

## THE REGIONAL MUNICIPALITY OF NIAGARA PUBLIC WORKS COMMITTEE FINAL AGENDA

PWC 1-2020
Tuesday, January 14, 2020
9:30 a.m.
Council Chamber
Niagara Region Headquarters, Campbell West
1815 Sir Isaac Brock Way, Thorold, ON

			Pages
1.	CALL	TO ORDER	
2.	DISC	LOSURES OF PECUNIARY INTEREST	
3.	PRES	SENTATIONS	
4.	DELE	GATIONS	
5.	ITEM	S FOR CONSIDERATION	
	5.1	PW 1-2020 Award of Contract 2019-T-231 Grimsby Water Storage System in the Town of Grimsby	3 - 10
	5.2	PWC-C 2-2020 Recommendations from the Niagara Road 12 Landfill Site Citizens Liaison Committee (NR12 CLC)	11 - 15
	5.3	PW 3-2020 Niagara Region Liquid Biosolids Management Program Renewal of Contract Agreement with Thomas Nutrient Solutions	16 - 34
		A presentation will precede the discussion of this item.	

## 6. CONSENT ITEMS FOR INFORMATION

6.1	PW 6-2020	35 - 41
	Metrolinx Initial Business Case Update - Niagara Falls Rail Service Extension	
6.2	PWC-C 1-2020	42 - 43
	Transportation Infrastructure Means Protection Update 2	

## 7. OTHER BUSINESS

## 8. **NEXT MEETING**

The next meeting will be held on Tuesday, February 11, 2020 at 9:30 a.m. in the Council Chamber, Regional Headquarters.

## 9. ADJOURNMENT

If you require any accommodations for a disability in order to attend or participate in meetings or events, please contact the Accessibility Advisor at 905-980-6000 ext. 3252 (office), 289-929-8376 (cellphone) or accessibility@niagararegion.ca (email).



Subject: Award of Contract 2019-T-231 Grimsby Water Storage System in the

Town of Grimsby

Report to: Public Works Committee

Report date: Tuesday, January 14, 2020

## Recommendations

1. That Contract 2019-T-231 Grimsby Water Storage System in the Town of Grimsby **BE AWARDED** to ROMAG Contracting Ltd. at their bid price of \$20,110,610.00 (including 13% HST).

## **Key Facts**

- The purpose of this report is to seek Council's approval to award Contract 2019-T-231 Grimsby Water Storage System in the Town of Grimsby.
- Schedule B of Niagara Region's Procurement By-law 02-2016, as amended June, 2019, requires Council approval for all tender awards in excess of \$5,000,000.
- Proposed works include a new 15 Mega-Litres (ML) potable drinking water reservoir facility to provide floating storage to the water distribution system, which includes a 500 mm diameter watermain backfeed, and upgrades to the existing Park Road Booster Pumping Station (BPS) and Reservoir facility.
- Construction is scheduled from January 2020 to September 2021 with a contract completion date of September 15, 2021.
- On October 28, 2019, Niagara Region initiated a competitive public tender process (2019-T-231) to solicit bids from pre-qualified General Contractors for these works (2019-RFPQ-225 – Request for Pre-Qualification of General Contractors for Grimsby Water Storage System). The tender closed on December 5, 2019. Five (5) bid submissions were received and five (5) were opened with the lowest compliant bid being received from ROMAG Contracting Ltd. in the amount of \$ 17,797,000.00 (excluding HST).

## **Financial Considerations**

Project 10CW1302 Grimsby Water Storage System in the Town of Grimsby has a previously approved capital budget of \$26,889,173.70 The total estimated project cost after the award of Contract 2019-T-231 is \$22,914,400.90 (inclusive of 1.76% non-refundable HST), as detailed in Appendix 1 – Total Estimated Project Cost. The expected project surplus of \$3,974,772.80 will be returned to project funding sources. The project is funded as follows: approximately 65% by Water Development Charges, 30% Water Capital Reserve, and 5% debt financing.

## **Analysis**

The Grimsby Water Treatment Plant (WTP) was commissioned in 1994 as the newest water treatment plant owned and operated by Niagara Region. The system supplies potable water to the Town of Grimsby (via Grimsby WTP High Lift Pumping Station), the community of Beamsville in the Town of Lincoln (via Lincoln Booster Pumping Station), and the community of Smithville in the Township of West Lincoln (via Park Rd. BPS and Reservoir).

Based on the Master Servicing Plan (MSP) 2016, the Grimsby Water System has insufficient storage to meet 2041 demands. Of the 10 ML of storage at the Grimsby WTP, only 50% is considered to be available storage, due to the constraints in chlorine contact time. The existing water storage reservoirs in Smithville, Lincoln and West Lincoln are unable to service the area near the escarpment in Grimsby due to limitations in water storage volumes. This means that the Grimsby system is deficient in storage when compared to the Ministry of Environment, Conservation and Parks' (MECP) criteria. For this reason, additional floating storage is required in the area to support growth and provide emergency water storage.

The September 2011 Niagara Region Water and Wastewater Master Plan recommended an additional study to confirm the optimal location for additional floating storage in the Town of Grimsby. The addition of a new 15 ML reservoir would address the existing security of water supply issue and provide operational flexibility allowing better efficiency and optimization of the High Lift Pump operation at the Grimsby WTP.

In February 2015, Niagara Region completed a Class Environmental Assessment (EA) and confirmed the optimal storage location for the 15 ML reservoir site. The proposed site for the new reservoir is a 16 acre property located on the east side of Park Road South, half way between Ridge Road East and Elm Tree Road West. The property was purchased by Niagara Region for this project.

Appendix 2 illustrates the project work area limits.

Proposed works for the Grimsby Water Storage System project include:

- New in-ground 15 ML concrete water reservoir including:
  - 2 Cells (baffled) 7.5 ML each complete with PRV altitude valve and isolation valves for maintenance.
  - Overflow chamber including de-chlorination.
  - Excavation and local dewatering needs as required.
  - Passive reservoir ventilation.
  - Valve house connected to reservoir complete with process piping and valves, electrical motor control centre line-up and a standby power generator.

- Connection to existing 300 mm and 450 mm watermains with automated valves to allow drawing and filling of the new 15 ML Reservoir to and from Grimsby and Smithville water distribution system.
- SCADA system monitoring and operator flexibility (isolation valves on existing and new watermain to new reservoir).
- Site works for driveway, parking and traffic flow, fencing, landscaping, and site buffering vegetative screenings to achieve a low visual environmental impact.
- Modifications to piping at the existing Park Road BPS and Reservoir to accommodate the proposed new 15 ML Reservoir storage including:
  - 500 mm diameter watermain to backfeed from the new water reservoir to the Grimsby water distribution system including a pressure reducing valve (PRV) at the connection point to the existing 500 mm watermain, north of the existing Park Road BPS and Reservoir.
  - Automated valves for system flexibility.
  - Control valve chamber at the pump station including a pressure sustaining valve (PSV) and isolation valves with SCADA monitoring.
  - New connection from the existing Park Road Reservoir directly to the Park Road BPS clearwell/pump well.
  - Re-Chlorination system review and modifications as necessary.
- Roadway and site restoration works of all work areas.

In accordance with the Class EA requirements, Indigenous Groups were consulted during the Class EA and Archaeological Assessments (Phases 1, 2 & 3). Indigenous Groups will be participating as monitors during construction phase to ensure protection measures are implemented.

WSP Canada Group Ltd. (formerly MMM Group) was retained by Niagara Region through 2015-RFP-17 to complete detailed design and tendering. Contract administration and inspection services were evaluated during the original RFP period, and were approved by Change Purchase Order through the procurement process.

In accordance with Niagara Region Procurement By-law 02-2016, as amended June, 2019, and under the guidance of the Region's Procurement Department, a public tender process was initiated on Monday, October 28, 2019 with a closing date of Thursday, December 5, 2019.

Tender opening occurred on Thursday, December 5, 2019 at 2:15 pm and five (5) bids were received, and five (5) were opened with the lowest compliant bid being received from ROMAG Contracting Ltd. in the amount of \$ 17,797,000.00 (excluding 13% HST).

Niagara Region's Procurement Department has reviewed and checked all opened tenders to confirm they included acknowledgement of the correct number of Addenda and requisite Bid Security (tender deposit) and Surety (Agreement to Bond).

A summary of the bid submissions, which were opened is included in Appendix 3.

Contract award requires resources from Legal Services and Corporate Services in order to execute the required contract documents. Water and Wastewater Engineering staff will be providing resources throughout the project in order to manage the contract with assistance from Corporate Services on contract/project payments.

## **Alternatives Reviewed**

- Proceed with Contract Award –This alternative would enable staff to proceed with contract award to ROMAG Contracting Ltd. to construct a new 15 ML potable water reservoir with a 500 mm diameter watermain backfeed, and upgrades required at the existing Park Road BPS and Reservoir to meet Niagara Region's objective of providing the required water distribution system floating storage, and safe and reliable drinking water supply to the communities of South Grimsby, Smithville, and Beamsville.
- Do Nothing This alternative does not adequately address the safe and reliable water distribution system supply of potable drinking water to the communities of South Grimsby, Smithville, and Beamsville, given that there is inadequate floating storage available to provide emergency storage requirements.

Staff recommend Alternative One (1) to proceed with contract award to ROMAG Contracting Ltd.

## **Relationship to Council Strategic Priorities**

This recommendation is related to fostering Council's strategic priority for Responsible Growth and Infrastructure Planning, since the planned construction for a new reservoir storage facility as well as other associated facility and linear infrastructure improvements will ensure reliable infrastructure to support growth and economic development within the Town of Grimsby, Township of West Lincoln, and Town of Lincoln.

## Other Pertinent Reports

N/A.

\_\_\_\_\_

## Prepared by:

Gino Giancola, B.Sc., C.E.T., PMP Project Manager, W-WW Engineering Public Works Department

\_\_\_\_\_

## Recommended and Submitted by:

Ron Tripp, P.Eng.
Acting Chief Administrative Officer /
Commissioner of Public Works

This report was prepared in consultation with Tony Cimino, C.E.T., Associate Director, W-WW Engineering and Pamela Hamilton, Program Financial Specialist, W-WW, and reviewed by Joseph Tonellato, P.Eng., Director, W-WW and Bart Menage, Director, Procurement and Strategic Acquisitions.

## **Appendices**

Appendix 1	Total Estimated Project Cost	6
Appendix 2	Key Plan	7
Appendix 3	Summary of Bids	8

### PW1 - 2020 APPENDIX 1 Total Estimated Project Cost Contract Award

## Contract 2019-T-231 - Grimsby Water Storage System

	Council Approved Budget	Budget Increase/ Reallocation	Revised Council Approved Budget	Expended & Committed as of 12/5/19	Contract Award/ Forecast	Budget Remaining
	(A)	(B)	(C) = (A) + (B)	(D)	(E)	(F) = (C)-(D)-(E)
Total Estimated Project Cost (10CW1302)*						
<ul> <li>(a) Construction (includes contract contingency)**</li> <li>(b) Project Contingency</li> <li>(c) Consulting Engineering Services (Design, Contract Administration, &amp; Inspection)</li> <li>(d) Project Management &amp; Internal Costs</li> </ul>	21,985,000 2,625,000 1,339,174 940,000	(120,000) 320,000 (200,000)	21,985,000 2,505,000 1,659,174 740,000	1,421,918 75,891	18,110,227 2,505,000 237,256 564,109	3,874,773 - - 100,000
Total Estimated Project Cost	26,889,174	-	26,889,174	1,497,810	21,416,591	3,974,773

<sup>\*</sup>All costs include 1.76% non-refundable HST

<sup>\*\*</sup> Total Contract Award is equal to i) 17,797,000 before tax; ii) 18,110,227 including 1.76% non-refundable HST; iii) 20,110,610 including 13% HST



Appendix 2 : Key Plan Contract No. 2019-T-231 Grimsby Water Storage System



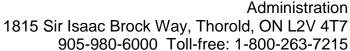




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## PW 1-2020 - Appendix 3 Summary of Bids (2019-T-231)

Vendor	Total Tender Price		
	(excluding HST)		
ROMAG Contracting Ltd.	\$17,797,000.00		
Maple Reinders Constructors Ltd.	\$17,935,500.00		
Kenaidan Contracting Ltd.	\$18,189,094.00		
North America Construction Ltd.	\$20,315,000.00		
Newman Bros. Ltd.	\$20,554,569.14		





## **MEMORANDUM**

PWC-C 2-2020

Subject: Recommendations from the Niagara Road 12 Landfill Site Citizens

**Liaison Committee (NR12 CLC)** 

**Date: January 14, 2020** 

**To: Public Works Committee** 

From: Ann-Marie Norio, Regional Clerk

The Niagara Road 12 Landfill Site Citizens Liaison Committee, at its meeting held on October 16, 2019, passed the following motion:

Minute Item No. 7 New Committee Members

> Motion to consider appointing Victor Dirksen as a member of the NR12 CLC committee upon completion of application.

Moved by: Bob Hildebrandt Seconded by: William Reilly

Mr. Dirksen submitted a completed application for membership on an advisory committee to Waste Management Services on November 15, 2019.

A resolution of Committee is required to approve the recommendation from the Niagara Road 12 Landfill Site Citizens Liaison Committee. Suggested wording is as follows:

That Victor Dirksen **BE APPOINTED** to the Niagara Road 12 Landfill Site Citizens Liaison Committee, for a term ending on November 14, 2022.

Respectfully submitted and signed by	
nn-Marie Norio	
Regional Clerk	

## **WASTE MANAGEMENT SERVICES DIVISION**

## CITIZENS LIAISON COMMITTEE (CLC) - NIAGARA ROAD 12 LANDFILL SITE

Minutes of a meeting of the Niagara Road 12 Landfill Citizens Liaison Committee held at Niagara Road 12 Landfill Site, 7015 Concession 7 Road, in the Township of West Lincoln on October 16, 2019 commencing at 7:00 p.m.

## <u>ATTENDANCE</u>

Committee: Ken Durham

Peter Forsberg

Councillor William Reilly, Town of West Lincoln Councillor Bob Hildebrandt, Town of Pelham

Guest: Brian Jaworsky, Victor Dirksen

Staff: Andrew Winters, Program Manager

Emil Prpic - Associate Director, Waste Disposal Operations and

Engineering

Sandy Sawatzky-Upper, Waste Management Clerk/Program

Administrator

Regrets: Mayor Jeff Jordan, Town of Grimsby, (Lianne Vardy)

Councillor Greg Reimer, Town of Lincoln

Robert Lee

## 1. Distributed at meeting:

Agenda

Minutes for May 15, 2019 meeting

## 2. Approval of Minutes from May 15, 2019:

Moved by: Ken Durham

Seconded by: Peter Forsberg Carried

## 3. Business Arising from previous meeting:

- Collection Contract for Lincoln & West Lincoln ends when Emterra contract ends in October 2020
  - Some committee members are still hearing of collection issues in West Lincoln from residents.

## 4. Selection of Committee Chair

Motion to select Ken Durham as Chair

Moved by: William Reilly

Seconded by: Bob Hildebrandt Carried

## 5. Summary Annual Landfill Report for MECP

- Annual Monitoring report has not changed appreciably compared to previous years
- 2018 Operation report
  - See summary (attached)
- Next meeting will approve Annual Reports
- Summary attached to minutes

## 6. Update on Projects

## a) New Cell Development

- First half (south section) of Cell #4 was completed in 2018
- North section half construction in 2019 and completed at end of August 2019
- September 3<sup>rd</sup> started placing waste in North section
- Will ensure three feet of waste coverage to protect leachate collection system.

## b) Pump Station Upgrade

- New Building has been constructed.
- Two parts to project
  - 1. Pump station replacing pumps and insides to upgrade
  - 2. Chemical feed to put into Leachate when going into Forcemain to minimize odors down stream (Biocide)

## c) Drop off Depot

- Upgrades to Drop-off Depot, repairs to wall. Modifications to accommodate trailers backing up to drop-off depot to allow residents to load right into trailers, i.e. Mattress Recycling
- Work to commence in 2020
- Work to commence in 2020

## d) Pond size evaluation at Niagara Road 12

 Pond size is based on 25 year storm however the Ministry of Environment, Parks and Conservation (MECP) is requesting to increase size to accommodate a 100 year storm

- Project has been delayed slightly in order to prioritize other projects going on simultaneously
- Tender estimated to be issued in November 2019 and construction to start in spring of 2020

## e) Compost Giveaway

- Compost provided to residents pre-bagged
- Available at 4 sties: Bridge Street, Humberstone Landfill, Niagara Road
   12 and Recycling Centre (Niagara Falls)
- All donations of food and cash go back to food banks
- Spring results just under 4000 bags given out, \$1,450 and 1000 kgs of food donations were collected

## f) Mattress Recycling

- Commenced end of July, 4 tractor trailer loads have been shipped
- o Estimate 1 trailer every 2 weeks
- Suggestion for article to be included in the next Greenscene giving residents information on take back programs through retail stores when purchasing new mattresses
- There is still a charge at the Landfill for residents to dispose of mattresses

## 7. Other Business

## Waste Reduction Week October 21-25, 2019

<a href="https://www.niagararegion.ca/news/article.aspx?news=997&t=Week-long+activities+to+celebrate+Waste+Reduction+Week">https://www.niagararegion.ca/news/article.aspx?news=997&t=Week-long+activities+to+celebrate+Waste+Reduction+Week</a>

## • Committee Site tour

 Interest in a Site tour for the committee in Spring 2019, next meeting will select a date

### Bill 151

- Bill 151 is still moving forward
- Programs continue to be transitioned over next year or so i.e. tires, electronics, Household Hazardous Waste, etc.
- Still waiting on more details regarding the transition of the Blue Box over the next 3-5 years
- Staff will be attending a workshop on October 29 in London presented by Association of Municipalities of Ontario (AMO) for an update on next steps regarding the Blue Box
- There are talks about banning organics from Landfills, Province not yet sure how to implement

 When process comes into affect residence should not see a difference they will still place recycles at the curb, just not sure who will be collecting

## Single Use Plastics

- Committee discusses the ban on single use plastics
- Who will enforce bans?

## New School Construction by TSC store

- Member comments on the construction and asked if any of the soil is coming to the Landfill
- Soil is not coming to Landfill from this project

## Staff Update

- Isaac Van Ravenswaay is now Landfill Technologist
- Mariano Singzon is new Landfill Supervisor

## • New Committee Members

 Motion to accept Brian Jaworsky as a member of the NR12 CLC committee

Moved by: William Reilly Seconded by: Peter Forsberg

Carried

 Motion to consider Victor Dirksen as a member of the NR12 CLC committee upon completion of application.

Moved by: Bob Hildebrandt Seconded by: William Reilly

Carried

Next Meeting: Mid January 2020 (Wednesday or Thursday)

## 8. ADJOURNMENT: 8:30pm

Moved by: Peter Forsberg Seconded by: William Reilly

Carried

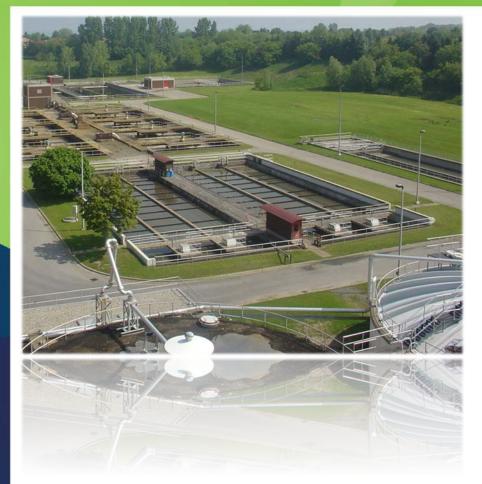
# Niagara Region's Biosolids & Residual-Solids Management Program

Niagara Region Public Works Committee
January 14, 2020



## Agenda

- What are Biosolids & Residual-Solids?
- Biosolids Loading & Transportation
- Centralized Biosolids Storage & Processing The Garner Road Biosolids Storage & Dewatering Facility
- Liquid Biosolids Dewatering & Biosolids Storage Lagoon Management Operations
- Niagara Region's Diversified Biosolids Management Strategy
- Our Key Biosolids Partnerships



## Biosolids Defined

"Biosolids are the nutrient-rich organic materials resulting from the treatment of domestic sewage in a wastewater treatment facility (i.e., treated sewage sludge).

Biosolids are a beneficial resource, containing essential plant nutrients and organic matter and are recycled as a fertilizer and soil amendment." *Michigan DEQ* 



## Residual-Solids Defined

These are the silt, sand and other materials present in a raw water source removed during the treatment of drinking water.

These are inert materials with little nutrient value.

## Biosolids & Residual Solids Loading and Transportation

- The Biosolids Management Contractor is responsible for loading of Biosolids & Residual-Solids
- Loading occurs from designated locations at Niagara Region WWW Facilities (Typically adjacent to anaerobic digestion vessels)
- Load material onto contractor owned & operated transport equipment (highway tractor & tanker trailer capacity = 43.36 cubic meters)
- Contractor transports over 400,000 cubic meters of Biosolids & Residual-Solids annually
- Material is transported from Niagara Region WWW Facilities to Region owned centralized biosolids storage & processing facility
- Biosolids transport routes utilize Region owned roadways to the fullest possible extent



# Centralized Biosolids Storage & Processing - Garner Road Biosolids Storage & Dewatering Facility (GRBSDF)



Annually, the Garner Road Biosolids Facility receives & processes over 400,000 m3 of Biosolids & Residual-Solids generated by Niagara Region Water & Wastewater Treatment Facilities.

## Garner Road Biosolids Storage & Dewatering Facility Continued

- 10 Clay Lined Biosolids Storage Lagoons (cap. 6,830 m3 each)
- 3 Glass Lined Biosolids Storage Tanks (cap. 7,736 m3 each)
- Site Storage Capacity = 91,508 m3
- 2 Stormwater Management Ponds & Pumping Facility
- Biosolids Transfer Facility
- Sewage Pumping Station & Forcemain
- Biosolids Dewatering Facility housing 2 Andritz D7LL Centrifuge Units



# Biosolids Dewatering & Lagoon Management Operations

## Niagara Region operators are responsible for:

- Biosolids Dewatering Facility (Andritz D7LL Dewatering Centrifuges)
- Biosolids Storage Tanks
- Biosolids Transfer Facility
- Sewage Pumping Station & Forcemain
- Stormwater Management Ponds & Pumping Facilities

## Biosolids Storage Lagoon Management functions provided as a contracted service & include:

- Offloading of Biosolids & Residual-Solids
- Supernatant pumping & transfers
- Biosolids storage lagoon mixing & biosolids transfers
- Biosolids loading & transport for land application
- Grounds Maintenance (Grass Cutting & Snowplowing)





## Niagara Region's Diversified Biosolids Management Strategy



Storage of Liquid Biosolids & Eventual Land Application (Apr. 1 – Nov. 30 Annually).

2019 Gross Budget: \$1,200,000.00



Dewater Biosolids & Send to N-VIRO Systems Canada Inc. for production of soil amendment Product N-Rich.

2019 Gross Budget: \$3,300,000.00

# Liquid Biosolids Storage & Land Application (April 1 – November 30 Annually)



# Dewatered Biosolids For Processing Through N-VIRO Systems Canada Inc.















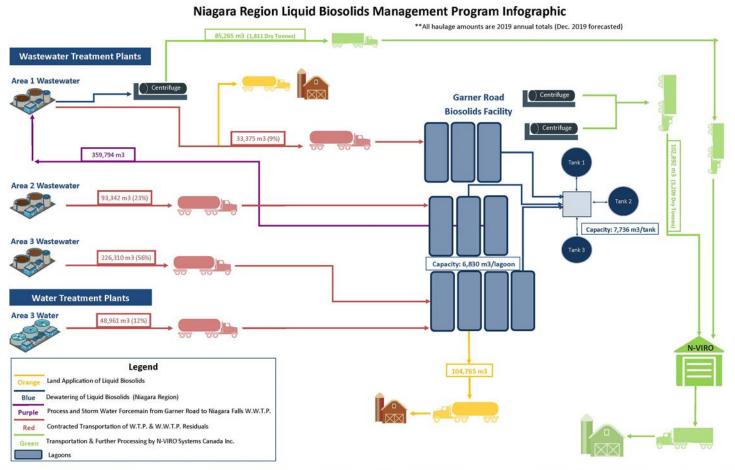








## Diversified Biosolids Management Strategy – Overview - 2019



- Garner Road Biosolids Storage & Dewatering Facility received 401,988 cubic meters in 2019
  - Area #1 Wastewater = 9%
  - Area #2 Wastewater = 23%
  - Area #3 Wastewater = 56%
  - Area #3 Water = 12%
- Niagara Region Biosolids Dewatering Facilities processed 188,157 cubic meters of Biosolids & Residual-Solids
- Produced 5,020 Dry Tonnes of dewatered biosolids
- 104,765 cubic meters of liquid biosolids land applied

## Acknowledging Our Partnerships

- Our Local Area Municipal Partners
- Our Community Partners
  - Agricultural
  - Residential
- Our Contract Partners
  - Thomas Nutrient Solutions
  - N-VIRO Systems Canada Inc.
  - SNF Canada
- Our Internal Partners





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).

TAE	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,
  - o 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 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.

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## **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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## Prepared by:

Wesley Foebel Biosolids Program Manager Water & Wastewater Services

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## Recommended and Submitted by:

Ron Tripp, P.Eng.
Acting Chief Administrative Officer /
Commissioner of Public Works

This report was prepared in consultation with Pamela Hamilton, Program Financial Specialist, Bart Menage, Director Procurement and Strategic Acquisitions, and reviewed by Joseph Tonellato, P.Eng., Director W-WW.



Subject: Metrolinx Initial Business Case Update – Niagara Falls Rail Service

Extension

Report to: Public Works Committee

Report date: Tuesday, January 14, 2020

## Recommendations

That Report PW 6-2020 BE RECEIVED for information.

## **Key Facts**

- The purpose of this report is to provide a review and analysis of the Metrolinx's Updated Initial Business Case (IBC) for the Niagara Expansion.
- The updated IBC for extending rail service to Niagara recommends the Option 2 service pattern which results in 11 total daily train trips for Niagara (six (6) outbound trains from Niagara Falls to Union Station, five (5) trains inbound from Union Station to Niagara Falls), seven (7) days a week.
- As the next step of the expansion process, Metrolinx will refine the infrastructure scope and service patterns for Option 2. This analysis of refinements and optimizations will eventually be published as a Preliminary Design Business Case.
- Metrolinx's Board approved moving forward to a Preliminary Design Business Case using Option 2 as the targeted service levels at its November 2019 board meeting.

## **Financial Considerations**

There are no financial considerations related to this report.

## **Analysis**

Metrolinx has a four (4) stage, iterative Business Case process. Projects progress through the following business case cycle:

- Initial Business Case—compares investment options and selects preferred option for further refinement and design
- 2) Preliminary Design Business Case—takes the recommended option of the IBC and reviews different approaches to refine and optimize it
- 3) Full Business Case—confirms a specific option including benefits, realization, financing, and delivery plans for procurement
- 4) Post In-Service Business Case—reviews the actual costs and performance of the investment after the asset has gone into service

There is no set period of time for when these business cases are undertaken or how long of a process it is from start to finish of the business case four stage cycle.

An IBC was completed for Niagara in 2015, however, Metrolinx has undertaken an update to the Niagara IBC due to new factors and new information that has materialized since the announcement of the project in 2016. Specifically, Metrolinx now has an enhanced relationship with Canadian National (CN) Railway. In addition, there is updated information from CN on the corridor capacity of the Grimsby Subdivision, and GO's recent Niagara rail expansion operations and ridership projections have changed including the examination of tourist demand in the region. The 2015 IBC did not account for these factors, especially the tourist demand. The updated IBC builds on the work completed in 2015. The newly updated IBC clarifies project scope, preliminary design, ridership demand, service patterns, benefits and costs for Niagara's expansion at a high level. The outcome of the 2019 IBC recommends that Option 2 be examined in more detail through the Preliminary Design Business Case.

The options for Niagara expansion examined in the 2019 IBC are: Base Case, Option 1, Option 2, and Option 3.

**Base Case**: Additional expansion of current GO Rail service levels to Niagara does not occur in this scenario. GO Rail services will only extend to the newly built Confederation GO Station for peak only services, and only once the infrastructure is completed (Note: this is dependent on a third party investment at Confederation for rail infrastructure).

**Option 1**: Year-round daily service of four trains per peak period to/from Union with two starting/terminating at Niagara Falls GO station and two starting/terminating at Confederation GO station. Seasonal summer rail service (seven trains; three departing from Union station and four departing from Niagara Falls GO Station) extended to daily, year-round service for a total of 11 daily trains (6 departures and 5 arrivals at Niagara Falls). Metrolinx would 'do minimum' at St. Catharines and Niagara Falls and expects third party investment at Grimsby and Confederation.

**Option 2:** Identical service pattern at Grimsby, St. Catharines and Niagara Falls GO stations as Option 1. In addition, hourly two-way, all-day service to/from Confederation GO Station all week. Union-bound trains would operate all stops to Oakville GO minus Appleby and Bronte GO Station and run express from Oakville GO to Union Station. Metrolinx would 'do minimum' at St. Catharines and Niagara Falls and expects third party investment at Grimsby and Confederation.

**Option 3:** Weekday service of half-hourly trains to/from St. Catharines GO Station (operating hourly on weekends) and hourly trains to/from Niagara Falls GO Station. Every second eastbound train arriving at St. Catharines GO Station would continue to Niagara Falls GO Station allowing for hourly service. Stations at Confederation, Grimsby, St. Catharines and Niagara Falls would see a full suite of station access measures and capital improvements. Track infrastructure in addition to Option 1 and 2 would be required on the CN Grimsby Subdivision to enable this service.

The IBC examines each option through four separate lenses: strategic, economic, financial, and deliverability and operations. Based on this comprehensive evaluation the report recommends a preferred option for further study.

## **Strategic Case**

The Strategic Case examines how the proposed options align with Metrolinx's 2041 Regional Transportation Plan (RTP) goals and discusses the expected outcomes. The outcomes examined are: population and jobs served by the expansion, increase in ridership, improvements to the transit network, improvements to transit travel time, improvements to transit reliability, reduction in auto vehicle trips, encouragement of active modes of transportation, and natural heritage impact.

The Strategic Case summarized the following outcomes in relation to Metrolinx's 2041 RTP goals for the Option 2 level of service.

- Population and jobs served by Niagara Rail Extension: 11,200 people and 9,300 jobs within 800 metres of a station along the Niagara Extension with direct access to rail services by 2031
- Increase GO Ridership in Hamilton and Niagara: 2031 annual ridership of 1,826,000 and average weekend day ridership of 200
- Improve the Transit Network: Improved connections to local and regional transit networks in Niagara Region and Hamilton with four GO Rail stations
- Improve Travel Time: Significant travel time reductions from Union Station to Niagara Falls of up to 15-45 minutes from current train-bus services
- Improve Transit Reliability: Transit service will have a separate right-of-way from road vehicles, but will share the corridor with freight traffic. Contingent on Welland Canal crossing agreement with the St. Lawrence Seaway Management Corporation (SLSMC)
- Reduce Auto Vehicles Trips: Three of four proposed stations are centrally located and would promote non-auto access to GO stations and provide direct GO Rail access for Hamilton and Niagara Region
- Encourage Active Modes of Transportation: Three of four proposed locations would be in residential areas, encouraging active modes of station access

## **Economic Case**

The Economic Case is one of two chapters that focuses on the rationale for pursuing the investment. While the Strategic Case evaluates options based on a project specific policy/plan oriented evaluation framework, the Economic Case determines if the expected benefits of this investment exceed the costs required to deliver it. This analysis considers the magnitude of costs and benefits over a 60-year project lifecycle and determines the Benefit Cost Ratio (BCR) and the Net Present Value (NPV).

Costs are the required investment to deliver the Niagara Falls Rail Extension and are divided into Capital Costs and Operating and Maintenance Costs.

Capital costs for Option 1 and 2 are identical as the physical infrastructure does not change to operate either option. However, Option 2 accumulated over \$130M in additional operating and maintenance costs due to operating hourly services to and from Confederation GO Station. Capital costs for Option 3 is around \$50M more than Option 1 and 2, these costs would be to improve infrastructure to enable two-way, all-day rail operations to St. Catharines and Niagara Falls GO Stations. The operating and maintenance costs for Option 3 exceed those of Option 2 by \$923M over the project lifecycle (60 years) which is the reason why Option 3 is currently not recommended for further analysis.

The Economic Case analysis includes evaluation of expected benefits which are categorized as user impacts and societal impacts.

User impacts occur for three main groups: existing GO Bus/Rail passengers, new GO Rail passengers, and auto users. Existing and new user time savings account for the largest share of user impacts.

Societal impacts are when people change their mode of transportation from a less efficient mode to GO Rail which then reduces the externalities on society. Externalities include emissions that pollute the air or injuries that can occur from collisions.

Results indicate that Option 2 generates the greatest return on investment per dollar spent. For every dollar spent \$1.2 of benefits are returned to society.

## **Financial Case**

The Financial Case assesses the overall financial impact of proposed investment options. This includes a review of total revenues (fares) gained and expenditures (capital, operating and maintenance) required over the lifecycle of the investment, which is calculated at 60 years.

Capital costs for Option 2 consists of infrastructure at stations and track work in select areas of CN's Grimsby Subdivision to meet the proposed service pattern. Major infrastructure improvements would primarily occur between West Harbour and St. Catharines GO Stations; however, overall there is a smaller amount of required track than in Option 3, while the Lewis Road Layover Facility and existing GO/VIA stations in St. Catharines and Niagara Falls would see minor capital improvements. All scenario costs assume that the proposed GO station in Grimsby will be paid for by third parties under a market-driven strategy. Operating and maintenance costs cover all aspects of keeping the investment running including staffing, fuel, vehicle and track upkeep and

other state of good repair costs. Operating and maintenance costs increase proportionally to rail service increases across the options.

Revenue impacts are based on forecasted fare revenues. Option 2 has the highest revenue to cost ratio of 38% indicating that it achieves the best balance between capital and operating and maintenance costs and expected revenues.

## **Deliverability and Operations Case**

The deliverability and operations case is an analysis of investment delivery, operations and maintenance, service plans and any other issues that may prevent the realization of an option. This case scopes the work to be undertaken for each option. The recommended Option 2 requires the following:

- Track work at Confederation GO Station to allow for access on both north and south sides of the platform
- Expansion of the Lewis Road train layover facility and double tracking of sections of the Grimsby subdivision
- On-corridor infrastructure work—signaling, tracks, and communication upgrades
- Minimal infrastructure at Grimsby GO Station provided by a third part
- New self-serve PRESTO machines in St. Catharines and Niagara Falls GO/VIA Station

Option 2 deliverability has two dependencies: operating agreements with CN Rail and an operating agreement with SLSMC at the Welland Canal. SLSMC has indicated that the two peak period train crossings in the morning and evening can be dedicated times and would not be impacted by marine movements in the canal, leaving the seven offpeak trains vulnerable to delays due to movements within the canal, if no formal agreement for dedicated crossing times can be reached.

The IBC determines that Option 2 is technically feasible and requires a medium amount of investment in existing and new infrastructure due to reduced station and infrastructure scope. Although there are stakeholder risks, the 11 trains per day over the Welland Canal makes an operational agreement with the SLSMC achievable.

## **Next Steps**

Option 2 was supported by the Metrolinx Board. Now a Preliminary Design Business Case will begin assessing the preferred option at a more detailed level of analysis further refining project scope, service pattern, benefits and costs. The Preliminary Design Business Case is the second stage of the four-stage business case process at Metrolinx and will be followed by a Full Business Case and a Post In-Service Business Case.

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### **Alternatives Reviewed**

Option 1 and 3 were reviewed in the IBC. Option 1 was not the recommended option due to the same capital requirements as Option 2 but with fewer daily trains and lower ridership which made the BCR less than what is anticipated with Option 2 service levels.

Option 3 was also tested; this service option proposed two-way, full-day half hourly service to St. Catharines with hourly service to Niagara Falls. Ultimately the capital, and operating and maintenance costs were not offset by the benefits and projected fare revenue. However, Option 3 is not precluded from future implementation if demand, conditions, and Provincial direction are met. Option 2 is simply the initial proposed level of service delivery for the Niagara Expansion. This approach is consistent with Metrolinx's approach to service expansion to new service areas and increased service beyond Option 2 will be driven by ridership demand.

The Updated IBC did not examine any future impacts or analysis related to Lincoln. That review and analysis requires a separate IBC process to be undertaken by third party proponents.

## **Relationship to Council Strategic Priorities**

The Metrolinx Updated Initial Business Case—Niagara Falls Rail Service Extension with a recommended service option for GO Rail service and a recommendation to proceed to the next stage is directly related to Council Strategic Priority: Responsible Growth and Infrastructure Planning Objective 3.1 of Advancing Regional Transit and GO Rail Services.

## **Other Pertinent Reports**

Confidential CSD 17-2019 – Niagara GO Station Development Strategy

<u>Metrolinx Initial Business Case Update—Niagara Falls Rail Service Extension</u> http://www.metrolinx.com/en/regionalplanning/projectevaluation/benefitscases/2019-11-14-Niagara-Falls-Rail-Extension-IBC-Update-FINAL.pdf



Prepared by:

Cheryl Selig Project Planning Lead, GO Implementation Office Public Works Department

Recommended and Submitted by:

Ron Tripp, P.Eng.
Acting Chief Administrative Officer /
Commissioner of Public Works

This report was prepared in consultation with Matt Robinson, Director, GO Implementation Office, and reviewed by Heather Talbot, Financial and Special Projects Consultant.



## **MEMORANDUM**

PWC-C 1-2020

**Subject: Transportation Infrastructure Means Protection Update 2** 

**Date: January 14, 2020** 

To: Public Works Committee

From: Frank Tassone, C.E.T., Associate Director Transportation Engineering

The purpose of this memo is to provide an update to Public Works Committee, regarding the Infrastructure Means Protection project, as a follow-up to report PW 24-2019, April 16, 2019 and Memorandum PWC-C 25-2019, October 8, 2019.

Tender documents 2019-T-290, (installation of infrastructure means protection system), were made available to the public on October 31, 2019 and the tender period closed on November 26, 2019. Staff received four (4) bids with the lowest compliant bid being submitted by Rankin Construction Inc. in the amount of \$2,647,600.00. Subsequently, Rankin Construction Inc. has been officially awarded the project.

During the tender period several contractors expressed a concern with Niagara Region's aggressive completion date being early March 2020. The basis for this concern was the time requirements for ordering the specialized materials for the fabrication of the woven mesh protection to be placed in the center of the structure (below the arch). Upon review with the material suppliers, it was determined that these concerns did have merit and a review of the construction schedule was performed to establish a completion date that would be reasonable and fair to all bidders. The completion date was subsequently amended to April 24, 2020. The design team has engaged the Ministry of Transportation (MTO) for the purposes of construction encroachment permitting and have received a favourable response. There is an understanding that the MTO contract on Hwy 406 will take precedence, however, given the timing of construction the design team does not currently see this as a risk.

Niagara Region Staff have previously reported that the means protection system will be constructed of Aluminum (PWC-C 25-2019). The use of this material has been extensively reviewed by our engineering consultant (Parsons). During the design phase of the project, wind tunnel testing was performed on a scaled down model of the means protection system to determine the amount of vibration dampening required. These tests proved that dampening of the means protection system was feasible. Upon the advisement of Parsons, Staff have required the fabrication of a full scale model of the outer barrier for further wind tunnel testing as a contract item in the tender. The addition of this step will serve to further solidify the extent of vibration dampening that has been designed into the means protection system and allow for minor modifications, if required.

Memorandum PWC-C 1-2020 January 14, 2020 Page 2

An important part of the success of this project is a working knowledge of the design and specialized materials that have been selected for this project. The selection of Aluminum was an innovative approach to the means protection system. Parsons' knowledge and understanding of the structure is unmatched given their experience as the designers of the bridge. This knowledge has gained further depth as Parsons moved through the design of the means protection system. The design process has allowed Parson the opportunity to further understand the effects of the means protection system and the materials that are being used on the project along with their expected reactions once erected.

In order to maintain the highest level of continuity as we move through the fabrication and erecting process staff have retained the services of Parsons to undertake the construction administration of the project. The procurement of these services has been retained via single source (in accordance with the procurement by-law) as it is unreasonable and would lend Parsons an unfair advantage in a competitive process given their prior involvement and depth of experience on the structure and the design of the means protection system. The contract administration costs are over and above the contract costs noted above.

Staff will continue to bring further updates to Public Works Committee as major milestones are achieved on this project and at a minimum on March 10, 2020 and April 7, 2020.

Respectfully submitted and signed by,

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Frank Tassone, C.E.T.

Associate Director, Transportation Engineering