
Subject: Niagara Region Liquid Biosolids Management Program Renewal of Contract Agreement with Thomas Nutrient Solutions

Report to: Public Works Committee

Report date: Tuesday, January 14, 2020

Recommendations

1. That the Chair and Regional Clerk **BE AUTHORIZED** to execute a three (3) year contract renewal agreement with 2386246 ONTARIO INC. cob as THOMAS NUTRIENT SOLUTIONS to provide loading, haulage/transportation, lagoon management and land application of liquid biosolids and residual solids generated from Niagara Region water and wastewater treatment facilities on the same terms and conditions as in the existing agreement.
2. That the three (3) year contract renewal agreement **BE PREPARED** in a form satisfactory to the Director of Legal and Court Services.

Key Facts

- The purpose of this report is to seek Council's approval of a three (3) year contract renewal agreement with Thomas Nutrient Solutions for the provision of loading, haulage/transportation, lagoon management and land application of liquid biosolids and residual solids generated from Niagara Region water and wastewater treatment facilities, effective January 1, 2020 and expiring December 31, 2022.
- The existing three (3) year contractual agreement with Thomas Nutrient Solutions for liquid biosolids and residual solids management services formally expired on December 31, 2019. The agreement provides a negotiated renewal opportunity for an additional term of one (1) to three (3) years.
- Staff have engaged in discussions with Thomas Nutrient Solutions wherein the contractor has expressed a willingness to execute a three (3) year renewal of services on the same terms and conditions as the existing agreement. This would be the second three (3) year renewal term with this contractor for biosolids management services (as described in PW 12-2017 the service was previously extended following the last competitive procurement in 2013).
- Given the timing of the expiry of the existing agreement (December 31, 2019), the Chief Administrative Officer provided approval for a three (3) month (January 1, 2020 – March 31, 2020) interim extending agreement with Thomas Nutrient Solutions for biosolids management services to continue the existing contract scope

in order to allow this report to be provided for Council approval for the proposed 3 year renewal term.

- Niagara Region's current Liquid Biosolids Management Program seeks to achieve diversification in options available to manage liquid biosolids and residual solids generated from Niagara Region's owned and operated water and wastewater treatment facilities. Approximately fifty (50) percent of liquid biosolids and residual solids generated from Niagara Region treatment facilities are land applied for agricultural purposes between April 1 and November 30 annually as a contracted service (currently Thomas Nutrient Solutions).

Financial Considerations

Thomas Nutrient Solutions provides the following services as part of the current contract: biosolids loading, haulage and transportation (transportation), land application of biosolids and lagoon management. The first two service types, transportation and land application, are charged to the Niagara Region based on a set rate per cubic meter of liquid material (\$/m3) multiplied by the volume of material managed by the service provider. The third service type, lagoon management, is charged based on a flat management fee.

The fees in the contract are subject to an annual percentage change based on a combination of the Consumer Price Index (CPI) and diesel fuel prices. Also impacting the total cost of the contract is the volume of material managed by Thomas Nutrient Solutions which is dependant on plant operating conditions, seasonal variations and weather conditions.

Over the three year contract, the total costs have increased each year as a result of changes in contract prices and volumes of material managed by Thomas Nutrient Solutions. In 2018, the total cost of the contract increased by 14% mainly due to increased transportation volumes as a result of digester failures in the Niagara Falls Wastewater Treatment Plant. In addition, contract prices increased as a result of changes in CPI and diesel prices as per the terms of the contract. In 2019, total contract costs are forecasted to decrease by 1%. This is due to wet weather that resulted in unfavourable conditions for land application services. Please see Table 1 below for a breakdown of actual and forecasted costs of the previous contract with Thomas Nutrient Solutions (including 1.76% non-recoverable HST).

TABLE No. 1: Existing Contract Costs for Biosolids Management Services With Thomas Nutrient Solutions					
Year	Biosolids Loading & Haulage /Transportation	Biosolids Land Application	Lagoon Management	Total Annual Contract Value	Total Annual Contract % Change
2017	\$2,549,462.91	\$1,083,629.28	\$49,862.50	\$3,682,954.69	n/a
2018	\$3,100,391.80	\$1,055,510.55	\$52,222.56	\$4,208,124.91	14%
2019F	\$3,203,337.77	\$917,461.35	\$52,976.52	\$4,173,775.64	-1%

Based on discussions with Thomas Nutrient Solutions, the existing rate structure is to be maintained within the three (3) year contract renewal. Utilizing forecasted CPI and diesel prices, it is expected that the contract rates will be subject to a percentage increase each year. Transportation volumes are expected to increase by 3% each year as a result of preventative maintenance on digesters throughout the region and increasing influent volumes. Land application volumes are forecasted using the 2018 volumes as a proxy when favourable weather conditions permitted a larger volume of biosolids to be land applied.

These assumptions result in a total estimated cost for the contract renewal starting at \$4,531,967.31 (including 1.76% non-recoverable HST) in 2020. As mentioned, this estimate is highly dependent on actual volumes managed and is felt to be conservative. The anticipated contracted amount is accommodated in the 2020 operating budget and will be accommodated in future year operating budgets. For a detailed breakdown of the cost projections for the contract renewal based on above noted conservative assumptions, (including 1.76% non-recoverable HST) please refer to Table No. 2 below:

TABLE No. 2: Estimated Contract Renewal Costs for Biosolids Management Services With Thomas Nutrient Solutions					
Year	Biosolids Loading & Haulage /Transportation	Biosolids Land Application	Lagoon Management	Total Annual Contract Value	Total Annual Contract % Change
2020F	\$3,392,049.71	\$1,085,454.09	\$54,463.52	\$4,531,967.31	9%
2021F	\$3,583,707.25	\$1,113,382.91	\$55,864.87	\$4,752,955.02	5%
2022F	\$3,782,068.58	\$1,140,786.04	\$57,239.84	\$4,980,094.46	5%

Analysis

An analysis has been undertaken by staff to assess the strengths and weaknesses of the Niagara Region's Biosolids Management Program and the scope of service provided by Thomas Nutrient Solutions as per the existing contract agreement. The most desirable path for the Liquid Biosolids Management Program, transitioning into 2020 and extending through to 2023, is to focus on the further intensification of the land application of liquid biosolids and residual solids, provided that a sufficient inventory of agricultural land is available and weather conditions are suitable. While Niagara Region cannot control the latter, it is essential that Niagara Region continue to build and strengthen relationships with Niagara's agricultural community, Thomas Nutrient Solutions and landowners to ensure ongoing participation in the Liquid Biosolids Management Program. The most recent revision of the Biosolids Management Master Plan concluded that a sufficient land bank is available within the Niagara Region to support land application of the Region's liquid biosolids and residual solids to 2031.

In assessing daily operations, Thomas Nutrient Solutions and their staff have significant experience and are well integrated with the Niagara Region water and wastewater

systems and facilities, thereby providing a seamless transition for biosolids operations for the next three (3) years. The contractor's employees are well trained and familiar with all requirements of the Niagara Region's Liquid Biosolids Management Program. Furthermore, equipment owned and operated by Thomas Nutrient Solutions is exclusive to, and in some instances modified to meet the specific needs of Niagara Region. The above are essential in eliminating potentially significant process and technical risks as there are multiple capital construction projects either ongoing or nearing initiation at Niagara Region water and wastewater facilities. These projects are ultimately supported by the liquid biosolids and residual solids contract service provider and require careful coordination and competent completion of sensitive tasks involving all stakeholders. Staff's assessment determined that the renewal terms and financial costs are reasonable for the three (3) year term. Staff is satisfied with the performance of the service provider and have a high level of confidence in their ability to successfully execute the scope of services required by the contract agreement.

Alternatives Reviewed

Niagara Region's options in obtaining these services were limited to the following:

- 1) Undertake a formal procurement process for the required liquid biosolids and residual solids management services,
- 2) Exercise the renewal opportunity within the existing contract agreement to negotiate a minimum renewal term of one (1) year,
- 3) Exercise the renewal opportunity within the existing contract agreement to negotiate a maximum renewal term of three (3) years.

Option #3, exercise the renewal opportunity within the existing contract agreement to negotiate a maximum renewal term of three (3) years was pursued for the following reasons:

- The liquid biosolids and residual solids program is significant in that it is extremely diverse and covers the entire geography of Niagara Region;
- To be successful, there are significant requirements of the supplier including:
 - Significant capital investment,
 - High volume (number of available units) equipment commitments,
 - Large/unique equipment requirements,
 - Highly skilled, trained and experienced staff;
- For the three (3) year renewal term, the supplier has expressed a willingness to purchase new equipment and upgrades valued in excess of \$600,000.00 exclusively supporting the Niagara Region Biosolids Management Program.

These will improve overall performance, increase efficiency and provide redundancy in case of equipment breakdowns.

With the exception of the new equipment purchases and upgrades valued in excess of \$600,000.00, the above requirements are necessary immediately upon the contract start date. This would not be feasible for a new service provider as financial costs and lead times to acquire the scope of equipment necessary to successfully meet the contract requirements are significant. This will be considered in timing the release of any future Requests For Tender for liquid biosolids and residual solids management services.

Relationship to Council Strategic Priorities

Supporting Businesses and Economic Growth:

Many of the highly skilled staff employed by Thomas Nutrient Solutions for the purposes of servicing the Niagara Region liquid biosolids and residual solids program are Niagara residents. The supplier actively seeks to hire and develop a Regional talent network to support their work within Niagara. Thomas Nutrient Solutions continues to experience success in hiring Niagara College and other local technical program graduates.

Healthy and Vibrant Community:

The liquid biosolids and residual solids management program is essential in appropriately managing liquid biosolids and residual solids generated from Niagara Region water and wastewater treatment facilities. The program is critical to ensuring the Health and wellbeing of Niagara Region residents and the natural environment. Representation from Thomas Nutrient Solutions and Niagara Region staff work collaboratively with Niagara's local area Municipalities throughout the year to plan liquid biosolids land application sites and biosolids transport routes to ensure the program fosters safe and inclusive neighbourhoods and communities.

Responsible Growth and Infrastructure Planning:

Terms of the existing contract agreement require Thomas Nutrient Solutions to load, haul/transport, manage, process and land apply liquid biosolids and residual solids in strict compliance with applicable law and stringent Regional requirements and bylaws. Niagara Region staff and the contract service provider work continually to develop strategic alliances with local Municipal partners and representatives from various regulatory agencies to ensure the liquid biosolids management program operates in manner which supports the natural environment and has zero impact on area residents and locally owned infrastructure.

Sustainable and Engaging Government:

Thomas Nutrient Solutions works diligently with Niagara Region staff to design, implement and sustain outstanding public relations programs. Niagara Region's liquid biosolids and residual solids management program continues to effectively engage with Niagara's agricultural community, local area Municipalities and the residents of Niagara to increase public knowledge through education and promotion of liquid biosolids and residual solids management within Niagara Region.

Other Pertinent Reports

- PWA 05-2012 Niagara Region Biosolids Master Plan, Water & Wastewater Services (January 10, 2012)
- PW 12-2017, Niagara Region Liquid Biosolids Management Program Contract Renewals (February 21, 2017).

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