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NINTH LINE SEWER EXTENSION TO STOUFFVILLE CONSTRUCTION UPDATE

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, June 1, 2005, from the Commissioner of Transportation and Works:

1. RECOMMENDATIONS

It is recommended that:

1. The current contract T-02-27 with the firm, Con-Drain Company (1983) Ltd. be increased by \$6,152,314 (plus GST where applicable) to accommodate the scope changes as outlined in this report.
2. The current contract B-8109 with the firm, URS Canada Inc. be increased by \$580,848 (plus GST where applicable) to accommodate the scope changes as outlined in this report.
3. The current contract P-02-132 with the firm, Inspec-Sol Inc. be increased by \$375,352 (plus GST where applicable) to accommodate the scope changes as outlined in this report.
4. These additional costs become part of the project cost and thus the Stouffville Developer Group (Group) agreement be amended to reflect these costs.

2. PURPOSE

This report has been prepared to provide an update on the progress of construction of the Ninth line sewer extension to Stouffville. In addition, it also serves to seek authorization to amend the construction cost and the engineering fees for the firms providing the services for construction administration and site supervision as well as well mitigation for this project.

3. BACKGROUND

The Ninth Line sewer extension to Stouffville is being constructed to service the community of Stouffville. Its purpose is two fold, to replace an aging water pollution control plant currently servicing the existing community and to service the growth projected by the community of Stouffville secondary plan.

The sewer is made of three major components; a 5.75 km main branch which begins just south of Major Mackenzie and terminates at the proposed Hoover Park Drive north of 19th Avenue, a 1.5 km east branch that connects the main branch to the existing water pollution control plant and a 2.3 km west branch that connects the main branch to the Stouffville pumping station (*see Attachment 1*).

The cost for this sewer is being financed through an up-front development charge credit agreement with the Stouffville Developers Group. Regional Council at its meeting on June 27, 2002 approved the agreement, and in so doing, approved the retention of (URS) Canada Inc. to undertake the contract administration and site supervision for the construction of the sewer.

The construction contract was subsequently awarded to Con-Drain (1983) Ltd. on July 9, 2003, following a public tender process. The initiation of construction was delayed due to the securing of the permit to take water (PTTW) from the Ministry of Environment (MOE) and the corresponding permits from the Toronto Region Conservation Authority (TRCA). The permit from the TRCA was eventually received on February 5, 2004. Then on June 8, 2004, the PTTW was received from the MOE for the construction of the main branch. As part of the permit conditions, extensive environmental monitoring requirements and a proactive well mitigation program were undertaken. The construction of the main branch subsequently proceeded and is now anticipated to be complete by August, 2005.

The dewatering permits for the east and west branches were subsequently received on May 16, 2005. Accordingly, the construction of the east and west branches is anticipated to commence in mid summer 2005 with completion by December 2005.

4. ANALYSIS AND OPTIONS

The delays associated with the securing of the permits from both the MOE and the TRCA contributed to the delay in the onset of construction. The implication to the schedule was approximately a one year delay on the construction of the main branch alone. Accordingly, the completion date for the main branch was revised from June 2004 to August 2005.

In addition, the construction of the east and west branches which were delayed due to the PTTW from the MOE can now proceed as all the necessary permits from the TRCA and the MOE have now been obtained. It is currently projected that both the east and west branches will be completed by December 2005.

The consequence of the aforementioned delays is the added construction costs, added scope and magnitude of providing additional contract administration and site supervision duties as well as the well mitigation program for a period of approximately one and a half years beyond the original construction schedule for the entire project.

4.1 Construction Administration and Site Supervision

An engineering agreement was executed with URS to provide contract administration and site supervision duties following receipt of Council approval of Clause 22, Report No. 5 of the Finance and Administration Committee on June 27, 2002. This engineering agreement was based on the original one year construction schedule for the entire Ninth Line sewer extension to Stouffville.

Since this agreement was executed, delays in securing the permits from both the MOE and the TRCA have resulted in an additional one and a half years to the construction schedule of the sewer. This additional time has resulted in extra site inspection and contract administration duties; to manage the safety of the construction site during the delay period, to coordinate PTTW activity, to manage multiple construction crews as the contractor attempts to mitigate any further delays, and, to manage the additional half year of construction period. As well URS has had to review a substantial delay claim from the contractor, re-design the east branch sewer alignment along the proposed Hoover Park Drive due to changes needed to accommodate the CN railway crossing and design and evaluate ten local sanitary connections to the Regional sewer as requested by the Stouffville Developer Group. The corresponding impact of all of these factors on the contract administration and site supervision fees is outlined in Table 1 below.

Table 1
Engineering Fees

Service	Cost
Original engineering fees	\$697,000
Additional 1.5 year delay on the construction schedule	472,073
To assist property service with expropriation proceedings	10,000
Review of delay claim by the contractor	16,275
Redesign of sewer alignment along Hoover Park Drive	47,500
Design and evaluation of ten local sanitary connections to Regional sewer	35,000
Revised engineering fees	\$1,277,848

4.2 Well Mitigation Program

The extensive proactive and reactive well mitigation program for the project is being implemented effectively.

As part of the program, three pump tests along the main branch were undertaken to predict the dewatering zone of influence. Eleven monitoring wells were also installed at selected locations to monitor the shallow and deep aquifers. These wells were and continue to be monitored for groundwater levels.

The well mitigation program includes extensive consultation with the MOE towards securing the permit to take water for the construction of the main, east and west branches. To date permits have been secured for the main, east and west branches.

The original well mitigation program was enhanced to comply with MOE permit requirements and included the following components:

- An update of the well baseline survey to include a more comprehensive groundwater quality analysis.
- Detailed weekly and monthly private well, and groundwater survey and analysis.
- Detailed land use pollution survey.
- An expanded proactive mitigation program to include 14 detailed investigations, six additional well replacements, and eight additional water tank installations.
- On going response to well interference complaints generated through the call centre over the duration of construction which has extended to a year and half beyond the original schedule.

The original well mitigation program cost was \$456,907. As a result of these enhancements and delays to the construction, the well mitigation program incurred an additional \$375,352 to complete this project.

4.3 Construction Cost Update

The construction of the sewer was tendered and awarded for a construction value of \$16,621,062.47. The subsequent delays associated with the construction associated primarily with the securing of the permits from the regulatory agencies and the associated conditions imposed by the regulatory agencies have led to the current construction cost escalating to \$22,773,376.47 as outlined in Table 2 below.

Table 2
Construction Costs

Item	Cost
Delay claim associated with the construction of the main branch	\$1,600,000
Unanticipated additional dewatering	847,944
Changes to the tunnelling to accommodate changed soil conditions	900,000
Local connections to the Regional sewer at ten locations	500,000
Implementation of environmental mitigation measures	1,487,227
Permit to take water pump tests	617,143
Re-alignment of the East Branch to accommodate the CN crossing	200,000
Total scope changes to the construction cost	\$6,152,314

The original construction of the Ninth Line Sewer Extension Project was anticipated to be completed by June 30, 2004. However the delays associated with the permits has now extended the completion of the entire project to December 2005. Notwithstanding this, the completion of the main branch is anticipated to be in August 2005 enabling the

servicing of the immediate needs of the community and the Stouffville Developer group in general.

5. FINANCIAL IMPLICATIONS

This significant delay to the project has directly contributed to the additional construction, engineering and well mitigation costs. We have reviewed the additional costs and find them to be reasonable under the circumstances.

This project is subject to financing arrangements of the up-front financing agreement with the Stouffville Developer Group. Accordingly, the Stouffville Developer Group will be responsible for financing 100% of the capital cost of this Phase 2 Ninth Line Sewer Extension to Stouffville project.

6. LOCAL MUNICIPAL IMPACT

This project once completed will have sufficient capacity to accommodate the build out of the Stouffville Community Plan, which includes the Stouffville Developer Group Lands.

7. CONCLUSION

The Ninth Line Sewer Extension to Stouffville is anticipated to be complete by December 2005. The primary component of the project, the main branch, is currently scheduled for completion by August 2005. This completion date will facilitate the servicing of the immediate needs of the Community and the Stouffville Developer group in general.

As well, the protracted completion of this project due primarily to factors beyond the control of both the contractor and the consultants has led to escalations in both the construction and engineering costs. As a result, the current purchase orders with Con-Drain Company (1983) Ltd., URS Canada Inc. and Inspec-Sol Inc. need to be amended to reflect the revised costs to complete the project. These additional costs will be up front financed by the Stouffville Developer Group.

The Senior Management Group has reviewed this report.

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