



CITY OF VANCOUVER

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### ADMINISTRATIVE REPORT

# A8

Report Date: May 1, 2008  
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VanRIMS No.: 13-6400-01  
Meeting Date: May 13, 2008

TO: Vancouver City Council

FROM: General Manager of Engineering Services

SUBJECT: Vancouver South Transfer Station Emergency Tipping Floor Repairs

#### RECOMMENDATION

- A. THAT Council approve the total project budget of \$363,000 for emergency repairs to the Vancouver South Transfer Station at 377 West Kent Avenue North. Funding for these repairs will be from user fees charged at the Transfer Station and the City's portion of these costs will be funded by a reduced transfer to the Solid Waste Capital Reserve and to the Metro Vancouver surplus.
- B. THAT Council approve increasing the scope of the existing consulting contract with Earth Tech (Canada) Inc. for the structural analysis, design and construction supervision for repairs to the commercial tipping floor and pit walls in the amount of \$62,425, excluding GST. Funding for this consulting work will be from user fees charged at the Transfer Station and the City's portion will be funded by a reduced transfer to the Solid Waste Capital Reserve and to the Metro Vancouver surplus.

#### GENERAL MANAGER'S COMMENTS

Under their existing contract for the Vancouver South Transfer Station Infrastructure Review, Earth Tech conducted an investigation to address safety concerns raised by operations staff. Based on the investigation, emergency repairs were identified to avoid the potential shut down of the Vancouver South Transfer Station to commercial customers and the associated

loss of revenue. A scope change to Earth Tech's existing contract for the Infrastructure Review was made in order to proceed within the short time frame.

The General Manager recommends Council approval of Recommendations A and B.

## COUNCIL POLICY

Consultant agreements exceeding \$30,000 require Council Authorization.

## PURPOSE

The purpose of this report is to request Council approval for funding of \$363,000 for emergency repairs of the commercial tipping floor and pit walls at the Vancouver South Transfer Station ("Transfer Station") and to inform Council of the consulting contract awarded to Earth Tech (Canada) Inc. at a cost of \$62,425.

## BACKGROUND

The Vancouver South Transfer Station was constructed in 1989 and has not had any substantial structural improvements. In 2003, Earth Tech Canada Inc. ("Earth Tech") completed a detailed review of the structural, electrical and mechanical aspects of the Transfer Station. Since then, Earth Tech has conducted ongoing routine inspections and supervised the pit repairs completed by City crews in 2005 and 2006.

In response to recent staff concerns regarding the condition of the Transfer Station commercial truck tipping floor, Earth Tech was retained to conduct an investigation, including interviews with staff; and inspection and survey of the areas of concern. Specific issues raised by staff included the following:

- significant vibrations felt on the commercial tipping floor, which appeared to worsen over time
- excessive cracking of the tipping floor
- substantial wear of the floor surface adjacent to the pit

In their report, dated March 26, 2008, Earth Tech concluded the following:

- The vibrations are likely normal, but should be checked with engineering calculations;
- Cracking in the slab is not of concern;
- The tipping floor wear is significant and requires further investigation immediately; and
- Repair work is considered high priority with a target completion date of early May.

Earth Tech's recommendations were as follows:

- Conduct a structural analysis of the structures of concern and designing strengthening options for both the tipping floor and pit walls
- Repair the floor and walls based on the outcome of the structural analysis
- Institute a biweekly monitoring program to ensure safety of the staff and public in the interim
- Install a plastic cover on the edge of the loader bucket to reduce floor wear

In Earth Tech's report, prompt attention was recommended based on the substantial degree of wear. Wear in the floor is expected to accelerate as exposed rebar is worn through or removed for safety concerns when exposed during regular operations. In the interim Earth Tech recommended bi-weekly inspections of the tipping floor to ensure safety. Further, if repairs are not undertaken in May, further monitoring for structural failure will be required with the potential for substantially increased repair costs.

The biweekly monitoring program began on March 27, 2008, and the plastic cover has been installed on the edge of the loader bucket. Earth Tech's structural analysis is currently underway.

## DISCUSSION

In response to the City's request, Earth Tech submitted a work plan to complete the structural analysis, design and construction supervision for the tipping floor and pit wall repairs. They estimated their fees at \$62,425 as a scope change under their existing contract for the Infrastructure Review. Further, they have estimated construction costs at approximately \$300,000. However, the detailed structural analyses are currently underway to fully assess the necessary repairs and the associated cost. The repair work will be completed using City of Vancouver crews, who performed previous repair work in 2005 and 2006.

The wear in the commercial tipping floor was estimated by Earth Tech to be 20% in areas of greatest concern. The sacrificial wearing surface has worn through and up to 50mm of wear has occurred in the 250mm suspended structural slab. Further, the 250 mm suspended structural slab built as per the original design, is considered thin for an industrial application and current operational loads. The proposed work will establish the capacity of the existing slab, at full thickness and reduced thickness, with regards to the latest codes. The work will also establish the thickness of the sacrificial wearing surface that should be reinstated and recommend appropriate repairs or load limits to meet code for the purposes of continued safe operation.

## ALTERNATIVES/OPTIONS

Rather than approving the recommendations of this report, Council could decide to have staff terminate the scope change and pay for work to date estimated at \$15,000. Staff would then have to conduct a competitive process to hire another consultant to complete this work. A competitive process will likely take approximately 3 months. This is not recommended since the Transfer Station could be required to shut down to commercial customers for this period to assure the safety of customers and staff, which would result in lost revenue to the City.

## FINANCIAL IMPLICATIONS

The tipping floor area that requires repair covers four of the nine commercial bays at the Transfer Station. Based on the accessibility of the remaining five bays, the Transfer Station would have to shut down to commercial customers and only serve City collection crews. Failure to complete this work in early May as recommended by Earth Tech will result in closure of at least four commercial bays and cause significant delays in using the remaining five bays. Not only will this impact both City collection crews and commercial customers at

the Transfer Station, it is estimated that the loss of revenues is \$200,000 per month. A delay of twelve weeks equates to a loss of \$600,000.

The cost to operate the Vancouver South Transfer Station is funded through waste disposal fees at the Transfer Station. Commercial garbage haulers from Vancouver and the rest of the Metro Vancouver are charged the regional waste tipping fee, and the City's Solid Waste Utility customers are charged at the City's disposal cost. Any surplus from tipping fees for Vancouver commercial garbage is transferred to the Solid Waste Capital Reserve (SWCR). The impact to Vancouver of this forecasted \$363,000 expenditure at the Transfer Station is a reduced transfer of \$272,000 to the SWCR. Metro Vancouver's surplus will be reduced by \$91,000.

### **PERSONNEL IMPLICATIONS**

The issue of the tipping floor vibrations and cracking was raised as a health and safety concern by staff. The City of Vancouver is compelled to complete this work as described in Section 3.9, Remedy without Delay, of the Occupational Health and Safety Regulations. Failure to complete this work could result in WorkSafeBC shutting down the Transfer Station completely until repairs are complete.

### **SOCIAL IMPLICATIONS**

Commercial waste haulers are dependent on the Transfer Station to receive waste. Impacts of service disruption would likely increase costs and delays in service to their customers.

### **CONCLUSION**

The General Manager recommends approval of \$363,000 for the emergency repairs to the commercial tipping floor and pit walls and increasing the scope of the consulting contract with Earth Tech, so these emergency repairs can proceed without further delay and avoid a shut down of the Vancouver South Transfer Station and loss of substantial revenues.

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