REGION OF OTTAWA-CARLETON REPORT
RÉGION D'OTTAWA-CARLETON RAPPORT

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Your File/V/Réf.

DATE 28 August 2000

TO/DEST. Coordinator
Planning and Environment Committee

FROM/EXP. Director, Solid Waste Division
Environment and Transportation Department

SUBJECT/OBJET **TRAIL ROAD LANDFILL SITE -**
**LEACHATE PRE-TREATMENT RESEARCH PROGRAM**

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## DEPARTMENTAL RECOMMENDATIONS

**That the Planning and Environment Committee recommend that Corporate Services and Economic Development Committee and Council approve the following research on leachate pre-treatment initiatives, for a total provision of $466,903.01:**

1. **Three grant requests from the following universities to do research on the pre-treatment of leachate from the Trail Road Landfill, for a total contract provision of $119,000:**

   - **University of Guelph , Alfred, ON** **$25,000**
   - **Carleton University, Ottawa, ON** **$46,000**
   - **University of Ottawa, Ottawa, ON** **$48,000**

2. **The appointment of the following consulting firms, RFP No. 00200-92535-P01, to undertake leachate pre-treatment research for a total contract provision of $347,903.01 (which includes professional fees, disbursements and GST):**

   - **SAIC Canada, Gloucester, ON** **$106,163.26**
   - **GPEC International Ltd., Ottawa, ON** **$ 66,259.75**
   - **Conestoga-Rovers & Associates, Ottawa, ON** **$ 69,550.00**
   - **Conestoga-Rovers & Associates, Ottawa, ON** **$105,930.00**

BACKGROUND

On 08 September 1999, Council approved the creation of a program to investigate new and emerging technologies for the on-site treatment of leachate from the Trail Road Landfill Site and leachate contaminated groundwater from the Nepean Landfill Site. Council also directed that $500,000 be put in the 2000 Capital Budget to fund this research. In February 2000, Regional staff developed a Terms of Reference for a Technical Advisory Committee (TAC) for the research program. On 18 and 25 February 2000, an advertisement was placed in the daily newspapers requesting volunteers to participate on the TAC. An Open House was held on 26 February 2000 at the Trail Road Landfill Site. The Research Program was discussed at the Open House and volunteers were again solicited to participate on the TAC. All of the individuals, who requested to participate on the Committee, were accepted. The TAC includes 12 members of the public as well as employees of the Region of Ottawa-Carleton. On 09 August 2000, Council received a report updating the status of the project.

The TAC undertook the following:

1. Allotment of $125,000 towards the University grant portion of the research program. The remaining $375,000 was allotted for general submissions;
2. Established that the emphasis of this research program should be directed at reducing the leachate concentrations of hydrogen sulphide, boron, chloride, m/p xylene, toluene and barium to approximately 50 percent of the Sewer Use By-law or discharge agreement limits. Credit will be given to processes that also treat total Kjeldahl nitrogen, total suspended solids and carbonaceous biochemical oxygen demand;
3. In conjunction with the Supply Management Division, developed two Request for Proposals (one for general submissions and the other for universities using a grant format).

DISCUSSION

The University Grant Program was posted on the Region's Web Site from 13 June 2000 to 18 July 2000. Three universities submitted grant proposals as follows:

- University of Guelph - Peat Filter - $25,000
- Carleton University - Evaluation of Evaporation Technologies - $46,000
- University of Ottawa - Nano Filtration and Reverse Osmosis Membrane Technology - $48,000

The proposals were evaluated based on predetermined criteria by the TAC. All proposals were found to be acceptable. All university participation is contingent on the universities finding matching funding and that the work be carried out by graduate students.

The Request for Proposal (RFP) for General Submissions was posted on the MERX from 13 June 2000 to 18 July 2000. Ten proposals were submitted as follows:

- Conestoga-Rovers & Associates, Ottawa - AutoFlash Evaporation - $ 69,550
- Conestoga-Rovers & Associates, Ottawa - Biological Anoxic/Oxic Treatment - $105,930
- Conestoga-Rovers & Associates, Ottawa - Posi-Shell Technology - $ 93,090
- SAIC Canada, Gloucester - Sequestration and Photo Oxidation - $106,163.26
- GPEC International Ltd., Ottawa - Engineered Peat Filter - $ 66,259.75
- Jacques Whitford Environmental Ltd., Ottawa - Engineered Wetland - $ 46,841.30
- Jacques Whitford Environmental Ltd., Ottawa - Free Water Surface Wetland - $ 57,928
- Jacques Whitford Environmental Ltd., Ottawa - Electrochemical Treatment - $ 60,669
- Abydoz Environmental, Portugal Cove, Nfld. - Kickuth Bioreactor Engineered Wetland - $ 70,620
- Golder Associates Ltd., Ottawa - In-Situ Landfill Bioreactor - $105,844.50

The proposals were evaluated based on predetermined criteria developed by the TAC. Proposals were selected based on best value to the Region, as determined by a number of factors including: understanding of objectives; approach and methodology; technical soundness; experience; level of effort; budget and availability of external funding.

The following proposals are recommended by the TAC as they achieved the highest scores out of the available points in accordance with the criteria stipulated in the Request for Proposal:

- Conestoga-Rovers & Associates, Ottawa - AutoFlash Evaporation - $ 69,550
- Conestoga-Rovers & Associates, Ottawa- Biological Anoxic/Oxic Treatment - $105,930
- SAIC Canada, Gloucester - Sequestration and Photo Oxidation - $106,163.26
- GPEC International Ltd., Ottawa - Engineered Peat Filter - $ 66,259.75

The total cost for the four pre-treatment research programs is $347,903.01 (including GST).

The Conestoga-Rovers & Associates' AutoFlash proposal includes the use of proprietary equipment from Donson Engineering worth approximately $60,000. SAIC Canada has secured funding from Environment Canada and the NRC totalling $48,000 (excluding GST). In addition, SAIC Canada is contributing $12,000 in equipment rental.

The recommended research initiatives meet the objective set out by Council including participation (either direct or financial) by the private sector, government agencies and universities. These proposals represent a variety of new and emerging leachate treatment technologies. Bearing in mind that this work is at the research level, it is fully anticipated that the project will result in some measurable progress in the pre-treatment of our site specific leachate. It is expected that the results from these research projects will allow us to focus future efforts with the goal of establishing effective full scale leachate pre-treatment.

## CONSULTATION

An advertisement advising the public of the research program was issued on 18 and 25 February 2000. An Open House was held at the Trail Road Landfill Site on 26 February 2000, providing details on the research program. In addition, the TAC is composed of members of the public and reflects their points

of view. All members of the public who expressed interest in participating in this project have been included on the Committee.

EXPENDITURE JUSTIFICATION

On 08 September 1999, Council directed staff to investigate leachate pre-treatment technologies and established a budget of $500,000 to carry out the work.

FINANCIAL STATEMENT

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|---|---|
| Approved Budget to Date | $ 500,000 |
| Total Paid & Committed | $( 3,391) |
| Balance Available | $ 496,609 |
| THIS REQUEST | $(466,903) |
| Balance Remaining | $ 29,706 |

Funds have been provided in the 2000 Capital Budget, Leachate Pre-treatment Research Program, Order No. 900455.

*Approved by*
*M. J. E. Sheflin, P.Eng.*

MH/mm

SUPPLY MANAGEMENT DIVISION

I concur,

*Jeffrey Byrne on behalf of Glen Ford*

Director, Supply Management Division