

4

AWARD OF CONSTRUCTION SERVICES CONTRACT FOR KESWICK WATER POLLUTION CONTROL PLANT EXPANSION PROJECT

The Environmental Services Committee recommends the adoption of the recommendation contained in the following report dated September 3, 2009, from the Commissioner of Environmental Services.

1. RECOMMENDATION

It is recommended that:

1. Council award the construction contract for the expansion of the Keswick Water Pollution Control Plant to the low bidder, Graham Construction and Engineering Inc., in the amount of \$54,898,890, including GST in accordance with the purchasing By-law. It is recommended that Council increase the 2011 and 2012 project budgets by \$28M to reflect the revised total project cost.

2. PURPOSE

This report provides background to award the construction contract and to update the total project budget for the expansion of the Keswick Water Pollution Control Plant to the low bidder, Graham Construction and Engineering Inc., in accordance with the purchasing By-law.

3. BACKGROUND

In May of 2006, Hatch Mott MacDonald was engaged to provide engineering, and contract administration services for the expansion of the Keswick Water Pollution Control Plant (WPCP). The proposed Keswick WPCP will provide tertiary level wastewater treatment utilizing state of the art membrane filtration technology for the community of Keswick, Town of Georgina. This technology was selected to achieve the stringent Ministry of Environment effluent criteria for phosphorus discharge to Lake Simcoe.

The 2009 Council approved total project budget for the Keswick WPCP expansion is \$27M. The estimate for this approved budget was prepared in April 2008. The project was tendered in April 2009 prior to updating the 2010 capital budget.

During the detailed design phase of the project, five general contractors were pre-qualified due to the complexity of the proposed works. The complexity of the project arises due to the following:

- Upgrading and expanding the existing treatment process while maintaining the existing processes in operations.
- High groundwater table requiring dewatering while actively monitoring and mitigating impacts to adjacent structures and meeting Ministry of the Environment (MOE) Permit to Take Water (PTTW) conditions.
- Site area constraints will limit contractor flexibility in performing works, requiring timely coordination with operations staff.
- Construction will require effective sequencing and repeated staging to perform works on the constrained site.
- Retrofitting the existing tertiary level treatment to the existing process.
- Close proximity to residents requires appropriate communication with respect to construction impacts.

The project was tendered in April 2009 and closed in June 2009. Two bids were received, one from Graham Construction and Engineering Inc. and the other from North America Construction (1993) Ltd. with tender prices of \$54,898,890 and \$55,860,647.85 respectively, including all applicable taxes. Following tender closing, a Bid Review Committee (BRC) reviewed the validity of the bids on June 17, 2009 and June 18, 2009 and concluded that both bids were acceptable.

4. ANALYSIS AND OPTIONS

Staff engaged CH2M Hill to provide an Opinion of Probable Estimate to ascertain project value

Based on the value of the bids received, staff requested that engineering firm Hatch Mott MacDonald (HMM) review the pre-tender cost estimate of \$35M to include any scope changes undertaken since the pre-tender estimate was prepared as well as any potential risk premiums associated with any recent changes in the market including impact of federal stimulus projects. HMM's revised cost estimate based on the updated analysis was \$45M.

Subsequent to bid closing, staff engaged CH2M Hill (CH2M) to provide an independent Opinion of Probable Cost (OPC). An independent review was necessary given the variance between the bids and the pre-tender estimates. CH2M's OPC report for the Keswick WPCP expansion indicated that the project value should be within the range of \$51M to \$55M. Based on results of CH2M's report and staff's own review of the bids received, it is staff's opinion that the bids appropriately reflect construction cost. Given that the project was tendered in 2009 it is appropriate to adjust the 2010 total project budget to reflect tenders received.

Capital Planning and Delivery is implementing enhanced approach to validate cost estimates

Capital Planning and Delivery's (CPD) cost estimating guidelines require pre-tender estimates to be provided by consultants. The estimates are then reviewed by staff to ascertain completeness. Staff is currently implementing a methodology to enhance CPD's ability to validate the completeness, accuracy and potential risk on capital projects. This enhanced approach will enable project managers to more accurately update project capital cost as the project evolves and will act as a cross-reference to estimates provided by consultants. The enhanced tool is expected to be operational by the end of 2009.

Production of a low pre-tender cost estimate by HMM for this project will be factored into their project performance evaluation and recorded in the Performance Evaluation System database being rolled out for contractors in 2009 and for consultants in 2010.

5. FINANCIAL IMPLICATIONS

The total 2009 Council approved budget for this project is \$27M. The low bid is \$54.9M resulting in a need to update the approved 2009 budget for this project to \$55M. Funding is available in the approved 2009 10-year Capital Wastewater budget for anticipated expenditures for 2009 and 2010. Additional budget is required in the 2011 and 2012 program years of the 2010 Capital budget to undertake construction of the Keswick Water Pollution Control Plant expansion project.

6. LOCAL MUNICIPAL IMPACT

The Keswick Water Pollution Control Plant (WPCP) provides tertiary level wastewater treatment for the community of Keswick in the Town of Georgina. The Keswick WPCP, which was constructed in 1984, currently services approximately 23,400 people, and is operating near its existing rated capacity. Based on projected population growth in the Town of Georgina, the servicing capacity of the WPCP is forecasted to be reached by late 2011.

Based on an award date of October 1, 2009, the in service date of the treatment process of the facility will be early 2012.

In recent communications with the Region, the Town has indicated that due to the current economic downturn, a six- to eight-month delay on this project into 2012 will not adversely impact the servicing of future growth.

7. CONCLUSION

Two bids were received, one from Graham Construction and Engineering Inc., and the other from North America Construction (1993) Ltd., with tenders of \$54,898,890 and \$55,860,647.85 respectively, including all applicable taxes. Results of an Opinion of Probable Cost report completed by CH2M Hill indicate that the received bids appropriately reflect true construction costs.

Staff recommends that Council award the construction contract for the expansion of the Keswick Water Pollution Control Plant to the low bidder, Graham Construction and Engineering Inc.

For more information on this report, please contact Daniel Kostopoulos, Director, Capital Planning and Delivery, Environmental Services, at extension 5070.

The Senior Management Group has reviewed this report.