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YORK-PEEL WATER SUPPLY PROJECT UPDATE
PROJECT 77300

The Transportation and Works Committee recommends:

- 1. The presentation by Bala Araniyasundaran, Manager Engineering, Water and Wastewater, be received; and**
- 2. The recommendations contained in the following report, February 17, 2005, from the Commissioner of Transportation and Works be adopted:**

1. RECOMMENDATIONS

It is recommended that:

1. The following report be received for information by Committee and Regional Council.
2. The Regional Clerk forward copies of this report to the Clerks of the City of Vaughan, and the Towns of Markham, Richmond Hill, Aurora, and Newmarket.

2. PURPOSE

The purpose of this report is to update Committee and Regional Council on the progress achieved to date as well as forecast activities over the next few months on the York-Peel Water Partnership (YPWP) project.

3. BACKGROUND

3.1 York-Peel Water Partnership (YPWP) Project

The primary objective of the YPWP project is to design, construct, and put into service a major east-west supply system to convey up to 388 ML/d (85 MIGD) of treated water from The Regional Municipality of Peel to York Region's Maple Reservoir. The project consists of 30 km of large-diameter feeder mains through the Cities of Brampton and Vaughan, as well as a new reservoir and pumping station facility located in Brampton. The project is a major component of the Region's preferred strategy for long-term water supply, and is being implemented in co-operation with The Regional Municipality of Peel.

The various contract packages constituting the YPWP project are shown in the key plan provided (*see Attachment 1*).

3.2 York and Peel Contracts

A single design-build contract, valued at about \$72 million, encompasses all works to be constructed as part of the YPWP within the boundaries of York Region. The primary component of the project is an 1800 mm diameter feedermain that begins at the east side of Highway 50 (the Peel-York Boundary), extends eastward along Rutherford Road to connect with the previously constructed feedermain segment, and then continues northward from Rutherford Road along Weston Road to the proposed Block 33 residential subdivision north of Major Mackenzie Drive. After traversing the subdivision lands, the feedermain will be extended eastward across Highway 400 along Teston Road and will ultimately connect to the existing Maple Reservoir in the City of Vaughan.

York Region has assumed primary management responsibility for the above-noted works, while The Region of Peel has retained primary management responsibility for project components within its geographical boundaries.

On June 26, 2003, York Region Council authorized the award of design-build Contract P-03-04 in the amount of \$72,310,643.87 including GST for feedermain installation and road reconstruction to Dufferin Construction.

The Peel portion of the work, which has been sub-divided into several design-build and conventional contracts, includes a 2100 mm diameter feedermain that begins at the existing Beckett-Sproule Reservoir, Brampton, and runs northward and eastward to the intersection of West Drive and Queen Street, extends eastward along Queen Street to Airport Road, and then continues northward to enter an easement along the Canadian National Railway (CNR), below Castlemore Road, terminating at a new 35 ML reservoir and associated pumping station (the "Airport Road Reservoir and Pumping Station" -- ARRPS). An outgoing 1800 mm feedermain has been installed along the future Humber West Parkway; installation is continuing eastward along Castlemore Road, in order to connect the ARRPS with the York feedermain at the York-Peel Regional boundary.

On July 10, 2003, Peel's Regional Council authorized the award of design-build Contract #2004-109P for the Airport Road/Castlemore Road feedermain to Dufferin Construction.

4. ANALYSIS AND OPTIONS

4.1 Progress Summary

Since the last report to Council, the project team has focussed on the following activities:

- planning for the end-to-end commissioning of the York-Peel Water System
- conducting regular construction meetings with the design-builder
- monitoring material procurement status
- administering construction of the following:

- feedermain installation and Stage II road reconstruction and improvements along Rutherford Road, inclusive of culvert installation
- completion of feedermain installation through Block 33
- commencement of feedermain installation along Teston Road and installation of culverts
- final clean-up and restoration along Weston Road
- Elder Mills Bridge girders (Stage II)
- completion of Robinson Creek Bridge widening.

As of January 31, 2005, construction of the Airport Road Reservoir and Pumping Station (ARRPS) was complete and ready for commissioning, pending availability of an adequate water supply. The original contract completion date had been extended from November 30, 2004 on account of a number of additions to the design/builder's scope of work. The ARRPS facility will feed water into the York Water System.

All of the 2100 mm pipe required to feed water from the Region of Peel's Beckett-Sproule reservoir into the ARRPS had also been completed prior to January 31, 2005. Pipe installed under the three conventional feedermain contracts (in the Region of Peel, west of Airport Road) had been tested and passed. Testing of the Airport Road section had revealed some leakage through joints and remedial work was on-going. Commissioning of the entire incoming pipe (inclusive of disinfection) was scheduled to start on February 7, 2005.

The out-going 1800 mm pipe – connecting the ARRPS with the York feedermain at the regional boundary – was 95% complete, with only about 50 pieces of pipe remaining to be installed.

4.2 Construction Schedule Overview

Table 1 provides milestone dates for key activities, as set out in the latest updates submitted by the respective design-build contractors. Since the last (November) status report, the forecast completion dates for the Rutherford Road and Teston Road feedermain installations have slipped. The completion date for Peel's ARRPS was also delayed, due to the requirement for additional work.

Table 1
Key Project Milestones

Task	Schedule Date
Construction start on Rutherford Road – CPR to Napa Valley Avenue	September 2003
Start of Elder Mills and Robinson Creek Bridge Reconstruction	December 2003
Construction start on Weston Road – Rutherford Road to Major Mackenzie Drive	September 2003
Construction start on Teston Road – Keele Street to Jane Street.	September 2003
Commence highway and water crossings	February 2004
Commence concrete pressure pipe (CPP) delivery in York and Peel	May 2004
Commence CPP installation along Weston Road	May 2004
Complete CPP installation along Weston Road	September 2004
Commence CPP installation through Block 33	August 2004
Complete CPP installation through Block 33	November 2004
Commence CPP installation along Rutherford Road	November 2004
Commence CPP installation along Teston Road/Keele Street	December 2004
Complete CPP installation along Rutherford Road	February 2005
Complete CPP installation along Teston Road/Keele Street	February 2005
Complete Airport Road Reservoir and Pumping Station (exclusive of final commissioning)	January 2005
Complete Feedermain Work in Peel Region	February 2005
Complete overall water supply system commissioning	April 2005
Construction (inclusive of road works) substantially performed	November 2005

4.3 Forecast Activities from February 1, 2005 through April 30, 2005

The following are key events scheduled over the next two months:

- complete feedermain installation on Rutherford Road
- complete installation of dual feedermain (1800 mm diameter and PD7) along Teston Road and of 1800 mm connection to Maple Reservoir
- pressure test, disinfect and commission feedermain
- complete construction of Elder Mills Bridge superstructure (Stage II -- north side)
- complete concrete culverts on Rutherford Road and Teston Road
- complete feedermain construction and pressure testing in Peel. Disinfect and commission.

- complete commissioning of the Airport Road Reservoir and Pumping Station
- re-start on-going road work that was suspended over winter (April 2005).

According to the design-builder's original plan, feedermain installation within York Region was due to be completed by late September 2004, with commissioning of the system due to commence on September 30, 2004 and be complete by the end of October 2004.

Feedermain installation was just under 50% complete in York Region and 96.5% complete on the remaining Region of Peel (design-build) contract as of January 31, 2005. As of that date, installations were complete along Weston Road and through Block 33, although neither of those sections had been successfully pressure tested. The Rutherford Road pipe was about 35% complete, while the section along Teston Road and into the Keele Street reservoir was only about 10-12% complete. According to the schedule Dufferin was working to at that time, the Rutherford Road installations should have been about 80% complete, while at least 30% of the pipe should have been in place along Teston Road. The schedule called for four pipe installation crews to install a total of approximately 20 pieces of pipe per day, six days a week. However, the actual installation rate over the first three weeks of January 2005 was only about one-third of the scheduled rate.

Up until about October 2004, the controlling factor was the availability of pipe materials. More recently, pipe deliveries have significantly outpaced installation rates – in late January 2005, over 500 pieces of pipe were on site awaiting installation.

Over the course of the project it has become necessary to deal with changing approaches to implementing environmental regulations on the part of various regulatory agencies as well as unanticipated site conditions. Both the scope of the project and the conditions of work have been altered as the Region has responded to changing needs along the feedermain route. Although the primary cause of several months of project delay was Dufferin's inability to timely secure sufficient quantities of concrete pressure pipe (CPP), it was concurrently affected by these other sources of delay such as securing various permits and approvals, which were beyond Dufferin's control. Dufferin has therefore applied for and been granted an extension of time on account of these factors. The required in-service date as agreed upon by Regional contract administrative representatives for the feedermain is now March 31, 2005.

Should feedermain completion (installation and commissioning) be delayed beyond March 31, 2005, the Region can expect to incur additional costs as a result of the delay. However, the contract with the design-builder includes provision for retaining liquidated damages, in the amount of \$17,000 per calendar day, which are intended to cover the Region's costs. The assessment of liquidated damages will be reviewed by Regional staff and legal counsel if the required completion date for the pipeline work is not met.

5. FINANCIAL IMPLICATIONS

All major contracts relating to this project, including those being managed on the Region's behalf by The Regional Municipality of Peel, are in the final stages of construction. Several are now complete or very near completion. York Region's 10 year Capital Plan includes sufficient funds to cover committed engineering, construction, project management, land acquisition, and miscellaneous costs associated with the feedermain and road works.

Financial responsibility for the pipeline works in Peel Region is subject to the terms of the York-Peel Water Supply Agreement. Each municipality is arranging its own funding for ancillary road and other infrastructure work.

6. LOCAL MUNICIPAL IMPACT

The York-Peel Feedermain project is required to accommodate future growth within York Region including the City of Vaughan and to supplement the existing water supply from the City of Toronto.

There is no reason to expect adverse impacts on local municipalities other than impacts normally associated with large projects of this nature.

7. CONCLUSION

The York-Peel Feedermain installation and road reconstruction project (Contract P-03-04) is progressing at a slower rate than originally planned, as a result of concurrent delays by the design-builder and by other parties for whom the Region is contractually responsible. The required date for completion of the feedermain work has been extended from October 31, 2004 to March 31, 2005. The revised completion date is unlikely to be met without significant additional resource commitments and/or progress improvements on the part of the design-builder. The Region's project team is continuing to monitor the design-build team's efforts closely to ensure project completion in an expeditious manner.

The Senior Management Group has reviewed this report.

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