

Corporation of the Town of Hawkesbury

Recommendation to Council

N° : 2019_REC_XX

File N°: E08-51

Date of meeting: June 10, 2019

Subject: Water Treatment Plant re : 20-year Strategic Plan

Recommendation

Whereas J.L. Richards & Associates Ltd. completed a 20-year Strategic Plan for the Water Treatment plant in 2018, and;

Whereas said plan was presented to the Council at the regular meeting held on October 15, 2018, by J.L. Richards & Associates Ltd., and;

Whereas the condition assessment as well as the treatment capacity assessment are an integral part of the plan, and;

Whereas both assessments depict the current state of major components of the Water Treatment Plant and present recommendations thus establishing a 20-year Strategic Plan complete with an opinion of probable costs.

Be it resolved that the 20-year Strategic Plan including the support documents be adopted as presented and that said plan be implemented by the administration, as recommended in the document 2019_REC_xx, and;

Also, be it resolved that a long term financial plan be adopted by municipal council to address the financing of the capital project of the strategic plan.

Explanation, history, context

Context:

In September of 2016, the Federal Government through Infrastructure Canada issued a funding program entitled Clean Water and Wastewater Fund (CWWF). The program is designed to accelerate short-term community investments, while supporting the rehabilitation and modernization of drinking water, wastewater and stormwater infrastructure, and the planning and design of future facilities and upgrades to existing systems. CWWF funding is not a competitive process. Eligible recipients may submit a

Project List for a total funding request equal to each recipient's Maximum Allocation Amount as defined in the CWWF Letter of Allocation. The maximum allocation for the Town of Hawkesbury is set at \$1,572,000.00 and the submitted and approved project list by the government include the following projects:

1. Water Treatment Plant re: 20-year Strategic Plan;
2. Watermain installation – Bon Pasteur Street;
3. Watermain replacement – Regent Street;
4. Tessier Street ditching upgrades – Part B.

Study initiation:

In 2016, it already was some years since the administration planned to make substantial improvements to the plant but first of all, it was necessary to know the condition of the components of the plant and the constraints attached. The last major plant upgrade took place in 1996 and some of the major components are still original from 1953. In addition, several changes and additions have been made to the water quality and production requirements by the Ministry of the Environment since the start-up of the plant in 1953.

Following the announcement of CWWF funding, the administration saw the opportunity to complete the study evaluated at \$171,000.00.

Study objectives:

J.L. Richards & Associates Ltd. was retained in July 2017 in order to establish the condition, the capacity and the constraints of the following major elements:

- Raw water pumping station;
- Water Treatment Plant;
- Elevated Storage Tank.

The said study is divided in three broad sections:

- Preliminary Operational and Treatment Capacity Assessment;
- Conditions Assessment;
- 20-year Strategic Plan.

Preliminary Operational and Treatment Capacity Assessment:

This assessment will review the operational historical data in order to evaluate the treatment process performance as well as establish the plant constraints. Each major treatment unit existing condition is compared to the Ministry of Environment Conservation and Parks (MECP) guidelines as well as JLR's own internal metrics to assess the actual treatment capacity of the facilities.

Conditions Assessment:

A multidiscipline site visit will be undertaken by JLR to visually evaluate the condition of major plant components. The condition assessment will include the following tasks:

- Structural, electrical and mechanical inspection of all major plant components;
- Review of available maintenance records and capital improvement projects planned and completed.
- Interview staff;
- Assess condition of equipment and structures based on observations and normally expected life for similar elements;
- Provide a review of quality and performance of existing elements;
- Provide opinions of remaining life of major elements;
- Provide opinions of potential cost to replace, repair, or upgrade the related element based on present cost.

20-year Strategic Plan:

A Strategic Plan will be prepared to document all of the work completed, including a summary of the data, methodologies used, results and proposed actions for implementation. The Plan will consist of a summary of design criteria for all proposed upgrades, opinion of probable costs and a phased construction schedule.

Plan Recommendations:

The 20-year strategic plan submitted by JLR summarizes in a few pages the recommendations and conclusions of the preliminary operational and treatment capacity assessment and the condition assessment of the plant. These are then grouped into nine (9) different packages to facilitate the implementation of each. See table below.

20-Year Strategic Plan – Upgrades

Package No.	Package Upgrades	Proposed Timing		Order of Magnitude Costs
		Start - End	Lead Time	
1	Chemical Storage & Feed System Upgrades	2018 – 2020	0-2 years	\$800,000
2A	Miscellaneous Life-Cycle Work & Replacement (Short Term)	2018 – 2022	0-4 years	\$1,100,000
2B	Miscellaneous Life-Cycle Work & Replacement (Medium/Long Term)	2023 – 2038	5-20 years	\$1,400,000
3	Clarifier Upgrades	2018 - 2021	0-3 years	\$4,400,000
4A	Filtration & Backwash (Process Modifications)	2024 - 2028	6-10 years	\$2,000,000
4B	Filtration & Backwash (Process and Structural)	2018 - 2021	0-3 years	\$800,000
5A	High Lift Pumps & Treated Water Storage (Structural)	2018 - 2021	0-3 years	\$600,000
5B	High Lift Pumps & Treated Water Storage (Process Modifications)	2028 - 2033	10-15 years	\$6,500,000
6	Raw Water Supply Upgrades	2023 - 2028	5-10 years	\$250,000

Note: Class D Estimate (-20% to +30%), 2018 dollars, excluding engineering and contingencies

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Note that substantial investments are to be expected in the coming years. In particular, the horizon of 2018-2023 indicates that projects 1, 2A, 3 4B and 5A are expected and that it represents a budget of approximately \$ 7.7 million. In total, the improvements presented above represent \$ 17,850,000.00 in 2018-dollar value and are distributed between 2018 and 2038.

Options/alternatives

1. Not adopt the 20-year Strategic Plan.

Impact on budget

As presented in the Strategic plan, major investments should be incorporated in the Town's Capital budget for the coming years. The total investments represent a sum of \$ 17,850,000 divided between 2018 to 2038.

Relevant studies

- None.

Supporting document

- Strategic Plan Council Presentation – J.L. Richards & Associates Ltd.;
- Water Treatment Plant – 20-year Strategic Plan;
 - Preliminary Operational and Treatment Capacity Assessment (under separate cover);
 - Conditions Assessment (under separate cover).

Department(s) involved

- Environmental Services;
- Capital Projects;
- Finance Services.

Submitted and recommended by

Guillaume Boudrias, Project Manager, Civil Engineering

May 30, 2019

Comments of the Chief Administrative Officer

A financial long-term plan is required to identify the financing of the capital projects identified in the strategic plan.

Daniel Gatien, CAO

Report Approval Details

Document Title:	2019_REC_47_WTP Plan strategique 20 ans_ang.docx
Attachments:	- Plan strategique 20 ans - 20 year Strategic Plan_anglais seulement.pdf - JLR - Strategic Plan Presentation Plan Strategique_anglais seulement.pdf
Final Approval Date:	May 31, 2019

This report and all of its attachments were approved and signed as outlined below:



Daniel Gatién - May 31, 2019 - 1:30 PM