

## **Procurement of Beneficial Use and Disposal Services for Biosolids**

<b>Date:</b>	February 11, 2010
<b>To:</b>	Public Works and Infrastructure Committee
<b>From:</b>	General Manager, Toronto Water
<b>Wards:</b>	All Wards
<b>Reference Number:</b>	P:\2010\Cluster B\TW\pw10003

### **SUMMARY**

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This report provides a summary of the contracts and biosolids management methods used in 2009 for biosolids generated at Ashbridges Bay Wastewater Treatment Plant (ABTP).

Currently, the City has four contracts in place that provide beneficial use of biosolids through pelletization, alkaline stabilization, agricultural land application and degraded site reclamation. When biosolids cannot be beneficially used, they are transported to various landfill sites for disposal.

In 2009, approximately 46.7% of the biosolids generated at ABTP were beneficially used and 53.3% were disposed of in landfill. The total cost for 2009 was \$13,020,599.

### **Financial Impact**

This report has no financial impact beyond what has already been approved in the current 2010 Toronto Water Operating and Capital budgets.

### **DECISION HISTORY**

At its April 25, 26 and 27, 2006 meeting, Council adopted Clause 17 in Works Committee Report 2, as amended, authorizing staff to issue a Request for Expression of Interest to potential service providers in order to achieve a target of 100 percent beneficial use of biosolids generated at the ABTP.

<http://www.toronto.ca/legdocs/2006/agendas/council/cc060425/cofa.pdf>

At its May 23, 24, and 25, 2006 meeting, Council adopted Notice of Motion J (22) authorizing staff to issue a procurement call for contingency disposal capacity to be utilized in the event of a closure of the U.S. - Canada border or conditions that adversely impact the City's ability to dispose of solid waste, water and wastewater treatment plant by-products and street sweepings in the U.S.

<http://www.toronto.ca/legdocs/2006/agendas/council/cc060523/cofa.pdf>

At its June 27, 28 and 29, 2006 meeting, Council adopted Notice of Motion J (32) authorizing staff in relation to biosolids management emergency issues to act in accordance with confidential instructions and directing a report back on the outcome of the steps subsequently taken by staff.

<http://www.toronto.ca/legdocs/2006/agendas/council/cc060627/cofa.pdf>

At its June 27, 2007 meeting, Public Works and Infrastructure Committee received an update on the outcome of steps taken by staff pursuant to the confidential instructions to staff and the authority given by Council, at its meeting on June 27, 28 and 29, 2006, by the adoption of Motion J (32).

<http://www.toronto.ca/legdocs/mmis/2007/pw/bgrd/backgroundfile-5593.pdf>

At its July 16, 17, 18 and 19, 2007 meeting, City Council authorized staff to finalize and execute the Operations, Maintenance and Pellet Marketing Services Agreement with Veolia Water Canada, Inc.

<http://www.toronto.ca/legdocs/mmis/2007/pw/reports/2007-06-27-pw07-cr.pdf>

At its February 23, 24 and 25, 2009 meeting, City Council authorized staff to procure additional beneficial use and landfill disposal services for biosolids from the ABTP on a sole source basis until such time as Council has considered and approved a Biosolids Management Master Plan.

<http://www.toronto.ca/legdocs/mmis/2009/pw/reports/2009-02-03-pw22-cr.htm>

At its August 5 and 6, 2009 meeting, City Council authorized staff to finalize negotiations with, enter into and execute any necessary amending agreement(s) with Veolia Water Canada, Inc. to transition to full time operation of the Pelletizer Facility under the Operations, Maintenance and Pellet Marketing Agreement.

<http://www.toronto.ca/legdocs/mmis/2009/pw/reports/2009-06-03-pw25-cr.htm>

At its meeting on November 30, December 1, 2, 4 and 7, 2009, City Council approved the Biosolids Master Plan for the ABTP and directed staff to implement the biosolids

management strategy of 100% beneficial use of biosolids and execute one or more contracts satisfactory to staff and the City Solicitor.

<http://www.toronto.ca/legdocs/mmis/2009/cc/decisions/2009-11-30-cc42-dd.htm>

## **ISSUE BACKGROUND**

Since August 2006 when Republic Services stopped accepting biosolids at its Carleton Farms landfill facility in Michigan, the City has diversified its biosolids management program at the ABTP. The City identified and contracted with a number of service providers in order to secure additional short and medium term biosolids management options until the Biosolids Master Plan (BMP) could be completed. The BMP is intended to provide a long term strategy for the management of biosolids.

The BMP was completed in the fall of 2009 and the recommended biosolids strategy for ABTP is 100% beneficial use of biosolids with landfill disposal as a contingency option. City Council approved this strategy in December 2009.

## **COMMENTS**

In 2009, biosolids generated at ABTP were managed under four contracts with four different service providers.

The following outlines the current status of these contracts, the quantities of biosolids each service provider managed and the cost incurred under each contract in 2009:

### **GSI Environmental Ltd. (“GSI”):**

GSI entered into a three (3) year contract with the City commencing in August 2006, which includes two additional one-year options. The first one year option was exercised in August of 2009.

GSI is currently contracted to manage a minimum of 35,000 wet tonnes of biosolids per year. In 2009, GSI managed 44,926 wet tonnes of biosolids through degraded site rehabilitation in Quebec, agricultural land application in Eastern Ontario and landfilling at sites in New York State at a cost of \$5,473,761.

### **Integrated Municipal Services Inc. (“IMS”):**

IMS entered into a three (3) year contract with the City in October 2006, which includes two additional one-year options. The first one year option was exercised in October of 2009.

IMS is currently contracted to manage a minimum of 10,000 wet tonnes of biosolids per year at the N-Viro site in New York State. The N-Viro technology involves adding an alkaline material to the biosolids in order to further stabilize the biosolids and the resulting material is used as a fertilizer. The services provided by IMS include transport and haulage to the processing site and marketing of the fertilizer produced.

There is provision in the contract for the parties to mutually agree to increase the volume sent to IMS provided IMS is able to secure additional biosolids management sites and the City is in need of additional capacity. In 2009, IMS provided additional services by transporting and disposing of biosolids at a landfill site in New York State. In 2009, IMS managed 23,073 wet tonnes of biosolids from ABTP at a cost of \$3,732,663.

#### **Terratec Environmental (“Terratec”):**

The current four (4) year agreement between the City and Terratec expires in March 2011. Terratec manages the City’s biosolids by transporting, handling and applying the material to agricultural lands in Southwestern Ontario and hauling to Green Lane landfill when directed to do so by the City. Agricultural land application continues to be highly variable due to factors such as inclement weather, lack of seasonal storage, stringent regulations and land availability. In 2009, Terratec land applied and/or transported 35,103 wet tonnes of biosolids from ABTP at a cost of \$1,304,705. Tipping fees associated with disposing of biosolids at Green Lane Landfill and paid directly to Toronto Solid Waste Management by Toronto Water totalled \$1,171,112.

#### **Veolia Water (“Veolia”):**

Operation of the Pelletizer Facility is performed by Veolia under the terms of a ten year (plus ten year option) Operations, Maintenance and Pellet Marketing (OM&M) Agreement executed in September 2007. The terms of the agreement are not yet in full effect pending completion by Veolia of its remaining construction obligations and the execution of an Amending Agreement as authorized by Council in August 2009. Although the Pelletizer Facility was shut down during the recent City labour disruption, it generally remained in operation for an extended commissioning period for most of 2009. Facility output has been steadily improving and is currently in the range required under the Amending Agreement.

In 2009, Veolia managed an estimated 33,527 wet tonnes<sup>1</sup> of biosolids, all of which was processed by the Pelletizer Facility at a cost of \$1,495,570. The Amending Agreement, once executed, will retroactively increase the 2009 total cost by approximately 12%. Continued full time operation of the facility remains contingent upon the execution of the Amending Agreement. Veolia marketed the pellets in Ontario as a fertilizer which was sold in bulk directly to farmers.

<sup>1</sup> Wet Tonne quantity estimated from 9,374 Dry Tonnes of pellets produced

The table below summarizes how each biosolids service provider contracted by the City managed their allotted portion of the biosolids stream generated at ABTP in 2009.

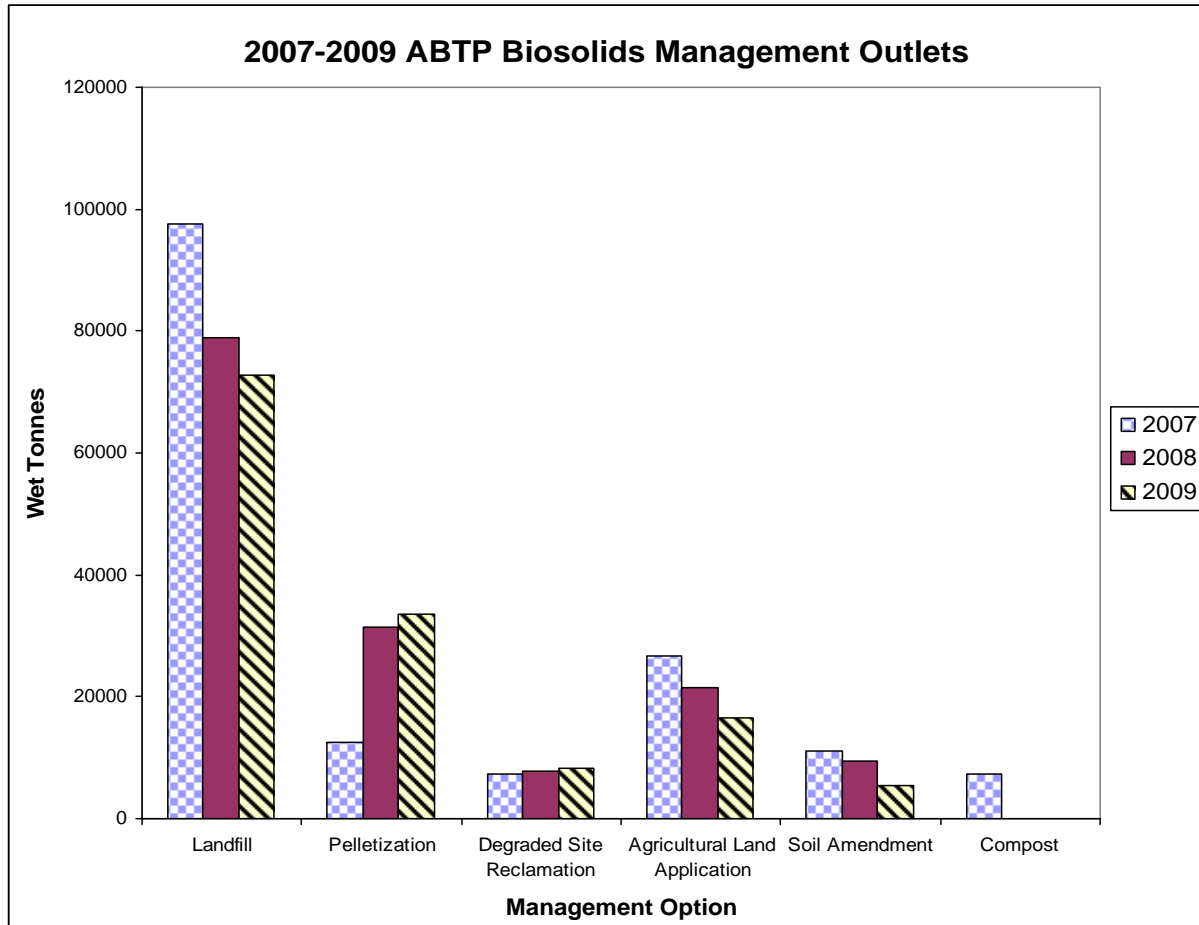
<b>Biosolids Management Method</b>	<b>2009 Biosolids Service Providers</b>				
	<b>GSI</b>	<b>IMS</b>	<b>Terratec</b>	<b>Veolia</b>	<b>TOTAL</b>
Ag. Land Application	516		16,026		<b>16,542</b>
Degraded Site Reclamation	8,264				<b>8,264</b>
Soil Amendment		5,441			<b>5,441</b>
Pellets Production				33,527 <sup>1</sup>	<b>33,527</b>
Green Lane Landfill			19,077		<b>19,077</b>
Landfill (various sites)	36,146	17,632			<b>53,778</b>
<b>TOTAL</b>	<b>44,926</b>	<b>23,073</b>	<b>35,103</b>	<b>33,527</b>	<b>136,629</b>

*All quantities in wet tonnes*

Since the August 2006 loss of the Carleton Farms landfill in Michigan, total annual biosolids production at ABTP has been reduced from approximately 162,000 wet tonnes to 136,629 wet tonnes through improvements and efficiencies at the plant. During this period, approximately 45% of ABTP biosolids were beneficially used and approximately 55% were disposed of in various landfills. The following graph demonstrates the trends over the past three years including the increased reliance on pelletization and decreased reliance on landfilling.

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<sup>1</sup> Wet Tonne quantity estimated from 9,374 Dry Tonnes of pellets produced



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## SIGNATURE

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