No.:

(Goodyear Emergency Management) Consulting (Perron Goodyear) will be assisting Lisa McVittie in the review, amendments and roll-out. This may impact emergency response plans, operational procedures, and incident reviews.

End of Meeting

Next Meeting – September 14, 2023 – 1:00 pm

Appendix B: EMS Internal Audit Summary Report (dated May 28, 2023)

Audit Purpose:

The purpose of the audit was to verify conformance with the ISO 14001:2015 Environmental Management Systems standard for the Elgin Area Primary Water Supply System (EAPWSS). Internal audits ensure the EMS is being continually improved.

Non-conformances and opportunities for improvement are listed below.

Auditor Qualifications:

- Brigitte Roth (Acclaims Environmental Inc.) is a certified auditor with the Environmental Careers Organization of Canada (ECO Canada); and
- Jennifer Levitt of Regional Water Supply was a member of the internal audit team and is a certified ISO 14001:2015 Internal Auditor.

Methodology:

The EMS internal audit was conducted in accordance with ISO 19011:2018 – Guidelines for auditing management systems and was comprised of a conformance review of the EAPWSS facilities and limited to the operation of the water supply system by the contracted operating authority, Ontario Clean Water Agency (OCWA), since the last EMS internal audit conducted on May 10 and 11, 2022. This audit focused on the period between May 12, 2022 and May 19, 2023.

Note: The internal audit was conducted through a review of a sampling of documents, limited interviews, and observations by the auditors to demonstrate conformance with the ISO 14001:2015 Environmental management systems standard. The review and internal audit should not be construed as a complete and comprehensive review of all aspects/risks and all documents.

Findings:

The following is a summary of the audit findings, including non-conformances and opportunities for improvement.

Definitions:

- A non-conformance (NC) is a non-fulfilment of a requirement.
- An Opportunity for Improvement (OFI) describes a requirement that can be more effectively addressed.

- An observation is a comment or remark provided to share the conditions found on the day of the audit, typically related to an “out of scope” finding.

Areas Visited:

- Komoka-Mt. Brydges Pumping Station (KMBPS), 13964 Medway Road, Middlesex Centre
- McGillivray Pumping Station, 4064 McGillivray Drive, North Middlesex
- Exeter Hensall Pumping Station (EHPS), 39590 Huron Street, South Huron
- Lake Huron Water Treatment Plant (WTP), 71155 Bluewater Highway, South Huron

Interviews Conducted:

- Matt Bender, Regional Manager – OCWA
- Greg Henderson, Senior Operations Manager, Overall Responsible Operator – OCWA
- Andrew Henry, Director – Regional Water Supply
- Derek Locker, Senior Operator / Mechanic – OCWA
- Glenn McEown, Team Lead – Operations & Compliance – OCWA
- Erin McLeod, Quality Assurance & Compliance Manager – Regional Water Supply
- Allison McCann, Safety, Process and Compliance (SPC) Manager, QMS Representative - OCWA
- Mark McKenzie, Senior Operator / Mechanic – OCWA

Summary of Findings

Positive Findings

Commitment:

- Staff interviewed were knowledgeable about their processes and programs and their roles’ impacts on achieving the commitments included in the EMS Policy.
- All staff interviewed felt they had the support from management and resources they needed to carry out their jobs well.

Culture of Continual Improvement:

- Consistently throughout the audit, improvements were noted with regards to achieving environmental objectives and targets.

- Corrective actions implemented to address system issues are verified as effective on an ongoing basis to prevent recurrence.
- All opportunities for improvement identified in the previous internal and external audits have been verified as completed or are in progress.

Non-Conformances (NCs)

No non-conformities were noted during the audit.

Opportunities for Improvement (OFIs)

Thirteen (13) OFIs were identified as part of the internal audit and are outlined below.

Leadership (s.5.1)

OFI#1: Consider adding a definition to Regional Manager regarding General Manager references.

Environmental Aspects (s.6.1.2)

OFI#2: Consider updating the environmental aspects & impacts to reflect current objectives (re: objective #3 process water).

Compliance Obligations (s.6.1.3)

OFI#3: The links for the Environmental Registry of Ontario and CEPA Environmental Registry (in EA-ADMIN-600) should be updated to reflect current websites.

OFI#4: Consider establishing a work order for underground fuel tanks and diesel generators regarding their 10-year TSSA inspections to ensure these inspections are occurring as required.

OFI#5: Consider confirming availability of SDS's for products in use at all sites.

OFI#6: Consider identifying empty drums' storage areas and labelling spare storage containers.

Competence (s.7.2)

OFI#7: Through the service agreement process, opportunity to confirm (as applicable) required government approvals & certifications (e.g., ODS Certification for HVAC technicians, TDG Certification for drivers and haulers, OWWA (Ontario Water Works Association) Cross Connection Control Specialist designation for backflow devices, ECA waste mgmt. system, ECA waste disposal sites, ...).

Awareness (s.7.3)

OFI#8: Consider updating the procedure for vendor communications regarding standard provisions and link to documented information available online (e.g., policy statements re: Environmental & Quality and AMP, etc.).

Control of Documented Information (s.7.5.3)

OFI#9: Consider including in LA-ADMIN-200's Appendix "A": the MECP approvals (e.g., MDWL, DWWP, PTTW's, ECA's, etc.) and related DWWP records (e.g., Form 1's, 2's, 3's and evidence of AWWA disinfection standard requirements being met prior to placing infrastructure into service).

Operational Planning & Control (s.8.1)

OFI#10: KMBPS - Consider updating the work order for the Arva Reservoir Checklist and LF-PROC-1901 Monitoring Water Quality Discharge – Arva Reservoir regarding discharges to the environment (i.e., dechlor pucks added) and recording results to reflect regulatory requirements (i.e., accurate test strips).

OFI#11: Consider confirming locations of the following at all sites along with their preventive inspection & maintenance programs:

- floor drains and where they lead
- oil / water interceptors and work orders
- spill containment "normal conditions" and inspection & maintenance activities
- opportunity to also update the aspects / impacts to reflect this updated information

OFI#12: Consider reviewing & improving the integrity of secondary containment for sodium hypochlorite storage at Exeter Hensall and for oil storage at the Quonset hut at LHPWSS WTP.

OFI#13: Consider scheduling and conducting regular shoreline inspections to ensure preventive and mitigative measures continue to be effective.

Appendix C: DWQMS Internal Audit Summary Report (June 22 & 23, 2023)

Audit Purpose:

The purpose of the audit was to verify conformance with the Ontario Drinking Water Quality Management Standard (DWQMS) Version 2.0 for the Lake Huron Primary Water Supply System (LHPWSS). Internal audits ensure the QMS is being continually improved.

Non-conformances and opportunities for improvement are listed below.

Auditor Qualifications:

Jennifer Levitt completed the training course in DWQMS Internal Auditing. The Internal Auditor certificate is attached in Appendix B.

Methodology:

The Internal Audit was conducted as outlined in QMS Procedure LH-ADMIN-1200 (Internal Audit) and was comprised of a conformance review of the facilities and limited to the operation of the water supply system by the contracted operating authority, Ontario Clean Water Agency (OCWA), since the last Internal Audit conducted June 07-08, 2022.

Note: The audit was conducted through a review of a sampling of documents, limited interviews and observations by the auditor to demonstrate conformance with the DWQMS. The review and audit should not be construed as a complete and comprehensive review of all aspects/risks and all documents.

Findings:

The following is a summary of the audit findings, including non-conformances and opportunities for improvement. The detailed audit checklist is attached for further information.

- Appendix A: LF-ADMIN-1201 QMS Audit Checklist

Definitions:

- A non-conformance (NC) is a non-fulfilment of a requirement.
- An opportunity for improvement (OFI) describes a requirement that can be more effectively addressed.

- An observation is a comment or remark provided to share the conditions found on the day of the audit, typically related to an “out of scope” finding.

Areas Visited:

- Lake Huron Water Treatment Plant (WTP), 71155 Bluewater Highway, South Huron
- Exeter Hensall Pumping Station (EHPS), 39590 Huron Street, South Huron
- McGillivray Pumping Station, 4064 McGillivray Drive, North Middlesex
- Arva Terminal Reservoir, 13964 Medway Road, Middlesex Centre
- Komoka-Mt. Brydges Pumping Station (KMBPS), 13964 Medway Road, Middlesex Centre

Interviews Conducted:

- Matt Bender, Regional Manager, OCWA
- Denny Rodrigues, Senior Operations Manager, Overall Responsible Operator – OCWA
- Allison McCann – Safety, Process and Compliance (SPC) Manager, QMS Representative, OCWA
- Chris Clarke, Team Lead, Operations and Compliance
- Corey Regier – Team Lead Maintenance & Distribution, OCWA
- Nikki Kaur, Operator

Summary of Findings

Positive Findings

- QMS Representative is very competent on the role and responsibilities.
- Staff interviewed were engaged, knowledgeable, and provided thorough explanations about the work they were doing.
- Effective communication occurs between operators and maintenance staff, and Team Leads and Senior staff which allows for a transfer of knowledge. Collaboration is evident and ongoing.
- All calibration records / training records requested were readily available and / or scheduled as required.

Continual improvement projects were underway throughout LHPWSS (e.g., WTP - high lift pump replacement, WTP - backwash program, McGillivray PS - electrical and HVAC upgrades, security camera upgrades, water softening for caustic system, ceiling tiles and lighting, sampling point relocations for safety purposes).

Non-Conformances (NCs)

No con-conformances were noted during the internal audit.

Opportunities for Improvement (OFIs)

Element 5 - Document and Records Control

OFI#1: Environmental and Quality Policy posted at employee/ parking lot entrance (contractor sign in table) was dated October 04, 2018, current is dated June 01, 2023.

OFI#2: ECP-3 Emergency Contact & Essential Suppliers & Services document v36.0 is not up to date. At least one 'on call' contact number is no longer in service (Municipality of Middlesex Centre). Recent RWS staffing changes include a Senior Technologist. There are no City of London Operator number/contact name listed.

Element 7 - Risk Assessment

OFI#3: Consider completing a Management of Change form as the Town of Zurich, Municipality of Bluewater has been receiving water as of spring 2023.

Element 8 - Risk Assessment Outcomes

OFI#4: OCWA to consider IT Business Systems - Cybersecurity measures in the QMS Risk Assessment & Outcomes. At present only the City of London's systems are included. There is no reference to OCWA's business systems.

OFI#5: Cybersecurity - SCADA has a 'high-risk' scoring of 9. Consider documenting a rationale as to why it is not a Critical Control Point given the high threshold value.

OFI#6: Consider assessing pipeline break risks separately for different sections of the transmission main (e.g., primary twinned, primary un-twinned, secondary).

Element 10 - Competences

OFI# 7: Consider the need for LH-Admin-1400 Training as OCWA maintains an independent training matrix. Ensure that fire extinguisher training is added to OCWA's matrix.

Element 12 – Communications

OFI#8: Consider revising LF-ADMIN-1000 Complaints form to direct residential consumer inquires / complaints to the billing municipality.

OFI#9: Consider reviewing LH-ADMIN-500 Communications procedure to clarify who receives the final completed version of LF-ADMIN-500 External Communications form for review and/or filing.

Element 15 - Infrastructure Maintenance, Rehabilitation and Renewal

OFI#10: Asset ID# 365808 – (new) water softener – verified new equipment in Maximo however, no work orders created to date.

OFI#11: Asset ID# 302327 and 302301 – Bradley Safety Showers (eye wash) – last inspections completed in April 2023. The inspections for May 2023 were not documented on the inspection cards.

Element 17 - Measurement and Recording Equipment Calibration and Maintenance

OFI#12: LF-ADMIN-2200 Calibration Certificate - considering blacking out cells that do not require data entry.

OFI#13: Throughout the audit numerous handheld HACH Test Kits were observed to either have the Asset ID# sticker covered by a calibration sticker or the Asset ID# sticker was missing (e.g., KMBPS, McGillivray PS, WTP - Control Room, WTP - Laboratory, WTP - spare Operator office). Consider adding Asset ID stickers onto all units and ensure stickers do not overlap.

Element 18 – Emergency Management

OFI#14: Consider updating all Health Unit contact information on a yearly basis for emergency purposes.

Board of Management Report

Subject: Quarterly Operating Financial Status – 2nd Quarter 2023

Overview:

- This report shows the current fiscal year's 2nd quarter in comparison to its Budgeted amount and the previous year's same time period.

Recommendation

That the Board of Management for the Lake Huron Water Supply System receive this report regarding the Operating Financial Status Report for the period of April 1 to June 30, 2023, noting that this report is unaudited and subject to adjustments including the preparation of the financial statements and completion of the annual audit.

Previous and Related Reports

Quarterly Operating Financial Status – 1st Quarter 2023

Background

At the request of the Board of Management, a Financial Status Report is provided on a quarterly basis for information. The financial status provides a high-level overview of incurred expenditures and revenues on a cash-flow basis and is compared to the approved operating budget of the water supply system. All expenditures and revenues provided in this Financial Status Report are unaudited and may include accrued and/or unaccrued expenses from a previous or future fiscal year.

A high-level summary of incurred expenses and revenues for the water supply system is attached to this report as Appendix A for the second quarter 2023 (April 1 to June 30) as well as a comparative accumulation of expensed for the year to date.

Note: The reported expenditures and revenues may be subject to adjustments, including but not limited to corrections and entries required for the preparation of financial statements and completion of the annual audit.

Discussion

For the information and reference of the Board, the following highlights of the attached summary provides a brief explanation of notable deviations from the approved budget and/or clarifications of the financial summary:

- Contracted Operating Services in the summary report reflects the total direct operating costs of the contracted operation of the water treatment and transmission system, as well as other related contracted services. The total accumulated operating costs over the year (unaudited) is higher than the same period in 2022 and is reflective of contractual increases in service agreements with the operating authority and other contracted services.
- Contracted Administrative Services in the summary report reflects the fees paid to the City of London.
- Electricity expenditures include the purchase of energy and related energy management service charges for the water system. Total electricity expenses for the year are approximately \$108,000 higher than the previous year largely due to increased volumes and commodity costs.
- Salaries, wages, and benefits expenditures include all direct labour costs for administrative staff including benefits. Variations over the same period in 2022 are attributed to annual salary adjustments, and new staff hired.
- Administration and Other Expenses relates to various overhead operating expenses, including subscriptions and memberships, office supplies and property taxes. The total costs incurred for the year are within budget.
- Vehicles and Equipment expenditures include costs associated with vehicles, computers, and office equipment for administrative staff. Costs are higher than 2022 due to increases in contracted computer maintenance.
- Purchased Services and Professional Fees largely relates to allowances for ad hoc professional consulting and legal services, security services, office lease, telephone charges, network and SCADA maintenance, printing services, and pipeline locate costs. The nominal cost difference when compared to the same period in 2022 is largely attributed to increased insurance costs.
- Debt Principal and Interest payments occur twice per year; in the first and third quarter.

- Contributions to the Reserve Funds occur at the end of the fiscal year as part of the year-end audit preparation process, where the actual contributions are the total remaining revenue in excess of expenditures. Accordingly, the amount of the anticipated contribution is currently adjusted to reflect the additional revenue and expenses incurred and may be subject to further adjustment as a result of the completion of the year-end financial statements and audit.

Prepared by: Archana Gagnier
Budget and Finance Analyst

Submitted by: Andrew J. Henry, P.Eng.,
Director, Regional Water

Recommended by: Kelly Scherr, P.Eng., MBA, FEC
Chief Administrative Officer

Attachments: Operating Financial Status Summary – 2nd Quarter 2023

Quarterly Financial Summary Report

Lake Huron Water Supply system
2nd Quarter 2023 (April 1 to June 30)

(\$,000's)

	Approved 2023 Budget	Q2 - 2023	2023 Year to Date	Year To Date Variance	2022 Year To Date
Total Revenue	24,499	6,481	11,942	12,557	8,933
<u>Expenditures:</u>					
Contracted Operating Services	8,558	1,716	3,817	4,741	3,503
Contracted Administrative Services	328	76	151	177	161
Electricity	3,000	773	1,458	1,542	1,350
Salaries, Wages, Benefits	1,043	269	430	613	406
Administration and Other Expenditures	510	36	234	276	252
Vehicles and Equipment	168	29	51	117	29
Purchased Services & Professional Fees	1,521	149	615	906	503
Debt Principle Payments	1,113	0	938	175	924
Interest on Long-Term Debt	77	21	56	21	61
Contributions to Reserve Funds	8,180	0	0	8,180	0
Total Expenditures	24,499	3,069	7,750	16,749	7,189

Board of Management Report

Subject: Capital Status Report

Overview:

- This report shows the current fiscal year's status of all capital projects.
- Four capital projects are recommended to be closed with surplus funding in the approximate amount of \$59,596 released to the Reserve Funds.
- Two capital projects are recommended to be closed with additional funding in the approximate amount of \$8,367 to be drawn from the Reserve Funds.

Recommendation

That the Board of Management for the Lake Huron Primary Water Supply System take the following actions regarding capital projects:

- a) The Board **CLOSE** projects **LH1020** Financial Plan Update, **LH1268** Obsolete Equipment Removal, **LH2043** Construction Site Trailer Pad, and **LH2047** Electric Vehicle Charging Stations with surplus funding in the approximate amount of **\$59,596** be released to the Reserve Funds.
- b) The Board **CLOSE** projects **LH1255** Crop Yield Monitoring, and **LH1265** RMF Tank Repairs with additional funding in the approximate amount of **\$8,367** be drawn from the Reserve Funds.
- c) The Board **RECEIVE** this report for information.

Previous and Related Reports

Capital Status Report – March 2023

Background

The Capital Project Status Report, attached for the Board's information, provides a brief overview of the status of current capital projects for the Lake Huron Primary Water Supply System. This report is provided for the general information of the Board.

The status report is divided into four categories of projects, namely:

- 1. Ongoing Projects:** This section provides a summary list of all projects which are funded by the Board through the Capital Budget, and which are currently in-progress. Board funded projects are typically for the replacement or upgrade of existing assets, the construction of new assets, or engineering studies and assessments, as approved by the Board.

Under the terms of the Service Agreement with the contracted operating authority, the Board is also required to pay for some maintenance/repair activities. The benchmark used in the operating contract is that if the value of the material and any contracted labour is over \$30,000 (indexed annually to inflation from the start of the contract), the project is considered Capital Maintenance and the contracted operating authority would fund the first \$30,000 (indexed), with the balance funded by the Board. Accordingly, the Board maintains an annual “fund” within the Board’s capital budget to pay for these projects as they arise.

- 2. a) Completed Projects - Release Surplus to Reserve Funds:** This section provides a summary list of all projects which are presently completed and do not require additional funds from that budgeted. Should the Board approve the closure of the listed projects, it is the recommendation of staff to release the surplus funds, if any, to the appropriate Reserve Fund.

b) Completed Projects – Reduce Authorized Debt: In the case where the project is funded through the issuance of a debenture, should the Board approve the closure of the listed project it is the recommendation of staff to reduce the previously authorized but unissued debt for the project(s).

- 3. Completed Projects - Additional Funding Required:** This section provides a summary list of all projects which are presently completed but require additional funds from that originally approved by the Board. Should the Board approve the closure of the listed projects, it is the recommendation of staff to provide the required additional funding from the Board’s Reserve Fund.

Discussion

For the information and reference of the Board, the following is the Capital Project Status Summary:

1. Ongoing Capital Projects

PROJECT NO.	PROJECT	APPROVED BUDGET	EXPENDED TO DATE *	STATUS
LH1016	Huron Safety Railing Replacement	\$500,000	\$484,094	Project ongoing
LH1021	Huron Low Lift Pump 6 Refurbishment	\$290,000	\$121,115	Project ongoing
LH1107	SCADA/PLC Software Review & Upgrade	\$500,000	\$49,513	Project ongoing
LH1207	Concrete Crack Injection	\$220,000	\$165,573	Ongoing multi-year project
LH1216	Closed Loop Chlorine Control	\$135,000	\$14,863	Project ongoing
LH1219	Filter Backwash Turbidity Meters	\$250,000	\$233,241	Warranty period
LH1229	Security Upgrades	\$1,053,000	\$683,717	Project ongoing
LH1230	High Lift Pump Replacement	\$13,557,000	\$9,212,006	Warranty period
LH1232	Arva Victaulic Repair	\$175,000	\$48,290	Project ongoing
LH1242	Hydraulic/Transient Model Update and Monitoring	\$540,000	\$317,304	Project ongoing
LH1243	McGillivray Electrical Upgrades	\$11,887,175	\$3,043,541	Project ongoing
LH1245	Walking Beam Flocculator Rehab	\$400,000	\$213,577	Project ongoing
LH1246	LL Building – Curtain Wall/Clearstory Window Replacement	\$425,000	\$382,042	Warranty period

PROJECT NO.	PROJECT	APPROVED BUDGET	EXPENDED TO DATE *	STATUS
LH1251	PAC Feed/Transfer Pump System Replacement	\$260,000	\$32,995	Project ongoing
LH1256	Crop Yield Monitoring – 2014 Pipeline Twinning	\$1,500,000	\$156,751	Project ongoing
LH1257	Chamber 63 Access Culvert	\$405,000	\$299,111	Warranty period
LH1260	Flash Mixer Upgrade	\$1,437,000	\$1,135,534	Project ongoing
LH1261	PLC Replacements	\$40,000	\$767	Project ongoing
LH1264	Vehicle Door Replacements	\$225,000	\$205,593	Project ongoing
LH1267	Plant Interior Door Replacement	\$80,000	\$64,311	Project ongoing
LH1272	Service Water Pipe Replacement	\$100,000	\$74,001	Annual program
LH1273	(PS3) Exeter-Hensall Pump Control Upgrades	\$100,000	\$7,441	Project ongoing
LH1274	SCADA Control Modifications	\$100,000	\$2,160	Project ongoing
LH1277	IT Asset Replacement Program	\$425,000	\$230,386	Project ongoing
LH1279	Cyber Intrusion Detection System	\$10,000	\$0	Project ongoing
LH1284	Huron Flocc Gear Drive	\$300,000	\$295,174	Project ongoing
LH1285	Pressure Reducing Valve	\$425,000	\$0	Project ongoing
LH1316-22	Annual Maintenance (2022)	\$125,000	\$75,808	Annual program
LH1316-23	Annual Maintenance (2023)	\$125,000	\$0	Annual program

PROJECT NO.	PROJECT	APPROVED BUDGET	EXPENDED TO DATE *	STATUS
LH1317	Distressed Pipe Replacement	\$2,150,000	\$1,463,531	Project ongoing
LH1352	Arva Reservoir Structural Repairs	\$50,000	\$0	Project ongoing
LH1353	WTP Modifications	\$850,000	\$260,555	Multi-year project
LH1380	Clarifier Upgrades	\$350,000	\$175,456	Project ongoing
LH1388	Coagulation Optimization Study	\$50,000	\$0	Project to be initiated
LH1408	Oneida Transmission Pipeline	\$25,200,000	\$122,001	Project ongoing
LH1426	Microbial Inactivation and Storage EA	\$1,000,000	\$470,110	Project ongoing
LH1900	Record Drawings & Documents	\$491,000	\$404,811	Ongoing multi-year project
LH1901	Water Quality Facility Plan	\$290,000	\$77,034	Project ongoing
LH2036	Roof Drain Replacement	\$75,000	\$44,883	Project ongoing
LH2038	Chamber Flood Prevention/Rehab	\$175,000	\$93,665	Project ongoing
LH2040	Remote Site Generator Connections	\$20,000	\$0	Project ongoing
LH2042	Pipeline-A Double Isolation Valve	\$1,247,000	\$26,566	Project ongoing
LH2044	Sub-Basement Drain Study	\$25,000	\$0	Project ongoing
LH2045	Monitoring Station Controls Upgrades	\$275,000	\$0	Project ongoing

PROJECT NO.	PROJECT	APPROVED BUDGET	EXPENDED TO DATE *	STATUS
LH2046	Asset Condition Field Assessment	\$110,000	\$63,706	Project ongoing
LH2048	De-Chlorination at Remote Stations	\$125,000	\$0	Project ongoing
LH2049	Office Expansion	\$100,000	\$0	Project ongoing
TOTAL		\$68,172,175	\$20,751,226	

2.a) Completed Projects – Release Surplus to Reserve Funds \$59,596

PROJECT NO.	PROJECT	APPROVED BUDGET	EXPENDED TO DATE *	STATUS
LH1020	2021 Financial Plan	\$50,000	\$44,264	Project complete
LH1268	Obsolete Equipment Removal	\$150,000	\$148,209	Project complete
LH2043	Construction Site Trailer Pad & Electrical	\$75,000	\$32,931	Project complete
LH2047	Electric Vehicle Charging Stations	\$10,000	\$0	Project closed. <i>The scope of this project is included in LH1353 to consolidate costs and mitigate duplicate expenses.</i>
TOTAL		\$285,000	\$225,404	

2.b) Completed Projects – Reduce Authorized Debt/Other Sources

PROJECT NO.	PROJECT	APPROVED BUDGET	EXPENDED TO DATE *	STATUS
TOTAL		\$ 0	\$ 0	

3. Completed Projects – Additional Funding Required (\$8,367)

PROJECT NO.	PROJECT	APPROVED BUDGET	EXPENDED TO DATE *	STATUS
LH1255	Crop Yield Monitoring – 2012 Rupture	\$110,000	\$118,120	Project complete
LH1265	RMF Settling Tank Repairs	\$85,000	\$85,247	Project complete
TOTAL		\$195,000	\$203,367	

* Expended as of August 31, 2023



Report No.: EA-2023-04-04

Report Page: 8 of 8

Meeting Date: 2023-10-05

File No.:

Prepared by: Archana Gagnier
Budget and Finance Analyst

Submitted by: Billy Haklander, P. Eng., LL.M
Senior Manager, Capital Programs

Recommended by: Kelly Scherr, P.Eng., MBA, FEC
Chief Administrative Officer

Board of Management Report

Subject: 2024 Operating & Capital Budgets

Overview:

- The proposed 2024 Operating and Capital budgets are consistent with the Financial Plan approved by the Board in March 2023.
- The proposed water rate for 2024 is 54.54 cents per cubic meter; a five-percent increase in the rate charged in 2023 to benefiting municipalities.
- Cost projections presented in the 2024 budget include the anticipated operating costs for the water utility within the current term with the contracted operating authority, the Ontario Clean Water Agency, which ends December 31, 2027.
- Projected financial requirements beyond 2024 may be subject to change once the Master Water Plan is updated and completed, currently anticipated by early 2025.

Recommendation

That, on the recommendation of the Chief Administrative Officer, the following actions be taken by the Board of Management for the Lake Huron Water Supply System with regard to the 2024 Operating and Capital Budgets:

- a) The Board **APPROVE** the 2024 Operating Budget in the total amount of \$27,561,000 as attached to this report.
- b) The Board **APPROVE** the 2024 Capital Budget in the total amount of \$11,371,000 as attached to this report.
- c) The Board **RECEIVE** the 2025 to 2033 Capital Forecast for information.
- d) The Board **APPROVE** the 2024 rate for water of \$0.5454 per cubic meter: and,
- e) The Board **RECEIVE** the 2022 to 2028 Flow and Financial Analysis for information.

Previous and Related Reports

None

Discussion

2024 Water Rate

It is proposed in this budget that the water rate for the wholesale of water to the benefiting municipalities be set at \$0.5454 per cubic meter (54.54¢ per cubic meter). In responding to regulatory, operational, and inflationary pressures, this proposed 2024 rate represents a 5% increase from the current rate.

The rate proposed for the 2024 budget is consistent the projected rate increase previously reported to the Board in the Financial Plan approved in March 2024.

2024 Budget Volume

Projecting for the current rate of population and water demand growth within the benefiting municipalities, as well as anticipated impacts of continued water conservation, the proposed 2024 treated water volume included in the budget of 48,724,500 cubic meters represents a 3.4% increase compared with the 2023 approved budgeted volume, and approximately 2.4% higher than the anticipated 2023 actual supplied volumes.

Approved 2023 budget volume	47,114,500 m ³
Anticipated 2023 year-end volume	47,600,344 m ³
Proposed 2024 budget volume	48,724,500 m ³

The long-term volume projections for the regional water systems have been re-evaluated in preparation for the 2024 budget and revised to incorporate increasing consumption trends within the City of London. Supplied volumes to the other benefiting municipalities continue to remain stable, with low to moderate long-term annual growth in consumption rates.

Water demand projections and anticipated capital works are reviewed annually as part of the budget development process to ensure capital investments are appropriately coordinated and timed. The long-term volume projections will be reviewed again during revisions to the Master Water Plan, proposed to be undertaken in 2024, and compared to the long-term growth projections for each municipality. These projections will include the supply to the Oneida Nation of the Thames currently anticipated in early 2025.

Further, the regional water system's business case process promotes a risk mitigation and level of service strategy which further addresses the appropriate timing of necessary projects.

Operating Costs

The two single largest operating costs for the water supply system are the contract costs for the operation and maintenance of the water supply system, and the purchase of electricity for the system. The 2024 budgeted operating costs are approximately \$11.183 million, reflecting a net 3.2% projected decrease compared to the 2023 budget. While ongoing energy saving initiatives implemented at the facility are translating to decreased energy costs overall, the renewal of the contract for the operation and maintenance of the water system's facilities saw a significant increase due to increased supply costs.

Of the \$11.183 million, energy costs comprise approximately 27.7% (\$3.1 million) of operating expenditures.

The Service Fee currently paid to the Board's contracted operating authority, the Ontario Clean Water Agency (OCWA), consists of general operating costs (labour, material, natural gas, chemicals, etc.) paid by the Board. As electricity can be highly variable on a year-over-year basis, the risk of market volatility has summarily been assumed by the Board and mitigated through the Board's energy procurement strategy, as well as conservation and efficiency programs.

The Board has previously received and accepted an energy, conservation and pump optimization study report which reviewed possible cost saving and efficiency measures related to the procurement and usage of electrical energy and the associated pumping strategy for the system. The proposed 2024 Capital Budget and forecasted capital plan continues to incorporate energy efficiency projects and opportunities, where feasible, with further energy efficiency projects to be considered in future.

Administration and Other Expenses

The Administration and Other Expenditures projected for the 2024 budget of approximately \$3.8 Million represents a \$204,000 net increase over the 2023 budget amount. This net increase is due to numerous changes to the water supply system, including:

- Management & Administrative Personnel: projections for personnel costs have been adjusted as a result of increases reflective of Collective Agreements and cost of living increases. The budget also includes the addition of two positions ($\frac{1}{2}$ FTE's shared with the Elgin Area Water System); an IT Hardware Technician shared with the Elgin Area Water System) to address the increased workload associated with ongoing maintenance, repair and upgrades to computer networks across the region, and an additional Technologist-II to address longstanding resource needs related to capital program management.
- Increased fees charge by the City of London for various services and support.
- Increases to the Board's property, cyber insurance, Directors & Officers insurance, property insurance, and general liability insurance.
- The increased costs to Information Technology due to cyber security measures, implemented technology, and IT/OT asset replacements.
- Increased cost of leased office space.

Oneida Transmission Pipeline

The detailed design in preparation for the construction of the new transmission pipeline and supply to the Oneida Nation of the Thames is ongoing and is being coordinated with on-settlement work being undertaken by the Oneida Nation of the Thames. Based on the current project schedule, it is anticipated that the detailed design will be completed by the end of 2023 with construction beginning in early 2024. The ongoing supply of drinking water to the First Nation is not anticipated to begin until early 2025, depending on the completion of corresponding on-settlement being undertaken by Oneida.

At the time of drafting the proposed 2024 Operating Budget, the design of the proposed transmission pipeline was not sufficiently advanced to ascertain the potential operational implications on current operating costs. Once details have been finalized, any additional costs for operation including changes to the Operation and Maintenance Agreement with the Ontario Clean Water Agency, if any, will be presented to the Board for information at a future meeting.

Given the scope and complexity of the project, the Administration and Other Expenses includes an allowance for a temporary Senior Technologist who will assist in the project management and delivery, aiding the regional water system's assigned engineer. The cost of the Senior Technologist will be recovered from the capital project and have a net-zero impact on the current Operating Budget.

Process Optimization and Energy Efficiency

Efforts continue related to process optimization to improve treatment and transmission system performance, efficiency, and effectiveness with the intention of lowering long-term costs of operation and optimize future capital investments. In addition, process optimization has the added potential to increase treatment capacity without the corresponding potentially significant cost of construction of new treatment processes (i.e., expanding the treatment plant).

Staff are in the process of updating the Water Quality Facility Plan, expected to be completed in late 2023, which will outline recommended process efficiency improvements and treatment challenges which may restrict process efficacy in future. Further leveraging in-house resources and the partnerships with the Natural Sciences and Research Council of Canada (NSERC) Industrial Research Chairs at the universities of Waterloo and Toronto allow staff to reduce the apportionment of costs without impacting the optimization program.

An update to the Water Quality Facility Plan will incorporate recent assessments related to treatment capacity, impacts of Climate Change and adaptive capacity, and unit process treatment efficacy and efficiency.

Proposed 2024 Capital Budget

The proposed 2024 Capital Budget incorporates several projects to address capital improvements and critical reinvestment in the water supply system's assets, as well as regulatory requirements, ongoing and proposed Board initiatives. Project specific summaries are provided in [Appendix A](#) of this report for the Board's information.

Financial Plan and Asset Management Plan

The Asset Management Plan approved by the Board in 2022, in part, provides an assessment of anticipated capital projects based on asset condition assessments, asset performance, and operational assessments provided by our contracted operating authority. The recommended projects identified in the 2002 Asset Management Plan, along with the growth-related projects identified in the 2020 Master Water Plan and other previously undertaken studies which were available at that time.

In the development of the 2024 Capital Budget, a business case is created for each project which outlines the scope of the issue that needs to be addressed, options which can reasonably be considered, capital and operating cost estimates, and the identification of project interdependencies. The business case process is linked with our Customer Level of Service framework and Risk Mitigation strategy to better prioritize and direct funds in a more strategic fashion and in consideration of financial constraints which may be experienced.

Within this framework, a proposed capital project may be “lifecycle” in nature and required to maintain an existing level of service, and/or a “service improvement” investment which may address elements like:

- Enhancement to the level of service (including safety and security, energy efficiency improvements, system resiliency, and working conditions);
- Support of system growth or support projected increases in water demands;
- Address regulatory changes; and/or,
- Increase efficiency.

The level of capital investment will vary from year-to-year, most especially for projects related to system growth or supporting increasing water consumption. The Asset Replacement Reserve is used for lifecycle projects (maintain Level of Service), while the New Capital Reserve is used for system improvements (enhance Level of Service). A given project, in principle, may address multiple elements within the Level of Service framework (end-of-life replacement, improve energy efficiency, and/or address health & safety, regulatory, performance, etc.), and therefore may require the utilization of both the Asset Replacement Reserve (lifecycle) and the New Capital Reserve (service improvement and growth) as sources of funding.

It is important to note that the anticipated projects in the first five-year planning period outlined in the 2022 Asset Management Plan tend to be based on risk mitigation addressing condition and/or performance, while projects in the remaining 25+ years tend to be systemic or age-related in nature. In addition, the financial information presented in the 2022 Asset Management Plan is considered an “unconstrained” financial projection; meaning without consideration of such things as other operational needs and financial constraints (e.g., borrowing capacity) experienced by the water supply system.

The Financial Plan is utilized to incorporate the needs identified in not only the Asset Management Plan, but also the Master Water Plan (growth study) and other planning studies undertaken by the system, as well as the evolving operational and administrative needs of the system, to better leverage and predict the financial requirements and implications to the system. During the development of the annual budget, the projections in the 2023 Financial Plan are measured and adjusted according to actual conditions, which will consequently affect the capital plan in each fiscal year.

The projected capital plan (2025 to 2033) includes an allocation for anticipated systemic but unspecified asset investments starting in 2025 (identified as “*AMP Investments*”). This reflects the age-related projections included in the approved 2022 Asset Management Plan. As condition, performance, and risk assessments are completed, business cases will be undertaken to identify and prioritize the expenditures and replace these *AMP Investments* allocations in the long-term plan. For the time being, and for planning purposes only, these “AMP Investments” placeholders are included in the capital projections beyond the proposed budget.

An updated Master Water Plan is proposed in the 2024 Capital budget and will be incorporated in future updates to the Financial Plan.

2024 Capital Plan

The approved 2023 Financial Plan recommends an average target year-end balance for the Asset Replacement Reserve in the order of \$7.5 million. Although the actual investment and rate of commitment may vary year to year, the current capital plan maintains the long-term average investment rate as outlined in the approved Asset Management Plan and Financial Plan.

In contrast, the New Capital Reserve is intended to grow significantly over time to provide a sufficient base for funding of large growth-related projects in future. The balance of generational investment equity (utilization of reserves established by current users versus debt incurred and paid by future users) has yet to be fully quantified and may be addressed in future Master Water Plan and Financial Plan studies.

Within the forecast period, the Capital Plan currently anticipates the expansion of the Arva Terminal Reservoir (2028) and several age-related investments between 2029 and 2033. The 2024 Master Water Plan is anticipated to have an impact on the long-term financial requirements to address growth-related projects and confirm the timing of needed investments. This may potentially include significant treatment improvements to address long-term needs.

Staff continue to be satisfied that the issue of generational equity can be addressed within a reasonable timeframe.

Lifecycle Projects (Maintain Level of Service)

Proposed projects in the 2024 Capital Budget which primarily address maintaining the system's level of service are:

- Low Lift Pump Rebuild
- Concrete Crack Injection
- PAC Feed/Transfer System Replacement
- Service Water Pipe Replacement
- Distressed Pipe Replacement
- Clarifier Upgrades
- Service Water System Study
- Clarifier Ramp Replacement
- Low Lift Check Valve Replacement
- Treatment Plant Surge System Rehabilitation
- Beach Chamber Valve Replacement
- Hydraulic/Transient Model Update
- Plant Interior Person-Door Replacement
- IT Asset Replacement Program
- Arva Reservoir Structural Repairs
- Roof Drain Replacement
- McGillivray Building Renovations
- High Lift Discharge Flow Meter Replacements
- Raw Water Valve & Actuator Replacement

In addition to the above-noted capital projects, the 2024 Capital Budget includes LH1316 Annual Maintenance which funds, in part, maintenance and repair projects undertaken by the contracted operating authority, the Ontario Clean Water Agency.

All maintenance and repairs of the system's assets are the obligation of the contracted operating authority to undertake in accordance with the Service Agreement. For activities of maintenance and repair where the value of the material and any contracted specialty services exceed \$30,000 (adjusted annually by the Consumer Price Index (CPI), the Board is responsible for the value of the work more than the \$30,000 (as adjusted).

To facilitate this work, the Capital Budget includes an Annual Maintenance project which is utilized to fund this contractual obligation of the Board.

Service Improvement Projects (Enhanced Level of Service, Regulatory Changes, Efficiency)

Proposed projects in the 2024 Capital Budget for which the primary driver is service improvement are:

- Huron Safety Rail Replacement
- Water Treatment Plant Modifications and Renovations
- Chamber Flood Prevention and Rehabilitations
- Master Water Plan
- Security Upgrades
- Water Treatment Plant Storage and UV
- Climate Change Resiliency Assessment
- Asset Condition Field Assessment

A summary of the capital projects is provided in Appendix A of this report.

Capital Forecast

Several capital projects are projected beyond the 2024 Capital Budget year, which will have an impact on the financial forecast and future water rates for the water system. Some of these capital projects were anticipated in previous budget forecasts and are now inclusive of the approved Asset Management Plan and Financial Plan. As previously noted, staff undertake a business case assessment for each project to confirm the costs, timing, and priority of the project, consistent with our Customer Level of Service framework and Risk Mitigation strategy.

Flow and Financial Analysis

Included in the budget package is a projection of annual volumes and finances beyond 2024 and provides a summary analysis of one option for rate increases and the use of debt (if any) where a debenture is identified in the Reserve Fund Continuity Schedules. This projection has incorporated the principles and recommendations from the approved Financial Plan but has been adjusted to reflect the current anticipated volume projections and corresponding revenues.

The projected operating expenses beyond 2024 utilizes the contracted operating costs of the amended operating agreement with the Ontario Clean Water Agency. The projected operating expenses further assumes that the future cost of operating the system is consistent with the current operating agreement which ends on December 31, 2027. Significant changes in contracted operating costs that may occur after January 1, 2028, including the cost and availability of chemicals and consumables for the water treatment processes, may have a considerable impact on future operating costs.

In addition, energy expenditures projected beyond 2024 have assumed a reasonable escalation of costs, tied to the anticipated annual volumes projected and consequential savings from various efficiency-related investments. At this time, the water system is well positioned to mitigate energy related risks and take advantage of cost savings where available.

As identified in the approved 2023 Financial Plan, staff are projecting a 5.0% annual increase in the rate beyond the 2024 budget. This water rate projection, however, may be subject to change and revision as the update to the Master Water Plan is completed in early 2025.

Reserve Funds

Conceptually, the Asset Replacement Reserve is required to provide a stable funding source for capital programs designed to replace, maintain, and extend the life of existing assets to their full potential. Accordingly, the contribution to the Asset Replacement Reserve fund year-over-year should be relatively consistent and match the projected lifecycle needs of the system. On average and over the long-term, the Asset Replacement Reserve ending balance should be in the order of \$7.5 million to ensure a consistent funding source.

Conversely, the New Capital Reserve Fund is intended for growth-related capital programs and various system and performance improvement initiatives. As these programs tend to be periodic in nature, the reserve fund balance in the New Capital Reserve may significantly increase or significantly decrease in any given year depending on the timing of the programs undertaken.

The Emergency Reserve Fund is intended to fund unplanned and unanticipated emergency-related projects such as pipeline failures, tank ruptures and treatment process failures. In accordance with the Board's direction, the target balance of the Emergency Reserve Fund is established at \$5 million, wherein contributions will be discontinued when the Emergency Reserve Fund balance reaches the target value.

Debentures

There are several debentures previously approved by the Board and issued by the City of London on the water system's behalf, many of which are nearing the end of their term within the current forecast period. These debentures are:

- Debt authorized in 2006 for the Backup Generator (LH1326) in the amount of \$1.5 million was issued in 2013 with payments beginning in 2014 (3.3% for a 10-year term)
- Debt authorized in 2011 for the Residuals Management Facility (LH1902) in the amount of \$16 million was partially issued in 2015 (\$7 million) with payments beginning in 2016 (1.9% for a 10-year term)

- Debt authorized in 2012 for the Huron Transmission Pipeline Twinning (LH1305) in the amount of \$4 million was partially issued in 2015 (\$1.665 million) with payments beginning in 2016 (1.9% for a 10-year term) and further debt issued in 2017 (\$0.4 million) with payments beginning in September 2017 (2.48% for a 10-year term)

A new debenture is anticipated to be required for the proposed Water Treatment Plan Reservoir and UV Disinfection System (LH1426), currently estimated to be in the order of \$10 million in 2026. The financial forecast provided in this budget includes an estimate of principal and interest payments for this debenture, with payments starting in 2027.

Acknowledgement

The preparation of the 2024 Operating and Capital budgets were undertaken by the Regional Water Division staff, with the assistance by the City of London Financial Services.

Submitted by: Andrew J. Henry, P.Eng.,
Director, Regional Water

Recommended by: Kelly Scherr, P.Eng., MBA, FEC
Chief Administrative Officer

Attachments: Appendix A – 2024 Capital Projects Summary
2024 Operating & Capital Budgets, & Nine-Year Capital Forecast

Appendix A – 2024 Capital Projects Summary

Lifecycle Projects (Maintain Level of Service)

LH1021 Huron Low Lift Pump Rebuild (multi-year program): Intended for long service lives, the low lift pumps require periodic rebuilding of the pump impellers, seals, bearings, and other high-wear components. This program continues to rebuild one low lift pump per year over a six-year period with 2026 anticipated to be the final year of the program.

LH1207 Concrete Crack Injection (multi-year program): A significant amount of the infrastructure deployed for the water supply system is comprised of concrete for water-retaining structures. This program continues to systemically refurbish the concrete throughout the water treatment facility to ensure its intended long life.

LH1242 Hydraulic/Transient Model Update & Transient Monitoring (multi-year program): The hydraulic model that was completed after the new high lift pumps were installed at the water treatment plant in 2022 included several recommendations for improvement. The tasks included in this project include model validation, additional scenarios, and extended period simulation to inform the proposed 2024 Master Water Plan Update and be able to respond to future demands that will accompany growth in the region.

LH1251 PAC Feed/Transfer Pump System Replacement: The transfer and dosing system used for Powder Activated Carbon (PAC) is in poor condition and has reached the end of its useful service life. The project proposes to preplace the transfer and dosing pumps with more energy efficient components and make treatment efficacy improvements in the overall dosing system for a more consistent application of PAC to the raw water. Preliminary design was completed in the spring of 2023 with detailed design and construction proposed for 2024.

LH1267 Plant Interior Person Door Replacement (multi-year program): Due to the damp environment within the water treatment plant, many of the existing metal doors have failed or are showing signs of significant corrosion and deterioration. This project continues the replacement of interior industrial doors over a five-year period that started in 2020.

LH1272 Service Water Pipe Replacement (multi-year program): The existing cast iron service water piping is original to the plant construction. Sections of the service water piping are showing significant deterioration including advanced corrosion, leaking, and constrictions from tuberculation. This program continues to replace sections of the service water piping within the water treatment plant as opportunities arise.

LH1277 IT Asset Replacement Program (multi-year project): This project address outdated IT security and operating platforms used by the water supply system. The proposed 2024 phase of the project looks to complete the upgrades and migration to the new network platform.

LH1317 Distressed Pipe Replacement Program: As a result of the condition assessment, subsequent data from the Acoustic Fibre Optic Monitoring System within the 1200mm high pressure transmission pipeline, and the updated results of the predictive model for the deterioration of the transmission pipeline, this program replaces high-risk pipe segments on a systemic basis. Although no replacement of pipe segments is specifically forecast for 2024, budget for this program is projected such that two pipe segments may be replaced should the need arise.

LH1352 Arva Reservoir Structural Repairs: Visual inspections obtained by an underwater remotely operated vehicle of the Arva Reservoir have identified areas of structural deterioration within the reservoir that need repair. A detailed structural engineering assessment of the areas identified and recommend the method as well as cost of the repairs is expected to be completed in the fall of 2023. This proposed project is to undertake necessary repairs identified by the assessment and thereby extend the useful life of the structure.

LH1380 Clarifier Upgrades (multi-year program): The existing Lamella Plate Clarifier tanks employ a scraper system to collect settled solids from the bottom of the tank which is driven by a gear-drive. Given the age of the existing drives, they are subject to repeated overheating and shear failures resulting in frequent maintenance and repairs. This project proposes to replace one gear drive over a four-year period (that started in 2021) including the installation of variable frequency drives for energy efficiency and overheating and shear protection devices.

LH2036 Roof Drain Replacement (multi-year program): The cast iron drains throughout the facility are original to plant construction and are starting to show signs of blockage and leakage due to the extent of corrosion. This project proposes to replace drains throughout the facility over a five-year period starting in 2022.

Service Water Study: Most of the existing service water system is original to the plant, except for the four pumps that we rebuilt/replaced in 2021, and some appurtenances and piping sections being replaced (through the Service Water Pipe Replacement Program above), as an operational project/priority. However, a review of the overall service water system is proposed to ensure adequacy for each process area is required as there are concerns with service water supply to certain process areas, including site hydrants which will be an important consideration for the new administration building.

McGillivray Building Renovations: The administrative areas of the McGillivray Booster Pumping Station are original to the facility in poor condition and in need of upgrades to

current standards and regulations. This project is to undertake a design for the renovation and preparation of contract documents to complete the renovations once the McGillivray Electrical and HVAC project is complete.

Treatment Plant Surge System Rehabilitation: The surge tank system protects plant equipment and the transmission system from transients that are introduced into the system when there is sudden power failure. The system is original to plant construction and due of an upcoming visual inspection. This proposed project is to retain a qualified firm to carry out detailed investigations that include a complete physical inspection of piping and tanks, interior and exterior, including testing, x-ray, etc. and investigate the isolation valve hydraulic pack and cylinders to determine rehabilitation/replacement needs, and upgrades to meet current design standards. It is anticipated that this investigation will lead to future year budget requests for rehabilitation and upgrade works.

Beach Chamber Valve Replacement: The sluice gate valve on the intake pipeline prior to the low lift building located in the beach chamber has failed and seized in the open position and is inoperable. Rehabilitation/remediation efforts have been made to resolve the failure with no success. Being original to plant construction, and for the most part held in the open position, corrosion has built-up causing the inoperability of the valve and limits maintenance ability of the low lift. This proposed project is to replace the valve and possibly upgrade the chamber to accommodate a modern valve such that enhanced maintenance flexibility to work on the low lift isolation valve without having to implement alternate isolation measures.

Clarifier Ramp Replacement: The existing ramps in the flocculated water conduit are made from corrugated steel and are beginning to corrode with holes worn through the ramping at certain spots which presents a health and safety hazard for cleaning access and negatively impacts process hydraulics. This proposed project is to replace the ramps.

High Lift Discharge Flow Meter Replacements: The high lift discharge flow meters are nearing the end of their useful life, and while presently the meters are still able to be calibrated, parts are not readily available in the event of a breakdown. The meters are critical to operations for both regulatory and transmission purposes. The proposed project is to replace the flow meters.

Low Lift Check Valve Replacements (multi-year program): This proposed project is to replace the check valve & butterfly valve assemblies on the six (6) low lift pumps. Unfortunately, rehabilitation is not an option due to age of check valves which are original to plant construction (circa 1966). This program is proposed to replace one valve assembly per year over a six-year period with 2029 anticipated to be the final year of the program.

Raw Water Valve & Actuator Replacement: Currently when there is a failure of the alum system the entire plant shuts down. This proposed replacement of the raw water valves and actuators including a tie into the SCADA network will provide for the improvement to and increased flexibility of the systems operability as this would allow one side of the plant to continue operating, while the side with the failure is shut down for repair.

Service Improvement Projects (Enhanced Level of Service, Regulatory Changes, Efficiency)

LH1016 Huron Safety Railing Replacement (multi-year program): A previous inspection by the Ministry of Labour has identified several of the water treatment facility's railings and guards which do not comply with current safety standards. This project proposes to replace the rails and guarding within the facility over a six-year period with the final year of the program completed in 2025.

LH1229 Security Upgrades (multi-year program): The previously completed Security Audit and Threat Risk Vulnerability Assessment provided policy, resource, and site-specific recommendations to mitigate security and safety risks at all facilities. The project proposed is a multi-year allowance to undertake security-related modifications to all facilities, based on the criticality assessment and recommendations of the security specialist.

LH1353 WTP Modification/Renovation: This project is for the detailed design of a new administration building, site upgrades and renovations to the water treatment plant to address long-standing issues associated with the administration and operational areas for plant staff within the water treatment plant as well as overall site security and access issues.

LH1426 WTP Storage Reservoir & UV: This project is for the design of a new reservoir, sized to meet the water demand-based needs (equalization and emergency supply) of the region, including UV disinfection. A new UV building is to be constructed with and adjacent to the new reservoir in accordance with preferred solution of the Lake Huron Water Treatment Plant (WTP) Disinfection and Storage Upgrades Schedule B Environmental Assessment.

The UV disinfection system will provide the Lake Huron WTP with enhanced primary disinfection capabilities through a multi-barrier disinfection process, and therefore provide the ability to accommodate future and more stringent primary disinfection regulatory requirements and changes in source water quality. The new reservoir will provide the plant with treated water storage to reduce the potential number of occurrences and consequential impacts to LHPWSS customers from planned or unplanned service interruptions.

LH2038 Chamber Flood Prevention/Rehab (multi-year program): Some of the pipeline chambers have been mandated by the Ministry of Environment, Conservation and Parks to be visited several times per year due to the criticality of the air/vacuum relief valves and the risk of groundwater entering the valve relief ports and contaminating the water supply. While the chamber does contain solar-powered sump pumps, installing flood proof piping between the valves and the chamber vents will prevent water from entering the air valves and further decrease the possibility of contamination. As a result, staff developed a program to rehabilitate the chambers throughout the water system over a six-year period, starting in 2022, and undertaken on a risk/priority basis.

LH2046 Asset Condition Field Assessment (multi-year program): One of the key outcomes of the Asset Management Policy is to build a future-ready utility that is data rich as well as knowledge rich. A corporate asset information strategy must be developed to ensure accessibility to a fully integrated asset data registry to support good governance and leverage operational efficiencies. The integrated asset data registry has been implemented through our computerized maintenance management system (Maximo); however, asset condition data gaps remain on key infrastructure assets.

Presently, the independently and field-verified asset condition information is out of date having last been completed in 2013. Originally conceived as a three-year project, the consultant for the initial 2023 submitted a technical and fee proposal which allowed the project to focus on and complete assessment of those critical assets at the water treatment plant. This additional 2024 project budget will focus on completing a condition assessment for remote facility/station assets and it is expected we will be able to complete this project one-year earlier than planned.

Master Water Plan Update: As a requirement of the Transfer Order for the Lake Huron Primary Water Supply System, this project is required every five years and is focused on reviewing and establishing long-term annual volume projections and growth-related capital projects required to support the long-term needs of the regional water system and its benefiting municipalities.

Climate Change Resiliency Assessment: The Asset Management Plan previously endorsed by the board included a recommendation to undertake a climate change assessment on a site-specific basis using relevant guidelines and standards. This multi-year project is to examine opportunities for climate change adaptation and mitigation approaches that are not yet realized in response to the threat extreme weather events pose to the plant and remote sites and/or their operation.

These risks and hazards must be understood so that they can be mitigated and adapted through future planning and improvement initiatives in keeping within the Environmental and Quality Policy previously approved by the Board and the associated Climate Change Mitigation and Adaptation commitments therein.



Lake Huron

Primary Water Supply System

**2024 Operating and Capital Budgets
and Nine Year Capital Forecast**

October 5, 2023

Lake Huron Primary Water Supply System 2024 Budget

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**2024 Budget
Revenue and Expenditure Summary
(\$000's)**

	2023 Approved Budget	2024 Proposed Budget	Incr (Decr) Over 2022	% Budget Incr (Decr)	2023 Year End Projection
Revenue					
Volume Revenues ⁽¹⁾	24,474	26,574	2,100	8.6%	24,725
Other Revenues ⁽⁴⁾	25	987	962	3848.0%	23
Total Revenue	\$ 24,499	\$ 27,561	\$ 3,062	12.5%	\$ 24,748
Expenditures					
Operating Costs ⁽²⁾	11,558	11,183	(375)	(3.2)%	10,641
Administration & Other Expenditures	3,596	3,799	203	5.6%	2,996
Debt Principal Repayments ⁽³⁾	1,106	952	(154)	(13.9)%	1,106
Interest on Long Term Debt ⁽³⁾	59	34	(25)	(42.4)%	59
Contribution to Reserve Funds	8,180	11,593	3,413	41.7%	9,945
Total Expenditures	\$ 24,499	\$27,561	\$ 3,062	12.5%	\$ 24,748

* subject to rounding

Notes:

(1) A budget volume decrease is anticipated in 2023 (from 47,344,500 m3 in 2022 to 47,114,500 m3 in 2023). Rates per m3 are proposed to increase by 1.5%.

(2) Part of the operating costs are direct to the Lake Huron system (i.e. electricity, AFO Monitoring, etc.), while all other costs are fixed to the annual operating costs included in the Service Fee paid to the Ontario Clean Water Agency.

(3) Refer to page 9 for more information on debt.

(4) A one-time buy-in charge is invoiced to Oneida Nation of the Thames per the Water Supply Agreement and the Board's New Connection Policy

**Lake Huron Primary Water Supply System
2024 Budget
Administration & Other Expenditures
(\$000's)**

	2023 Approved Budget	2024 Proposed Budget	Incr (Decr) Over 2022	% Budget Incr (Decr)	2023 Year End Projection
Management & Administrative Personnel	1,043	1,251	208	19.9%	818
Support and Overhead Costs ⁽¹⁾	328	338	10	3.0%	328
Payment in Lieu of Taxes	340	330	(10)	(2.9)%	312
Insurance (Property, Director & Officers, General Liability)	718	775	57	7.9%	732
Financial/Office Expenses ⁽²⁾	340	332	(8)	(2.3)%	214
Process Optimization	75	75	0	0.0%	60
Information Technology Maintenance ⁽³⁾	330	272	(58)	(17.5)%	90
Purchased Services (Legal, Consulting, Locates etc.)	422	427	5	1.2%	367
Total Administration & Other Expenditures	\$ 3,596	\$ 3,800	\$ 204	5.7%	\$ 2,921

* subject to rounding

Notes:

(1) Support and Overhead Costs reflect the costs charged by the Administering Municipality for various administrative functions (e.g. Finance, Purchasing, Human Resources, Risk Management, etc.).

(2) Financial/Office Expenses include other administrative expenses such as leased space, training/seminars/conventions, computer leasing, and sampling and process optimization initiatives.

(3) Costs and charges related to computers, software, network communications, and SCADA system maintenance including plant instrumentation

**Lake Huron Primary Water Supply System
2024 Budget
2024 Capital Plan with Forecast for 2025 to 2033
(\$000's)**

#	Description	Project Total	Prior Years Budget	2023 Approved Budget	2024 Proposed Budget	Forecast				
						2025	2026	2027	2028	2029 to 2033
LH1016	Huron Safety Rail Replacement	700	400	100	100	100				
LH1020	Financial Plan Update 2021	150	50				50			50
LH1021	Huron Low Lift Pump Rebuild	540	165	125	125	125				
LH1026	RW Office Expansion & Renovation	200	200							
LH1107	SCADA/PLC - Software Review/Upgrade	500	500							
LH1207	Concrete Crack Injection	270	170	50	50					
LH1216	Close Loop Chlorine Control	135	100	35						
LH1229	Security Upgrades	1,353	800	253	100	100	100			
LH1242	Hydraulic/Transient Model Update & Transient Monitoring	580	440	100	40					
LH1243	McGillivray Electrical Upgrades	7,762	7,762							
LH1245	Walking Beam Flocculator Rehabilitation	400	200	200						
LH1246	LL Building - Curtain Wall/Clearstory Window Replacement	425	425							
LH1250	McGillivray Pumps & Valves Refurbishment	3,842				3,842				
LH1251	PAC Feed/Transfer Pump System Replacement	1,300	100	160	1,040					
LH1256	Crop Yield Monitoring - 2014 Pipeline Twinning	1,500	1,500							
LH1257	Chamber 63 Access Culvert	405	405							
LH1260	Coagulant System Upgrade	1,437	1,437							
LH1264	Overhead Truck Door Replacement	225	225							
LH1266	Huron Plant UV Disinfection ⁽²⁾	1,200	1,200							
LH1267	Plant Interior Person Door Replacement	100	60	20	20					
LH1268	Obsolete Equipment Removal	150	150							
LH1270	Interior LED Lighting Upgrades	150	150							
LH1272	Service Water Pipe Replacement	125	75	25	25					
LH1273	(PS3) Exeter-Hensall Pump Control Upgrades	100	100							
LH1277	IT Asset Replacement Program	1,456	425		141	225	115	60	120	370
LH1278	Safety Showers Upgrade	60	60							
LH1280	Arva Reservoir Expansion	35,000							35,000	
LH1284	Huron FLOCC Gear Drive Repair	300	225	75						
LH1285	Pressure Reducing Valve Replacements		425							
LH1316xx	Annual Maintenance ⁽¹⁾	2,085	710	125	125	125	125	125	125	625
LH1317	Distressed Pipe Replacement	5,750	1,750	400	350	350	350	350	400	1,800
LH1352	Arva Reservoir Structural Repairs	2,050		50	2,000					
LH1353	WTP Modification/Renovation	5,350	350	500	1,500	3,000				
LH1380	Clarifier Upgrades	465	235	115	115					
LH1408	Oneida Transmission Pipeline	25,200	200	25,000						

**Lake Huron Primary Water Supply System
2024 Budget
2024 Capital Plan with Forecast for 2025 to 2033
(\$000's)**

#	Description	Project Total	Prior Years Budget	2023 Approved Budget	2024 Proposed Budget	Forecast				
						2025	2026	2027	2028	2029 to 2033
LH1425	Huron Erosion Control	1,250	1,250							
LH1426	WTP Storage and UV	37,000	500		3,000	33,500				
LH1900	Record Drawings and Documents	491	491							
LH1901	Water Quality Facility Plan	290	290							
LH2019	Office Expansion			100						
LH2036	Roof Drain Replacement	150	50	25	25	25	25			
LH2037	Hydrant Replacement	50	50							
LH2038	Chamber Flood Prevention/Rehab	475	100	75	75	75	75	75		
LH2040	Remote Site Generator Connections	20	20							
LH2042	Pipeline-A Double Isolation Valve	1,247	1,247							
LH2043	Construction Site Trailer Pad & Electrical Pedestal	75	75							
LH2044	Sub-Basement Drain Study	25		25						
LH2045	Monitoring Station Controls Upgrades	275		275						
LH2046	Asset Condition Field Assessment	210		110	100					
LH2047	Electric Vehicle Charging Stations	10		10						
LH2048	De-chlorination at Remote Stations	125		125						
	Master Water Plan Update				200					150
	Service Water Study				120					
	McGillivray Building Rennovations				25	125				
	Climate Change Resiliency Assessment				120	120	50	50		
	Treatment Plant Surge System Rehabilitation				175					
	Beach Chamber Valve Replacement				400					
	Clarifier Ramp Replacement				280					
	High Lift Discharge Flow Meter Replacements				400					
	Low Lift Check Valve Replacement				370					
	Raw Water Valve & Actuator Replacement				350					
	Operations & Maintenance Procurement Services					250				
	Asset Management Plan Update						150			150
	AMP Investments - Plant <i>(allowance for planning)</i>	18,141				3,097	372	561	2,030	12,081
	AMP Investments - Transmission <i>(allowance for planning)</i>	17,135				120	120	120	120	16,655
Huron Capital & Forecast		\$ 178,234	\$ 25,067	\$ 28,078	\$ 11,371	\$ 45,179	\$ 1,532	\$ 1,341	\$ 37,795	\$ 31,881

* subject to rounding

Notes:

- (1) Capital account for Board contributions to maintenance projects undertaken by the operating authority.
- (2) LH1266 recommended for cancellation and closure in favour of undertaking the reservoir proposed by LH1426 Class EA

**Lake Huron Primary Water Supply System
2024 Budget
Capital Plan Sources of Financing
(\$000's)**

Funding Source	2023 Approved Budget	2024 Proposed Budget	2025	2026	2027	2028
Asset Replacement Reserve Fund	1,754	6,193	8,352	1,179	1,257	2,752
Capital Reserve Fund	1,324	5,178	26,826	353	85	35,043
Emergency Reserve Fund	-	-	-	-	-	-
Debenture	-	-	10,000	-	-	-
Other Funding Sources	25,000	-	-	-	-	-
Total Capital Funding	\$ 28,078	\$ 11,371	\$ 45,179	\$ 1,532	\$ 1,341	\$ 37,795

* subject to rounding

**Lake Huron Primary Water Supply System
2024 Budget
Asset Replacement Reserve Fund Analysis and Continuity Schedule
(\$000's)**

Asset Replacement Reserve Fund (1)	Actual	Projected					
	2022	2023	2024	2025	2026	2027	2028
Reserve Fund Opening Balance	18,119	20,386	6,947	7,510	5,436	7,586	7,575
Sources:							
Current Year Operating Contributions	5,000	2,150	5,659	6,151	3,200	1,095	2,600
Other Contributions ⁽⁴⁾			962				
Transfer from Capital Reserve Fund							
Net Interest Earnings - 2% ⁽²⁾	289	271	134	128	129	150	150
Total Sources	\$ 23,408	\$ 22,807	\$ 13,702	\$ 13,789	\$ 8,765	\$ 8,831	\$ 10,325
Uses:							
Total Lifecycle Capital Projects - Current	3,022	1,754	6,193	8,352	1,179	1,257	2,752
Less: Other Funding Sources	-	-	-	-	-	-	-
Less: Debenture Requirement							
Net Current Year Fund Draws ⁽³⁾	3,022	1,754	6,193	8,352	1,179	1,257	2,752
Prior Years Capital Expenditures - Unspent		14,106					
Total Uses	\$ 3,022	\$ 15,860	\$ 6,193	\$ 8,352	\$ 1,179	\$ 1,257	\$ 2,752
Reserve Fund Ending Balance	\$ 20,386	\$ 6,947	\$ 7,510	\$ 5,436	\$ 7,586	\$ 7,575	\$ 7,573

* subject to rounding

Notes:

- (1) The Asset Replacement Reserve Fund was established in 2008 to fund projects of a lifecycle nature to maintain existing levels of service and has an average annual target ending balance of \$7.5M.
- (2) Projected net interest earnings based on an average rate of anticipated sources and uses of funds.
- (3) Drawdowns are based on full/committed capital needs and not intended to project the actual cash flow of funds being utilized in a particular year.
- (4) A buy-in charge is invoiced to Oneida Nation of the Thames per the Water Supply Agreement and the Board's New Connection Policy

**Lake Huron Primary Water Supply System
2024 Budget
New Capital Reserve Fund Analysis and Continuity Schedule
(\$000's)**

Capital Reserve Fund (1)	Actual 2022	Projected					
		2023	2024	2025	2026	2027	2028
Reserve Fund Opening Balance	25,634	24,033	22,080	22,500	1,892	12,778	25,941
Sources:							
Current Year Operating Contributions	3,821	7,795	4,972	5,792	10,908	12,680	13,116
North Middlesex Loan	185	185	185	185	185	185	185
Net Interest Earnings - 2% ⁽²⁾	419	457	441	242	145	383	301
Total Sources	\$ 30,059	\$ 32,470	\$ 27,678	\$ 28,719	\$ 13,130	\$ 26,026	\$ 39,543
Uses:							
Total System Improvement & Growth Projects	6,026	1,324	5,178	36,826	353	85	35,043
Less: Other Funding Sources	-	-	-	-	-	-	-
Less: Debenture Requirement ⁽⁴⁾	-	-	-	(10,000)	-	-	-
Net Current Year Fund Draws ⁽³⁾	6,026	1,324	5,178	26,826	353	85	35,043
Prior Years Capital Expenditures ⁽³⁾		9,066	-	-	-	-	-
Total Uses	\$ 6,026	\$ 10,390	\$ 5,178	\$ 26,826	\$ 353	\$ 85	\$ 35,043
Reserve Fund Ending Balance	\$ 24,033	\$ 22,080	\$ 22,500	\$ 1,892	\$ 12,778	\$ 25,941	\$ 4,500

* subject to rounding

Notes:

- (1) The Capital Reserve Fund was established to fund projects of a growth nature, enhancing levels of service, or address issues which are regulatory or safety in nature.
- (2) Projected net interest earnings based on an average rate of anticipated sources and uses of funds.
- (3) Drawdowns are based on full capital needs and not intended to project the actual cash flow of funds in a particular year.
- (4) Anticipated debenture for additional plant storage combined with UV disinfection per the Environmental Assessment for plant storage (LH1426)

**Lake Huron Primary Water Supply System
2024 Budget
Emergency Reserve Fund Analysis and Continuity Schedule
(\$000's)**

Emergency Reserve Fund (1)	Actual 2022	Projected					
		2023	2024	2025	2026	2027	2028
Reserve Fund Opening Balance	5,088	4,952	5,051	5,152	5,255	5,360	5,467
Sources:							
Current Year Operating Contributions	100	-	-	-	-	-	-
Net Interest Earnings - 2% ⁽²⁾	86	99	101	103	105	107	109
Total Sources	\$ 5,274	\$ 5,051	\$ 5,152	\$ 5,255	\$ 5,360	\$ 5,467	\$ 5,576
Uses:							
Current Year Capital Expenditures ⁽³⁾	322						
Prior Years Capital Expenditures ⁽³⁾							
Total Uses	\$ 322	\$ -					
Reserve Fund Ending Balance	\$ 4,952	\$ 5,051	\$ 5,152	\$ 5,255	\$ 5,360	\$ 5,467	\$ 5,576

* subject to rounding

- Notes:**
- (1) The Emergency Reserve Fund was established in 2011 to fund projects that arise on an emergency basis. This funding is to be in place outside of the Capital and Asset Replacement Reserve Funds and their defining guidelines. Contributions will be capped when the reserve fund balance reaches \$5.0 million.
 - (2) Projected net interest earnings based on an average rate of anticipated sources and uses of funds.
 - (3) Drawdowns are based on full capital needs and not intended to project the actual cash flow of funds in a particular year.

**Lake Huron Primary Water Supply System
Flow and Financial Analysis Summary
(\$000's)**

Factors	Actual	Approved Budget		Proposed Budget	Projected			
	2022	2023	2023 (Projected)	2024	2025	2026	2027	2028
Rate Increase ⁽¹⁾	1.0%	1.5%		5.0%	5.0%	5.0%	5.0%	5.0%
Total Flow m ³	45,790,690	47,114,500	47,600,344	48,724,500	49,981,364	50,792,940	51,440,622	52,096,229
Total Water Rate \$/m ³	0.5118	0.5194	0.5194	0.5454	0.5727	0.6013	0.6314	0.6630
Flow Volume Revenues	23,436	24,474	24,725	26,574	28,623	30,542	32,478	34,542
Other Revenue	351	25	23	987	25	25	25	25
Total Revenue	\$ 23,787	\$ 24,499	\$ 24,748	\$ 27,561	\$ 28,648	\$ 30,567	\$ 32,503	\$ 34,567
Operating Expenses ⁽²⁾	10,502	11,558	10,641	11,183	11,580	11,992	12,721	12,799
Administrative Expenses	2,992	3,595	2,996	3,798	4,148	4,421	4,562	4,692
Debt Servicing Costs ⁽³⁾	1,372	1,166	1,166	986	976	45	1,445	1,360
Total Operating & Administrative Expenses	\$ 14,866	\$ 16,319	\$ 14,803	\$ 15,967	\$ 16,704	\$ 16,458	\$ 18,728	\$ 18,851
Asset Replacement Reserve Fund Contributions	5,000	150	2,150	6,621	6,151	3,200	1,095	2,600
Capital Reserve Fund Contributions	3,821	7,880	7,795	4,972	5,792	10,908	12,680	13,116
Emergency Reserve Fund Contributions	100	150	-	-	-	-	-	-
Total Expenses	\$ 23,787	\$ 24,499	\$ 24,748	\$ 27,561	\$ 28,648	\$ 30,567	\$ 32,503	\$ 34,567

* subject to rounding

Notes:

(1) Percent rate increases recommended are below the approved Financial Plan but continues to provide for prudent financial planning to accommodate inflation, new capital requirements and adequate reserve fund balances.

(2) Operating expense projections reflect annual inflationary increases and anticipated adjustments, in accordance with the service agreement with the contracted operating authority.

(3) Debentures:

- Debt authorized (2006) for the Backup Generator (LH1326) in the amount of \$1.5M was issued in 2013 with payments beginning in 2014 (all-in interest rate of 3.3% for a 10 year term).
- Debt authorized (2011) for the Residue Management Plant (LH1902) in the amount of \$16M was partially issued in 2015 (\$7M) with payments beginning in 2016 (all-in interest rate of 1.9% for a 10 year term).
- Debt authorized (2012) for the Huron Transmission Main Twinning (LH1305) in the amount of \$4M was partially issued in 2015 (\$1.665M) with payments beginning in 2016 (all-in rate of 1.9% for a 10 year term). Further debt issuance in 2017 in the amount of \$0.4M and payments beginning in Sept/17 (all-in rate of 2.48% for a 10 year term).
- New debenture anticipated in 2026 for the plant reservoir and UV Disinfection system (LH1426), with payments starting in 2027.
- Rates noted above could change depending upon market conditions at the time of debt issuance.

Board of Management Report

Subject: Huron Water Treatment Plant – Administration Building Extension and Site Redevelopment

Overview:

- The existing Huron Water Treatment Plant (WTP) main building was designed and constructed in the 1960s and has not undergone any major renovations or modifications since.
- There are several challenges with the existing WTP main building that should be addressed to modernize the facility, enhance the functionality, address gender equity issues, and improve the overall indoor working environment for improved health and safety of staff.
- Various design concepts for a new administration building addition/extension were reviewed and developed, with consideration of municipal approvals, green building design and preferred project delivery type.

Recommendation

That the Board of Management for the Lake Huron Water Supply System take the following actions with regard to the Huron Water Treatment Plant – Administration Building Extension and Site Redevelopment:

- a) The Board **ENDORSE** the recommendation to pursue Leadership in Energy and Environmental Design (LEED) silver certification of the overall building addition and renovation project, and striving to meet the Zero-Carbon Building standard, where feasible; and,
- b) The Board **RECEIVE** this report for information.

Previous and Related Reports

January 19, 2023	LH1353 WTP Modifications/Renovation
October 6, 2022	2023 Operating and Capital Budgets
October 7, 2021	Electric Vehicle Charging Stations
October 8, 2020	Port Blake Park

Background

Many of the buildings at the Huron Water Treatment Plant (WTP) site were designed and constructed in the 1960s. In early 2022, Board staff initiated a needs assessment to address the required modifications, including an addition to the main building. There are several challenges with the configuration of the existing main building, including but not limited to:

- noise and vibration associated with location of offices adjacent to high lift pump gallery;
- gender equity issues, including sizing and configuration of existing washrooms, showers and change rooms for staff;
- need for one controlled primary site entrance, including security; and,
- need for barrier-free access to selected administration areas.

Board staff retained the services of Architects Tillman Ruth Robinson Inc. to complete the needs assessment and provide an initial site and building concept, as well as assess construction phasing and associated costs. This needs assessment, including the initial site and building concept, initial cost estimates and recommended construction phasing was presented at the January 19, 2023 board meeting.

Discussion

Prior to moving forward with the development of the administration addition building concept, Board staff elected to explore the following:

- consider alternate design concepts for site redevelopment including the new administration building addition/extension and renovation of existing areas to ensure functionality and long-term suitability, including refinement of capital costs;
- review potential for project to meet green building design standards, such as LEED (Leadership in Energy and Environmental Design), Green Globes and/or the Zero-Carbon Building Standard, as well as overall project certification; and,
- review various project delivery models for subsequent design and construction to confirm preferred delivery method.

Board staff retained Stantec Consulting Ltd. (Stantec) through a competitive Request for Proposal process to complete an engineering assignment to address the above items, and provide clear direction for subsequent project phases, including design and construction.

Preferred Design Concept

Stantec presented four alternate design concepts for the new administration building addition. These alternatives were reviewed and analyzed by Board staff, including consultation with the contracted Operator, OCWA, to identify a preferred concept. The existing site plan and renderings of the preferred design concept are included in Appendix A. The preferred design concept was found to provide the best location and configuration for the main entrance/reception, security services, office/administration spaces, operations garage/storage, as well as conference/meeting space, which can be integrated within the existing plant. The preferred concept also addresses outstanding gender equity and health and safety issues previously discussed with the Board.

The preferred design concept consists of the following:

- new two-story building, along Waterworks Road and attached to the existing water treatment plant, in the northeast portion of the site including:
 - first level containing the main entrance with reception and security, conference/meeting space, and a multi-bay garage for fleet vehicles (with connection to existing Maintenance Shop); and
 - second level containing the main office/administration spaces as well as additional conference/meeting spaces.
- circulation corridor that connects the second floor of the new building to the second floor of the existing plant (near the Control Room), which allows for the two, existing overhead doors to be maintained;
- renovation and reconfiguration of existing offices and washrooms, change rooms to provide enhanced facilities for staff; and,
- reconfigured parking lot which is anticipated to include electric vehicle charging stations.

A site plan pre-consultation meeting was held with the Municipality of South Huron, Stantec and Board staff, on June 6, 2023, to review the project and discuss requirements for the subsequent site plan control and building permit processes. Key issues are anticipated to include site fire protection and stormwater management. Given the proximity of the proposed new building to the property line, a planning justification report will be required for either a zoning by-law amendment or minor variance.

Green Building Design

Several of the LHPWWS policies and plans are well aligned with green building practices including, but not limited to: the Asset Management Policy, Environmental Management System, Energy Conservation and Demand Management Plan, and the Procurement of Goods and Services and Disposal of Assets Policy. These policies and plans, along with the federal climate change policy, support pursuing some form of green building strategy for any new building or major renovation.

Stantec considered the potential to pursue one of the following strategies for this project:

- green building design and certification based on one of these rating standards/systems:
 - LEED (Leadership in Energy and Environmental Design), Canada Green Building Council;
 - Green Globes, Green Building Initiative; and
 - Zero Carbon Building Standard, Canada Green Building, Canada Green Building Council.
- adoption of green building design practices and strategies with no certification for the project.

Based on Stantec's review of the above options, the LEED rating system was recommended over the Green Globes rating system, due to the wider market uptake and public recognition of LEED. For the new administration building and renovation, LEED silver certification is recommended as a minimum to ensure an energy efficient, low carbon and sustainable project. Certification is recommended since it signifies the importance of green building design practices through design and construction, which have been reviewed and verified through an independent third party. Pursuit of the Zero-Carbon Building Standard was also recommended for the new building, as well as the development of a zero-carbon transition plan for the balance of the facility. It is also acknowledged that projects that are well aligned with the federal government climate change policy are more likely to receive federal funding if and where available.

Project Delivery

Stantec completed a review of the following project delivery types to determine the preferred type for the new administration building:

- conventional design-bid-build;
- construction management for services; and
- design-build (alternate delivery).

Stantec acknowledged that the scope and scale of new administration building will attract a range of Contractors that are most familiar with and have a proven track record with traditional design-bid-build delivery. This type of delivery will also ensure reasonable certainty with respect to schedule and cost at the end of the design phase. Design-bid-build was identified as the preferred project delivery type that is best aligned with the goals of this building design project. This approach also ensures the design is well established early in the overall process, which allows for enhanced operational acceptance and community acceptance prior to construction.

Project Financial Status

EXPENDITURE	FORECAST	INCURRED
Preliminary and Detailed Design	\$155,778	\$91,058
Construction Administration	\$11,295	\$11,295
Construction	\$188,171	\$158,202
Other Fees and Charges	\$0	\$0
Total	\$355,244	\$260,555
Approved Budget	\$850,000	
Budget Surplus / Deficit	\$494,756	

Conclusion

A new administration building for the Huron WTP will address several challenges of the existing main building to modernize and enhance the indoor working environment for staff. The recommendations of the engineering assignment include pursuing LEED silver certification of the overall building addition and renovation project and striving to meet the Zero-Carbon Building Standard, to align with LHPWSS policies and plans including, but not limited to, the water systems Environmental and Quality Policy. Board staff will continue to work with Stantec to complete the engineering assessment, including the development of detailed cost estimates and floor plan layouts, in consultation with the contracted Operator. This engineering assignment will be followed by preliminary and detailed design.

Prepared by: Marcy McKillop, P.Eng.,
Environmental Services Engineer

Submitted by: Billy Haklander, P.Eng., LL.M.,
Senior Manager, Capital Programs

Recommended by: Kelly Scherr, P.Eng., MBA, FEC
Chief Administrative Officer

Attachments: Appendix A – Existing Site Plan and Preferred Design Concept

Appendix A – Existing Site Plan & Preferred Design Concept

Existing Conditions and Preferred Design Concept – Renderings - South



1 EXISTING AXONOMETRIC SOUTH
A001



3 PROPOSED AXONOMETRIC SOUTH
A001

Existing Conditions and Preferred Design Concept – Renderings - North



2 EXISTING AXONOMETRIC NORTH
AR01



4 PROPOSED AXONOMETRIC NORTH
AR01



Lake Huron Primary Water
Supply System

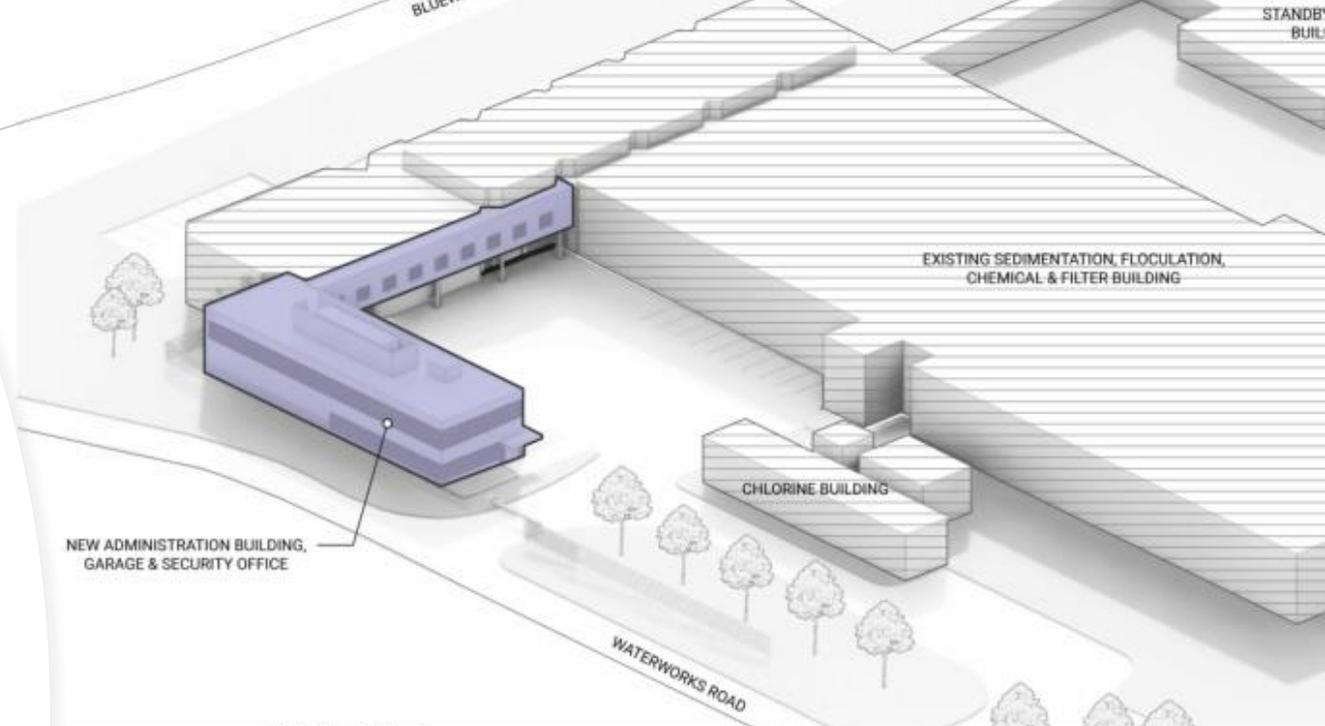
Proposed New Construction and Renovations

Overview

The Lake Huron Primary Water Supply System is planning an expansion of administrative and support spaces at the northwest portion of the site including an addition/extension of the existing building and renovation of selected existing areas.

Topics

- Concept Design
- Sustainability
- Project Delivery Model



Concept Design

Stantec has been engaged to provide preliminary concept plans for the administrative and support spaces.

This presentation will provide an overview of the following topics:

- Architectural Design
- Civil & Phasing Highlights
- Approach to Civil, Structural, Mechanical and Electrical systems

Architectural Design

The existing garage adjacent to Waterworks Rd. would be demolished and rebuilt to accommodate a new two-storey administration building addition adjacent to the Waterworks Rd. Entrance.

- This new addition would be positioned to allow access via gate into the facility.
- Located on the first level is the main entrance/reception, security, conference/meeting space and garage.
- On the second floor, office/administrative area with additional meeting space will be provided. The circulation corridor connects to the plant at an open mezzanine area.
- The existing overhead doors into the Maintenance Shop and plant/pump gallery would remain operational.
- Offices, meeting rooms, and storage in the existing workshop and pump room will be converted to changerooms and lockers.



EXISTING



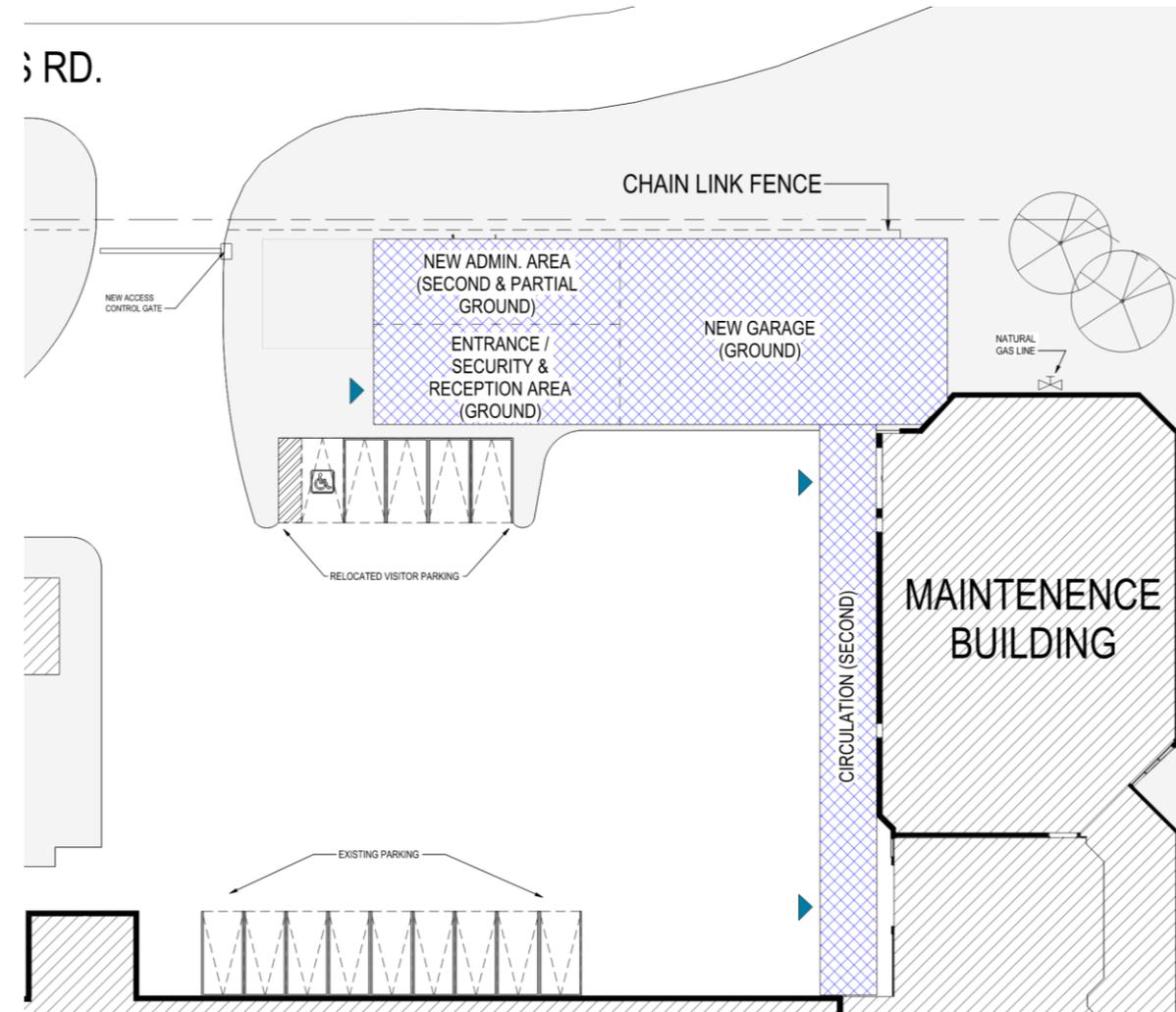
PROPOSED

Civil & Phasing Highlights

- New EV charging stations added to the site
- Phase 1 - Site Work Related Items
 - Construct new parking area
 - Temporary relocate existing security trailer
 - New perimeter fencing
- Phase 2 - Building Related Items
 - Demolish existing garage building
 - Construct new admin and garage building with associated storm, sanitary, and water servicing
 - Repave existing asphalt delivery/parking lot.
- Phase 3 & 4 – Repurposing existing spaces within the Plant
 - Demolish selected existing spaces
 - Construct new changeroom, lockers and storage area

Note:

- Maintain site access at all times for both staff and emergency vehicles during construction
- ongoing correspondence with the Lake Huron Primary Water Supply System and their contracted operator, OCWA



SITE PLAN

Structural, Mechanical & Electrical Systems

Structural

- Vibration Isolation
- Steel building structurally independent from the existing structures via expansion joints
- Reduced embodied carbon in structural materials

Mechanical

- air source heat pump heating and cooling with electric heating backup
- No new natural gas heating
- No glycol heating (not to tie into existing heating systems)
- Fire Protection
- Building Automation System to automate control for heating, cooling and ventilation to address existing temperature concerns

Electrical

- Existing electrical capacity to serve main building available
- Security gate added
- Sufficient back-up power for addition without adding new generators

Concept Design – Next Steps

After the initial concept design, the following next steps include (but not limited to):

- develop space utilization and floor plans for proposed administration building addition
- prepare an updated capital cost estimate
- geotechnical and subsurface utility investigation
- engage Municipality for minor variance and committee of adjustment to zoning setbacks per pre-consultation meeting



2

Sustainability

In alignment with LHPWSS policies, goals and objectives, the following is recommended:

- **Zero Carbon Building Standard certification**, a framework for the design of high performance, low-carbon buildings
- **LEED certification**, a framework covering broader sustainability principles

Projects in alignment with United Nations Sustainable Development Goals and federal climate change policies are more likely to receive federal funding.

Project Delivery Model

- Consideration of 3 project delivery models:
 - Design-Bid-Build (CCDC 2 – 2020)
 - Construction Management for Services (CCDC 5A – 2010)
 - Design Build (CCDC 14 – 2013)
- Design-Bid-Build model recommended for project delivery being the most applicable to achieve the goals and circumstances of the project

An aerial photograph of a rugged coastline. The ocean is a deep blue, with white foam from waves crashing against a rocky shore. The rocks are dark and jagged, creating a complex pattern of small coves and inlets. To the right of the rocks, a dense forest of evergreen trees covers a hillside. The sky is a pale, hazy blue, suggesting a clear day. The overall scene is one of natural beauty and coastal erosion.

Questions?

Frequently Asked Questions

1. What would be the design and construction schedule durations?

Estimated duration is 8 months for design, including background investigations, and at least 18 months for construction, assuming Design-Bid-Build Project Delivery. Allowing for schedule contingency, we recommend considering a project duration of 30 months, while pursuing a strategy that asks a constructor to commit to a fixed project schedule.

The construction includes:

- Parking lot expansion, entrance and relocation of the security trailer would be the first items to construct. The parking and entrance duration is estimated to be 2 months.
- Subsequent civil work could be constructed concurrently with the rest of the building.
- Mechanical construction duration estimate is at least 1 year, concurrent with the building construction.
- Electrical construction duration estimate is at least 8 months, concurrent with the building construction.

2. How does the proposed concept address the current acoustic/vibration concerns?

The existing acoustic/ vibration problems are due to structure borne vibration originating in the high lift pump gallery in the main plant building and being transmitted to the existing office spaces. In the proposed concept, administrative functions (offices, meeting rooms, etc.) are housed in the new addition that is structurally separated from the existing plant building. This new structure will be isolated from the existing structure by means of expansion joints between new and existing; this structural separation will eliminate structure borne vibration. We recommend that an acoustic/ vibration specialist be engaged as part of the project team during detail design to confirm the new building isolation details will fully eliminate the current problems.

3. What is the planning approval process for authorities having jurisdiction?

Stantec and Lake Huron Primary Water Supply System staff have consulted with the Municipality of South Huron planning department. The project will require Site Plan Agreement (SPA) through the Municipal planning staff. Preliminary consultations have identified the need for a minor variance to the property zoning by-law to allow for the new addition to be built within 7.5m from the north property line. The minor variance will require community engagement

with the residents on the north side of Waterworks Rd. The minor variance may be resolved through a committee of adjustment hearing.

Further, the Site Plan Agreement will require sign-off from the Ausable Bayfield Conservation Authority and the Ministry of Transportation. In preliminary consultation of the Conservation Authority, we understand there are no significant concerns.

The Ministry of Transportation is in the process of reconfiguring the intersection and Waterworks Rd. and Bluewater Hwy 21. Although the intersection will require setbacks, there were no major concerns identified during preliminary consultations. Following Site Plan Approval, the project will require a building permit issued by the Municipality of South Huron.

The building addition is not expected to require new electrical utility connections.

4. How will the existing plant maintain continuous operations during the construction of this project?

Minor disruptions to the onsite water distribution are expected when an existing fire hydrant is relocated and connected. A 4-hour period may be needed to tie the new power feeder into the existing electrical system. During this period some switching may be required, or temporary measures adopted. At no time would any of the work impact the production of water or supply to customers. Shutdowns shall be coordinated with the operating authority and LHPWSS. Any shutdown would be short duration.

Storm and sanitary work for this project are not expected to impact the existing plant operations.

5. What is the cost of the project?

Stantec has engaged a cost consultant, AW Hooker, to provide a Class D Estimate based on the Concept Design drawings and Technical Memorandum No.1.

6. How does the project improve overall operations?

The new addition and renovation will benefit staff and operations in several ways. The administrative office space will be quieter, more flexible, and comfortable with daylight and views. The changerooms and showers will be upgraded, including the provision of larger locker spaces. The security of the site will be improved by consolidating all normal site entry to a single point of control. Accountability will be improved by locating the security office adjacent to the single point of site access control. Additional parking spaces and EV

charging stations will be provided for staff. A refurbished garage space will optimize storage.

7. How does this project interface with the other planned capital projects?

The project is not expected to impact other ongoing or planned capital projects. Ongoing projects with include:

- Coagulation Upgrade and Commissioning
- PAC System Upgrade Preliminary Design

Future projects Include:

- UV disinfection (and potentially storage)
- Coagulation Optimization along with several various optimization projects.

Currently none of the above projects should impact construction of the new administration building addition. If any of the projects are underway at the same time, measures would need to be implemented to ensure “time and space” separation to avoid constructor issues. Coordination for staff parking would need to be considered and coordinated accordingly.

The roundabout project being undertaken by the MTO at the intersection of Bluewater Hwy, Waterworks Road and Dashwood Road may impact site access at times. Coordination with the MTO should be anticipated.

8. What is Leadership in Energy and Environmental Design (LEED)?

Administered by the [Canada Green Building Council](#), LEED is arguably the most widely used, and widely recognized green building certification framework in Canada today. It covers sustainable site design, energy efficiency, water efficiency, sustainable materials and materials management and indoor environmental quality. LEED certification is recommended for both the new construction and renovation projects.

9. What is the Zero Carbon Building Standard?

Administered by the [Canada Green Building Council](#), the Zero Carbon Building Standard is a framework for the design of highly energy efficient buildings with low embodied and operational carbon emissions. Zero Carbon Building Standard certification is recommended for the new construction project.

10. Does LHPWSS maintain any policies and / or plans which would support pursuit of LEED certification and / or Zero Carbon Building Standard certification on the project?

The following policies, systems, and plans are relevant to the project, and support pursuit of LEED certification and Zero Carbon Building Standard certification:

- The Asset Management Policy outlines guiding principles for infrastructure asset management and includes the requirement of long-term sustainability and resilience (including environmental sustainability), as well as environmental consciousness.
- The Environmental Management System (EMS) maintains a target for the reduction of electricity consumption. Further, board staff are recommending that the EMS be updated to include climate change commitments (climate adaptation and mitigation strategies, and to address greenhouse gas emissions).
- The Energy Conservation and Demand Management Plan, a requirement of Ontario Regulation 25/23, requires improvement in energy efficiency, minimization of operating costs, reduction in impact on the environment, without adversely impacting operations and quality, and sets reduction in overall energy intensity as a goal and objective.
- The Procurement of Goods and Services and Disposal of Assets Policy notes the organization's commitment to a Sustainable Purchasing framework for procurement decision-making, contributing to the achievement of best value by considering the full life cycle of products and their complete economic, environmental, and social costs and benefits.

11. What is the incremental capital cost associated with Zero Carbon Building Standard certification?

A key capital cost driver associated with Zero Carbon Building Standard certification will be building energy efficiency, which will need to be 25% better than the National Energy Code for Buildings (NECB) 2017. In 2017, the City of Toronto published their Zero Emissions Building Framework, which included research on incremental capital costs for energy efficiency design improvements at various building typologies, including commercial office buildings. For office buildings, the overall increase in construction cost associated with a level of performance approximately equivalent to NECB 2017 + 25%, relative to provincial energy code compliance, was found to be approximately 3.1%.

Board of Management Report

Subject: Municipal Drinking Water Licence – Consolidated Financial Information

Overview:

- For the Lake Huron Primary Water Supply System (LHPWSS) to receive a renewed Municipal Drinking Water Licence (MDWL), a financial plan which meets the requirements of O.Reg. 453/07 must be approved.

Recommendation

That the Lake Huron Primary Water Supply System Board of Management APPROVE the consolidated financial information for the purposes of the Municipal Drinking Water Licence renewal application, it being noted that this document is based upon the Board approved Financial Plan of March 2023 and the approved 2023 capital and operating budgets.

Previous and Related Reports

October 5, 2023	2024 Operating and Capital Budgets
March 2, 2023	LH1020 Financial Plan Update
October 6, 2022	2023 Operating and Capital Budgets
June 3, 2021	Financial Plan Update Project – Consulting Award
October 4, 2018	Municipal Drinking Water Licence – Consolidated Financial Information

Background

As required by the Safe Drinking Water Act (SDWA), municipal residential drinking water systems must be licensed under the Municipal Drinking Water Licensing Program. A licence is issued by the Ministry of the Environment, Conservation, and Parks (MECP) and is valid for a five-year period.

There are five elements that must be in place under the Municipal Drinking Water Licence (MDWL):

1. A Drinking Water Works Permit (DWWP);
2. An accepted operational plan;

3. An accredited operating authority;
4. A Permit To Take Water (PTTW); and,
5. A Financial Plan.

Requirements for Financial Plans are prescribed under [O.Reg. 453/07](#) (Financial Plans). The Financial Plan for the MDWL must contain projections of financial information for each fiscal year for a minimum of six-year period.

The intent of the Financial Plan for the MDWL submission is to ensure that municipalities and drinking water system owners plan for the long-term financial sustainability of their drinking water systems to guarantee the safety of their drinking water into the future. The importance of long-term capital planning and asset management are emphasized.

Municipal Drinking Water Licences are issued for a five-year period and have an expiry date. Drinking water system owners are required to apply for renewal of a MDWL six months before the expiry date. The current MDWL for the Lake Huron Primary Water Supply System (LHPWSS) expires on May 26, 2024, with a specified renewal application date of November 25, 2023.

The consolidated financial information prepared for the MDWL renewal application is based on the previously approved Financial Plan and related financial information. As part of the MDWL renewal application, a Financial Plan must be in place that applies for a period of six-years beginning in 2024, the year that the MDWL expires.

When a Financial Plan is approved by the Board, it is posted on the water system's website at <http://www.huronelginwater.ca> for public information. The regulation requires that copies of the Financial Plan must be made available to the public served by the drinking water system, at no charge, and on a website if the system owner has a website. Public notice of availability is required. A copy of the Financial Plan must also be provided to the Ministry of Municipal Affairs and Housing (MMAH) as required by O.Reg. 453/07.

Discussion

In 2021, the LHPWSS retained Watson & Associates Economists Ltd. (Watson) to update the Financial Plan for the regional water system. The Financial Plan Update identified and forecasted capital and operating expenditures over the next 10 years for the LHPWSS. This study provided an analysis for current capital and operating forecasts, costing for asset management/lifecycle cost requirements, forecasts for supplied volumes, and customer profiles. The results of this analysis provide updated recommended water rate projections for the LHPWSS customers. The resultant water rate analysis continues to provide fiscally responsible revenues necessary for projected

expenditures and practices that are in line with current provincial legislation. The Financial Plan was endorsed by the Board on March 2, 2023.

For the purposes of the MDWL application, consolidated financial information has been prepared based on the Financial Plan approved on March 2, 2023. The consolidated financial information meets the minimum requirements of the MDWL renewal and is included in [Appendix A](#) for the consideration of the Board.

Conclusion

Consolidated financial information which meets the requirements of O.Reg. 453/07 has been prepared for the purposes of the Municipal Drinking Water Licence renewal application.

Prepared by: Archana Gagnier
Budget & Financial Analyst

Erin McLeod, CET
Quality Assurance & Compliance Manager

Submitted by: Andrew J. Henry, P.Eng.
Director, Regional Water

Recommended by: Kelly Scherr, P.Eng., MBA, FEC
Chief Administrative Officer

Attachments: [Appendix A](#): Consolidated Financial Information for MDWL
Renewal Application



Lake Huron
Primary Water Supply System

FINANCIAL PLAN

#001-301

Safe Drinking Water Act, 2002
O.Reg. 453/07

Consolidated Financial Model for Municipal Drinking Water Licence Renewal

October 5, 2023

LAKE HURON PRIMARY WATER SUPPLY SYSTEM
Statement of Financial Position

	Audited	Forecast (unaudited)						
	2022	2023	2024	2025	2026	2027	2028	2029
Financial assets								
Due from Corporation of the City of London ⁽¹⁾	48,836,240	51,024,664	44,305,869	30,244,381	23,534,980	38,128,883	36,621,226	32,896,143
Trade and other receivables	2,157,564	2,269,231	2,522,139	2,606,012	2,757,484	2,921,043	3,127,433	3,181,705
Total financial assets	50,993,804	53,293,895	46,828,008	32,850,393	26,292,464	41,049,926	39,748,659	36,077,848
Financial liabilities								
Accounts payable and accrued liabilities	1,514,216	1,527,258	1,652,259	1,709,824	1,670,635	1,869,336	1,889,163	1,953,967
Accrued interest on long-term debt	20,633	13,307	7,004	588	299	9,330	9,063	8,797
Net long-term debt	3,096,033	1,996,774	1,050,965	88,256	44,796	1,400,000	1,360,000	1,320,000
Total financial liabilities	4,630,882	3,537,339	2,710,228	1,798,668	1,715,730	3,278,666	3,258,226	3,282,764
Net financial assets / (debt)	46,362,922	49,756,556	44,117,780	31,051,725	24,576,733	37,771,260	36,490,433	32,795,084
Non-financial assets								
Tangible capital assets (net)	144,215,499	144,215,499	154,294,909	171,411,002	183,354,010	175,182,176	183,104,735	192,846,666
Prepaid expenses	422,124	349,982	360,481	371,295	382,434	393,907	405,724	417,896
Total non-financial assets	144,637,623	144,565,481	154,655,390	171,782,297	183,736,444	175,576,083	183,510,459	193,264,562
Accumulated surplus	191,000,545	194,322,037	198,773,170	202,834,022	208,313,177	213,347,343	220,000,892	226,059,646

* subject to rounding

Notes:

(1) As the Administering Municipality, the Corporation of the City of London manages the daily operations of the Lake Huron Primary Water Supply System (LHPWSS). The Corporation maintains a separate general ledger on behalf of the LHPWSS. All funds are paid and received through the Corporation's bank account and are held for use by the LHPWSS.

Disclaimer

These Proforma Financial Statements were prepared for purposes of the Municipal Drinking Water License Renewal. They are based on the approved 2023 Financial plan, as well as assumptions and calculations used by staff for budget. Readers are cautioned that they may not be appropriate for other uses.

LAKE HURON PRIMARY WATER SUPPLY SYSTEM
Pro-forma Statement of Operations

	Audited	Forecast (unaudited)						
	2022	2023	2024	2025	2026	2027	2028	2029
Revenues								
User charges	23,435,675	24,747,807	26,594,477	28,647,973	30,567,127	32,503,162	34,566,908	35,258,246
Investment income	856,718	814,000	852,219	705,616	492,900	399,467	660,859	580,926
Other ⁽²⁾	14,104	2,703	967,000	5,000	5,000	5,000	5,000	5,000
Total revenues	24,306,498	25,564,510	28,413,696	29,358,589	31,065,027	32,907,629	35,232,767	35,844,172
Expenses								
Salaries, wages and benefits	928,791	817,787	1,250,785	1,288,309	1,326,958	1,366,767	1,407,770	1,450,003
Materials and supplies	11,768,268	11,952,305	12,768,070	13,243,379	13,739,462	14,557,383	14,730,380	15,281,497
Contracted services ⁽¹⁾	1,511,617	1,539,200	1,451,012	1,479,154	571,551	1,587,651	1,558,048	1,573,815
Rents and financial expenses	92,436	115,000	135,000	137,700	140,454	143,263	146,129	149,051
Interest on long-term debt	89,339	59,412	34,478	10,070	1,766	400,000	366,684	332,035
Amortization	7,254,459	7,431,140	7,985,218	8,790,985	9,447,096	9,449,057	9,989,786	10,607,182
Administrative charges	297,690	328,174	338,000	348,140	358,584	369,342	380,422	391,835
Total expenses	21,942,600	22,243,018	23,962,563	25,297,737	25,585,871	27,873,463	28,579,219	29,785,418
Annual surplus	2,363,897	3,321,492	4,451,133	4,060,852	5,479,156	5,034,166	6,653,549	6,058,755
Accumulated surplus, beginning of year	188,636,648	191,000,545	194,322,037	198,773,170	202,834,022	208,313,177	213,347,343	220,000,892
Accumulated surplus, end of year	191,000,545	194,322,037	198,773,170	202,834,022	208,313,177	213,347,343	220,000,892	226,059,646

* subject to rounding

Notes:

(1) Contracted services includes capital expenditures which do not qualify as a Tangible Capital Asset under the PSAB 3150 definition.

(2) Other Revenue includes Miscellaneous Revenue and estimated one-time connection payments.

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LAKE HURON PRIMARY WATER SUPPLY SYSTEM
Projected Statement of Net Financial Assets

	Audited	Forecast (unaudited)						
	2022	2023	2024	2025	2026	2027	2028	2029
Annual surplus	2,363,897	3,321,492	4,451,133	4,060,852	5,479,156	5,034,166	6,653,549	6,058,755
Acquisition of tangible capital assets	(6,393,205)	(12,735,643)	(17,510,550)	(25,101,311)	(20,733,993)	(1,275,262)	(17,371,616)	(19,731,717)
Amortization of tangible capital assets	7,254,459	7,431,140	7,985,218	8,790,985	9,447,096	9,449,057	9,989,786	10,607,182
	3,225,151	(1,983,011)	(5,074,199)	(12,249,474)	(5,807,741)	13,207,961	(728,281)	(3,065,780)
Change in prepaid expenses	(77,750)	72,142	(10,499)	(10,814)	(11,139)	(11,473)	(11,817)	(12,172)
Change in net financial assets	3,147,401	(1,910,869)	(5,084,698)	(12,260,288)	(5,818,880)	13,196,488	(740,098)	(3,077,952)
Net financial assets, beginning of year	46,215,521	49,362,922	47,452,053	42,367,355	30,107,067	24,288,186	37,484,674	36,744,576
Net financial assets, end of year	49,362,922	47,452,053	42,367,355	30,107,067	24,288,186	37,484,674	36,744,576	33,666,623

* subject to rounding

Disclaimer

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LAKE HURON PRIMARY WATER SUPPLY SYSTEM
Statement of Cash Flows

	Audited	Forecast (unaudited)						
	2022	2023	2024	2025	2026	2027	2028	2029
Cash provided by:								
Operating activities:								
Annual surplus	2,363,897	3,321,492	4,451,133	4,060,852	5,479,156	5,034,166	6,653,549	6,058,755
Items not involving cash:								
Amortization	7,254,459	7,431,140	7,985,218	8,790,985	9,447,096	9,449,057	9,989,786	10,607,182
Amortization of debt discount	8,201	8,202	8,202	8,202	8,202	8,202	6,974	5,944
Change in non-cash assets and liabilities:								
Due from Corporation of City of London	(299,330)	2,955,027	6,007,430	13,100,248	5,899,492	(12,557,443)	1,648,935	3,829,489
Prepaid expenses	(77,750)	72,142	(10,499)	(10,814)	(11,139)	(11,473)	(11,817)	(12,172)
Trade and other receivables	(220,334)	(111,667)	(252,908)	(83,873)	(151,472)	(163,559)	(206,390)	(54,272)
Accounts payable and accrued liabilities	(1,508,936)	13,042	125,001	57,565	(39,189)	198,701	19,827	64,804
Deferred revenue	-	-	-	-	-	-	-	-
Accrued interest on long-term debt	(8,442)	(7,326)	(6,303)	(6,416)	(289)	9,031	(267)	(266)
Net change in cash from operating activities	7,511,765	13,682,052	18,307,274	25,916,749	20,631,857	1,966,681	18,100,596	20,499,464
Capital activities:								
Purchase of tangible capital assets	(6,393,205)	(12,735,643)	(17,510,550)	(25,101,311)	(20,733,993)	(1,275,262)	(17,371,616)	(19,731,717)
Cash used in capital activities	(6,393,205)	(12,735,643)	(17,510,550)	(25,101,311)	(20,733,993)	(1,275,262)	(17,371,616)	(19,731,717)
Financing activities:								
Proceeds of long term debt	164,766	159,823	155,028	150,377	145,866	141,490	137,245	133,128
Repayment of long-term debt	(1,283,326)	(1,106,232)	(951,752)	(965,815)	(43,730)	(832,909)	(866,226)	(900,875)
Cash used in financing activities	(1,118,560)	(946,409)	(796,724)	(815,438)	102,136	(691,419)	(728,980)	(767,747)
Net change in cash flows	-	-	-	-	-	-	-	-
Cash and short-term investments, beginning of year	-	-	-	-	-	-	-	-
Cash and short-term investments, end of year	-	-	-	-	-	-	-	-

* subject to rounding

Disclaimer

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Board of Management Report

Subject: Contracted Security Services – Contract Extension

Overview:

- The current contract with Paladin Security Services Group expires on November 15, 2023.
- The existing agreement with Paladin Security allows for a contract extension for up to three(3) years at the sole discretion of the Lake Huron Water Supply System.

Recommendation

That the Board of Management for the Lake Huron Water Supply System approve the two-year contract extension with Paladin Security Group Limited at the estimated cost of \$296,020 and \$304,959 respectively.

Previous and Related Reports

June 8, 2017 Confidential Report – Security Audit and Threat Risk Vulnerability Assessment

Dec. 12, 2002 Confidential Report – Lake Huron Water System Security Upgrades

Background

A comprehensive security audit and threat risk vulnerability assessment was last completed in 2017, which outlined substantive vulnerabilities and security –related risks throughout the water supply system. The Security Audit received and approved by the Board in closed session at its meeting on June 8, 2017.

The approved Security Audit included a number of recommended physical improvements at the water treatment facilities, as well as the pump stations, reservoirs, and control stations throughout the transmission system in order to address the safety and security of operational staff, the public, and the security of the water supply to benefiting municipalities in the region. In addition, the audit report included specific recommendations related to security services necessary for the safety and security of the regional water system.

At the October 8, 2020 meeting, the Board of Management for the Lake Huron Water Supply System awarded the contract for security services to Paladin Security Group Limited for a three-year term.

Discussion

The contract with Paladin Security began effective November 16, 2020 for a three-year term, ending November 15, 2023. The terms and conditions of the agreement allows the Lake Huron Water Supply System, at its sole discretion, to extend the contracted services with Paladin for an additional term of up to three (3) years.

Section 4.18.2 (Exercise of Contract Renewal Options) of the water system's Procurement of Goods and Services and Disposal of Assets Policy (Procurement Policy) allows the Director of Regional Water to exercise an option for a contract renewal or extension where:

- i. the supplier's performance in supplying the goods and/or services or construction is considered to have met the requirements of the contract;
- ii. any price increases are consistent with the prevailing market conditions for the goods or services being purchased;
- iii. the facts justifying the decision to award this supplier previously are still relevant at the time of contract renewal;
- iv. funds are available or will be available in appropriate accounts within Board approved budget, including authorized revisions, to meet the proposed expenditure;
- v. The relevant Board report, if applicable, clearly identified the options to extend;
- vi. the Director of Regional Water and the Chief Administrative Officer agree that the exercise of the option is in the best interest of Huron; and
- vii. compliance with Sections i. through v. is documented, authorized by the Director of Regional Water and saved with the project file.

Notwithstanding, the Procurement Policy specifically requires Board approval for extensions that exceed the relevant value of the Comprehensive Economic and Trade Agreement (CETA).

While all conditions of section 4.18.2 have been met, including but not limited to the supplier's performance, Board staff recommend a two-year extension of the existing contract, the total value of which exceeds the current CETA limit of \$366,800 (January 1, 2022 to December 31, 2023).

The proposed costs for the contract extension are approximately \$296,020 and \$304,959 respectively. This represents an average annual increase of about 2.5% over the current price.

Anticipated Operating and Service Impacts

The proposed costs for the two-year extension are within current and expected inflationary indices and are consistent with the existing services agreement with Paladin Security Group. The proposed two-year extension has been incorporated into the proposed 2024 Operating Budget and long-term projections. There are no anticipated operating and service impacts.

Delegated Powers and Duties

Board staff are not exercising Delegated Powers and Duties, and are requesting the Board's approval of the contract extension pursuant to the Procurement of Goods and Services and Disposal of Assets Policy.

Prepared by: Lisa McVittie
Manager, Security

Submitted by: Andrew J. Henry, P.Eng.,
Director, Regional Water

Recommended by: Kelly Scherr, P.Eng., MBA, FEC
Chief Administrative Officer