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**Subject:** Initiation of Capital Project Funds for Recycling Centre Facility Improvements

**Report to:** Public Works Committee

**Report date:** Tuesday, August 6, 2019

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## Recommendations

1. That financing in the amount of \$500,000 gross and net **BE INITIATED** from the approved capital budget for the 2019 Recycling Facility Improvements project and that the project **BE FUNDED** as follows:
  - Reserve – Waste Management Capital: \$500,000

## Key Facts

- The purpose of this report is to seek Council approval for the initiation and funding of the 2019 Recycling Facility Improvements project.
- The current Council approved uninitiated capital budget for the 2019 Recycling Facility Improvement project is \$500,000. The project is an annual program for the replacement or upgrade of equipment at the Material Recycling Facility (MRF) to ensure the facility continues to operate efficiently and to improve the marketability of the recyclable products; it typically includes specific equipment requests. The request for 2019 was for a bag breaker to enhance operational efficiencies and improve the marketability of the end products.
- The project funds will be reprioritized to build, supply and install a drum feeder to improve the overall throughput of material through the MRF, which is a critical step before proceeding with any other investments to improve the quality of the processed material going to end market, as outlined in this report.
- The project was not initiated with the approval of the capital budget, as it was determined that the investment may not proceed subject to the outcome of the MRF Opportunity Review – Phase 4 and the resulting recommendation for the preferred ownership structure for the Recycling Centre considering the potential transition of the Blue Box program to full extended producer responsibility.

## Financial Considerations

This report seeks approval and initiation of capital project funding for the 2019 Recycling Facility Improvements in the amount of \$500,000 per capital project 20000893 for the estimated cost to design, build and install a drum feeder at the MRF.

Adequate funding for the project has been approved in the 2019 budget per CSD 1-2019 from the Reserve – Waste Management Capital.

The impact of not proceeding with the facility improvements would be a greater budget shortfall in MRF operations for the remainder of the 2019 operating budget year. There is also the potential that if the improvements are not made, the Region will be unable to remain competitive with other MRFs in Ontario that are making substantial investments to meet the demands of the market, and as a result, may not be able to sustain domestic and export markets and higher commodity pricing.

## **Analysis**

### Background

Due to domestic market surpluses in North America, coupled with the lack of demand for post-consumer product, larger volumes of hardpack (boxboard and cardboard) are now being sold to export markets at historically low values. End markets are becoming stricter on contamination standards for baled material. In the month of June, hardpack was being sold at a net loss to the Niagara Region. Market pricing continues to be at levels that have not been seen since 2009 for cardboard and hardpack, and since 1997 for newsprint. As reported in WMPSC-C 15-2019, there is currently a net loss in budgeted revenue from January to April 2019 for fibre and container streams of approximately \$770,000.

Staff, in collaboration with Niagara Recycling, have explored capital investments ranging from \$200,000 to \$2.3 million, with an estimated return on investment of 11 to 17 months. These one-time investments will improve the quality of outgoing recyclables, and consequently, will garner a higher price per tonne in revenue. In order to optimize the output of the aforementioned investments, project funds being recommended for initiation will be utilized to design, build and install a drum feeder at the front end of the MRF operations.

### Facility Improvements – Drum Feeder

A drum feeder on the fibre line will improve the metering of the fibre stream materials onto the processing line to allow for a more consistent flow of materials. This will reduce the amount of operational downtime that is a direct result of material jamming due to material fluctuations on the fibre line. The drum feeder can eliminate “black belts” (where no material is on the processing line) as the loader can load more material into the drum feeder than it can by pushing material directly onto a conveyor.

Drum feeders have been successful in increasing throughput of material at MRFs by as much as fifteen to twenty per cent. An increased throughput will reduce the amount of overtime hours worked per year to process material and will improve the quality of

material being marketed to ensure the Region continues to have a sustainable market for the fibre stream in the future. The MRF's current throughput is approximately thirty metric tonnes per hour. Even a ten per cent increase in throughput has the potential cost avoidance of approximately \$180,000 per year in overtime costs. Payback, not including additional revenues due to improved quality, is approximately 2.2 years. Further analysis is currently being undertaken to determine the increase in revenues as a result of said initiative. It is estimated that the cost to procure and install the drum feeder will range from approximately \$382,000 to \$410,000, including 1.76% non-recoverable HST.

Following the installation of a drum feeder on the fibre line, the Region will evaluate whether the installation of a wind tunnel system as well as other investments (such as a bag breaker) on the fibre line can further increase the quality of our fibre stream. There is potential to secure a premium value for newsprint provided that a contamination standard of less than one per cent prohibitives (cans, plastic etc.) and five per cent out throws (hardpack, cardboard) can be achieved.

The 2020 Waste Management Capital Budget request will include, for consideration of Council, appropriate funds for further investments that will result in creating premium quality materials for end market.

## **Alternatives Reviewed**

Alternatives reviewed as part of this report were to install wind tunnels on the existing fibre optical sorter or to do nothing. Upon review of the potential implementation of wind tunnels on the existing fibre optical sorter, it was determined that the current flow of material and varying burden depth would not be optimal for the utilization of the wind tunnel system.

In order to improve consistency of feedstock through the fibre line, a drum feeder must be installed prior to proceeding with the wind tunnel system installation. The drum feeder will reduce overall downtime and improve the overall throughput of all fibre materials, which is a critical first step in the installation of the wind tunnel system.

If the Region were to do nothing, there is the potential that the Region will have to pay to recycle fibre material, or worse, due to the tightening specifications in both the domestic and export end markets for fibre material, the Region may have no where to ship their processed material for recycling. For those reasons, the aforementioned alternative reviewed is not being recommended.

## **Relationship to Council Strategic Priorities**

This recommendation aligns with Council's strategic priority of Responsible Growth and Infrastructure Planning, specifically around Environmental Sustainability and

Stewardship. By investing in the MRF, the Region will reduce downtime, increase throughput of recycling material, and allow the Region to improve quality of recyclable material, making it more desirable for the end markets in order to sustain domestic and export markets.

### **Other Pertinent Reports**

- WMPSC-C 15-2019
- WMPSC-C 23-2019
- CSD 1-2019

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