



To: COMMITTEE OF THE WHOLE

Section: Corporate Services – Solid Waste Management

Item Number: CCW 14-253

Meeting Date: August 12, 2014

Subject: Transfer Facility Assessment

Recommendation:

THAT staff be directed to commence the necessary work to develop a transfer facility as outlined within Item CCW 14-253;

AND THAT the Warden and County Clerk be authorized to execute the agreement for consulting work related to siting of the transfer facility.

Executive Summary:

A transfer facility is an integral part of a waste management system – the link between a community's collection system and moving material to final waste disposal/processing locations. The Solid Waste Management Strategy recommended development of transfer facility(s) to manage garbage, organics, and recycling in the long-term. In the interim, short-term transfer contracts were put in place, providing costing for comparison with development and operation of a County-owned transfer facility.

To make a financial comparison between continuing the current system of contracting transfer services and construction of a County transfer facility, a discounted cash flow analysis was completed for a 20-year period. This analysis considered changes in tonnages with the closure of County landfills and growth, capital costs of both the building and equipment, and estimated annual operating expenses. To summarize, the payback period of a County facility is estimated to be between five and six years (dependent on funding) and would bring additional benefits such as security in managing materials in-house and the flexibility to respond to collection changes.

This report recommends development of a County owned and operated transfer facility based on the financial analysis. This report further recommends extending the scope of work assigned to Conestoga-Rovers & Associates to provide engineering services for siting the facility in order to take advantage of project synergies and associated cost savings.

Background/Analysis/Options:

Item CO 12-023 – Results of Initial Analysis of Request for Proposal Responses for Recycling Transfer Options for Budget Consideration (November 27, 2012) reported results of an initial analysis of contracted transfer costs versus the cost for a County owned and operated transfer facility and deferred the capital project until a detailed analysis could be conducted and reported to Council. This item fulfills that responsibility.

As reported previously, initial analysis indicated that development of a facility would be beneficial; with the benefit dependent upon the type of infrastructure i.e. a facility for strictly transfer or one which would also process paper fibres. Since that time, further cost breakdowns and tonnages with respect to the transfer of garbage and recyclables have become available, thus allowing these costs to be accurately compared in consideration of development of a County owned and operated facility.

Purpose of a Transfer Facility

A transfer facility is an integral part of a waste management system – the link between a community's collection operations and moving material to final waste disposal/processing locations. The purpose is to provide a location for consolidation of waste from multiple collection vehicles into larger, higher-volume transfer vehicles for more economical shipment to disposal/processing sites. There is no long-term storage of materials at these facilities.

Current System for Transfer

Approximately 63% of curbside garbage, or 24,500 tonnes per year, is transferred from the BFI facility in Barrie and hauled to an energy-from-waste facility in Brampton for processing. In addition, approximately 11,000 tonnes per year of curbside source-separated organics are transferred and hauled to AIM Environmental in Hamilton. Over 26,500 tonnes of curbside and facilities-collected recycling are also brought to BFI for transfer to Canada Fibers in Toronto where both containers and fibres are processed.

The 2014 budgeted amount for transfer of garbage and recycling (exclusive of haulage) is approximately \$849,000.

Methods and Assumptions

To make a financial comparison between continuing the current system of contracting transfer services (status quo) and construction of a County transfer facility, a discounted cash flow analysis was completed for the life of the capital project, a conservative 20-year period (as the building would have a substantially longer life). Contracted transfer costs, initial capital investments (building and equipment), and operating costs were calculated on a yearly basis beginning in 2017, when the County's transfer station could be brought on-line. Note that this analysis only addressed the transfer cost of County wastes and that costs associated with haulage, processing, and/or disposal are extraneous to these considerations.

It is further noted that Solid Waste Management has a future project to locate and construct a truck servicing facility. There would be an obvious benefit to co-locate this facility with a transfer facility. However, the costs of the servicing facility have not been included in this analysis as these costs will be required whether the transfer facility is constructed or not.

The following summarizes the assumptions underlying the analysis.

- Contracted Costs for Transfer

Imperative to the analysis are the anticipated closure dates for the County's landfills. With the direction to cease development of the North Simcoe Landfill (Site 41) and the general direction for no new landfills, transfer of increased tonnages of garbage to a landfill or processor outside of the County will become necessary.

As noted in Item CCW 14-139 – Landfill Capacity Update (March 14, 2014), there are 9 years of capacity remaining at Site 2, which currently accepts all facilities garbage (approximately 18,000 tonnes per year) and 19 years of capacity at Sites 10, 11, and 13 (currently accepting approximately 13,000 tonnes per year). The transfer analysis considered export of all facilities garbage in 2022 and the remaining 37% of curbside garbage in 2028 (allowing for 1 year of contingency capacity to remain at one County landfill site, for all facilities and curbside garbage).

Contracted costs also considered an annual increase in tonnages of garbage, organics, and recycling based on growth and predictions on changing composition of the recycling stream (decrease in daily newspapers and the potential addition of materials to the containers stream, for example). In addition, contracted costs for transfer considered conservative annual increases reflective of historical Consumer Price Index (CPI) data.

- Capital Costs - Building

A County transfer facility would provide a single, enclosed building which would allow the indoor discharge of curbside collected garbage, organics and recyclables, as well as garbage, organics, and recyclables collected as part of the drop-off programs at County waste management facilities. Large segregated bunkers would house the material until loaded into transfer trailers which would haul the material to processors.

Capital costs related to the building considered sizing such that it could manage the quantities of material necessary in 20 years (adjustment for growth) and allow for the additional tonnages which would be required when the remaining County landfills have reached their capacity. Usage of the facility would be expected to increase incrementally as each of the landfills reach capacity. It is further noted that sizing the facility for future growth would allow for merchant capacity in the interim, which would be made available to the Cities of Barrie and Orillia. Continuous Improvement Fund (CIF) financial assistance (outlined below) is contingent on the County operating a facility which would allow the management of additional tonnage from neighbouring municipalities on a cost recovery basis. Provision of merchant capacity would also result in reduced operating costs per tonne for the County due to the greater economies of scale.

Major maintenance and capital replacements over the life of the project were scheduled based on best estimates, experience, and the operating history of similar County equipment.

- Continuous Improvement Fund (CIF) Funding

The CIF board has approved funding related to the recycling transfer portion of a County facility. However, in the interest of being conservative, staff further broke down the financial analysis based on receipt of funding and on no funding. Staff notes that CIF would require that the facility be built such that a full recyclables material recovery facility (MRF) could be developed in future, if necessary.

Financial Analysis

Table 1 below outlines the costs associated with two options – the continuation of contracting transfer services (status quo) and the construction of a County facility to transfer garbage, organics, and recycling. Capital costs associated with the transfer facility have been further broken down to consider potential CIF funding.

**Table 1: Cost Comparison of Transfer Options
Contracting Transfer Services Verses County Facility (20-year operating period)**

Discounted Costs – 20-year Period	Contract Transfer Services (status quo)	County Facility	
		with funding	without funding
Estimated capital investment – building and equipment (including replacement)	-	\$4,257,384	\$5,366,403
Estimated operating costs	-	\$8,754,674	\$8,754,674
Estimated total contracted costs	\$27,367,891	-	-
Total discounted costs over a 20-year period	\$27,367,891	\$13,012,058	\$14,121,077
Net Present Value of savings over a 20 year period		\$13,246,814	\$14,355,833

The initial capital costs (building and equipment) to develop a County transfer facility are estimated at \$4,730,000 (excluding replacement costs – note the table above includes replacement costs). Potential CIF funding is estimated at \$1,150,000, reducing the cost of the facility to approximately \$3,580,000. If directed by Council to proceed with this option, staff will work with the procurement department to further refine these numbers.

As outlined above, the payback of an in-house transfer facility would ultimately be determined by the availability of outside funding and further refining capital costs. However, based on the discounted cash flow analysis using best estimates, a County transfer facility would have a payback period of approximately 5.5 years with funding and 6.5 years without. The rapid payback period is indicative of the high profit margins for contracted waste transfer services.

In consideration of the financial analysis, Staff recommends that Council consider development of a materials management facility for the transfer of garbage, organics, and recycling. This option has the greatest potential to protect the County from the risk of future increases to transfer costs and allows for the County to securely manage this material stream in-house. Solid waste management operations would benefit from the operating flexibility and ability to adapt to collections changes and tonnage increases in the long term.

Fibres Processing Option

The above analysis was also completed for a transfer facility that would include a fibres processing line. This option would provide a single, enclosed facility similar to that described above, but would also include a paper fibres sorting and baling line, as well as capacity for bale storage. Paper fibres

represent approximately 70% by weight of the recyclables managed and can be processed relatively easily, compared with the containers portion of the stream, resulting in avoided haulage costs.

The financial benefits were similar to that of a transfer-only facility with a payback of 6.4 years (without funding). Although there would be additional benefits to pursuing this option – such as protecting the County from the risk of future increases to haulage and fibres processing costs – there is currently uncertainty in regards to the Province's Waste Reduction Act (which became obsolete prior to the June Provincial election) and the future of municipal responsibility for processing recyclables.

Staff recommends that siting a transfer facility allow for potential expansion to incorporate a materials recovery facility (which would include both fibres and containers processing) should it prove to be a viable option in the future.

Other Considerations

As previously directed by Council, development of an organics processing facility (OPF) continues. The Strategy identified the need to concurrently develop both infrastructure projects, a transfer/material recovery facility and a central composting facility. While initial consideration would appear beneficial to co-locate these facilities, there is significant merit in development of two separate facilities in consideration of the following:

- Different siting requirements – an OPF and a materials management facility are each suited to different types of properties. An OPF is best suited to a more rural setting, away from significantly populated areas and would require a large property to ensure compliance with provincial odour unit requirements. A materials management facility, with less potential for odour impacts, would not require a significant amount of land. It will be best suited in proximity to the “waste centroid” – with a greater emphasis on access to transportation routes and a more central location.
- Approvals complexities – siting two facilities together has the potential to further complicate already lengthy and difficult provincial approvals processes. The composting technology approvals process is more complicated than that for a transfer facility.
- Continuity of service – in regards to business continuity planning, separate facilities would reduce the risk to the County in the event of an emergency situation. Impacts from a natural disaster, fire, or even a lengthy power outage would be mitigated by operating these facilities independently.

For these reasons, staff does not recommend siting the materials management and organics facilities together.

Going Forward – Project Development Process

It is proposed that project development would commence with a transfer facility siting assessment. This study would provide Council with information on potential locations for the facility and seek direction on further project development. In addition, staff will explore the potential financial and operational benefits to co-locate the truck servicing facility with transfer operations. It is anticipated that this study would be presented to Council in early 2015.

It is recommended that this transfer siting study be completed in conjunction with short-listing sites for the organics processing facility (OPF). Once the County's long-term transfer location is determined, costing for transportation to potential OPF sites can be accurately assessed. As the consultant has begun preliminary siting work for the OPF, which will include transfer considerations, it is recommended that this task be expanded to encompass siting considerations for the transfer facility as is permitted under the County's Procurement Policy. It is anticipated that this will avoid duplicating consulting

services, be prudent in regards to consulting fees, and in turn, the work will consider synergies between the facilities.

Financial and Resource Implications:

The long-term financial plan included costs of approximately \$7.5 million for the transfer station project. As outlined above, costs related to development of a facility are dependent upon the availability of funding and are estimates only; actual costs would only be determined through procurement processes. The analysis includes updated costs estimates. Estimated capital costs for the land/building and equipment are \$4,185,000 and \$545,000, respectively.

The Waste Management reserve has \$2,175,000 that was previously raised for this project. As outlined above, there is the potential for outside funding from the Continuous Improvement Fund, estimated at \$1,150,000, with the balance to be funded from the Waste Management reserve.

As outlined above, 2014 consulting services in regards to a siting study for the transfer facility will be incorporated into approved consulting work for the Organics Processing Facility, with funds allocated in the 2014 Capital Budget. Going forward, further consulting services associated with siting of the transfer facility will be outlined for Council in the 2015 Capital Budget, anticipated to be \$61,216.

Relationship to Corporate Strategies:

This item supports the Solid Waste Management Strategy recommendation to develop transfer capacity infrastructure to manage garbage and recyclables generated in the County.

Reference Documents:

Item CO 12-023 – Results of Initial Analysis of Request for Proposal Responses for Recycling Transfer Options for Budget Consideration (November 27, 2012)

http://www.simcoe.ca/ws_cos/groups/public/@pub-cos-sta-com/documents/web_content/rsc343304.docx

Item CCW 14-139 – Landfill Capacity Update (March 2014)

http://www.simcoe.ca/ws_cos/groups/public/@pub-cos-sta-com/documents/web_content/rsc420656.docx

Item CCW 14-025 – Central Composting Facility Update (January 28, 2014)

http://www.simcoe.ca/ws_cos/groups/public/@pub-cos-sta-com/documents/web_content/rsc412849.docx

Attachments:

There are no attachments to this Item.

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Approvals:

Date

Rob McCullough, Director, Solid Waste Management	July 25, 2014
Debbie Korolnek, General Manager, Engineering, Planning and Environment	July 29, 2014
Trevor Wilcox, General Manager, Corporate Performance	August 1, 2014
Mark Aitken, Chief Administrative Officer	August 1, 2014