Elgin Area
Primary Water Supply System

August 29, 2024

Chair and Members
Elgin Area Primary Water Supply System
Joint Board of Management

Re: **2025 Operating and Capital Budgets**

Enclosed please find a copy of the draft 2025 Budget for the Elgin Area 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

Elgin Area
Primary Water Supply System

Report No.: EA-2024-03-05
Report Page: 1 of 29
Meeting Date: October 3, 2024
File No.:

Board of Management Report

Subject: 2025 Operating and 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 1.0337 dollars ($1.0337) per cubic meter; a 3.5 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 by mid-2025.

Recommendation

That, on the recommendation of the Chief Administrative Officer, the following actions be taken by the Board of Management for the Elgin Area 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 $16,729,982 as attached to this report;

b) The Board **APPROVE** the 2025 Capital Budget in the total amount of $3,296,000 as attached to this report;

c) The Board **APPROVE** the 2025 rate for water of $1.0337 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 $1.0337 per cubic meter. In responding to regulatory, operational, and inflationary pressures, this proposed 2025 rate represents a 3.5% 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, the proposed 2025 treated water volume included in the budget of 15.94 million cubic meters represents a negligible change compared with the 2024 approved budgeted volume, and approximately 0.7% higher than the anticipated 2024 actual supplied volumes by year-end.

Approved 2024 budget volume	15,986,060 m^3
Anticipated 2024 year-end volume	15,828,647 m^3
Proposed 2025 budget volume	15,940,500 m^3

A conservative estimate of volume was utilized for the 2025 budget due to current supply patterns in Elgin County and remains reflective of long-term system consumption patterns throughout the region. The City of London continues to take the minimum contracted block-volume of water daily of approximately 22.7 million litres.

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 to the water system's Master Plan, which is to be completed by mid- 2025. These revised projections from the Master Water Plan will include the supply to the Yarmouth Yards industrial development lands in St. Thomas anticipated starting in 2028, as well as other development and growth within Elgin County.

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.

Development Areas

At the time of drafting this report, preliminary information provided by the City of St. Thomas related to the construction of the industrial development site, now publicly referred to as “Yarmouth Yards”, was incorporated into the short-term projections included in the proposed budget. Based on this preliminary information, the proposed battery plant and associated support businesses are not anticipated to start production until late-2027 or early 2028, and the projected average day and maximum day consumption for the development area has yet to be fully quantified.

The Master Water Plan currently being undertaken will undertake a detailed assessment of anticipated consumption for the 35+ year planning period, including any anticipated implications of the Yarmouth Yards development, as well as other possible development areas in Elgin County such as the former Ford Talbotville plant, former CN rail yard and former psychiatric hospital lands.

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 $6.577 million, reflecting a 5.4% net increase compared to the 2024 budget, and includes $1 million in anticipated energy costs. Energy saving initiatives, including the installation of new high lift pumps, have significantly contributed to the energy management strategy for the regional water system.

Of the $6.577 million, energy currently comprises approximately 15.2% of operating expenditures, which is a 2% decrease from 2024.

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 the 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 $3.703 million represents a $503 thousand net increase over the 2024 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. The budget also includes the addition of seven new positions (½ FTE's each shared with the Lake Huron 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 Lake Huron 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:

- IT Asset Replacement Program
- Roof Drain Replacements
- Sample Line Replacement Program
- Terminal Storage Reservoir Cell 1 Upgrades
- Plant Front Entrance Steps Replacement
- RMF Sodium Bisulphite Room Exhaust Upgrades
- Plant MCC Component Upgrades
- Operations & Maintenance Procurement Advisory Services
- PLC Replacements
- Low Lift Discharge Valve Replacements
- High Lift Garage Door Replacement
- Low Lift Instrument Panel Replacement
- Plant Tanks & Channels Concrete Repairs
- Taste & Odour Management Optimization
- Transmission System Precipitate Investigation

In addition to the above-noted capital projects, the 2025 Capital Budget includes EA4114 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:

- Security Upgrades
- Climate Change Resiliency Assessment
- Plant Wi-Fi Upgrade & Replacement
- Division Vehicle
- Fruit Ridge Surge Facility Health and Safety Equipment Upgrades
- RMF Tank Mixing Study
- PAC Dosing Strategy Optimization

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 $4.0 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 Terminal Reservoir by 2034 to balance plant flow requirements in support of the increased supply to St. Thomas for the Yarmouth Yards industrial area. 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 include such projects as the expansion of treatment plant and processes to address growth in the region and, likely, the St. Thomas Industrial Development Area.

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

EMPS Building and Building-Related Assets

The Elgin-Middlesex Pump Station at the Elgin Terminal Reservoir property houses the pumps, piping, control systems, pressure surge controls and associated piping related secondary pumping systems for the City of London, the St. Thomas Secondary Water System, and the Aylmer Secondary Water System. The Elgin Board previously agreed to own and maintain the common building and building-related assets and entered into a long-term Joint Use and Occupancy Agreement with the secondary water systems and the City of London.

The agreement confirms the ownership and responsibilities related to the occupancy and use of the common building and, among other things, establishes a fee for occupancy on a square meter basis. The annual fee collected provides an annual contribution to a dedicated reserve fund which is now utilized by the Elgin Area Water System for the maintenance and repair of the building and building-related assets. All capital projects directly related to the Elgin-Middlesex Pump Station building and building-related assets are now specifically identified in the capital plan and the corresponding dedicated reserve fund identified in the Sources of Finance for the Capital Budget.

The cost of operating the pumps and associated equipment of the secondary water systems continues to be borne by the occupants.

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 purposed 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 purposed 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 3.5% annual increase in the rate beyond the 2025 budget to 2027, and 3.0% thereafter. 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 $4.0 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 $2.0 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, are nearing the end of their term within the current forecast period. These debentures are:

- Debt authorized in 2011 for the Residuals Management Facility (EA4023) in the amount of $19 million was partially issued in 2016 ($7 million) with payments beginning in September 2016 (2.3% for a 10-year term) and a further debt issuance in 2017 ($4.5 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 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 – 2025 Capital Project Summary
2025 Operating & Capital Budgets, and Nine-Year Capital Forecast

Appendix A: 2025 Proposed Capital Project Summaries

Lifecycle Projects (Maintain Level of Service)

EA3010 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.

EA4152 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.

EA4191 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 2025 anticipated to be the final year of the program.

Sample Line Replacement Program (multi-year program): The galvanized pipe and copper sample lines throughout the plant are prone to leaking and corrosion deterioration and reaching the end of their useful life. This project will replace the sample lines throughout the facility over a four-year period starting in 2025.

Low Lift Discharge Valve Replacements: This project is required to replace the discharge valves on the low lift pumps that are showing signs of failure and are at the end of their useful life. Continued degradation and significant leaking will result in their eventual failure that would render the low lift pumps inoperable.

Terminal Storage Reservoir Cell 1 Upgrades (multi-year project): The membrane on top of the terminal storage reservoir is at the end of its useful life and there is inadequate drainage on top of the reservoir. The turf above the reservoir continues to show evidence of ground settling and water pooling. This project is to undertake a detailed engineering condition assessment of the membrane and drainage system and provide design recommendations to restore or replace the membrane and drainage system as required.

High Lift Garage Door Replacement: This project is required to replace the garage door in the high lift pump area as it is no longer repairable and has reached the end of its useful life.

Plant Front Entrance Steps Replacement: This project is required to replace the front entrance steps of the plant that are original to plant construction and showing signs of significant deterioration. The entrance steps are integral to the building structure and support the plant ventilation exhaust from the main air handling units.

Low Lift Instrument Panel Replacement: This project is required to replace the instrumentation panels in the low lift building which have reached the end of their useful life in accordance with current standards and best practices.

Plant Tanks & Channels Concrete Repairs (multi-year project): The tanks and channels in the water treatment plant are reached over half of their expected useful life. This project is to undertake a detailed engineering condition assessment of the tanks and channels and provide recommendations and strategy for rehabilitation, if and as required.

RMF Sodium Bisulphite Room Exhaust Upgrades: This project is required to address health and safety concerns related to the atmospheric conditions within the RMF sodium bisulphite chemical handling and storage room by making modifications to the louver and exhaust system in the room.

Taste & Odour Management Optimization: The objective of this study is to improve monitoring of raw water quality and risks associated with taste and odour-causing raw water parameters at the plant intake and low lift station of the water treatment plant potentially utilizing online instrumentation. The study will also improve the water system's understanding of taste and odour risks due to increasing manganese in the raw water and will make corresponding recommend treatment alternatives to address taste and odour issues.

Plant MCC Component Upgrades: The motor control centres (MCC) are a central component located in the electrical room for where motors for the plants pumping systems 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.

Transmission System Precipitate Investigation: Calcite precipitate build-up was identified within the distribution header of the treatment plant as well as in the first chamber at the edge of the property related to the sodium hydroxide pH adjustment system. This investigation proposed is to complete an inspection of the transmission system to assess the extent of the precipitate that could lead to reduced valve function and a reduction in pipe capacity and provide recommendations for removal.

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.

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

EA4022 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.

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.

Fruit Ridge Surge Facility Health and Safety Equipment Upgrades: This project is required to upgrade the health and safety related equipment at the Fruit Ridge Surge Facility to meet current regulations.

RMF Tank Mixing Study: There is approximately four to six feet of accumulation of sediment within the tanks in the RMF which presents challenges for maintenance staff when undertaking a full clean-out for tank inspection. This study is to review the current mixing system and provide recommendations to improve mixing within the tank and prevent premature settlement.

PAC Dosing Strategy Optimization: Currently the powdered activated carbon (PAC) dosing system is not optimized with respect to existing raw water quality conditions in order to proactively mitigate taste and odour issues related to variable raw water quality event on Lake Erie. This study is to review the current strategy and provide recommendations for improvement.

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.

Elgin Area

Primary Water Supply System

2025 Operating and Capital Budgets and Nine Year Capital Forecast

October 3, 2024

Elgin Area Primary Water Supply System
2025 Budget

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Elgin Area Primary Water Supply System
2025 Budget
Revenue and Expenditure Summary
($000's)

	2024 Approved Budget	2025 Proposed Budget	Incr (Decr)	% Budget Incr (Decr)	2024 Year End Projection
Revenues:					
Volume Revenues [1]	15,965	16,477	512	3.2%	15,808
EMPS Occupancy	222	222	0	0.0%	222
Other Revenues	31	31	0	0.0%	41
Total Revenues	**16,218**	**16,730**	**512**	**3.2%**	**16,071**
Expenditures:					
Operating Costs [2]	6,242	6,577	335	5.4%	6,366
Administration and Other Expenditures	3,201	3,703	502	15.7%	2,923
Debt Principal Repayments [3]	1,201	1,228	27	2.2%	1,201
Interest on Long Term Debt [3]	93	222	129	138.7%	93
Contribution to Reserve Funds	5,480	5,001	(479)	-8.7%	5,490
Total Expenditures	**16,218**	**16,730**	**513**	**3.2%**	**16,073**

* subject to rounding

Notes:

(1) See the Flow and Financial Analysis Summary for details on volumes, rates and revenues.

(2) Part of the operating costs are direct to the Elgin Area system (i.e. electricity), while all other costs are fixed to the annual operating costs in the bid price from the Ontario Clean Water Agency and other contracted services.

(3) Refer to Flow and Financial Analysis Summary for more information on debt.

Elgin Area 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	1,247	1,695	448	35.9%	996
Support and Overhead Costs (1)	175	116	(59)	-33.7%	175
Payment in Lieu of Taxes	410	425	15	3.7%	415
Insurance (Director & Officers, General Liability)	423	485	62	14.7%	449
Financial/Office Expenses (2)	217	260	43	19.8%	238
Information Technology Maintenance & Fees (3)	219	221	2		219
Process Optimization	75	75	0	0.0%	75
Purchased Services (Legal, Consulting, Locates, etc.)	433	425	(8)	-1.8%	347
Total Administration & Other Expenditures	**3,201**	**3,703**	**503**	**15.7%**	**2,914**

* 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 administrative expenses such as leased space, training/seminars/conventions, computer leasing, and sampling and research initiatives.

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

Elgin Area Primary Water Supply System
2024 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
EA1026	RW Office Expansion & Renovation	200	200							
EA2019-24	Master Plan Update	485	135	200					150	
EA3010	IT Asset Replacement Program	1,776	431	40	100	100	100	120	40	845
EA3011	Plant Interior Person Door Replacement	60	60							
EA3012	Interior LED Lighting Upgrades	75	75							
EA3013	Plant Reservoir Drain Repairs	200	200							
EA3016	Safety Showers Upgrade	60	60							
EA3017	Exterior WTP Building Seals	60	60							
EA3020	Roof Replacement	625	625							
EA4020	Financial Plan Update 2021	50	50							
EA4022	Security Upgrades	1,225	925	100	100	100				
EA4039	Record Drawings & Documents	255	255							
EA4068	Pipeline 'A' Rehabilitation & Recommissioning					50	500	500	200	
EA4073	Plant Instrumentation	577	577							
EA4114 xx	Annual Maintenance [1]	1,900	800	100	100	100	100	100	100	500
EA4132	Alum Storage Tanks	825	825							
EA4135	Hydraulic/Transient Model Update & Transient Monitoring	237	92	145						
EA4136	Service Water Piping Replacement	75	75							
EA4137	LL Service Water Connection	750	750							
EA4138	Parking Lot Asphalt Resurfacing	125	125							
EA4152	PLC Replacements	840	40		275	275	250			
EA4153	Back Wash Pump Replacement	3,859	2,459	1,400						
EA4166	SCADA/PLC - Software Review/Upgrade	500	500							
EA4171	Backwash Drain Valve Actuators	175	175							
EA4172	Dedicated Raw Water Sample Line	90	90							
EA4177	Railings and Guarding	350	300	50						
EA4183	UV & Backwash Pump Replacements	8,950	8,950							
EA4184	Water Quality Facility Plan	840	290				300			250
EA4185	Construction Site Trailer Pad & Electrical Pedestal	25	25							
EA4186	Sodium Hydroxide Assessment Study	130	30	100						
EA4187	EMPS - Utility Pole Replacement	15	15							
EA4188	Lighting/Breaker Panel Replacement	100	100							
EA4189	RMF Mixing Pump Replacement	100	100							
EA4190	RMF Total Chlorine Residual Compliance	50	50							
EA4191	Roof Drain Replacements	100	50	25	25					
EA4192	Flocc Tank Influent Distribution Upgrades	100	100							
EA4193	Elgin Standby Generator TSSA Repairs	290	290							
EA4194	Asset Condition Field Assessment	135	85	50						
EA4195	Electric Vehicle Charging Stations	60	10	50						
EA4196	St. Thomas Meter Replacement	150	150							
EA4198	Elgin Filter Emergency Repairs	608	608							

Elgin Area Primary Water Supply System
2024 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
EA4199	Office Expansion	100	100							
EA4200	Service Water Study			120						
EA4201	Climate Change Resiliency Assessment			120	120	50	50			
EA4202	Low Lift Sluice Gate Replacement			350						
EA4204	Financial Plan Update					50				50
Proposed	Plant Wi-Fi Upgrade & Replacement				620					
Proposed	Sample Line Replacement Program				35	30	30	30		
Proposed	Low Lift Discharge Valve Replacements				490					
Proposed	Terminal Storage Reservoir Cell 1 Upgrades				100	4,900				
Proposed	High Lift Garage Door Replacement				50					
Proposed	Plant Front Entrance Steps Replacement				50					
Proposed	Fruit Ridge Surge Facility Health and Safety Equipment Upgrades				70					
Proposed	Low Lift Instrument Panel Replacement				40					
Proposed	Plant Tanks & Channels Concrete Repairs				45					
Proposed	RMF Tank Mixing Study				35					
Proposed	RMF Sodium Bisulphite Room Exhaust Upgrades				35					
Proposed	PAC Dosing Strategy Optimization				65					
Proposed	Taste & Odour Management Optimization				245	275				
Proposed	Plant MCC Component Upgrades				400					
Proposed	Transmission System Precipitate Investigation				25					
Proposed	Operations & Maintenance Procurement Advisory Services				250					
Proposed	Division Vehicle				21					
Proposed	Elgin Terminal Reservoir Expansion									40,500
	Future Projects *(allowance for planning purposes)*	7,474				175	3,644	3,251	154	250
	AMP Investments *(allowance for planning purposes)*	16,538				1,735	1,038	1,038	1,161	11,566
	Elgin Capital Subtotal	**$ 51,139**	**$ 20,837**	**$ 2,850**	**$ 3,296**	**$ 7,840**	**$ 6,012**	**$ 5,039**	**$ 1,805**	**$ 53,961**

Elgin Area Primary Water Supply System
2024 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
EA3025	EMPS - HVAC Replacement	375	375							
EA3026	EMPS - MCC Replacement	300	300							
EA4197	EMPS - Roof Replacement	350	350							
EA4203	EMPS - Asset Management Plan Update			140						
	EMPS Capital Subtotal	**$ 1,025**	**$ 1,025**	**$ 140**	**$ -**	**$ -**	**$ -**	**$ -**		**$ -**
	Total Capital & Forecast	**$ 52,164**	**$ 21,862**	**$ 2,990**	**$ 3,296**	**$ 7,840**	**$ 6,012**	**$ 5,039**	**$ 1,805**	**$ 53,961**

* subject to rounding

Notes:

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

Elgin Area 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	1,231	2,395	7,534	5,550	4,949	1,663
Capital Reserve Fund	1,619	901	306	463	90	143
Emergency Reserve Fund	-	-	-	-	-	-
EMPS Building Reserve Fund	140	-	-	-	-	-
Debenture	-	-	-	-	-	-
Other Sources of Financing	-	-	-	-	-	-
Total Capital Funding	**$ 2,990**	**$ 3,296**	**$ 7,840**	**$ 6,012**	**$ 5,039**	**$ 1,805**

* subject to rounding

Elgin Area Primary Water Supply System
2024 Budget
Asset Replacement Reserve Fund Analysis and Continuity Schedule
($000's)

Asset Replacement Reserve Fund [1]	Actual 2023	Approved Budget 2024	Projected 2025	2026	2027	2028	2029
Reserve Fund Opening Balance	7,401	9,159	4,026	6,298	4,117	4,092	4,095
Sources:							
Current Year Operating	3,000	1,900	4,470	5,044	5,098	4,389	1,000
Other Revenues - Inter-fund Repayment [4]	-	-	-	-	-	-	-
Transfer from Capital Reserve							
Net Interest Earnings [2]	177	226	197	309	426	563	659
Total Sources	**$ 10,578**	**$ 11,285**	**$ 8,693**	**$ 11,651**	**$ 9,641**	**$ 9,044**	**$ 5,754**
Uses:							
Total Lifecycle Capital Projects	1,419	1,231	2,395	7,534	5,550	4,949	1,663
Less: Other Funding Sources	-	-	-	-	-	-	-
Less: Debenture Requirement							
Miscellaneous Transfers/Expenditures							
Less: Inter-fund Loan [4]		-	-	-	-	-	-
Net Current Year Fund Draws [3]	1,419	1,231	2,395	7,534	5,550	4,949	1,663
Prior Years Capital Expenditures [3]		6,028					
Total Uses	**$ 1,419**	**$ 7,259**	**$ 2,395**	**$ 7,534**	**$ 5,550**	**$ 4,949**	**$ 1,663**
Reserve Fund Ending Balance	**$ 9,159**	**$ 4,026**	**$ 6,298**	**$ 4,117**	**$ 4,092**	**$ 4,095**	**$ 4,091**

* subject to rounding

Notes:

(1) The Asset Replacement Reserve Fund was established to fund projects of a lifecycle nature to maintain existing levels of service and has an average annual target ending balance of $4.0M.

(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) Inter-fund lending between reserve funds to temporarily finance capital cash flow deficiences. Inter-fund repayments include principal and interest.

Elgin Area Primary Water Supply System
2024 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	7,259	8,805	2,668	1,893	1,860	3,739	7,310
Sources:							
Current Year Operating	2,005	2,549	-	126	2,150	3,400	7,768
Dutton Buy-In [4]	28	28	28	28	28	28	28
Net Interest Earnings [2]	188	197	98	119	164	233	373
Total Sources	**$ 9,480**	**$ 11,579**	**$ 2,794**	**$ 2,166**	**$ 4,202**	**$ 7,400**	**$ 15,479**
Uses:							
Total System Improvement & Growth Projects	675	1,619	901	306	463	90	143
Less: Other Funding Sources	-	-	-	-	-	-	-
Less: Debenture Requirement							
Less: Additional Capital Drawdowns							
Net Current Year Fund Draws [3]	675	1,619	901	306	463	90	143
Prior Years Capital Expenditures		7,292					
Total Uses	**$ 675**	**$ 8,911**	**$ 901**	**$ 306**	**$ 463**	**$ 90**	**$ 143**
Reserve Fund Ending Balance	**$ 8,805**	**$ 2,668**	**$ 1,893**	**$ 1,860**	**$ 3,739**	**$ 7,310**	**$ 15,337**

* subject to rounding

Notes:

(1) The New Capital Reserve Fund was established to fund projects related to system growth, 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/committed capital needs and not intended to project the actual cash flow of funds being utilized in a particular year.

(4) Payment of Buy-In Charge by the Municipality of Dutton-Dunwich per agreement

Elgin Area Primary Water Supply System
2024 Budget
Emergency Reserve Fund Analysis and Continuity Schedule
($000's)

Emergency Reserve Fund [1]	Actual	Approved Budget	Projected				
	2023	2024	2025	2026	2027	2028	2029
Reserve Fund Opening Balance	869	426	1,109	1,453	1,763	2,034	2,107
Sources:							
Current Year Operating	-	800	300	250	200	-	-
Net Interest Earnings [2]	22	26	44	60	71	73	75
Total Sources	**$ 891**	**$ 1,252**	**$ 1,453**	**$ 1,763**	**$ 2,034**	**$ 2,107**	**$ 2,182**
Uses:							
Current Year Capital Expenditures							
Prior Years Capital Expenditures	465	143					
Total Uses	**$ 465**	**$ 143**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Reserve Fund Ending Balance	**$ 426**	**$ 1,109**	**$ 1,453**	**$ 1,763**	**$ 2,034**	**$ 2,107**	**$ 2,182**

* subject to rounding

Notes:

(1) The Emergency Reserve Fund was established 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 stop once the reserve fund balance reaches $2.0 million.

(2) Projected net interest earnings based on an average rate of anticipated sources and uses of funds.

Elgin Area Primary Water Supply System
2024 Budget
EMPS Building Reserve Fund Analysis and Continuity Schedule
($000's)

EMPS Building Reserve Fund [1]	Actual	Approved Budget	Projected				
	2023	2024	2025	2026	2027	2028	2029
Reserve Fund Opening Balance	234	478	580	818	34	278	526
Sources:							
Current Year Operating	231	231	231	231	231	231	231
Other Revenues - Inter-fund Loan [4]			-	-	-	-	-
Net Interest Earnings [2]	13	11	7	10	13	17	21
Total Sources	**$ 478**	**$ 720**	**$ 818**	**$ 1,059**	**$ 278**	**$ 526**	**$ 778**
Uses:							
Total EMPS Projects	-	140	-	-	-	-	-
Less: Other Funding Sources							
Less: Debenture Requirement							
Less: Additional Capital Drawdowns							
Net Current Year Fund Draws [3]	**-**	**140**	**-**	**-**	**-**	**-**	**-**
Prior Years Capital Expenditures [3]				1025			
Miscellaneous Transfers/Expenditures							
Inter-fund Loan Repayments - Asset Replacement Reserve Fund [4]	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Principal	-						
Interest	-		-	-	-	-	-
Inter-fund Loan Repayments - New Capital Reserve Fund [4]	-	-	-	-	-	-	-
Principal		-	-	-	-	-	-
Interest	-	-	-	-	-	-	-
Total Uses	**$ -**	**$ 140**	**$ -**	**$ 1,025**	**$ -**	**$ -**	**$ -**
Reserve Fund Ending Balance	**$ 478**	**$ 580**	**$ 818**	**$ 34**	**$ 278**	**$ 526**	**$ 778**

* subject to rounding

Notes:

(1) The EMPS Building Reserve Fund was established to fund capital costs strictly associated with the Elgin-Middlesex Pumping Station. Current year operating contributions are solely related to occupancy fees charged to the benefiting systems.

(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) Inter-fund lending between reserve funds to temporarily finance capital cash flow deficiences. Inter-fund repayments include principal and interest.

Elgin Area 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 [1]	2.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.0%
Total Flow m^3	15,753,377	15,986,060	15,828,647	15,940,500	16,231,979	17,028,042	17,351,072	17,674,110
Total Water Rate $/$m^3$	0.9649	0.9987	0.9987	1.0337	1.0698	1.1074	1.1460	1.1804
Flow Volume Revenues	15,200	15,965	15,808	16,477	17,365	18,856	19,885	20,863
Other Revenue	310	253	263	253	253	253	253	253
Total Revenue	**$ 15,510**	**$ 16,218**	**$ 16,071**	**$ 16,730**	**$ 17,618**	**$ 19,109**	**$ 20,138**	**$ 21,116**
Operating Costs [2]	6,167	6,242	6,366	6,577	6,747	6,906	7,513	7,513
Administrative Expenses	2,811	3,201	2,923	3,703	3,795	3,890	3,989	3,988
Debt Servicing Costs [3]	1,297	1,294	1,294	1,449	1,425	635	615	615
Total Operating & Administrative Expenses	**$ 10,275**	**$ 10,737**	**$ 10,583**	**$ 11,729**	**$ 11,967**	**$ 11,431**	**$ 12,117**	**$ 12,116**
Asset Replacement Reserve Fund Contributions	3,000	1,900	1,900	4,470	5,044	5,098	4,389	1,000
Capital Reserve Fund Contributions	2,005	2,549	2,559	-	126	2,150	3,400	7,768
Emergency Reserve Fund Contributions	-	800	800	300	250	200	-	-
Other Contributions:								
EMPS Building Reserve Fund Contributions	231	231	231	231	231	231	231	231
Total Expenses	**$ 15,510**	**$ 16,218**	**$ 16,073**	**$ 16,730**	**$ 17,618**	**$ 19,109**	**$ 20,138**	**$ 21,116**

* subject to rounding

Notes:

(1) Percent rate increases recommended are consistent with the approved Financial Plan which 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 (2011) for the Residuals Management Plant (EA4023) in the amount of $19 million with partial issuance in 2016 ($7M) and payments beginning Sept/16 (all-in rate of 2.3% for a 10 year term), further debt issuance in 2017 in the amount of $4.5M and payments beginning in Sept/17 (all-in rate of 2.48% for a 10 year term).