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16TH AVENUE TRUNK SEWER, PHASE 2 CONSTRUCTION CONTRACT

The Transportation and Works Committee recommends:

- 1. The presentation by Paul Jankowski, Director, Infrastructure Design and Construction, be received; and**
- 2. The recommendations contained in the following report, February 20, 2004, from the Commissioner of Transportation and Works be received:**

1. RECOMMENDATIONS

It is recommended that:

1. The following report be received for information by Transportation and Works Committee and Regional Council.
2. Staff report back to Transportation and Works Committee in April 2004 with an update on the project.

2. PURPOSE

This report provides an update on the 16th Avenue Trunk Sewer project, including commitments made to the approval agencies. A current project cost update is also provided.

3. BACKGROUND

There are three phases to the Ninth Line and 16th Avenue Trunk Sewer Project (*see Attachment 1*). These are:

1. Ninth Line Trunk Sewer, from Box Grove to south of Major Mackenzie Drive.
2. 16th Avenue Trunk Sewer, Phase 1, from Ninth Line to Stone Mason Boulevard.
3. 16th Avenue Trunk Sewer, Phase 2, from Stone Mason Boulevard to Woodbine Avenue.

McNally/Aeon (McNally) completed construction of the Ninth Line Trunk Sewer from Box Grove to 16th Avenue and then along 16th Avenue westward to Stone Mason Boulevard. The Ninth Line Sewer was completed in December 2002, and is in service. The 16th Avenue Phase 1 sewer from Ninth Line to Stone Mason Boulevard will be completed and put into service by mid February 2004.

Phase 2 of the 16th Avenue Trunk Sewer is in the environmental approval phase. Regional Council has approved the award of a contract with McNally/Aecon for Phase 2 of the project, subject to key environmental approvals being secured from the Federal

Department of Fisheries and Ocean (DFO), The Ontario Ministry of Environment (MOE) and the Toronto Region Conservation Authority (TRCA).

3.1 Status of 16th Avenue Phase 2 Contract

Following Council approval to award the Phase 2 contract to McNally, Region staff are in the process of finalizing the contract documents (the terms and conditions).

McNally has also successfully obtained the permit for the Town of Markham Noise By-Law (to permit a two shift tunnelling operation). In keeping with the requirements for the Noise By-Law permit, a public meeting was held in Markham Council Chambers on January 22, 2004. The focus of the meeting was to present the shaft compounds and the proposed method of mitigating construction traffic, noise, dust and light. In general, the proposed methods to mitigate all of the preceding factors proved to be acceptable by the public.

3.1.1 Proactive Mitigation Plan

This plan was committed to by Regional Council in 2003 to affect an enhanced mitigation process with proactive mitigation for potential well impacts of the Phase 2 project. Details of the Proactive Mitigation Program have been reviewed by Town staff and the Town's hydrogeologist. A final report was submitted and accepted by the Town of Markham in January 2004 with details to be communicated to the public through the Community Liaison Committee scheduled for February 26th, 2004 and the next planned public meeting in March, 2004. This plan comprises six elements:

- Enhanced well monitoring.
- Private well surveys.
- Prediction of zones of influence.
- Predicted impact assessment.
- Proactive mitigation including replacing wells, lowering pumps and connection to municipal water supplies.
- Continued monitoring.

In addition to the proactive mitigation, the Region continues to maintain its commitment to reactive mitigation, including the 24 hour call center, investigation and response Complaint Review Committee (CRC) and Community Liaison Committee (CLC).

3.2 Environmental Management Plan

The Region is continuing to work collaboratively with the regulatory agencies towards obtaining the "Permit To Take Water (PTTW) from the MOE". As part of this exercise, two major initiatives are being developed; namely, the "Proactive Mitigation Plan" and an "Environmental Plan" is being developed in consultation with the TRCA, the MOE, The Ministry of Natural Resources (MNR), and the DFO. Major concerns identified by the agencies are the effects of dewatering on groundwater recharge of streams and wetlands, erosion of streams from discharge, and temperature impacts of the discharge on cool or warm water fisheries and the effect on the trees and vegetation.

A comprehensive team of specialists, including but not limited to geomorphologists, biologists and terrestrial scientists are working towards addressing the concerns raised by the review agencies in order to properly identify proactive mitigation and monitoring measures of the natural features. This work has included extensive additional studies and a commitment by the Region to implement an environmental management plan that includes mitigation measures with significant capital costs. Following a meeting in November 2003, attended by senior management of the agencies, the Region obtained some concurrence with the environmental management plan. The agencies provided some endorsement of the Region's proposed plans but requested additional submissions to further refine the plan. A final submission with the suggested refinements to the plan was submitted on January 12, 2004. This submission was scheduled to be discussed with the review agencies on February 6, 2004 however, the federal DFO has asked for a postponement of the meeting. The outcome of the discussions may shed some light into the status of the environmental approvals, the schedule and cost impacts to the project.

3.3 Property Issues

The contract for Phase 2 requires five temporary property easements for contractor working sites. Three easement agreements have been finalized and adopted by Council.

The Region has arrived at agreements in principle for the two remaining property easements. The contractual obligations are being finalized.

4. ANALYSIS AND OPTIONS

4.1 Review of Current Status with Approval Agencies

The agencies are currently reviewing the latest submission by the Region relating to the monitoring program proposed for the woodlots, wetlands and wells. In addition, the agencies are continuing to refine the mitigation plans associated with the dewatering program and the quality, quantity and temperature of the water proposed to be discharged to the receiving streams.

4.2 Review of current status with McNally/Aecon

The Region has negotiated with the contractor to retain the tunnel boring machine (TBM) and have the equipment available to commence Phase 2 of the sewer when the permits are obtained.

As previously reported to Regional Council, retaining the TBM equipment and remobilizing at a later date to continue with the contract at an additional cost of \$600,000 has been added to the Phase 1 contract through a Council approved process.

Once total completion is granted to McNally in mid February, the shaft compounds at C8 and C12 will be secured to ensure public safety and prevent vandalism to the construction equipment. Dewatering will continue to maintain the tunnel 150m west of Stone Mason Boulevard with the TBM parked in it. The cost to continue the dewatering system will be \$1500 per day.

4.3 Schedule Implications

The delay in acquiring the PTTW has resulted in a delay to the commencement of phase 2 of the project. Once the PTTW is obtained, the contractor will install new dewatering wells and commence dewatering activities, after the proactive mitigation program and the environmental management plan have been implemented. The duration of this activity is estimated to take place between six to nine months. The total construction project duration is approximately 36 months.

5. FINANCIAL IMPLICATIONS

Table 1
Project Costs

	Construction	Engineering Quality Assurance/ Quality Control	Proactive Mitigation	Environ- mental Manage- ment Plan
9th Line	\$34,145,000	\$1,047,000		
Dewatering Permit*	250,000			
Water Supply *	20,000			
16th Avenue Phase 1	27,231,000	539,000		
Dewatering Permit*	100,000			
Water Supply	1,530,000			
16th Avenue Phase 2	42,677,000			
Dewatering Permit	\$200,000†	\$1,393,000		††\$7,000,000
Water Supply			††\$6,500,000	

All costs do not include GST.

* Costs included in the stated construction cost for each project.

† Any delays beyond total completion of phase 1 will result in an additional \$1500 per day to defray dewatering costs.

†† Current estimates.

The total project costs noted above will be funded from development charges (80%) and wastewater user rates (20%).

6. LOCAL MUNICIPAL IMPACT

The 16th Avenue Trunk Sewer and associated integrated components form an integral link to the continued development of The Regional Municipality of York in both the short and long term.

The proposed “Proactive Mitigation Plan” and the “Environmental Management Plan” are collectively an effective means of implementing this project responsibly with due regard for public safety, well interference and sound environmental stewardship.

7. CONCLUSION

The contract with McNally/Aecon for the Phase 2 project will be executed after all regulatory permits and approvals have been received.

The Senior Management Group has reviewed this report.

(A copy of the attachment referred to in the foregoing is included with this report and is also on file in the Office of the Regional Clerk.)