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MAPLE PUMPING STATION UPGRADES - CONSULTANT SELECTION AND DEMAND RESPONSE PROGRAM PROJECT NUMBERS 75420 AND 78512

The Environmental Services Committee recommends the adoption of the recommendations contained in the following report dated January 28, 2010, from the Commissioner of Environmental Services and the Commissioner of Corporate Services.

1. RECOMMENDATIONS

It is recommended that:

1. CMP Engineering Group Ltd. be engaged to undertake the Class EA, Detailed Design, Contract Administration and Site Inspection for the Maple Pumping Station Upgrades project, as outlined in this report, at an upset limit fee of \$695,334.25 excluding GST. The upset limit fee includes:
 - a. \$468,324.25 excluding GST for class EA, detailed design and engineering services during construction.
 - b. \$227,010 excluding GST for contract administration and site inspection services, based on 50 weeks construction duration estimated by staff.
2. The Commissioner of Environmental Services be authorized to adjust the contract administration and site inspection fees using the competitive unit price of \$4,439.93 per week excluding GST, once the updated construction duration is determined and specified in the tender documents.
3. The Commissioner of Corporate Services be authorized to execute a formal agreement for up to five years with an Ontario Power Authority approved firm on the basis of a competitive offer and terms for the Demand Response program.

2. PURPOSE

This report seeks Council authorization to retain engineering consultant services related to the Class EA, Detailed Design, Contract Administration and Site Inspection for the Maple Pumping Station Upgrades project. A location plan and servicing area map is appended to this report (*see Attachment 1*). The Region's Purchasing By-law requires Council authorization to award Request for Proposals (RFP) over \$500,000 or when the recommended proponent is not the lowest bidder.

The report also seeks Council approval for enrollment in the Demand Response program and authorization for entering into an agreement with an Ontario Power Authority (OPA)

approved firm on the basis of a competitive offer and terms for the Demand Response program.

3. BACKGROUND

The Maple pumping station primarily services PD7 and PD8 water pressure districts and also provides supplemental servicing to PD9 and communities to the north in the Towns of Aurora and Newmarket.

Need to increase capacity for the Maple PD7 water pumping station

The 2009 Water and Wastewater Master Plan Update recommends increasing capacity of the Maple Pressure District 7 (PD7) water pumping station as development builds out and demand increases. Based on an evaluation of current water demand and future planned development in the PD7 serviced communities, the Master Plan recommends adding one pump at the Maple PD7 water pumping station to increase the firm capacity of the pumping station from 45.4 MLD to 68.1 MLD.

Backup power required to maintain water supply during grid power failure

Currently there is no secondary power feed or backup power generator at this pumping station. Operation of this pumping station during grid power failure is critical to maintain water pressure and supply to serviced communities. Providing backup power generators at this critical facility will ensure reliable and sustained water supply during grid power failure.

Power failure mitigation plan in place until the completion of project

The project completion date is the first quarter of 2012. Until that time, in order to mitigate a low water emergency situation as a result of hydro power failure, a mobile backup power generator will be provided. The mobile generator unit will help mitigate future power failure situations across the Region.

Opportunity to enroll in Demand Response program

The Demand Response program is an initiative of the Ontario Power Authority (OPA) to reduce the peak energy demand by operating backup power generators under peak demand conditions and taking load off the power grid. The consultant will evaluate natural gas (cleaner fuel when compared to diesel) fuelled back up power generator to achieve stringent emission criteria required by the MOE to participate in the program.

Participating in this OPA sponsored Demand Response initiative will result in potential revenue generation of up to \$100,000/year for making backup power generators available

during peak energy demand. The consultant's assignment includes preparing a feasibility study and financial viability analysis for the Demand Response program.

The Region has entered into demand response agreements at other Regional sites. Assuming the consultants report indicates it is a viable financial option it would appear prudent to move forward with a similar arrangement at this location.

4. ANALYSIS AND OPTIONS

Seven engineering consulting firms responded to the Request for Proposal

In accordance with the Region's Purchasing By-law, engineering firms were invited to submit proposals for the assignment. The following seven firms submitted proposals:

- AECOM
- Conestoga Rovers and Associates (CRA)
- CMP Engineering Group Ltd.
- Genivar Consultants LP
- GHD Inc.
- Insyght Systems Inc.
- The Municipal Infrastructure Group (TMIG)

The Request for Proposal detailed the scope of work required, which included the following services:

- Project management, planning and control
- Environmental assessment and detailed design
- Procurement of approvals
- Tender and award
- Construction contract administration including site inspection
- Quality assurance and quality control

Proposals were evaluated using the two-envelope system

Proposals were evaluated using the two-envelope system with technical and financial information submitted in separate envelopes. Technical proposals were evaluated prior to any knowledge of financial information. Content of technical proposals was weighted at 80%.

The Region's proposal evaluation team reviewed the seven technical management proposals based on the following criteria:

- Corporate experience, water pumping station and backup power engineering experience of the firm.
- Project manager and proposed key staff experience for similar projects.
- Proposed technical support staff experience for similar projects.
- Project understanding and ability to deliver the project.
- Staff training and skills upgrade policy of the firm.
- Sub-consultants' experience.
- Project management, implementation and in-house resources.
- Professional designations.
- Demand Response experience and innovative concepts presented by the proponent.
- Other miscellaneous issues.

The financial evaluation composed the remaining 20% of the total evaluation. To be considered for award, proponents must achieve a minimum technical score of 60% (48 points) out of the potential 80 points allocated to technical merit. Insyght Systems Inc. did not have their financial envelopes opened as they did not achieve the minimum score of 48 points on their technical proposal. Technical and financial results are summarized in Table 1 below.

Table 1
Consultant Proposal Evaluation Summary

Consultant	Technical Score (Out of 80)	Financial Score (Out of 20)	Total Score	Cost per Technical Point	Total Fee (Excluding GST)
CMP	61.6	18.1	79.7	\$11,287.89	\$695,334.25
TMIG	54.9	20.0	74.9	\$11,489.23	\$630,758.50
CRA	66.3	9.0	75.3	\$21,153.58	\$1,402,482.50
AECOM	58.8	13.4	72.2	N/A	\$941,040.95
Genivar	54.0	14.1	68.1	N/A	\$895,112.00
GHD Inc.	48.1	17.8	65.9	N/A	\$707,750.95
Insyght Systems	33.6	N/A	N/A	N/A	N/A

Evaluation summary revealed CMP Engineering Ltd. as highest ranked proponent

When two or more bidders are within five points of the highest overall score, a dollar cost per technical point methodology is applied to determine the winning bidder. In this case the proponent with the highest total score (79.7) and lowest cost per technical point score was CMP Engineering Ltd. Their proposal represents the best overall value to the Region.

Supplies and Services Branch has reviewed the evaluation summary and has issued their internal report confirming CMP Engineering Ltd. be recommended as the successful overall proponent for Engineering Services for the Maple Pumping Station Upgrades project under Request for Proposal P-09-111.

5. FINANCIAL IMPLICATIONS

The upset limit cost included in the highest rated proposal is \$695,334.25 excluding GST. The proposed 2010 capital program includes a total project budget of \$6.7 million for this project. For this assignment, the engineering fee, including environmental assessment, is 12.3% of the construction cost estimate, which is within the range for this type of upgrades project.

Payment for engineering services during construction is based on construction contract duration. Based on the condition assessment report and preliminary design, an allowance for contract administration and site inspection services of 275 working days (55 weeks) is included within the financial proposal. The proposal includes unit prices for contract administration and site inspection, in this case \$4,439.93 per week, which staff deem adequate for this type of project.

Actual construction duration will be determined upon completion of detailed design and construction staging and may vary from the estimated hours that were quoted on by all parties in the Request for Proposal. The construction administration and site inspection fees may need to be adjusted based on competitive pricing to match the updated construction duration at the tendering stage for the contract. It is recommended that the Commissioner of Environmental Services be authorized to amend the contract to reflect these changes.

Participating in the OPA sponsored Demand Response initiative will result in a potential revenue source of up to \$100,000/year and can be utilized for future rate funded infrastructure upgrades.

6. LOCAL MUNICIPAL IMPACT

Providing back up power to Maple PD7 and PD8 water pumping station will ensure continued and sustainable water servicing to communities in the City of Vaughan and in the Towns of Richmond Hill, Markham, Aurora and Newmarket. An additional pump will increase the capacity for PD7 water pumping station from 45.4 MLD to 68.1 MLD. With the PD7 expansion and backup power provision for PD7 and PD8 pumping station, sustainable water servicing will be ensured for up to 400,000 residents in five local municipalities.

Participating in the Demand Response program will demonstrate social, financial and environmental stewardship of the Region. Water capacity expansion in this area is being matched by expanded sanitary sewage servicing through York Durham Sewer System and Region of Peel Sewage Treatment projects.

7. CONCLUSION

Implementation of the Maple Water Pumping Station Upgrades Project will increase the capacity of the PD7 pumping station to meet growth needs and match future increased pumping capacity from the Region of Peel. With the Maple PD7 expansion, the water system capacity can service growth in the City of Vaughan and in the Towns of Richmond Hill and Markham. Backup power provision will ensure sustained and continued water supply in five local municipalities during power failure. If the feasibility report recommends participation in Demand Response program, the project will result in ultra low emission backup power generators, additional revenue and helping Province and OPA alleviate power shortfalls during peak demand.

Consultants' proposals were evaluated in accordance with the Region's Purchasing By-law. The proposal from CMP Engineering Ltd. represents the best overall value to the Region and it is recommended that the project assignment be awarded to CMP Engineering Ltd. at the upset limit cost of \$695,334.25, excluding GST.

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

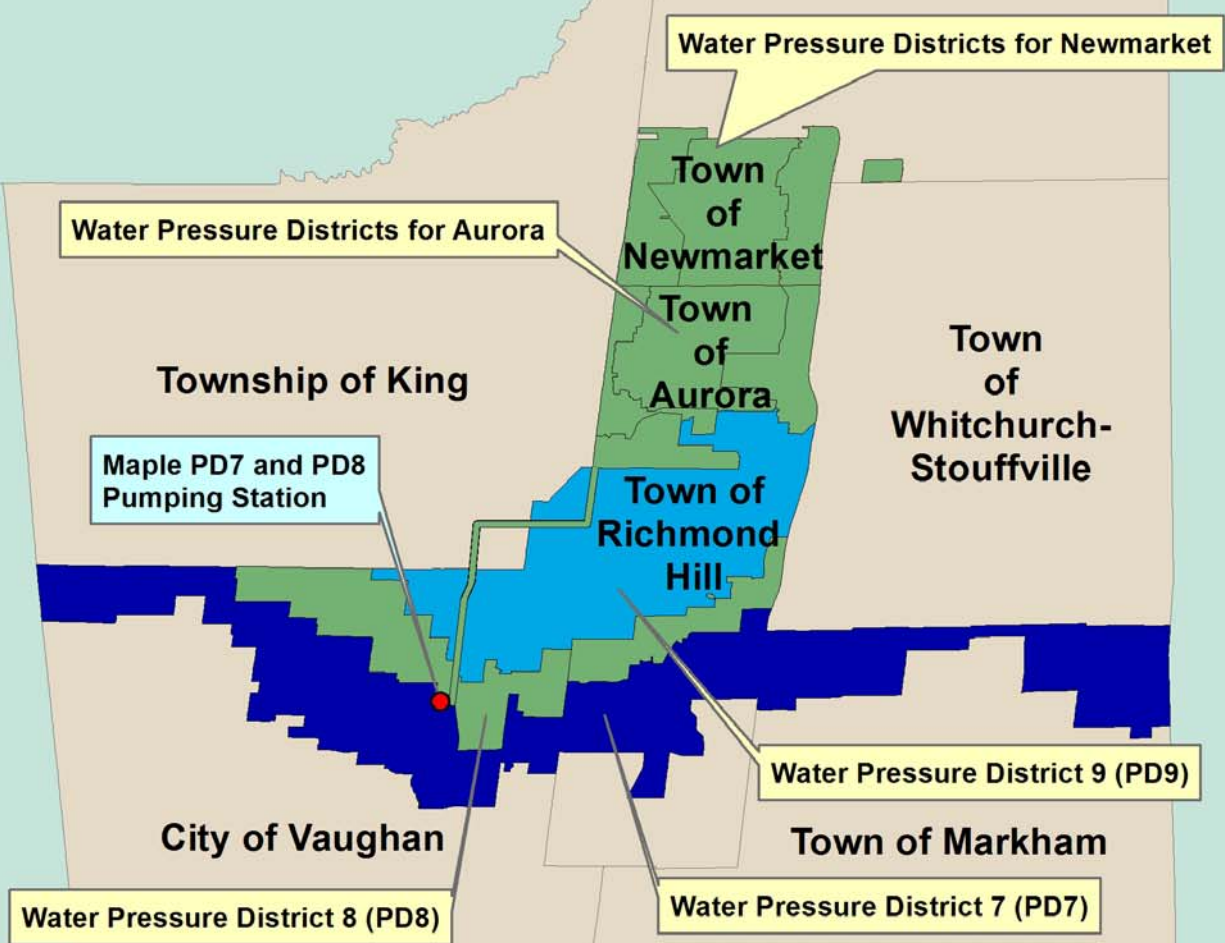
The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report.)

Maple Pumping Station Location and Water Servicing Area Map



(Note: In addition to servicing water pressure districts PD7 and PD8 , the Maple PS provides supplemental servicing to PD9 and communities to the North in the Towns of Aurora and Newmarket)



LOCATION PLAN

Maple Pumping Station Upgrades -
Consultant Selection and Demand Response Program
Project Numbers 75420 and 78512

4,000 2,000 0 4,000 Meters



ENVIRONMENTAL SERVICES