

Report No.: 2023-09-06
Report Page: Page 1 of 10
Meeting Date: September 28, 2023
File No.:



To: Chair and Members
Lambton Area Water Supply System Joint Board of Management

From: Clinton Harper
General Manager

Subject: 2024 Draft Operations, Maintenance, Administration, and Capital Budget Proposal

Recommendation:

It is recommended that the LAWSS Joint Board of Management;

- a) approve the 2024 Operation, Maintenance, and Capital Budget for the total of \$12,510,285 as presented in the Draft Budget Summary (Appendix A).
- b) approve transfer of \$5,752,500 to Level of Service Reserve.
- c) approve transfer of \$200,000 to Emergency Reserve.

Executive Summary:

The proposed operating and capital budget presents a balanced budget for the projections in 2024, this budget is following the Financial Plan that the Joint Board of Management directed Staff to follow in November 2021 and requires an overall increase of 8.6%.

The proposed increase is a combination of CPI and established 20-year funding projections. The proposed increase is needed to ensure LAWSS can achieve required funding necessary to maintain the current level of service and for providing approved System enhancement. It should be noted that the original Financial Plan utilized a CPI increase of 3% to Operations, which falls short of meeting actual increases seen over the last two years. Despite this, LAWSS has worked to keep the overall budget increase at the planned 8.6% in 2024.

LAWSS Asset Management Planning (AMP) and Policy drives the projects being submitted for 2024. Major projects are highlighted below and descriptions for all remaining can be found in Appendix E. The LAWSS AMP was endorsed by the LAWSS Joint Board of Management in October 2021. The LAWSS AMP includes projects identified out of the Master Planning process and guides LAWSS overall capital program.

A 3-year rolling average of measured water usage has been applied to how Municipal Member’s percent contribution is calculated. The 3-year rolling average method was approved by the LAWSS Joint Board of Management in July 2022 and is summarized in Table #ES1.

Report No.: 2023-09-06
Report Page: Page 2 of 10
Meeting Date: September 28, 2023
File No.:



Table #ES1- Summary LAWSS 2024 Budget Allocation							
	LAWSS	COS	SCT	TPW	VPE	TW	LS
2020 Flow (m ³)	17,940,602	10,910,387	4,915,389	985,381	336,055	418,765	374,625
2021 Flow (m ³)	18,320,219	10,998,346	5,184,371	1,053,932	308,206	404,364	371,000
2022 Flow (m ³)	19,195,022	11,417,742	5,525,610	1,154,909	281,383	400,165	415,213
2024 % Budget allocation (Average 2020, 2021, 2022 flow)	100%	60.10%	28.18%	5.76%	1.67%	2.21%	2.09%
2023 Approved Budget ('000s)	\$11,519	\$6,919	\$3,259	\$627	\$225	\$260	\$229
2024 Proposed Budget ('000s)	\$12,510	\$7,518	\$3,525	\$721	\$209	\$276	\$262
% change Budget	+8.6%	+8.66%	+8.16%	+14.96%	-7.32%	+6.08%	+14.30%
Difference ('000s)	+\$991	+\$599	+\$266	+\$94	-\$19	+\$16	+\$33

COS= City of Sarnia
VPE= Village of Point Edward

SCT= St. Clair Township
TW= Township of Warwick

TPW= Town of Plympton-Wyoming
LS = Lambton Shores

Overall, the current proposed 2024 Budget is to increase by 8.6% (\$990,882). There is both internal and external factors for the increase to the budget. The budget is broken down into two factors: Administration/Operations and Capital/Major Maintenance.

Proposed 2024 Administration, Ops, and Maintenance Budget:

Currently LAWSS and OCWA have a partnership that allows for OCWA to operate and maintain the LAWSS facilities on behalf of LAWSS. LAWSS and OCWA have just completed the eleventh year of their current 20 year contract. The contract amount is subject to increase based on the July CPI (3.75%). This was a large unforeseen increase and is out of the control of both parties and is a result of the current economic environment in Canada.

Overall, the 2024 LAWSS Administration, Operations and Maintenance budget will require a 5.66% increase. (2023- \$6,219,020, 2024- \$6,570,785)

Operations and Maintenance:

2024 Operating and Maintenance - \$5,279,785 – 6.64% Increase from 2023 Budget

OCWA’s Service Fee has increased 3.75%, Hydro increased by 10%, Sludge Haulage increased by 15%, Insurance is unchanged, and Chemicals have increased by 12.2%.

Report No.: 2023-09-06
Report Page: Page 3 of 10
Meeting Date: September 28, 2023
File No.:



These are the largest contributors to the Operating and Maintenance Cost increase, that are managed by OCWA.

Administrative:

2024 LAWSS Operating - \$1,291,000 – 14.1% Increase from 2023 Budget

Increases of General and Administration costs are largely due to;

- property taxes increased by 3%,
- insurance increased by 10%,
- Risk Management Services increased by 17.9% to include the City of Sarnia.

LAWSS Operating covers a large range of costs that LAWSS will incur directly over the course of the year. The items that had a large impact to the increase were: General and Admin increase of 6.3% and Staff Salary increase of 8.3%. LAWSS is adjusting salaries due to increases of salaries for two full time staff.

Included in the LAWSS Operating includes \$200,000 for Emergency Repairs. This is to be transferred to the Emergency Reserve.

Appendix #B- Emergency Reserve

Proposed 2024 Capital Budget:

The proposed 2024 Capital Budget includes a number of projects needed to address capital improvements and critical reinvestment in the water supply system assets, as well as regulatory requirements, ongoing and proposed Board initiatives. In general, capital projects fit into two categories; projects designed to maintain current level of service and projects designed to provide system enhancement. In 2022, two separate reserves be established for the two categories.

Asset Management Plan:

The Asset Management Plan’s purpose is to establish a strategic process for reinvestment in the existing infrastructure. The Asset Management Plan centres around an established level of service framework, risk mitigation strategy, condition assessment and evaluation methodology.

The Asset Management Plan project included the development of a Strategic Asset Management Policy, Level of Service and Risk Mitigation Framework. The LAWSS Technical team provided valuable input on the plan’s development.

OCWA’s work management system and LAWSS GIS served as the foundation for the 2021 AMP. The plan is complete and, in its current state, the document functions as a

Report No.: 2023-09-06
Report Page: Page 4 of 10
Meeting Date: September 28, 2023
File No.:



high-level calibration of the effort necessary to maintain LAWSS. LAWSS staff are continuously undertaking projects designed to improve the accuracy of the data used in this plan.

Master Plan & Addendum:

The Master Plan’s purpose is to establish the improvement and expansion projects necessary to accommodate changes in population, water demand projections, transmission and distribution system expansions, and legislated requirements.

Work on the LAWSS Master Plan began in January 2020 and included Municipal Class Environmental Assessment (MCEA) Master Planning “Approach 2” for three potential Schedule B projects related to three issues previously identified in the System. The Master Plan also included development of an “addendum” and inclusion of the existing grid reinforcement and twinning MCEA into the overall Plan.

2024 Capital Plan:

The attached 2024 DRAFT LAWSS Summary Budget lists and provides a budgetary estimate for all 2024 projects. Detailed descriptions of all proposed 2024 capital work can be found in Appendix B and is summarized in Table #1. These projects are based on LAWSS’ ongoing effort to refine asset and master planning.

	Description	Cat.?
1	SCADA 18 - Main Control Room Panel Comp. Upgrades	
2	SCADA 19 - Ongoing Cyber Security Vul. Assess.	
3	SCADA 20 - System UPS & PLC Battery Maintenance	
4	WTP- Traveling Screens Replacement Project	
5	CA- WTP Detailed Electrical	
6	Engineering Studies	
7	WLPS Reservoir Rehabilitation and Pumping Modifications - Tanks	
8	AC pipeline - Wyoming	
9	Mapping and Consulting - Second Intake	
MM-1	VFD for floc mixers replacement 2 to be replaced	
MM-2	Turbidity meter replacement (5 in 2024)	
MM-3	Front and back gate intercom improvements	
MM-4	Filter drain sluice gate actuators (1)	
MM-5	Main plant HVAC system annual mtc	
MM-6	Replace eyewash stations for the HFS area	
MM-7	Replace service water flow meter	

Report No.: 2023-09-06
Report Page: Page 5 of 10
Meeting Date: September 28, 2023
File No.:



MM-8	SCADA PA troubleshooting of 'dead' zones	
MM-9	Surge anticipator overhaul	
MM-10	Replacement of WTP UPS system in MCC room	
MM-11	Vibration monitoring	
MM-12	3rd party electrical at the WTP	
MM-13	LL wet well clean out	
MM-14	Eaton UPS system in generator room annual mtc	
MM-15	Replace/repair heaters at WLPS	
MM-16	Forest turbine flow meter replacement	
MM-17	ROV inspection Ind Rd and Forest	
MM-18	Flexible hydrant markers and traffic cones	
MM-19	Replace UPS system on Point Edward flow meters	
MM-20	Replace batteries on the LaSalle line flow meters	
MM-21	Complete repairs on East and West generators	
MM-22	Annual energy efficiency (EL exterior and WTP emerg)	

Highlight #1- WLPS Reservoir Rehabilitation and Pumping Station Mods:

At the recommendation of staff, the LAWSS Joint Board of Management awarded LAWSS RFP 23-01 Engineering Services from WLPS Reservoir Rehabilitation and Station Upgrades to CIMA+ for the quoted amount of \$1,725,226 +HST. Attached is a Pre-Design report that includes a refined project cost estimate provided in Table #2.

Item Description	Cost (+HST) (000s)
Item 1: Pumping and Process Piping and Valving Modifications	\$1,610
Item 2: Electrical Upgrades	\$820
Item 3: Instrumentation, Process Control Logic, and SCADA Upgrades	\$720
Item 4: Reservoir Rehabilitation (both)	\$13,680
Subtotal Construction Cost	\$16,830
Construction Contingency (10%)	\$1,683
Engineering (Awarded to CIMA+ April 2023)	\$1,725
2023 Total Capital Cost Estimate	\$20,238
2023 Total Capital Cost Estimate (-15%)	\$17,203,
2023 Total Capital Cost Estimate (+20%)	\$24,286

The reservoir rehabilitation portion of the project is relatively straight forward compared to the pumping station upgrades. CIMA+ is recommending and prepared to tender the

Report No.: 2023-09-06
Report Page: Page 6 of 10
Meeting Date: September 28, 2023
File No.:



reservoir rehabilitation portion separately, and as soon as possible as a multi-year contract. Due to the complexity involved, detailed design of the pumping station component is expected to take until the end of August 2024. Key project benchmarks are listed in Table #3.

Table #3- Key Project Benchmarks	
Q4 2023	Finalized detailed design and tender reservoir rehabilitation.
Q1 2024	Begin rehabilitation of south reservoir, and begin detailed design for pumping station upgrades.
Q2-Q3 2024	Complete rehabilitation of south reservoir.
Q4 2024	Finalize detailed design pumping station upgrades, and tender pumping station upgrades.
Q1 2025	Begin rehabilitation of north reservoir, and begin pumping station upgrades.
Q2-Q3 2025	Complete rehabilitation of south reservoir. Complete pumping station upgrades.

The debt amount being indicated as necessary on the 2024 Budget Summary is tied to this project. To ensure LAWSS gets the best possible pricing, CIMA+ is recommending that both the north and south reservoirs be tendered for rehabilitation together as a single project with the intention of spreading the work over two years. This set up will require that LAWSS enter into a construction contract for a financial value that will exceed LAWSS available reserve amounts. Project cash flow is presented in Table #4.

Including this full debt amount as part of the 2024 budget proposal will ensure LAWSS staff have the authorization necessary to proceed in securing this debt in a timely and efficient manner as the project is undertaken.

Table #4- Project Cash Flow	
WLPS Rehabilitation and Pumping Modifications Total Budget	Cost (x1000)
Projects:	
Conceptual Design (2022 project)	-\$32
Engineering (Awarded in 2023)	-\$1,725
Funded - 2023 Budget	\$1,757
Reservoir Rehabilitation (2024 & 2025)	-\$16,416
Reserve funds (Allocated in previous years Budgets)	\$7,681
2024 Budget request	\$3,569

Report No.: 2023-09-06
Report Page: Page 7 of 10
Meeting Date: September 28, 2023
File No.:



Debt	\$5,166
Pumping Station Upgrades (2025 & 2026)	-\$6,145
2025 Budget request	\$3,073
2026 Budget request	\$3,073

Highlight #2- WTP- Traveling Screens Replacement Project:

At the recommendation of staff, in March of 2022 the LAWSS Joint Board of Management awarded a major clean out of the LAWSS Low Lift Station to Watech Services Inc. through a competitive bid process. The project goals included:

- Vacuum cleanout of intake pipeline, intake chambers, and low lift pump wet wells,
- Inspection of pre-chlorination system, mechanical screens, and lower sections of vertical turbine pumps, and
- Pipe repair to existing grit pump drain pipe.

It was expected that the cleanout required multiple stages and had a major impact to WTP operation. The OCWA group was selected by LAWSS to provide project management due to their local knowledge and established operational role.

The project was successfully executed, however the inspection completed on the mechanical screens revealed major issues with the existing system. The mechanical screens at the LAWSS Water Treatment Plant have undergone a number of major retrofits since the 1970s. The condition assessment completed in 2022 revealed that both units were at risk of imminent failure and that full replacement was necessary.

Based on this assessment, the LAWSS capital program was adjusted and accommodations were made to include the project in 2024. The proposed 2024 budget is expected to cover all project costs associated with this work (ie. engineering services including project management and commissioning support, demolition of existing, supply and installation of new).

Highlight #3- SCADA 18 - Main Control Room Panel Comp. Upgrades:

LAWSS completed a review of its Supervisory Control and Data Acquisition (SCADA) system in 2021. Out of this project, LAWSS developed a 10-year SCADA Master Plan aimed at overcoming current and imminent hardware obsolescence, improving overall security and maintenance of an acceptable/legislated level of overall system control and reporting capability.

Report No.: 2023-09-06
Report Page: Page 8 of 10
Meeting Date: September 28, 2023
File No.:



LAWSS’ SCADA Master Planning document is used by LAWSS staff annually to assist in budget proposal development and allows for LAWSS staff to propose projects that provide for systematic and efficient progress through the necessary stages of replacement and upgrade. The SCADA project proposed in 2024 follows SCADA Master Plan recommendations and the project is only possible as a result of the previous three years of effort.

Highlight #4 Confederation Line Reconstruction Project- Broadway Street to Ketter Way:

At staff’s recommendation, the LAWSS Joint Board of Management approved a partnership with the Town of Plympton-Wyoming for the replacement of a section of LAWSS 250mm dia. Asbestos Cement watermain located between Broadway Street and Ketter Way as part of the Town’s larger overall reconstruction project.

The Town of Plympton-Wyoming is preparing to reconstruct Confederation Line between Broadway Street and Ketter Way in 2024. The project is a major local investment and will include a new local watermain, sanitary sewer and storm sewer along with roadway and pedestrian facilities.

LAWSS operates a transmission watermain along Confederation Line through this section. This is one of two critical pipelines that connect LAWSS’ East Lambton Booster Station with the Watford Standpipe. Considering the vintage of the LAWSS watermain, this approved partnership will allow LAWSS to save significantly on the future restoration costs that would have been part of a future LAWSS watermain replacement project.

Financial Forecast and Planning:

A number of capital projects are projected beyond the 2024 Capital Budget year. These projects will have an impact on the financial forecast and future budgets for the System. The LAWSS Financial Plan aligns with the 2020 Master Plan and the 2021 Asset Management Plan. A financial forecast for 2023 to 2028 is provided in Table #4.

Summary information for the newly established Level of Service Reserve and the System Enhancement Reserve are detailed in Appendix C and Appendix D respectively.

In 2023, the cost for LAWSS will be distributed among each member municipality based on its proportion of metered usage averaged over 3 consecutive previous years. A summary of how cost is allocated is provided in Table #5.

Report No.: 2023-09-06
Report Page: Page 9 of 10
Meeting Date: September 28, 2023
File No.:



	LAWSS	COS	SCT	TPW	VPE	TW	LS
2020 Flow (m ³)	17,940,602	10,910,387	4,915,389	985,381	336,055	418,765	374,625
2021 Flow (m ³)	18,320,219	10,998,346	5,184,371	1,053,932	308,206	404,364	371,000
2022 Flow (m ³)	19,195,022	11,417,742	5,525,610	1,154,909	281,383	400,165	415,213
2024 % Budget allocation (Average 2020, 2021, 2022 flow)	100%	60.10%	28.18%	5.76%	1.67%	2.21%	2.09%
2023 Approved Budget ('000s)	\$11,519	\$6,919	\$3,259	\$627	\$225	\$260	\$229
2024 Proposed Budget ('000s)	\$12,510	\$7,518	\$3,525	\$721	\$209	\$276	\$262
% change Budget	+8.6%	+8.66%	+8.16%	+14.96%	-7.32%	+6.08%	+14.30%
Difference ('000s)	+\$991	+\$599	+\$266	+\$94	-\$19	+\$16	+\$33

COS= City of Sarnia
VPE= Village of Point Edward

SCT= St. Clair Township
TW= Township of Warwick

TPW= Town of Plympton-Wyoming
LS = Lambton Shores

Debt Financing:

Use of long-term debt in the financing of capital works allows for funds to be available in the year the project is required to proceed with repayment of the debt occurring in future years. This approach supports the principle of user pay such that the beneficiaries of the new assets pay for their use through the debt repayment.

Financing from capital reserve requires that sufficient funds be available in the reserve in the year the project is undertaken, through annual contributions from the operating budget to the reserve in prior years. Therefore, without debt or reserve financing major rate increases or "spikes" would be required in the project year to raise sufficient funds to cover the project expenditures.

At present, LAWSS does not have the legal authority to directly access the debt capital markets. Capital financing from the issuance of long-term debt can only be secured through the municipal members. As such, LAWSS will be required to coordinate through its member municipalities, including the County of Lambton, in arranging the issuance of long-term debt that is necessary for the funding of the projected capital program.

Report No.: 2023-09-06
Report Page: Page 10 of 10
Meeting Date: September 28, 2023
File No.:



Financial Forecast:

Table #X- 10-year flow increase	
2012	17,897,883m ³
$(19,274,597-17,897,883)/17,897,883 = 0.0769/10 = 0.007692$	
2022	19,274,597m ³

Financial forecast is presented in Appendix B, C and D and summarized in Table #5 below. The Capital Plan includes substantial investment into projects identified out of the LAWSS AMP.

Table #5	Budget 2023	Prop. 2024	2025	2026	2027	2028
Annual Demand (m³) 2022 Flow*0.7692%/yr	19,423	19,572	19,723	19,875	20,028	20,182
Water Rate (\$/m³)	0.5931	0.639	0.689	0.704	0.719	0.736
Budget % Incr (2021 Financial Plan)	8.60%	8.60%	8.60%	3.00%	3.00%	3.00%
Starting Balance (x1000)	\$9,798	\$9,044	\$1,359	\$2,443	\$3,292	\$3,883
Total Revenue (x1000)	\$11,740	\$12,727	\$13,809	\$14,212	\$14,620	\$15,074
Total Debt (x1000)	-	\$5,166	-	-	-	-
Total Expenses (x1000)	\$12,494	\$25,577	\$12,726	\$13,362	\$14,030	\$14,732
Ending Balance (x1000)	\$9,044	\$1,359	\$2,443	\$3,292	\$3,883	\$4,225

This report was prepared by;
 Clinton Harper, LAWSS General Manager, and
 Mike Helps, LAWSS Budget Analysis / Assistant System Administrator.

Attachment(s):

- Appendix A: 2024 Draft LAWSS Operating, Maintenance, and Capital Summary Budget
- Appendix B: Forecast Emergency Reserve
- Appendix C: Forecast Level of Service Reserve
- Appendix D: Forecast System Enhancement Reserve
- Appendix E: 2024 Capital Plan- Project Descriptions
- Appendix F: LAWSS Capital and Major Maintenance Plan