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**Subject:** Processing of Source Separated Organics

**Report to:** Public Works Committee

**Report date:** Tuesday, April 13, 2021

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## **Recommendations**

1. That Staff **BE AUTHORIZED** to enter into negotiations with Walker Environmental Group Inc. for the expansion of the current Source Separated Organics Processing facility.
2. That Staff **REPORT** back to Regional Council, following negotiations with Walker Environmental Group Inc., with recommendations.

## **Key Facts**

- Currently, Niagara Region has total available annual capacity to process up to 39,700 tonnes of Source Separated Organics (SSO) which is comprised of 34,000 tonnes of SSO and 5,700 tonnes of bulking material (yard waste materials) through its contract with Walker's Environmental Group Inc. (WEG) (formerly known as "Integrated Municipal Services Inc.") until March 31, 2029.
- SSO is yard and food waste collected together in the Green Bin program.
- From 2017 – 2019, Niagara Region generated on average, approximately 29,050 tonnes of SSO annually. In 2020, a total of 34,650 tonnes of SSO were generated which includes the impacts of both the COVID19 pandemic and the transition to Every Other Week (EOW) garbage collection.
- Based on projections, it is expected that in 2021 a total of 42,000 tonnes of SSO will be generated. Additionally, as the EOW waste collection program matures, it is anticipated that approximately 44,000 tonnes of SSO will be produced by Niagara residents within the next ten (10) years.
- WEG has indicated that they have the ability to process Niagara's 2021 total SSO tonnage, however, additional processing capacity will be required beyond 2021.
- Confidential Memorandum PWC-C 18-2021 accompanies this report, which supports the recommendations contained within this report.

## **Financial Considerations**

The 2021 budget for processing SSO material is \$3.275 million. The budget assumed a similar per tonne rate for any amounts to be processed in excess of the 34,000 SSO tonnage maximum (excluding leaf and yard bulking material) when developed. Since

the 2021 budget was developed in Q3 2020, SSO total tonnage projections have been revised to 42,000 due to ongoing COVID impacts and EOW waste collection transition. WEG has indicated that they can process Niagara's 2021 SSO tonnage.

To prepare and address future composting processing needs, staff researched other municipalities' programs. Over the last few years, a number of municipalities have secured processing capacity for SSO and processing rates have varied between \$100/tonne to \$150/tonne, not including haulage. Additionally, haulage costs have ranged from \$20/tonne to \$25/tonne. Staff are aware of one recent procurement where the cost bid was \$100/tonne including processing and haulage; however, the scope of work included processing tonnage in the range of 30,000 tonnes annually.

Based on the rates noted above, it is estimated that the total processing and haulage cost for Niagara to process an additional 8,000 SSO tonnes would be \$960,000 to \$1,360,000 annually. The 2021 budget included \$222,000 for tonnages in excess of the current contractual limits. Therefore, the approximate gross annual impact on future budgets of this approach is between \$738,000 - \$1,138,000 (or 1.82% - 2.8% of the Waste Management 2021 requisition) excluding cost avoidance impacts as noted below.

Niagara Region realized approximately \$1M annually in cost avoidance on the collection contracts when every-other-week garbage collection was introduced in October 2020. In addition to realizing this cost avoidance, diverting approximately 12,000 tonnes per year of additional SSO will extend Niagara Region's landfill life. The annual value of not sending organics to landfill is in the range of \$981,000 per year which is based on the tipping fee at Region landfills and not paying for landfilling at the WEG landfill. Additional benefits include reduced monitoring requirements, decrease in the amount and strength of leachate being generated, and potential reduction in the contaminating lifespan of a landfill.

## **Analysis**

Niagara Region introduced a SSO collection program in 2003 / 2004. SSO is organic material that is comprised of food waste and leaf and yard material which is collected through the Region's Green Bin program. Since 2009, WEG has processed the Region's SSO at their Townline Road composting facility in Thorold. The current contract between WEG and Niagara Region expires on March 31, 2029. Under the terms of the contract, the Region is obligated to provide WEG a minimum of 29,700 tonnes of SSO while WEG is required to process up to 39,700 tonnes of SSO of which 5,700 must be bulking material. As a result, the WEG composting facility is capable of

processing 34,000 tonnes of SSO, annually. From 2017 – 2019, Niagara Region generated on average 29,050 tonnes of SSO annually. In 2020, a total of 34,650 tonnes of SSO was generated by Niagara residents. The two main drivers for the tonnage increase in 2020 were the COVID 19 pandemic with more people staying at home, and transitioning to EOW waste collection in mid-October. It is estimated that the pandemic, which began in March, added 2,800 tonnes while EOW waste collection contributed 2,100 tonnes in 2020.

Forecasting into 2021, it is now anticipated that Niagara will generate 42,000 tonnes of SSO. There are two primary factors driving this forecasted increase in SSO tonnage. It is assumed that the COVID-19 pandemic will impact SSO tonnages throughout 2021 resulting in an additional 3,400 tonnes of SSO. The first three months (November 2020 through January 2021) of the EOW program indicates that residents are actively participating in the program. It is estimated that in 2021 EOW will result in an additional 8,500 tonnes of SSO or a 29% increase over the baseline 29,050 tonnes.

Regional staff also reviewed the amount of SSO that Niagara may generate in order to project processing needs beyond 2021. The analysis examined the amount of SSO that was generated per person in seven comparator Ontario municipalities which have established EOW collection programs. On average, the municipalities generated 57Kg of SSO per person (range of 42Kg – 84Kg / person) in 2019.

Based on an August 2020 growth report to the Ontario Ministry of Municipal Affairs and Housing, it is being projected that Niagara's population in 2031 will be 549,000 or the equivalent of an annual increase of 1.2%. Using the 57Kg / person rate it is estimated that in ten (10) years Niagara will be generating 44,000 tonnes of SSO.

Niagara Region has the option of procuring additional capacity at an alternate facility. This option would need to consider both processing and haulage costs since these facilities are generally located outside of Niagara region. If Niagara was to send its SSO outside of Niagara, some type of transfer facility would be required. Further analysis will be undertaken by Staff to formalize a cost estimates for this option, if required. Third party processor contracts are normally "put or pay" agreements meaning that the Region would be committed to delivering or paying for a minimum amount of SSO material. Niagara Region's current processing contract has a "put and pay" provision.

Staff have completed both an industry and municipal scan in order to determine the potential costs of sending SSO to an alternate processing facility in Ontario. A number of municipalities have sought SSO processing capacity over the past twelve (12) to twenty-four (24) months and the range in processing rates has been between \$80/tonne

to \$151/tonne plus haulage. A market scan of processing facilities indicated that prices ranged between \$110/tonne to \$130/tonne. A key factor in pricing is both the length of the contract and tonnage (note: these rates differ slightly compared to those found in the Financial Considerations section which used the wider spread in costs that municipalities experienced). Since Niagara Region only requires a modest amount of processing capacity it is likely that the Region would pay at the higher end of the range. The current industry average haulage cost is approximately \$20/tonne. Niagara Region would also need to factor in the construction of a transfer facility, should SSO be shipped outside of Niagara. The total price to process SSO may vary depending upon different factors including the level of contamination and amount of food waste compared to leaf and yard in the SSO material while distance is the primary driver for haulage costs.

There are two potential challenges if Niagara Region decides to go out to market. 1) securing capacity at a reasonable price for low tonnage (8,000), and 2) processing operations within a reasonable driving range to Niagara that only accept food waste and cannot process SSO and yard waste collected together.

Prior to awarding the new collection contracts, staff analyzed different SSO and yard waste collection scenarios to determine which scenario was the most cost effective when reviewing the total system costs. Based on a review of collection costs as well as processing costs under each of the scenarios, status quo (commingled SSO in the Green Bin and eight (8) separate yard waste collections during peak times) was still the most cost-effective scenario.

Based on the information noted above and the information contained in memorandum Confidential PWC-C 19-2021, staff are recommending that Niagara Region enter into negotiations with Walker Environmental Group Inc. to expand their current processing facility. Staff consider that the requested negotiations align with section 19(a) (vi) of Niagara Region's Procurement By-law No. 02-2016, as amended, which provides that: "Negotiation may be used for the Purchase of Goods and/or Services when any of the following criteria apply: the extension of an existing Contract would be more effective."

### **Alternatives Reviewed**

1. Niagara Region build their own SSO processing facility. This would require time to receive approval from the Ministry of Environment, Conservation and Parks (roughly a year, plus for approvals) and, depending upon type of facility, would require capital funds for the 8,000 tonnes. Another 18-24 months would be required to competitively design and construct a facility. Under this scenario, an operator would be required to

process the material into compost. Given the costs implications and timing of this alternative, staff are not recommending this option be further explored.

2. It should be noted that staff are in discussions with Miller Waste, who own and operate the biogas facility in Grimsby, to determine if this facility can process some of Niagara's food waste during the winter months (when yard waste is not prevalent). This secondary processing outlet would help provide additional local processing capacity. Staff will include further information in a subsequent report to Committee.

### **Relationship to Council Strategic Priorities**

This report supports Council's Strategic Priority of Responsible Growth and Infrastructure Planning.

### **Other Pertinent Reports**

- PW-C 2-2021
- PW 21-2020
- PWA 40-2011

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#### **Prepared by:**

Emil Prpic  
Associate Director, Waste Disposal  
Operations & Engineering  
Waste Management Services

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#### **Recommended by:**

Bruce Zvaniga, P.Eng.  
Commissioner of Public Works (Interim)  
Public Works Department

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#### **Submitted by:**

Ron Tripp, P.Eng.  
Acting Chief Administrative Officer

*This report was prepared in consultation with Dan Ane, Manager, Program Financial Support, Corporate Services, and reviewed by Donna Gibbs, Director Legal and Courts Services and Catherine Habermehl, Director, Waste Management Services*