



TO: GENERAL COMMITTEE

SUBJECT: LANDFILL RE-ENGINEERING, EXTENSION OF PROJECT SERVICE AGREEMENT

PREPARED BY AND KEY CONTACT: SANDY COULTER, MANAGER OF ENVIRONMENTAL OPERATIONS
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SUBMITTED BY: JOHN F. THOMPSON, P. ENG., DIRECTOR OF ENVIRONMENTAL SERVICES, Ext. 4802 

GENERAL MANAGER APPROVAL: RICHARD FORWARD, GENERAL MANAGER OF COMMUNITY OPERATIONS 

CHIEF ADMINISTRATIVE OFFICER APPROVAL: CARLA LADD, CHIEF ADMINISTRATIVE OFFICER 

RECOMMENDED MOTION

1. That pending approval of the 2013 Business Plan and Budget, the City Clerk be authorized to execute an extension to the existing single source Project Service Agreement with Golder Associates Ltd. for the completion of the Landfill Re-engineering Project, with an estimated value of \$3.4 million as included as part of overall project budget.

PURPOSE & BACKGROUND

Overview

2. The Barrie Landfill Re-Engineering project is a complex multi-year effort designed to improve the protection of groundwater and surface water resources from impacts associated with the landfill by the installation of an engineered liner beneath the western part of the landfill, and to extend the lifespan of the landfill through reclamation and re-use of daily cover and by increased waste density.
3. Through Council Motion 08-G-372 Golder Associates Ltd. (Golder) was awarded the first portion of the project engineering work on a single source contract basis with options to extend, and has been working since that time under a negotiated Project Service Agreement.
4. Golder's performance on this project to date has met, and in many cases exceeded City expectations. As a result, the project is on schedule and on budget and the City has gained considerable valuable landfill lifespan.
5. The overall project budget and the Project Service Agreement accounted for project completion. Staff are recommending that the existing Project Service Agreement with Golder be extended to the completion of the Landfill Re-engineering project.
6. The costs for related engineering services are included in the project budget which form part of the 2013 Business Plan that Council will be considering for approval.

Purpose and Background

7. The purpose of this Staff Report is to provide Council with the details associated with the recommendation to extend the current Project Service Agreement with Golder as the Project Engineer to the completion of the Barrie Landfill Re-engineering project.
8. The landfill site is part of the Environmental Centre, located in Ward 5 on the west side of Ferndale Drive North between Edgehill Drive and Benson Drive.
9. On June 30th, 2008 Council approved Motion 08-G-372 Landfill Site Re-engineering, which authorized staff to proceed with the Landfill Site Re-engineering project as follows:
 - a) That staff be authorized to continue with the multi-year Landfill Re-engineering Program, including waste reclamation and installation of an engineered liner system, using a combination of contracted and City-owned and/or supplied materials and equipment, described as in paragraph 28 of Staff Report OPR006-08.
 - b) That staff be authorized to procure the contractor(s), materials and equipment necessary to complete the Landfill Re-engineering Program in accordance with the City's Purchasing By-law and the Blended Project Delivery Approach as described in paragraph 28 of Staff Report OPR006-08 including but not limited to contracted forces, a grinder/shredder, screening and stacking equipment and the pre-purchase of liner materials for the re-engineered landfill cells.
 - c) Due to Golder Associates Ltd.'s detailed environmental and hydrogeological knowledge of Barrie's Landfill site, that they be retained, on a single source contract basis, for three (3) years at an estimated cost of \$2 million as the project Engineer for the purposes of detailed design and approvals including gas collection, preparation of project specifications and bid documents, project quality control and assurance, with options to extend.
 - d) That staff provide annual project updates to Council including budget performance and projections.
 - e) That the Director of Finance be authorized to issue 10-year debentures for Phase 1 in the amount of \$10 million.
10. On May 10th, 2010 Council approved Motion 10-G-188 Landfill Site Re-engineering – Status Update as follows:
 - a) That Staff Report OPR005-10 regarding the status update of the Landfill Re-Engineering project is received for information.
 - b) That future Landfill Re-engineering annual status updates be provided in the form of a Memo to General Committee for their information.
 - c) That the project plan identified in Staff Report OPR006-08 be amended to replace the shredding equipment with a screening plant.
11. Golder has been the City's Landfill Project Engineer since the inception of Re-Engineering Project including the conceptual and detailed design and construction oversight of all lined landfill cells, leachate collection system, landfill gas collection system and abstraction plant, purge wells and the initial and all subsequent applications for approvals with the regulators (i.e., the Ministry of the Environment). Their expertise in the type of work being undertaken and their experience in the

assessment, design and operation of the environmental control systems have been critical to project success to date.

12. During the execution of Phase 1 and Phase 2, to date, Golder has met or exceeded all expectations as Project Engineer related to the Landfill Re-engineering project. As a result of their management of the project and pro-active approach to project schedule control and design implementation, the project is on schedule and on budget. Their design and management of the project is also a significant contributor to the increased lifespan of the landfill through the management of the materials generated from the reclamation project, which represents a significant value to the City.
13. Golder consistently meets scheduled and unanticipated deadlines for project deliverables and unexpected design changes and challenges in order to ensure that the City is able to operate the landfill to dispose of City waste while limiting impacts to adjacent residents. Timing of reclamation and landfill cell construction is a challenging and complex process due to the need to manage a large volume of waste in a manner which limits off site odour impacts, while at the same time dealing with weather related challenges typical for construction projects. As a result, the City has been confident in its ability to manage incoming waste at the site while maintaining relationships with adjacent residents and the regulators.
14. Golder has played a significant role in the development of air quality and odour monitoring, design and implementation of operational changes to prevent unacceptable odours, resolution of off-site odour impacts and has expeditiously provided detailed odour and air quality information to the City for timely release to concerned area residents.
15. Golder facilitated several public open houses on behalf of the City related to the project and provided key communications and public relations assistance to City staff. With Golder's assistance, the community has a better understanding of the project objectives. Citizens appear to be more accepting of the project and they also are aware that there are no public health impacts associated with the project.
16. Golder has demonstrated their ability to work well with the regulatory authorities and has gained their confidence to ensure that compliance requirements are met, including associated Environmental Compliance Approval amendments and reporting.
17. Golder has a detailed knowledge of the Contracts, developed with their assistance, for the General Contractor and a proven ability to work with the General Contractor and the City of Barrie. Their oversight of the Contractor's work and associated claims and payment certificates is thorough and the best interests of the City are consistently and thoroughly considered in enforcement of contract conditions and performance, reviewing change order requests and recommended approvals for payment.

ANALYSIS

18. Phase 3 of the Landfill Re-engineering project is identified in the Legislated section of the proposed 2013, 2014 and 2015 Capital Plan. The Barrie Landfill operates under an Environmental Compliance Approval issued by the Ministry of the Environment which establishes compliance criteria at the property boundary for ground and surface water quality. Engineered liners are being installed as part of the project to control landfill leachate at the source. This will preserve ground water quality and assist in maintaining compliance with the Environmental Compliance Approval.
19. The proposed extension of the existing Project Service Agreement would be effective pending approval of the 2013 Ten Year Capital Plan, until project completion which is currently anticipated

- to be the end of 2015. The value of the work is estimated to be \$3.4 million and is consistent with the scope of work requested by the City.
20. Golder has been the Engineer and designer for the Landfill Re-engineering Project. Detailed knowledge of the project design and expected performance is critical to the implementation of construction as well as to the ultimate long term operation of the systems. Changing the Project Engineer in the middle of a construction project would not typically be recommended for this reason.
 21. Warranty work for the landfill gas abstraction and flaring system is currently ongoing and it would be challenging for others to deal with this in a cost effective and expeditious manner. Golder was the designer of the system and is knowledgeable of the operation of this system.
 22. To ensure best value for the City through the competitive bid process to retain a General Contractor and to ensure a smooth transition from Phase 2 to Phase 3, the project plan has been designed to release the Phase 3 tender documents as soon as possible after the 2013 Business Plan approval, which requires the ongoing preparation of the tender documents. Golder possesses detailed knowledge of the geotechnical and design criteria and performance objectives related to the project and have a sound understanding of potential risks.
 23. Golder has demonstrated a high degree of professionalism in delivering the engineering services required to execute the highly complex and socially sensitive Landfill Re-engineering project on schedule and on budget and have significantly contributed to the increased landfill lifespan achieved as a result of the project. Given this and for the reasons noted above, the Environmental Services Department recommends extending the existing Project Service Agreement with Golder Associates Ltd. as the Landfill Re-engineering Project Engineer to the completion of the project.

ENVIRONMENTAL MATTERS

24. The motion contained within this Staff Report does not negatively impact the environment.

ALTERNATIVES

25. There are two alternatives available for consideration by General Committee:

Alternative #1

General Committee could choose to direct staff to secure professional engineering services for the Landfill Re-engineering project through the competitive bid process.

This alternative is not recommended as established procurement timelines would result in delays of at least four (4) months which negatively impacts the project moving forward and places untimely and potentially impossible demands on in-house resources. More importantly, the delays could affect construction of the next phase of liner and ultimately affect short term placement of incoming City waste which will likely increase the cost of the project.

This alternative is not recommended as City staff to not foresee a net financial benefit to competitive bidding at this stage of the project. Golder developed revised rates and detailed scope and time estimates for this phase of the project which recognize the need to ensure the City receives value in their services, as required under the Project Service Agreement.

The Environmental Operations Branch has reviewed this information and has confirmed the proposed rates are competitive compared to industry standards.

Golder Associates Ltd. possesses extensive engineering design knowledge and operational and construction oversight experience for the Barrie Landfill Re-engineering project, the site hydrogeological conditions, landfill gas system construction and operation, storm water control, compliance criteria and neighbourhood sensitivities with respect to odour and health concerns. An alternate project engineer would not have first hand knowledge of design and associated project risks and as a result, which could in the view of City staff, negatively affect the overall management and possible the implementation and cost of the project. In addition, the public and regulator confidence in the project execution could be negatively impacted.

Alternative #2

General Committee could choose to alter the length of recommended extension.

This alternative is not recommended as the recommended motion reduces the need to seek repeated approvals for shorter single source contract durations.

FINANCIAL

26. As noted in paragraph 14, the motion contained in this Staff Report is dependant on Council approval of the 2013 10 Year Capital Plan.
27. The approved Landfill Re-engineering budget approach for the three (3) phases is \$47.2 million, out of which \$24 million has been utilized as of October 31, 2012. It is forecasted that the remaining balance of \$23.2 million will be fully spent at project completion by the end of 2015.

LINKAGE TO 2010-2014 COUNCIL STRATEGIC PLAN

28. The recommendation included in this Staff Report support the following goals identified in the 2010-2014 City Council Strategic Plan:
 - Strengthen Barrie's Financial Condition
 - o The recommended motion is linked to Council's strategic priority of Strengthen Barrie's Financial Condition by ensuring the City receives best value for services while reducing project risks such as additional cost and non-compliance.