



# Lake Huron

Primary Water Supply System

August 29, 2024

Chair and Members  
Lake Huron Primary Water Supply System  
Joint Board Management

Re: **2025 Operating and Capital Budgets**

Enclosed please find a copy of the draft 2025 Budget for the Lake Huron Primary Water Supply System. You are receiving the document at this time in keeping with a request by the Board to receive the draft Budget a month in advance of the meeting at which it is to be considered. The balance of the agenda material for the upcoming meeting, scheduled for Thursday, October 3, 2024, will be provided one week in advance of the meeting as per usual practice.

J. Bunn  
Committee Secretary

Enclosure

## Board of Management Report

**Subject:** 2025 Operating & Capital Budgets

**Overview:**

- The proposed 2025 Operating and Capital budgets are consistent with the Financial Plan approved by the Board in March 2023.
- The proposed water rate for 2025 is 57.26 cents (\$0.5726) per cubic meter; a five-percent increase in the rate charged in 2024 to benefiting municipalities.
- Cost projections presented in the 2025 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 2025 may be subject to change once the Master Water Plan is updated and completed, currently anticipated to be completed mid-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 2025 Operating and Capital Budgets:

- a) The Board **APPROVE** the 2025 Operating Budget in the total amount of \$29,294,713 as attached to this report;
- b) The Board **APPROVE** the 2025 Capital Budget in the total amount of \$22,966,000 as attached to this report;
- c) The Board **APPROVE** the 2025 rate for water of \$0.5726 per cubic meter;
- d) The Board **RECEIVE** the 2026 to 2034 Capital Forecast for information; and,
- e) The Board **RECEIVE** the 2023 to 2029 Flow and Financial Analysis for information.

### Previous and Related Reports

None

## Discussion

### 2025 Water Rate

It is proposed in this budget that the water rate for the wholesale of water to the benefiting municipalities be set at \$0.5726 per cubic meter (57.26¢ per cubic meter). In responding to regulatory, operational, and inflationary pressures, this proposed 2025 rate represents a 5% increase from the current rate charged in 2024.

The rate proposed for the 2025 budget is consistent the projected rate increase previously reported to the Board in the Financial Plan approved in March 2023.

### 2025 Budget Volume

Projecting for the current rate of population and water demand growth within the benefiting municipalities, as well as anticipated impacts of development, industry and water conservation initiatives, the proposed 2025 treated water volume included in the budget of 49,434,270 cubic meters represents a 1.5% increase compared with the 2024 approved budgeted volume, and approximately 1.7% higher than the anticipated 2024 actual supplied volumes by year-end.

Approved 2024 budget volume	48,724,500 m <sup>3</sup>
Anticipated 2024 year-end volume	48,593,372 m <sup>3</sup>
Proposed 2025 budget volume	49,434,270 m <sup>3</sup>

The long-term volume projections for the regional water systems have been re-evaluated in preparation for the 2025 budget and revised to incorporate changes in 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 are being reviewed as part of the ongoing update to the water system's Master Plan, which is expected to be completed by mid-2025. These projections will include the supply of water to the Oneida Nation of the Thames anticipated to begin by early 2026.

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

## **Operating Costs**

The two largest individual 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 2025 budgeted operating costs are approximately \$11.487 million, reflecting a net 2.7% projected increase compared to the 2024 budget, and consists of approximately \$3.1 million in energy costs versus \$8.39 million in contracted operating services. While ongoing energy saving initiatives implemented at the facilities are translating to decreased energy consumption, the corresponding total energy costs remain consistent as supplied water volumes increase.

The Service Fee currently paid to the Board's contracted operating authority, the Ontario Clean Water Agency (OCWA), consists of general operating costs such as labour, material, natural gas, chemicals, and other maintenance and repair services. 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 implemented in partnership with the Board's contracted operating authority.

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 2025 Capital Budget and forecasted capital plan continues to incorporate energy efficiency projects and other opportunities, where feasible, with further energy efficiency projects to be considered in future and evaluated using the water system's business case process.

## **Administration and Other Expenses**

The Administration and Other Expenditures projected for the 2025 budget of approximately \$4.45 Million represents a \$651,000 net increase over the 2024 budget. 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. The budget also includes the addition of seven new positions ( $\frac{1}{2}$  FTE's each shared with the Elgin Area Water System) to address the increased workload due to business needs and undertaking of duties previously purchased from the City of London and third-party vendors;

- Decreased fees charged by the City of London for numerous services and support due to the assumption of administrative support services from the City of London;
- Increases to the Board's property, cyber insurance, Directors & Officers insurance, and general liability insurance policies;
- The increased costs to Information Technology due to implemented cyber security measures, network technology, and replacement of IT/OT assets; and,
- Increased cost of leased office space.

## **Process Optimization**

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).

The Water Quality Facility Plan, detailed in a separate report before the Board, outlines recommended process efficiency improvements and treatment challenges which may restrict process efficacy in future. Leveraging in-house resources and the use of partnerships with the Natural Sciences and Research Council of Canada (NSERC) Industrial Research Chairs at the universities of Waterloo and Toronto have allowed staff to reduce the associated operational costs without impacting the optimization program.

## **Administrative Staffing Plan**

Since the issuance of the Transfer Order by the province of Ontario which created the Board and transferred ownership from the province, the City of London has provided specified administrative support services to the regional water systems on a fee for service basis. The scope of the services provided largely relate to support related to financial services, procurement, information technology, risk & insurance management, and human resource management.

The terms of the services provided have never been clearly defined, and Board staff have been in discussions with the City of London to clearly define a corresponding Service Level Agreement. While services such as human resource management and the utilization of the city's financial information management system continue to be part of the core services provided by the city to the Board, the Service Level Agreement discussions have identified several areas in which improvements can be made through the Board's assumption of the responsibilities.

In that regard, as well as addressing the increasing workload related to the water system's capital program, the 2025 budget includes the addition of the following positions:

**Finance** – To ensure the timely management of payables and receivables, as well as the efficient and effective procurement of goods and services for the regional water system, a Manager of Finance and Procurement, a Procurement Specialist, and a Support Clerk are being added to the existing complement of staff. Along with the existing Budget and Finance Analyst, this group will be responsible for the management of financial services for the Board. Support services will continue to be provided by the City of London in relation to the use of the city's financial management system, debenture management, and reserve fund management.

**Capital Programs** – In order to effectively manage the long-term capital programs for the water system, a Senior Technologist is being added to the existing complement of staff. This position is in addition to the existing positions including two engineers, two technologists, one senior technologist, and engineer-in-training, and an asset management coordinator, as well as an engineering intern student that supports the process optimization program. This group is led by a Senior Manager of Capital Programs.

**Business Operations** – consolidating the management and administration of operational related activities, a Senior Manager of Business Operations is being added to the existing complement of staff. This position will be focused on the overall management of operational activities including quality assurance and compliance, the coordination of various contracted services, SCADA control systems, information technology and network operations, as well as security and emergency management. To support this business area, a Health and Safety Specialist and a SCADA Supervisor are also being added to the existing complement.

As cybersecurity and control systems become more complex, and require detailed oversight and coordination, the SCADA Supervisor is necessary to ensure that the control systems utilized by the water supply system remain robust and secure.

The proposed Health and Safety specialist is critical to address gaps in the existing health and safety program for the regional water system. While much of the core health and safety requirements related to the employment of Board staff are provided through the City of London, program specific requirements outside of the city's purview and related to contractor safety management and the coordination of the health and safety requirements of the regional water system with the various contracted services need to be robust and well coordinated.

For the Board's information and reference, it is important to note that all staff positions are shared with the Elgin Area Water Supply System, including the corresponding costs. Changes in staff complement are reflected as a ½ full-time-equivalent (FTE) position for each Board within the respective operating budget.

## **Proposed 2025 Capital Budget**

The proposed 2025 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.

In the development of the 2025 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 implications, and the identification of project interdependencies. The business case process is linked with the water system's 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, including the supply to new communities, or support projected increases in water demands to serviced communities;
- 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.

### **Lifecycle Projects (Maintain Level of Service)**

Proposed projects in the 2025 Capital Budget which primarily address maintaining the system's level of service are:

- Huron Low Lift Pump Rebuild
- IT Asset Replacement Program
- Roof Drain Replacement
- Operations & Maintenance Procurement Advisory Services
- McGillivray Discharge Flow Meter Replacement
- Filter Effluent Valve Actuator Replacements
- Plant Seagull Control
- McGillivray Inlet Check Valve Replacement
- Intake Chlorine Line Replacement
- Arva Valve House Door Rehabilitation
- PLC Replacements
- Distressed Pipe Replacement
- McGillivray Building Renovations
- Pipeline Alignment Survey
- Chlorine Line Replacement Program
- Caustic Soda System Upgrades
- Plant Interior Lighting – Phase 2
- Roof Replacements – Phase 3
- Overhead Vehicle Door Replacement - Phase 2
- KB1 MCC Component Upgrades

In addition to the above-noted capital projects, the 2025 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), 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 2025 Capital Budget for which the primary driver is service improvement are:

- Huron Safety Rail Replacement
- WTP – Administration Building Expansion and Site Redevelopment
- Climate Change Resiliency Assessment
- Emergency Exit Lights Replacement
- Division Vehicle
- Security Upgrades
- Chamber Flood Prevention and Rehabilitations
- Remote Site Generator Connections – Phase 2
- Plant Wi-Fi Upgrade Replacement
- Polymer System Upgrades

A summary of each of the projects is provided in [Appendix A](#) of this report.

### **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 and asset performance, as well as operational assessments provided by our contracted operating authority.

It is important to note that the anticipated projects in the first five-year planning period outlined in the Asset Management Plan tend to be based on risk mitigation addressing condition and/or performance, while projects in the remaining 25+ years of the Plan tend to be systemic or age-related in nature. In addition, the financial information presented in the 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) that may be experienced by the water supply system.

### **Financial Plan**

The Financial Plan is utilized to incorporate the needs identified in the Asset Management Plan, the Master Water Plan (growth management study), and other planning studies undertaken by the utility, as well as the evolving operational and administrative needs of the system. The Financial Plan is used to better leverage and predict the financial requirements and consequential implications to the system. During the development of the annual budget, the projections in the approved 2023 Financial Plan are measured and adjusted according to actual conditions, which will consequently affect the capital plan in each fiscal year.

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 (i.e., utilization of reserve funds 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 (2031) and several age-related investments between 2029 and 2034. The Master Water Plan, currently being updated and anticipated to be completed by mid-2025, 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 supply needs.

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

## **Capital Plan & Forecast**

Several capital projects are projected beyond the 2025 Capital Budget year, which will have an impact on the financial forecast and future water rates for the water system. As previously noted, staff undertake a business case assessment for each project in support of budget approval to confirm the costs, timing, and priority of the project, consistent with our Customer Level of Service framework and Risk Mitigation strategy.

The projected capital plan (2026 to 2034) includes an allocation for anticipated systemic-related but unspecified asset investments starting in 2026 (identified as “*AMP Investments*”). This reflects the age-related projections previously included in the approved 2022 Asset Management Plan. As condition, performance, and risk assessments are completed, business cases are 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 to accommodate likely future investments and impacts to the corresponding Reserve Funds.

The projected capital plan (2026 to 2034) also includes an allocation for anticipated systemic but unspecified asset investments starting in 2026 (identified as “*Future Projects*”). This includes projects related to improving process efficiency and projects to address treatment challenges which may restrict process efficacy in future as recommended in the 2024 Water Quality Facility Plan that is detailed in a separate report before the Board. Business cases for these specific projects will be completed for the purposes of Budget approval to identify and prioritize the expenditures and replace these “*Future Projects*” allocations in the long-term capital plan. For the time being, and for planning purposes only, these “*Future Projects*” placeholders are included in the capital projections beyond the proposed budget to accommodate likely future investments and impacts to the corresponding Reserve Funds.

## **Flow and Financial Analysis**

Included in the budget package is a projection of annual volumes and finances beyond 2025 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 2025 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 2025 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 2025 budget. This water rate projection, however, may be subject to change and revision as the update to the Master Water Plan is completed by mid-2025.

## **Reserve Funds**

Conceptually, the Asset Replacement Reserve is required to provide a stable source of funding 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 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 and scope of the investments.

The Emergency Reserve Fund is intended to fund unplanned and unanticipated emergency-related projects such as pipeline failures, tank ruptures, shoreline erosion 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) and ending in 2025
- 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) and ending in 2025
- 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)

### **Acknowledgement**

The preparation of the 2025 Operating and Capital budgets were undertaken by the Regional Water Division staff, with the assistance of 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 – 2025 Proposed Capital Project Summaries  
2025 Operating & Capital Budgets, & Nine-Year Capital Forecast

## **Appendix A – 2025 Proposed Capital Project Summaries**

### **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.

LH1261 PLC Replacements (multi-year program): Programmable Logic Controllers (PLCs) control and monitor vital plant equipment. Many of the existing controllers and supporting hardware are no longer supported and require replacement. The bulk of the project is to replace the PLCs associated with electrical switchgear and generators that have reached the end of their useful life. The specialized nature of these controllers and control system makes it difficult to seek local support and source spare parts in case of a catastrophic failure. PLCs are critical to the operation of all power systems at the plant could possibly result in an unplanned plant shutdown for an extended period if not replaced in a timely fashion.

LH1277 IT Asset Replacement Program (multi-year program): This project addresses outdated IT security and operating platforms used by the water supply system. The 2025 phase of the project will continue to provide upgrades and migrations to the network platform but also increase security and further segregate the plant's networks to provide additional isolation to meet cybersecurity best practices. Reliability and redundancy will also be improved with the addition of high availability concepts and failover methods in the replacement design.

LH1317 Distressed Pipe Replacement Program: As a result of the condition assessment and the accumulation of subsequent data from the Acoustic Fibre Optic Monitoring System within the 1200mm high pressure transmission pipeline, as well as the updated results of the predictive model for the deterioration of the transmission pipeline, this program replaces high-risk pipe segments on a systemic and as-needed basis. Although no replacement of pipe segments is specifically forecast for 2025, budget for this program is projected such that two pipe segments may be replaced should the need arise.

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 and age-related deterioration. This project will replace drains throughout the facility over a five-year period with 2026 anticipated to be the final year of the program.

LH2052 McGillivray Building Renovations (multi-year project): The administrative and operational control areas of the McGillivray Booster Pumping Station are original to the facility, are in poor condition and in need of upgrades to current standards and regulations. This project is to undertake the building-related renovations and upgrades once the McGillivray Electrical and HVAC project is complete.

Operations & Maintenance Procurement Advisory Services: The existing agreement for the contracted operation and maintenance of the water supply system expires on December 31, 2027. Pursuant to the Board's direction, this project provides legal, financial, and technical advisory services for the procurement of the next Operations and Maintenance Services contract that would begin in 2028. For the size and scope of the contracted operations, a corresponding public procurement process would typically take a minimum of eighteen months to complete.

Pipeline Alignment Survey (multi-year project): Apart from the original as-constructed record drawings, the utility does not have a comprehensive pipeline survey for the horizontal and vertical alignment of the transmission pipelines and associated appurtenances. This information is used for detailed designs and pipeline locates for construction, crossing or emergency purposes. This pilot project is to retain the services of a qualified locate/survey firm to trial various horizontal and vertical pipeline locating and topographic survey technologies for a defined section of pipeline and make recommendations for the preferred approach for surveying the full length of pipelines at a future date.

McGillivray Discharge Flow Meter Replacement: This project is to replace the discharge flow meter at the McGillivray booster pumping station that has reached the end of its useful life and periodic faults occurring as confirmed during annual calibration. Due to the age of the components, parts are no longer available from the manufacturer to affect a repair.

Chlorine Line Replacement Program (multi-year project): Due to the age of the infrastructure, the PVC chlorine lines throughout the plant have become brittle over time and are reaching the end of their useful life as they are original to plant construction. Chlorine lines are integral to plant operation and necessary to ensure compliance with provincial regulation. If a chlorine line were to fail, it would result in an unplanned plant shutdown and, depending on the severity of the leak, would pose a health and safety threat to plant staff. This project will replace the chlorine lines throughout the facility over a three-year period starting in 2025.

Filter Effluent Valve Actuator Replacements (multi-year project): The actuators that operate the filter effluent valves are reaching the end of their useful life and if they were to fail there would be reduced plant capacity with a filter out of service. This project will replace the actuators over a two-year period starting in 2025.

Caustic Soda System Upgrades: Various components associated with the caustic soda system that control the pH of the treated drinking water are at the end of their useful life and corresponding parts are no longer available from the manufacturer. This project will replace the caustic soda system.

Remote Site Generator Connections – Phase 2 (multi-year project): Communication, instrument information and valve control are unavailable at the Komoka-Mount Brydges and Exeter-Hensall pumping stations during a power outage due to the lack of backup power at these locations. The project will install receptacle connections so the level of service of this equipment at these stations is maintained during power outages. This project will take place over a two-year period starting in 2025.

Plant Interior Lighting – Phase 2 (multi-year project): Much of the interior lighting in the water treatment plants continue to be energy intensive incandescent and metal halide fixtures. This produces dim work areas and consumes significantly more energy than modern fixtures. This project replaces the existing interior fixtures with LED equipped lighting and motion sensors (where warranted). This project will take place over a five-year period starting in 2025.

Plant Seagull Control: The seagull nesting and roosting activity on various roofs at the water treatment plant is causing blockages of roof drains and premature deterioration of the roof membrane from the acidic nature of their droppings. This project will install bird control systems on the maintenance shop, low lift, and generator buildings to deter seagull activity in those areas. The grid wire deterrent system that was installed on the main facility roof at the water treatment plant in 2021 is proving as an effective deterrent to bird nesting and protection of plant staff while accessing the roof areas of the main plant.

Roof Replacements – Phase 3 (multi-year project): This project is to replace various roofs on the water treatment plant as prioritized by a previously completed inspection report. Some sections of roofs are currently leaking which, if not addressed, will result in further damage to buildings and interior infrastructure.

McGillivray Inlet Check Valve Replacement: This project is required to replace the inlet check valve at the McGillivray booster pumping station that is leaking and at the end of its useful life, with no replacement parts available from the manufacturer. Without replacement, the eventual failure that would render the booster station inoperable.

Overhead Vehicle Door Replacement - Phase 2: This project is required to replace the vehicle doors on the Chlorine Building, Maintenance Shop and Low Lift building that are at the end of their useful life.



Intake Chlorine Line Replacement (multi-year project): The PVC chlorine line that provides mussel control has failed in two locations in 2015 and 2022 and is nearing the end of its useful life. The intake structure is located 2.5 kilometers offshore at a depth of approximately ten metres. This project will design the replacement of the chlorine line with installation in 2025.

KB1 MCC Component Upgrades: The motor control centres (MCC) are a central component located in the electrical room for where motors for the Komoka-Mount Brydges Pumping Station are controlled. Several components of the MCCs are discontinued products and the software associated with the components is no longer supported. If the components were to fail, the remote monitoring and control of the equipment would be lost, resulting in an unplanned shutdown for an extended period. This project is to undertake the planned replacement of these components and associated software with supported products.

Arva Valve House Door Rehabilitation: This project is to replace the door on the Arva valve house that is at the end of its useful life.

### **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 replaces 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 Security Audit and Threat Risk Vulnerability Assessment completed in 2017, provided policy, resource, and site-specific recommendations to mitigate security and safety risks at all facilities. The Security Upgrades project is a multi-year program to undertake security-related modifications to all facilities, based on the criticality assessment and recommendations of the security specialist.

LH1353 WTP – Administration Building Expansion and Site Redevelopment (multi-year program): The 2025 portion of this project will be to construct the 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.

LH2038 Chamber Flood Prevention/Rehab (multi-year program): Some of the chambers along the 1200mm transmission pipeline 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 proofing and 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 have 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.

LH2053 Climate Change Resiliency Assessment: The Asset Management Plan previously endorsed by the Board included a recommendation to undertake a climate change resiliency 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 of extreme weather events and other consequential impacts of climate change posed 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, as well as provincially mandated climate change risk assessments.

Plant Wi-Fi Upgrade Replacement: The Wi-Fi network at the plant is failing and is at the end of its useful life. This project is to replace and upgrade the Wi-Fi network to support current and future needs to ensure that current gaps in communications around the plant, such as critical health and safety alerts and announcements, may be communicated successfully.

Emergency Exit Lights Replacement: This project is to upgrade the emergency exits lights throughout the facilities to meet current regulations.

Polymer System Upgrades: The current filter aid polymer used at the water treatment plant has been shown to reduce filter run times when in operation. This study will explore alternative polymers to aid in improvements to the sedimentation process and increase clarification capacity, as well as improve filter run times during higher flows and/or raw water quality changes and thereby increase operational robustness.



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**Meeting Date:** October 3, 2024  
**File No.:**

Division Vehicle: The Regional Water Division provides administrative services and management oversight on behalf of the Board. The division currently has three “pool” vehicles shared between nineteen staff. When a vehicle is not available, staff utilize their personal vehicles and are reimbursed for mileage in accordance with the City of London’s and Board policies. Given the number of initiatives and capital programs managed by staff, this has resulted in significant annual expenditures for mileage reimbursement. The acquisition of a fourth vehicle will result in an overall reduction in vehicle/mileage related expenses.



*Lake Huron*

Primary Water Supply System

**2025 Operating and Capital Budgets  
and Nine Year Capital Forecast**

**October 3, 2024**

# Lake Huron Primary Water Supply System 2025 Budget

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**2025 Budget  
Revenue and Expenditure Summary  
(\$000's)**

	<b>2024 Approved Budget</b>	<b>2025 Proposed Budget</b>	<b>Incr (Decr)</b>	<b>% Budget Incr (Decr)</b>	<b>2024 Year End Projection</b>
<b>Revenue</b>					
Volume Revenues <sup>(1)</sup>	26,574	28,308	1,734	6.5%	26,501
Other Revenues <sup>(4)</sup>	987	987	0	0.0%	84
<b>Total Revenue</b>	<b>27,561</b>	<b>29,295</b>	<b>1,734</b>	<b>6.3%</b>	<b>26,585</b>
<b>Expenditures</b>					
Operating Costs <sup>(2)</sup>	11,183	11,487	304	2.7%	11,007
Administration & Other Expenditures	3,799	4,450	651	17.1%	3,598
Debt Principal Repayments <sup>(3)</sup>	952	966	14	1.5%	952
Interest on Long Term Debt <sup>(3)</sup>	34	10	(24)	-70.6%	34
Contribution to Reserve Funds	11,593	12,382	789	6.8%	10,994
<b>Total Expenditures</b>	<b>27,561</b>	<b>29,295</b>	<b>1,734</b>	<b>6.3%</b>	<b>26,585</b>

\* subject to rounding

**Notes:**

(1) A budget volume increase is anticipated in 2025. 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 was on the 2024 Budget but has been deferred to 2025

**Lake Huron Primary Water Supply System  
2025 Budget  
Administration & Other Expenditures  
(\$000's)**

	2024 Approved Budget	2025 Proposed Budget	Incr (Decr)	% Budget Incr (Decr)	2024 Year End Projection
Management & Administrative Personnel	1,251	1,872	621	49.6%	1,039
Support and Overhead Costs <sup>(1)</sup>	338	207	(131)	-38.8%	338
Payment in Lieu of Taxes	330	330	0	0.0%	330
Insurance (Property, Director & Officers, General Lia	775	891	116	15.0%	825
Financial/Office Expenses <sup>(2)</sup>	333	372	39	11.7%	297
Process Optimization	75	75	0	0.0%	75
Information Technology Maintenance <sup>(3)</sup>	272	280	8	2.9%	288
Purchased Services (Legal, Consulting, Locates etc)	425	423	(2)	-0.5%	399
<b>Total Administration &amp; Other Expenditures</b>	<b>3,799</b>	<b>4,450</b>	<b>651</b>	<b>17.1%</b>	<b>3,591</b>

\* 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**  
**2025 Budget**  
**2025 Capital Plan with Forecast for 2026 to 2034**  
(\$000's)

#	Description	Project Total	Prior Years Budget	2024 Approved Budget	2025 Proposed Budget	Forecast				
						2026	2027	2028	2029	2030 to 2034
LH1016	Huron Safety Rail Replacement	700	500	100	100					
LH1021	Huron Low Lift Pump Rebuild (1)	540	290	125	125					
LH1107	SCADA/PLC - Software Review/Upgrade	500	500							
LH1207	Concrete Crack Injection	270	220	50						
LH1216	Close Loop Chlorine Control	135	135							
LH1219	Filter Backwash Turbidimeters	250	250							
LH1229	Security Upgrades	1,353	1,053	100	100	100				
LH1242	Hydraulic/Transient Model Update & Transient Monitoring	580	540	40						
LH1243	McGillivray Electrical Upgrades	11,887	11,887							
LH1245	Walking Beam Flocculator Rehabilitation	400	400							
LH1250	McGillivray Pumps & Valves Refurbishment	3,842								3,842
LH1251	PAC Feed/Transfer Pump System Replacement	1,300	260	1,040						
LH1256	Crop Yield Monitoring - 2014 Pipeline Twinning	1,500	1,500							
LH1260	Coagulant System Upgrade	1,437	1,437							
LH1261	PLC Replacements	3,315	40		2,750	275	250			
LH1264	Overhead Truck Door Replacement	225	225							
LH1267	Plant Interior Person Door Replacement	100	80	20						
LH1268	Obsolete Equipment Removal	150	150							
LH1272	Service Water Pipe Replacement	125	100	25						
LH1273	(PS3) Exeter-Hensall Pump Control Upgrades	100	100							
LH1274	SCADA Control Modifications	100	100							
LH1277	IT Asset Replacement Program	1,771	425	141	150	120	100	120	50	665
LH1279	Cyber Intrusion Detection System	10	10							
LH1280	Arva Reservoir Expansion	85,000								85,000
LH1284	Huron FLOCC Gear Drive Repair	300	300							
LH1285	Pressure Reducing Valve Replacements	425	425							
LH1316 xx	Annual Maintenance <sup>(1)</sup>	2,210	835	125	125	125	125	125	125	625
LH1317	Distressed Pipe Replacement	6,100	2,150	350	350	350	350	400	350	1,800
LH1352	Arva Reservoir Structural Repairs	2,050	50	2,000						
LH1353	WTP - Admin Bldg Ext and Site Redevelopment	18,250	850	1,500	15,900					
LH1380	Clarifier Upgrades	465	350	115						
LH1408	Oneida Transmission Pipeline	25,200	25,200							
LH1426	WTP Storage and UV	3,500	500	3,000						
LH1900	Record Drawings and Documents	491	491							
LH1901	Water Quality Facility Plan	540	290							250
LH2036	Roof Drain Replacement	150	75	25	25	25				
LH2038	Chamber Flood Prevention/Rehab	550	175	75	100	100	100			



**Lake Huron Primary Water Supply System**  
**2025 Budget**  
**2025 Capital Plan with Forecast for 2026 to 2034**  
(\$000's)

#	Description	Project Total	Prior Years Budget	2024 Approved Budget	2025 Proposed Budget	Forecast				
						2026	2027	2028	2029	2030 to 2034
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							
LH2049	Office Expansion	100	100							
LH2050	Master Water Plan Update	385		235					150	
LH2051	Service Water Study	120		120						
LH2052	McGillivray Building Renovations	150		25	25	100				
LH2053	Climate Change Resiliency Assessment	340		120	120	50	50			
LH2054	Treatment Plant Surge System Rehabilitation	175		175						
LH2055	Beach Chamber Valve Replacement	400		400						
LH2056	Clarifier Ramp Replacement	280		280						
LH2057	High Lift Discharge Flow Meter Replacements	400		400						
LH2058	Low Lift Check & Butterfly Valve Replacements	370		370						
LH2059	Raw Water Valve & Actuator Replacement	350		350						
LH2060	Operations & Maintenance Procurement Services	250			250					
LH2061	Asset Management Plan Update	300				150				150
<i>Proposed</i>	Plant Wi-Fi Upgrade & Replacement	620			620					
<i>Proposed</i>	Pipeline Alignment Survey	60			60					
<i>Proposed</i>	McGillivray Discharge Flow Meter Replacement	245			245					
<i>Proposed</i>	Chlorine Line Replacement Program	375			125	125	125			
<i>Proposed</i>	Filter Effluent Valve Actuator Replacements	670			335	335				
<i>Proposed</i>	Caustic Soda System Upgrades	155			155					
<i>Proposed</i>	Remote Site Generator Connections - Phase 2	130			65	65				
<i>Proposed</i>	Plant Interior Lighting Program - Phase 2	175			35	35	35	35		
<i>Proposed</i>	Roof Replacements - Phase 3	995			335	330	330			
<i>Proposed</i>	McGillivray Inlet Check Valve Replacement	340			340					
<i>Proposed</i>	Plant Seagull Control	50			50					
<i>Proposed</i>	Emergency Exit Lights Replacement	155			35	30	30	30	30	
<i>Proposed</i>	Overhead Vehicle Door Replacement - Phase 2	125			65	60				
<i>Proposed</i>	Intake Chlorine Line Replacement	950			100	850				
<i>Proposed</i>	KB1 MCC Component Upgrades	100			100					
<i>Proposed</i>	Arva Valve House Door Rehabilitation	15			15					

**Lake Huron Primary Water Supply System  
2025 Budget  
2025 Capital Plan with Forecast for 2026 to 2034  
(\$000's)**

#	Description	Project Total	Prior Years Budget	2024 Approved Budget	2025 Proposed Budget	Forecast				
						2026	2027	2028	2029	2030 to 2034
<i>Proposed</i>	Polymer System Upgrades	1,395			145	1,250				
<i>Proposed</i>	Division Vehicle	21			21					
	Future Projects <i>(allowance for planning purposes)</i>	32,478				435	214	80	5,349	26,400
	AMP Investments <i>(allowance for planning purposes)</i>	17,533				372	561	2,030	2,652	11,918
		-								
<b>Huron Capital &amp; Forecast</b>		<b>\$ 237,995</b>	<b>\$ 53,860</b>	<b>\$ 11,406</b>	<b>\$ 22,966</b>	<b>\$ 5,282</b>	<b>\$ 2,270</b>	<b>\$ 2,820</b>	<b>\$ 8,741</b>	<b>\$ 130,650</b>

\* subject to rounding

**Notes:**

(1) Capital account for Board contributions to maintenance projects undertaken by the operating authority.

**Lake Huron Primary Water Supply System  
2025 Budget  
Capital Plan Sources of Financing  
(\$000's)**

Funding Source	2024 Approved Budget	2025 Proposed Budget	2026	2027	2028	2029
Asset Replacement Reserve Fund	6,193	5,461	4,508	2,066	2,747	8,542
Capital Reserve Fund	5,213	17,505	775	204	73	199
Emergency Reserve Fund	-	-	-	-	-	-
Debenture	-	-	-	-	-	-
Other Funding Sources	-	-	-	-	-	-
<b>Total Capital Funding</b>	<b>\$ 11,406</b>	<b>\$ 22,966</b>	<b>\$ 5,282</b>	<b>\$ 2,270</b>	<b>\$ 2,820</b>	<b>\$ 8,741</b>

\* subject to rounding

**Lake Huron Primary Water Supply System  
2025 Budget  
Asset Replacement Reserve Fund Analysis and Continuity Schedule  
(\$000's)**

Asset Replacement Reserve Fund (1)	Actual	Approved Budget	Projected				
	2023	2024	2025	2026	2027	2028	2029
Reserve Fund Opening Balance	20,386	13,997	6,245	7,582	7,520	7,520	7,519
<b>Sources:</b>							
Current Year Operating Contributions	150	6,000	5,612	4,152	1,708	2,409	8,056
Other Contributions <sup>(4)</sup>		962	962				
Transfer from Capital Reserve Fund							
Net Interest Earnings <sup>(2)</sup>	458	342	224	294	357	413	500
<b>Total Sources</b>	<b>\$ 20,994</b>	<b>\$ 21,301</b>	<b>\$ 13,043</b>	<b>\$ 12,028</b>	<b>\$ 9,585</b>	<b>\$ 10,342</b>	<b>\$ 16,075</b>
<b>Uses:</b>							
Total Lifecycle Capital Projects - Current	1,754	6,193	5,461	4,508	2,066	2,747	8,542
Less: Other Funding Sources	-	-	-	-	-	-	-
Less: Debenture Requirement							
Net Current Year Fund Draws <sup>(3)</sup>	1,754	6,193	5,461	4,508	2,066	2,747	8,542
Prior Years Capital Expenditures - Unspent	5,243	8,863					
<b>Total Uses</b>	<b>\$ 6,997</b>	<b>\$ 15,056</b>	<b>\$ 5,461</b>	<b>\$ 4,508</b>	<b>\$ 2,066</b>	<b>\$ 2,747</b>	<b>\$ 8,542</b>
<b>Reserve Fund Ending Balance</b>	<b>\$ 13,997</b>	<b>\$ 6,245</b>	<b>\$ 7,582</b>	<b>\$ 7,520</b>	<b>\$ 7,519</b>	<b>\$ 7,596</b>	<b>\$ 7,533</b>

\* 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 to be invoiced to Oneida Nation of the Thames per the Water Supply Agreement and the Board's New Connection Policy in 2025, not 2024 as originally anticipated

**Lake Huron Primary Water Supply System  
2025 Budget  
New Capital Reserve Fund Analysis and Continuity Schedule  
(\$000's)**

Capital Reserve Fund (1)	Actual	Approved Budget	Projected				
	2023	2024	2025	2026	2027	2028	2029
Reserve Fund Opening Balance	24,033	30,235	23,929	13,853	22,814	22,814	36,342
<b>Sources:</b>							
Current Year Operating Contributions	8,747	4,972	6,770	9,236	12,811	12,811	13,816
North Middlesex Loan	93	185	185	185	185	185	186
Net Interest Earnings <sup>(2)</sup>	570	932	474	314	736	605	337
<b>Total Sources</b>	<b>\$ 33,443</b>	<b>\$ 36,324</b>	<b>\$ 31,358</b>	<b>\$ 23,588</b>	<b>\$ 36,546</b>	<b>\$ 36,415</b>	<b>\$ 50,681</b>
<b>Uses:</b>							
Total System Improvement & Growth Projects	1,324	5,213	17,505	775	204	73	199
Less: Other Funding Sources	-	-	-	-	-	-	-
Less: Debenture Requirement	-	-	-	-	-	-	-
Net Current Year Fund Draws <sup>(3)</sup>	1,324	5,213	17,505	775	204	73	199
Prior Years Capital Expenditures <sup>(3)</sup>	1,884	7,182	-	-	-	-	-
<b>Total Uses</b>	<b>\$ 3,208</b>	<b>\$ 12,395</b>	<b>\$ 17,505</b>	<b>\$ 775</b>	<b>\$ 204</b>	<b>\$ 73</b>	<b>\$ 199</b>
<b>Reserve Fund Ending Balance</b>	<b>\$ 30,235</b>	<b>\$ 23,929</b>	<b>\$ 13,853</b>	<b>\$ 22,814</b>	<b>\$ 36,342</b>	<b>\$ 36,342</b>	<b>\$ 50,482</b>

\* 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.

**Lake Huron Primary Water Supply System  
2025 Budget  
Emergency Reserve Fund Analysis and Continuity Schedule  
(\$000's)**

Emergency Reserve Fund (1)	Actual	Approved Budget	Projected			
	2023	2024	2025	2026	2027	2028
Reserve Fund Opening Balance	4,952	5,230	5,413	5,602	5,798	6,001
<b>Sources:</b>						
Current Year Operating Contributions	150	-	-	-	-	-
Net Interest Earnings <sup>(2)</sup>	128	183	189	196	203	210
<b>Total Sources</b>	<b>\$ 5,230</b>	<b>\$ 5,413</b>	<b>\$ 5,602</b>	<b>\$ 5,798</b>	<b>\$ 6,001</b>	<b>\$ 6,211</b>
<b>Uses:</b>						
Current Year Capital Expenditures <sup>(3)</sup>						
Prior Years Capital Expenditures <sup>(3)</sup>						
<b>Total Uses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Reserve Fund Ending Balance</b>	<b>\$ 5,230</b>	<b>\$ 5,413</b>	<b>\$ 5,602</b>	<b>\$ 5,798</b>	<b>\$ 6,001</b>	<b>\$ 6,211</b>

\* 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			
	2023	2024	2024 (Projected)	2025	2026	2027	2028	2029
Rate Increase <sup>(1)</sup>	1.5%	5.0%		5.0%	5.0%	5.0%	5.0%	5.0%
Total Flow m <sup>3</sup>	46,719,687	48,724,500	48,593,372	49,434,270	49,894,851	50,680,913	51,141,924	51,602,359
Total Water Rate \$/m <sup>3</sup>	0.5194	0.5454	0.5454	0.5726	0.6013	0.6313	0.6630	0.6962
Flow Volume Revenues	24,266	26,573	26,501	28,308	30,000	31,997	33,907	35,926
Other Revenue	150	987	84	987	25	25	25	25
<b>Total Revenue</b>	<b>\$ 24,416</b>	<b>\$ 27,560</b>	<b>\$ 26,585</b>	<b>\$ 29,295</b>	<b>\$ 30,025</b>	<b>\$ 32,022</b>	<b>\$ 33,932</b>	<b>\$ 35,951</b>
Operating Expenses <sup>(2)</sup>	10,689	11,183	11,007	11,487	11,897	12,622	12,697	12,799
Administrative Expenses	3,513	3,799	3,598	4,450	4,696	4,835	4,964	5,101
Debt Servicing Costs <sup>(3)</sup>	1,166	986	986	976	45	45	45	45
<b>Total Operating &amp; Administrative Expenses</b>	<b>\$ 15,368</b>	<b>\$ 15,968</b>	<b>\$ 15,591</b>	<b>\$ 16,913</b>	<b>\$ 16,638</b>	<b>\$ 17,502</b>	<b>\$ 17,706</b>	<b>\$ 17,945</b>
Asset Replacement Reserve Fund Contributions	150	6,621	6,962	5,612	4,152	1,708	2,409	8,056
Capital Reserve Fund Contributions	8,747	4,972	4,032	6,770	9,236	12,811	13,816	9,950
Emergency Reserve Fund Contributions	150	-	-	-	-	-	-	-
<b>Total Expenses</b>	<b>\$ 24,416</b>	<b>\$ 27,560</b>	<b>\$ 26,585</b>	<b>\$ 29,295</b>	<b>\$ 30,025</b>	<b>\$ 32,022</b>	<b>\$ 33,932</b>	<b>\$ 35,951</b>

\* 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).