


**Item No.11.1.2**  
**Halifax Regional Council**  
**July 23, 2013**

**TO:** Mayor Savage and Members of Halifax Regional Council

**SUBMITTED BY:**

Original signed by 

Richard Butts, Chief Administrative Officer

Original Signed by 

Mike Labrecque, Deputy Chief Administrative Officer

**DATE:** June 26, 2013

**SUBJECT:** Award – Sole Source to Atlantic Purification Systems for the Parkson Biolac® Aeration System at the Highway 101 Leachate Treatment Facility

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**ORIGIN**

The Approved 2012/13 and 2013/14 Project Budgets. The aeration system at the Highway 101 Landfill Leachate Treatment Facility has reached the end of its useful life.

**LEGISLATIVE AUTHORITY**

Under the HRM Charter, Section 79, Halifax Regional Council may expend money for municipal purposes. Administrative Order #35, The Procurement Policy, requires Council to approve the award of contracts for sole sources exceeding \$50,000 or \$500,000 for Tenders and RFP's. The following report conforms to the above Policy and Charter.

**RECOMMENDATION**

It is recommended that Halifax Regional Council, in accordance with the sole source provisions of Administrative Order 35, Section 8 (11)(A), sub-sections (a) and (b), (attached as Appendix A), award the sole source purchase of the Parkson Biolac® Aeration System equipment and services to Atlantic Purification Services for a Total Price of \$220,398.03 (net HST included) with funding from Project Account No. CWU01064, as outlined in the Financial Implications section of this report.

## **BACKGROUND**

The Highway 101 Landfill went into service as a regional landfill in 1977. The Highway 101 Leachate Treatment Facility (LTF) was constructed to treat leachate collected at the Highway 101 Landfill and underwent significant upgrades in 1988 and 1992 to enhance its performance.

The LTF is owned by Halifax Regional Municipality (HRM) and is operated by Halifax Water through an agreement with HRM. In its current configuration with existing leachate volume and quality, the LTF operates as a twin cell aerobic lagoon. Biological wastes are reduced by bacteria in the presence of oxygen in an extended aeration process. Further polishing of the lagoon effluent is performed by settling ponds and subsequent engineered wetlands. In general, the LTF is able to meet all of its regulatory effluent requirements in the current operating configuration.

The main mechanical process employed at this facility is aeration. Pressurized air is injected (aeration) into the lagoons to provide mixing energy to prevent settling of beneficial biological constituents and organic wastes, and to provide dissolved oxygen for biological processes to uptake nutrients and break down organic wastes.

Aeration is added to the lagoons by a controlled fine bubble aeration system under the tradename Biolac® as manufactured by Parkson. The current aeration system design and installation dates back to the 1992 upgrades of the LTF and operations staff report that the system has served its intended purpose very well for the duration of the installation but has now reached the end of its useful life. There have been numerous component failures of the system in recent years. Components that have failed include the downcomer assemblies, diffuser membranes, clamps, and various other related appurtenances. Operations staff report difficulty maintaining aeration system integrity in its current condition.

## **DISCUSSION**

HRM has worked collaboratively with Halifax Water on review of the aeration system replacement at the Highway 101 LTF. The Biolac® process has proprietary features including the oscillating movement of its aerators and its performance guaranteed in the original design and installation at the LTF. Parkson has confirmed the treatment performance guarantee for replacement of the system at the LTF as part of this upgrade. Direct replacement of the system components with Biolac® manufactured components will not require any further design engineering consultancy. To change aeration system suppliers would require further engineering support to validate treatment design features, performance guarantees and may require changes to the piping configuration and associated infrastructure such as piping supports, tether anchors, and pipe connections.

The Biolac® aeration system consists mainly of suspended aeration chains, fine bubble diffusers, air valves, clarification equipment, blowers and automatic electrical control system. The existing blowers, blower manifold, air headers, butterfly valves, stainless steel adapters and clarification equipment are in serviceable condition and will be re-used for this component replacement at the Highway 101 LTF. Atlantic Purification Systems (APS) is the local supplier of the Parkson

Biolac® system and a quotation for replacement was received on April 6, 2013. The quotation includes the complete supply of all aeration system components located in the aerated lagoons. It also includes some on-site services during installation with initial installation instructions, inspection and air balancing. Assembly and installation of the aeration system would be performed by independent contractor that has demonstrated experience with this infrastructure. Assembly and installation would be tendered by HRM with contract administration and construction observation support by Halifax Water staff anticipated by October, 2013.

Quotation	Company	Total Vendor Quote
For supply of all materials to replace the aeration system within Lagoons #1 & #2 in the Highway 101 Leachate Treatment Facility	Atlantic Purification Systems	\$211,340 + Net HST

If approved, it is anticipated that the aeration system would be pre-purchased with concurrent tendering and construction (i.e. assembly and installation) in the summer/fall 2013 construction season. It is very important that the system be operational before the air temperature falls below a threshold level that would inhibit biological growth. In the event that a system upset leads to biological die off, regeneration of biological inventory will require temperate weather conditions. Therefore, it is important that the system is operational before the end of October.

Given the sound historical performance of this system, its design for the site and proprietary features, its need for replacement, and the ability to procure and install with performance guarantees that do not require additional engineering design and support, it is recommended that the Parkson Biolac® fine bubble aeration system be replaced with same at the Highway 101 LTF. The purchase of the Parkson Biolac® Aeration System equipment and services from Atlantic Purification Services is being recommended within the terms and conditions of the sole source provisions of the Procurement Policy under sections (a) and (b) as listed below.

- (a) To ensure compatibility with existing products, facilities or services, to recognize exclusive rights, such as exclusive licenses, copyright and patent rights, or to maintain specialized products that must be maintained by the manufacturer or its representative.
- (b) Where, for technical reasons, there is an absence of competition and the goods or services can be supplied by a particular supplier and no alternative or substitute exists.

### **FINANCIAL IMPLICATIONS**

Based on the quoted price of \$211,340 plus net HST of \$9,058.03 for a total of \$220,398.03, funding is available in the 2013/14 and prior years Project Budgets from Project Account No. CWU01064 – Biolac Replacement. The budget availability has been confirmed by Finance.

Budget Summary:	<u>Project Account No. CWU01064, Biolac Replacement</u>
	Cumulative Unspent Budget \$765,000.00
	<b>Less: Sole Source Award</b> <b><u>\$220,398.03</u></b>
	Balance \$544,601.97

This project was estimated in the Approved 2013/14 and prior years Project Budgets at \$765,000 for the equipment, assembly and installation. The budget estimate used anticipated the requirement for full replacement of the total aeration system including all components so savings are expected as a result of the re-use of some components.

The balance of funds will be used for some concrete work for basic support structures at the site and the tender for construction (i.e. assembly and installation) of this aeration system by a capable and experienced contractor.

### **ENVIRONMENTAL IMPLICATIONS**

The replacement of the aeration system at the end of its useful life will allow the Highway 101 LTF to maintain its leachate treatment performance capability.

### **ALTERNATIVES**

No alternatives are recommended as the use of Parkson Biolac® components will maintain the Aeration System capability and performance guarantee. Direct replacement of the system components with Biolac® manufactured components will not require any further design engineering consultancy. To change aeration system suppliers would require further engineering support to validate treatment design features, performance guarantees and may require changes to the piping configuration and associated infrastructure such as piping supports, tether anchors, and pipe connections.

### **ATTACHMENTS**

Attachment A – Sole Source Purchases, Administrative Order 35, Section 8 (11) (A).

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A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/agenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Barry Nickerson, P. Eng., Waste Resources Engineer, 490-7472, and  
Robert Orr, P. Eng., Coordinator, Collection & Processing, 490-6698

Report Approved by: \_\_\_\_\_  
Gord Helm, MPA, PMP, Manager, Solid Waste Resources, 490-6606

Procurement Review: \_\_\_\_\_  
Anne Feist, Manager, Procurement, 490-4200

Report Approved by: \_\_\_\_\_  
Ken Reashor, P. Eng., Director, Transportation & Public Works, 490-4855

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**Attachment A**

**Sole Source Purchases, Administrative Order 35, Section 8 (11) (A)**

A. Sole Source/Single Source Purchases. These occur:

- (a) To ensure compatibility with existing products, to recognize exclusive rights, such as exclusive licences, copyright and patent rights, or to maintain specialized products that must be maintained by the manufacturer or its representative.
- (b) Where there is an absence of competition for technical reasons and the goods or services can be supplied only by a particular supplier and no alternative or substitute exists.
- (c) For the procurement of goods or services the supply of which is controlled by a supplier that is a statutory monopoly.
- (d) For the purchase of goods on a commodity market.
- (e) For work to be performed on or about a leased building or portions thereof that may be performed only by the lessor.
- (f) For work to be performed on property by a contractor according to provisions of a warranty or guarantee held in respect of the property or the original work.
- (g) For the procurement of a prototype of a first good or service to be developed in the course of and for a particular contract for research, experiment, study or original development, but not for any subsequent purchases.
- (h) For the purchase of goods under exceptionally advantageous circumstances such as bankruptcy or receivership
- (i) For the procurement of original works of art.
- (j) For the procurement of goods intended for resale to the public.
- (k) For the procurement from a public body or a not-for-profit corporation.
- (1) For the procurement of goods or services for the purpose of evaluating or piloting new or innovative technology with demonstrated environmental, economic or social benefits when compared to conventional technology, but not for any subsequent purchases.