



City of
Peterborough

TO: Members of the Waste Management Steering Committee

FROM: W. H. Jackson, Director of Utility Services

MEETING DATE: May 12, 2014

**SUBJECT: Report WMC14-007
Increase in Waste Density due to Operations**

Purpose

To update Waste Management Steering Committee on improvements to the operation of the Landfill site since the changeover of Landfill Operator.

Recommendation

That Waste Management Committee approve the recommendation outlined in Report WMC14-007 dated May 12, 2014 of the Director of Utility Services, as follows:

That Report WMC14-007 providing information on the increase in waste density be received for information.

Budget and Financial Implications

There are no budget or financial implications to receiving this report however, if Tomlinson continues to successfully achieve an apparent waste density of 0.965 tonnes/m³ the life of the landfill will be increased possibility resulting in the deferral of the construction of Cells 3 and 4.

Background

When Tomlinson was awarded the contract to operate the landfill in 2012, their representative was asked what additional value they could bring to this contract that would increase the remaining landfill life above the projected years. Council was advised that one of the changes that would occur would be increased landfill density as a result of the equipment used and operational technique employed by Tomlinson. Following up from this, staff recently requested Tomlinson to verify their statement.

Based on volumes and weights that have been confirmed by UEM (the Landfill Engineering Consultant), the apparent density in Cell 2 that Tomlinson has achieved since they started (November, 2012 until December 31, 2013) is 0.965 tonnes/m³. This compares to the overall apparent waste density of 0.76 tonnes/m³ for Cell 2 up to December 31, 2013.

Table 1 demonstrates how the life of Cell 2 is extended with an increased waste density for various incoming waste quantities. If Tomlinson continues to achieve the higher waste density described above, the overall waste density of Cell 2 can reach 0.90 tonnes/m³. This, in turn, will increase the life of Cell 2 from 0.5 to 0.7 years.

Table 1: Cell 2 Operational Life as a Function of Incoming Waste and Waste Density

Assumed Annual Incoming Waste (tonnes)	Assumed Waste Density (tonnes/m ³)	Estimated Annual Volume Required (m ³)	Remaining Cell 2 Operational Life (Years)
50,000	0.65	76,923	3.24
50,000	0.76	65,789	3.78
50,000	0.90	55,556	4.48
60,000	0.65	92,308	2.70
60,000	0.76	78,947	3.15
60,000	0.90	66,667	3.73
70,000	0.65	107,692	2.31
70,000	0.76	92,105	2.70
70,000	0.90	77,778	3.20

Submitted by,

W. H. Jackson
 Director, Utility Services

Contact Name:
 W. H. Jackson, P. Eng.
 Director of Utility Services
 Phone: 705-742-7777 Ext. 1894
 Fax: 705-876-4621
 E-mail: wjackson@peterborough.ca