



Staff Report

Infrastructure & Public Works

Report To: Special Meeting of Council
Meeting Date: June 26, 2017
Report Number: CSPW.17.077
Subject: Request for Leachate Budget Increase
Prepared by: Jeffery Fletcher, Manager of Solid Waste and Environmental Initiatives

A. Recommendations

THAT Council receive Staff Report CSPW.17.077, "Request for Leachate Budget Increase";

AND THAT Council approve increasing the 2017 landfill operation Budget for leachate management by \$180,750 from \$236,250 to a total of \$417,000;

AND THAT Council approve the increase of the leachate haulage contract with Region of Huronia Environmental Services by \$87,500 from \$122,500 to a total of \$210,000, excluding taxes, for 2017 as part of the total \$180,750 increase;

AND THAT Council approve increasing the 2017 landfill operation Budget for leachate treatment by \$81,250 from \$113,750 to a total of \$195,000, as part of the total \$180,750 increase;

AND THAT Council approve a budget increase of \$12,000 for odour treatment and manifest fees, as part of the total \$180,750 increase.

B. Overview

Leachate generation is being influenced by high amounts of rain fall and it is also suspected that there is groundwater infiltration. The groundwater infiltration can be avoided, however it will involve some investigating into construction methods and costs. Town staff will investigate with the design engineer and will return to Council with corrective action. In the meantime, Staff propose increasing the leachate haulage and treatment budget to coincide with leachate generation observed in 2016.

C. Background

The new landfill cell completed October 2015 uses a liner and leachate collection system. Collected leachate (rain water and moisture from incoming waste) must be removed from the cell by tanker truck and hauled for treatment at the Craigeith Waste Water Treatment Plant.

The anticipated annual production of leachate, as identified during the site design process, was 7,000 cubic metres per year. In 2016, a total of 25,000 cubic metres was hauled. The budget for leachate haulage and treatment was increased for 2017 as a result of higher than anticipated leachate production in 2016. The 2017 budget amount anticipated 17,500 cubic metres of leachate. This volume has already been trucked and treated as of the end of May, 2017.

The table below outlines the local precipitation and expected leachate volumes based on the liner area versus the actual volume of leachate trucked and treated to the end of May 2017 compared to 2016.

	Local Precipitation 2017 (mm)	Anticipated Leachate Volume based on Precipitation (cubic metres)	2017 Actual Leachate Haulage and Treatment (cubic metres)	2016 Actual Leachate Haulage and Treatment (cubic metres)
Jan	90.4	1,609	2284	1494
Feb	53.2	947	3441	1496
Mar	49.6	883	4012	6420
Apr	130.6	2325	2649	4492
May	100.4	1787	4735	5640
Total	424.2	7550	17121	19515

D. Analysis

Town Staff is investigating the source of the additional leachate. The focus is being placed on the open end of the cell where the lined cell will be expanded. A change in the liner design during construction may be permitting groundwater to infiltrate at the southern boundary of the cell.

The historical average precipitation amount for January to May is 380 mm, less than what has been experienced in 2017, however not a significant enough amount to account for the increase in leachate. The table in the above reveals a 10,000 cubic metre increase in leachate generation over what would be expected to be generated from to date precipitation. The table above also shows the comparable 2016 actual generation, which is just higher but similar to the 2017 to date amount.

In 2016 the leachate haulage budget was increased from \$61,250 to \$220,070. It was believed in 2016 that the increase would be unique for that year related to residual from 2015. However, a review of the quantities indicates that the higher volume is the norm.

Staff will be meeting with the design engineer and contract administrator June 27, 2017 to understand how and why the field modification was made and to develop a plan to correct as necessary the installed works this fall. The original design concept involved the liner flap positioned on top of a berm. This elevated position would block groundwater flow. The flow from the adjacent waste mound would be naturally attenuated. During construction a design change was made that possibly permits groundwater to enter the lined portion of the cell. Staff will provide a detailed report to Council once further information is available.

In order to address the expected increased leachate haulage in 2017, Town Staff is recommending that the leachate management budget be increased by \$180,750 from \$236,250 to a total of \$417,000. Leachate haulage will increase from \$122,500 to \$210,000 and the corresponding treatment budget be increased from \$113,750 to \$195,000. There are also other associated costs that will increase with increased haulage and treatment. The total increase will also include \$12,000 for odour treatment and provincial manifest fees.

E. The Blue Mountains Strategic Plan

Ensure our infrastructure is sustainable, by ensuring the proper financial resources are in place to operate and maintain the landfill.

F. Environmental Impacts

Continuing to haul and treat the landfill's leachate is currently the only option to avoid leachate increasing to a level that would create operational challenges and compliance issues under the Site's Environmental Certificate of Approval.

G. Financial Impact

The table below outlines the estimated annual leachate management cost and compares that to a new estimate based on actual haulage in the first 5 months of 2017 and a review of average climatic data. A cost overrun of \$180,750 is anticipated in 2017.

Item	Original 2017 Budget Estimate	New Anticipated Amount 2017	Increase
Annual Leachate Generation - New Cell	17,500 m3	30,000 m3	12,500 m3
Haulage Cost (1)	\$122,500	\$210,000	\$87,500
Treatment Charge (2)	\$113,750	\$195,000	\$81,250
Sub Total	\$236,250	\$405,000	\$168,750
Other Related	\$0	\$12,000	\$12,000
Total	\$236,250	\$417,000	\$180,750

(1) Haulage Rate (2017) \$7.00/cubic metre

(2) Treatment Rate \$6.50/cubic metre

At this time Staff are recommending that the overruns stay unfinanced until the 2017 year-end report is available; through that report Staff will look at the best funding source for this operating overrun.

Looking ahead to 2018 an estimated budget increase, based on an additional 12,500 cubic metres of leachate haulage and treatment, of \$180,750 will represent a 1.24% increase over the 2017 taxation levy. During the budgeting process Staff will be looking at ways to reduce this impact to the tax rate.

H. In consultation with

Ruth Prince, Director of Finance and IT Services

I. Attached

None

Respectfully submitted,

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