
REPORT TITLE: Lakeview Village Community – Ultimate Odour Control Strategy at G.E. Booth Wastewater Treatment Plant, City of Mississauga, Ward 1

**FROM: Andrew Farr, Interim Commissioner of Public Works
Stephen Van Ofwegen, Commissioner of Finance and Chief Financial Officer**

RECOMMENDATION

That the existing contract (Document 2019-094T) for the design of New Plant 1 with CIMA Consulting, be increased by \$3,650,978.72 to a new total of \$20,450,092.72 (excluding applicable taxes), in accordance with Procurement By-law 30-2018, as amended;

And further, that the existing contract (Document 2019-094T) for the construction of the new inlet conduit, with Romag Contracting Ltd. be increased by \$850,000 to a new total of \$26,967,000 (excluding applicable taxes), in accordance with Procurement By-law 30-2018, as amended;

And further, that the G.E. Booth Wastewater Treatment Plant Odour Control Project, included in the 2020-2029 Capital Forecast as Capital Project 20-2961 for \$5,000,000, financed from DC Capital stabilization Reserve R3515 be advanced from 2024 to 2020 and approved in order to proceed with design and construction works to support future implementation of odour control works.

REPORT HIGHLIGHTS

- Staff have assessed the proximity of the proposed Lakeview Village community, located at 1082 Lakeshore Road East, to the G.E. Booth Wastewater Treatment Facility with respect to odour emissions.
 - A study was completed that includes interim and long-term recommendations for odour control improvements at the G.E. Booth Wastewater Treatment Facility.
 - Jacobs Consulting and Watson and Associates Economists Ltd. were retained to examine key fundamental questions as it relates to odour control works and funding source.
 - The total costs to implement odour control works for the G.E. Booth Wastewater Treatment Plant are approximately \$190 million and will be included in the Region's development charges background study. Approximately \$180.5 million will be funded through development charges and \$9.5 million will be funded through wastewater rates.
 - To accommodate future odour control works, modifications to existing design and construction works are recommended to reduce cost impact in future years
 - As such staff are requesting advancing of \$5 million currently forecasted in the Capital Budget in 2024, to 2020, including changes to existing contracts with CIMA Consulting and Romag Contracting Ltd. to complete the design and construction work.
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Lakeview Village Community – Ultimate Odour Control Strategy at G.E. Booth Wastewater Treatment Plant, City of Mississauga, Ward 1

DISCUSSION

1. Background

The proposed Lakeview Village community located at 1082 Lakeshore Road East is proceeding through a series of development application processes with input from City of Mississauga and Region of Peel staff. In the report titled, “Lakeview Village Community Overview of Components of the Proposed Development with Regional Interest” received for information at the December 19, 2019 Regional Council meeting, an overview of the development, status of the review and highlights on the key matters being considered by the Region was provided.

Staff committed to updating Regional Council on these key matters. In a report titled “Lakeview Village Community – Update on Interim Odour Control Improvements at G. E. Booth Wastewater Treatment Plant” received at the April 23, 2020 Regional Council meeting, staff provided information on interim works proposed as part of the overall solution for the G.E. Booth Wastewater Treatment Plant (G.E. Booth WWTP), that once initiated, could be in operation within 18 months. This report will provide additional information regarding future phases of odour control improvements for all facilities within the plant and the financial implications of that work.

The Lakeview Village community is the first significant residential development neighbouring the G.E. Booth WWTP. The Ministry of the Environment, Conservation and Parks (the Ministry) provides a series of guidelines regarding land use compatibility with respect to the interaction of sensitive land uses and industrial uses, known as the D-series guidelines.

These guidelines identify appropriate separations between sensitive land uses and industrial uses such as wastewater treatment facilities. The separation requirements that apply to G.E. Booth WWTP would typically require a minimum setback of 150m. The guidelines require a combination of distance separation and mitigation measures to address impacts associated with emissions such as noise, odour, dust and vibration where the enjoyment of lands for uses described as sensitive could be negatively impacted by industrial operations. These minimum setbacks may be reduced where it is demonstrated that impacts can be managed through functional mitigation measures

In addition to the Ministry guidelines regarding interaction of sensitive land uses and industrial uses, the Ministry also regulates the approvals required for any construction undertaken at a facility, known as the Environmental Compliance Approvals (ECA). The extent of approval requirements is influenced by the facility and surrounding land uses.

Over the years, the Region has invested in various odour controls and community engagement at G.E. Booth WWTP to meet these approval requirements and to ensure strong communication with the surrounding community. Region staff have undertaken a series of technical studies to identify the implications of odours from the facility on the proposed development and existing community and identified recommended improvements to reduce odour emissions from the facility. The developer is supportive of the recommended odour control improvements as they would provide the most effective odour control for the future community.

Lakeview Village Community – Ultimate Odour Control Strategy at G.E. Booth Wastewater Treatment Plant, City of Mississauga, Ward 1

2. Findings

To evaluate the impacts of odour on the existing community and the proposed development, a study was undertaken to:

- Assess the current odour impacts from the existing processes and operation of the G.E. Booth WWTP;
- Assess existing community odour impacts based on overall distances from the plant;
- Assess future odour impacts on the proposed Lakeview Village development;
- Develop an overall odour mitigation strategy for existing and future plant configuration to address the identified odour challenges;
- Develop comprehensive odour sampling requirements within plant processes for existing and future plant operations; and
- Develop a strategy to meet or exceed Ministry guidelines for wastewater plant odour in proximity to the future residential development.

The study found that the impacts of current odour sources would be significant and that improvements are required to accommodate the planned proximity of the Lakeview Village development.

The study also modelled various improvement scenarios to mitigate the odour levels to an acceptable level. The study recommended the following major elements:

- Cover and treat the odorous air from the primary clarifier tanks;
- Covers and a building system are recommended to address odour collection and treatment during routine operation and during major maintenance activities;
- Construct point source specific odour control mitigating measures on certain processes;
- Incorporate an overall mitigation strategy into long-term plant operations for G.E. Booth WWTP; and
- All future planned capital projects shall provide the same level of mitigating measures to address the Ministry of the Environment, Conservation and Parks odour mitigation guidelines.

The recommendations of the study consider the separation between the G.E. Booth WWTP and the proposed community and are aligned with Ministry guidelines.

3. Proposed Direction

Staff have reviewed these recommendations and considered the impacts on both ongoing capital works on site and future capital plans. Staff developed a plan to incorporate the recommendations in a cost-effective manner.

The G.E. Booth WWTP is actively undergoing extensive changes focused on replacing portions of the facility dating from the 1960's. In reviewing the existing work and future plans at the facility, the following strategy for the implementation of odour controls was developed:

Lakeview Village Community – Ultimate Odour Control Strategy at G.E. Booth Wastewater Treatment Plant, City of Mississauga, Ward 1

- Where there is benefit to the Region’s ongoing work at the plant (risk reduction, cost savings, schedule), amend ongoing design and construction assignments to incorporate future odour control recommendations. This includes active construction projects on site and works currently in the design phase.
- All other recommendations for odour mitigation not merged with existing works will be included in the 10-year capital plan as a separate project.

Implementation of this strategy developed by staff will:

- Allow for cost reduction as a significant portion of the odour mitigation works will be incorporated into the existing designs allowing for economies of scale benefits. By doing this merge, the overall cost of design, construction and administration fees are reduced resulting in cost avoidance to Peel.
- Allow for the completion and service dates for the odour treatment systems to align with the Lakeview Village development phasing plan. The proposed odour works merged with existing programs allows for approximately half of the odour mitigation program to be completed by 2026. If this merge does not take place, then the in-service dates for that portion would be 2030 and this would significantly impact the development schedule.
- Reduce long term odour impacts to the proposed development and some additional benefits to the existing community.

Refer to Appendix I for a visual representation of the proposed implementation plan.

4. Estimated Infrastructure Costs and Funding Approach

The estimated infrastructure cost to implement the odour control strategy is \$190 million. Refer to appendix II for a breakdown of the estimated costs.

Staff retained engineering (Jacobs) and finance (Watson and Associates Economists Ltd., - subcontracted by Jacobs) consultants to review key questions related to odour control works and funding approaches for this infrastructure investment.

Watson’s scope of engagement included the reviewing following:

- Whether the odour control works should be entirely, or in part, funded as a direct developer responsibility through the Region’s Local Service Policy;
- Whether these capital costs be collected from area-specific development charges;
- Whether these capital costs be collected from region-wide development charges, and if so, what share of the costs are growth-related; and
- Environmental scan of how similar work is funded in our municipalities.

Based on the observations and analyses of the above items, the consultants recommend that the appropriate mechanism to fund the project is through the region-wide development charge by-law rather than an area-specific development charge. An area-specific development charge by-law is a legal instrument which could be employed to ensure growth within a specified geographic area of the Region bears the costs of development reasonably attributable to development within that area rather than imposing those costs on development on a Region-wide basis. The use of an area-specific development charge in

Lakeview Village Community – Ultimate Odour Control Strategy at G.E. Booth Wastewater Treatment Plant, City of Mississauga, Ward 1

this instance would be inconsistent with the Region's practice of including all treatment costs (including odour control measures) in the region-wide development charge.

The study also recommends that a five-percent benefit-to-existing deduction be applied, representing the extent to which the increased services would benefit the existing community. Therefore, 95 percent of the project cost is proposed to be funded from the development charges, while the remaining five percent would need to be funded from a non-development charge funding source, namely wastewater rates.

The Region is currently in the process of the 2020 Development Charges By-law Review. The funding approach recommended by the consultants follows a reasonable methodology and a principle of "growth pays for growth". Accordingly, the design and the implementation of the odour control work are proposed to be included in the draft 2020 Development Charge Background Study which will be brought forward to Council for deliberation later this year. The *Development Charges Act, 1997* sets out a statutory consultation process that must be followed. Staff will report back to Council after the completion of the 2020 Development Charge By-law review to provide further feedback as needed.

Given the complexity and extended timelines of the project, the estimated cost will likely change over time. If staff identifies significant variance in the capital costs or the funding source(s), a report may be brought forward to Council for further review.

5. Phasing of the Capital Investment and Back-Ended Cash Flow

The preliminary engineering analysis and infrastructure cost modelling recommends a phased procurement and capital investment plan. The total budget commitment of approximately \$190 million is expected to span over a ten-year horizon, of which the largest budget commitment is anticipated in 2024.

The preliminary cash flow forecast suggests that the capital spending is back ended starting in 2025-2026. As such, staff does not anticipate the investment in this project would add significant pressure on the Region's financial flexibility in the near future. In addressing the financial challenges brought on by the COVID-19 pandemic, the Region is looking to implement various proactive treasury management measures, this coupled with economic recovery by 2024 would help ensure the future cash spending required for this project is manageable in the long run. The advancement of the odour control strategy has been considered in the Region's overall capital deferral strategy in response to the COVID-19 pandemic.

FINANCIAL IMPLICATIONS

Staff have been investing in current design and construction contracts to accommodate the future infrastructure as failure to implement some aspects of the work at this time will require extensive construction cost and modification at a future date.

Funding for odour control works in the amount of \$5 million previously forecasted for 2024 under Capital Project 20-2961 is recommended to be advanced to 2020 to proceed with modification to existing design and construction works.

Lakeview Village Community – Ultimate Odour Control Strategy at G.E. Booth Wastewater Treatment Plant, City of Mississauga, Ward 1

Staff are seeking Council approval for amendments to the following existing contracts:

- Increase the consulting engineering contract with CIMA Consulting (Document 2019-094T) by \$3,650,978.72 to a new total of \$20,450,092.72
- Increase the construction contract with Romag Contracting Ltd. (Document 2019-064T) by \$850,000 to a new total of \$26,967,000

The new odour control works, when operational, will result in additional operational costs and maintenance which is carried out under contract by the Ontario Clean Water Agency. These additional costs will be included in future operational budgets and are expected to begin in 2027 after the majority of the new odour mitigation facilities are in service.

RISK CONSIDERATIONS

A delay in implementation of odour control works could impact the timing of planning approvals for the development. The implementation of mitigation measures from odour from neighbouring uses are required as part of the consideration of applications under review. The odour control measures proposed in this report could address this requirement and appropriately reduce odour emissions from the G.E. Booth Wastewater Treatment Plant.

Should this work not proceed at this time the phasing of the development could be delayed or parts of the development may not proceed until this work is completed and in service.

In order to incorporate the design and planning for some aspects of the work, staff recommend amending existing engineering and construction contracts for vendors currently engaged in design and construction works at the facility. Undertaking preliminary design and construction to support the odour control strategy under current design and construction assignments will reduce future engineering and construction costs.

Additionally, the Ministry of the Environment, Conservation and Parks has recently modified the Environmental Compliance Approval requirements for G.E. Booth Wastewater Treatment Plant. The amended Environmental Compliance Approval obligate the Region to consider and implement mitigation measures for odour emissions amongst other changes.

APPENDICES

Appendix I – Visual representation of proposed work at G.E. Booth Wastewater Treatment Plant

Appendix II – Estimated Infrastructure Costs

For further information regarding this report, please contact:

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**Lakeview Village Community – Ultimate Odour Control Strategy at G.E. Booth
Wastewater Treatment Plant, City of Mississauga, Ward 1**

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Reviewed and/or approved in workflow by:

Department Commissioners, Division Directors, Financial Support Units and Legal Services.

Final approval is by the Chief Administrative Officer.



N. Polsinelli, Interim Chief Administrative Officer