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YORK-PEEL FEEDERMAIN PROJECT STATUS UPDATE PROJECT 77300

The Transportation and Works Committee recommends:

- 1. The presentation by Bala Araniyasundaran, Manager, Engineering Water and Wastewater, Infrastructure Design and Construction, be received; and**
- 2. The recommendations contained in the following report, September 9, 2003, 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 Richmond Hill, Aurora, Newmarket, and Markham.

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 Feedermain and other York-Peel Water Partnership (YPWP) projects.

3. BACKGROUND

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 Beckett-Sproule Reservoir (located near the intersection of Heart Lake and Glidden Roads in Brampton) 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.

A section of the feeder main, approximately five km. in length, along Rutherford Road, from Napa Valley Avenue to Weston Road, was separately designed and tendered (as Contract No. 02-102A) in advance of the design/build portion of the project, so that the widening of this heavily travelled road section could be constructed in 2003. This work also forms an integral part of the new supply system.

3.1 Project Scope

The various contract packages constituting the YPWP project are shown in the Key Plan provided as *Attachment 1* to this report.

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 will begin at the east side of Highway 50 (the Peel-York Boundary), extend eastward along Rutherford Road to connect with the previously constructed feedermain segment, and then continue 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.

In order to minimize overall disruption to adjacent landowners and the travelling public, and to realize economies of scale, the Region has decided to integrate several ancillary projects along the proposed feedermain route into the YPWP project. These include:

- A parallel 900/750 mm. watermain along Teston Road, between Block 33 on the west side of Highway 400 and Cranston Park Avenue, serving Pressure District 7 (the “PD7 Feedermain”). The City of Vaughan is funding this watermain.

Road restoration, road reconstruction and widening, intersection improvements, widening and/or reconstruction of bridges and related lighting and signalization improvements in the following locations:

- Rutherford Road, from the Regional boundary at Highway 50 to Napa Valley Avenue (approximately 2.3 km rural section plus 1.5 km semi-urban section).
- Weston Road between Rutherford Road and just north of the future Road ‘E’, where the proposed feedermain alignment turns east through the future Block 33 development (approximately 2.94 km urban section).
- Teston Road between Jane Street and Keele Street, including the elimination of the jog at Jane Street and Teston Road (approximately 2.94 km urban section).

York Region has assumed primary management responsibility for the above-noted works, while the Regional Municipality of Peel has retained primary management responsibility for project components within its Regional boundaries, which are nonetheless integral to the functioning of the overall system.

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 will begin at the existing Beckett-Sproule reservoir, Brampton, and will run northward and eastward to the intersection of West Drive and Queen Street, extend eastward along Queen Street to Airport Road, and then continue 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. An outgoing 1800 mm. feedermain will be installed along the future Humber West Parkway and will continue eastward along Castlemore Road, connecting with the York feedermain at the York-Peel regional boundary, plus connections to the new Airport Road Reservoir and Pumping Station.

Feedermain installation along Queen Street will be integrated with the reconstruction and widening of the road. Surface course paving along Airport Road will also be accomplished as part of the YPWP project. The City of Brampton on behalf of Peel Region is undertaking a small portion of the work.

These projects are currently on schedule, which will enable both Regions to meet the required commissioning date of December 2004.

4. ANALYSIS AND OPTIONS

4.1 Progress Update

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

- Formally awarding the design/build contract and preparing contract documents for execution.
- Dealing with challenges to the evaluation process.
- Moving forward on necessary property acquisition.
- Liasing with utilities and regulatory agencies as required to support the design/builder's team.
- Arranging for design-builder mobilization on site.
- Meeting with the design/builder to confirm organization, lines of communication, and procedures to be followed during the design, construction, and commissioning phases.
- Holding regular design review and project scheduling meetings with the design-builder.
- Overseeing completion of additional field surveys and investigations by the design-builder.
- Ensuring critical approval submissions have been forwarded to regulatory authorities having jurisdiction.

4.2 Property Acquisition Status

The Region is currently negotiating for all outstanding property; property acquisition status for different sections of the feedermain and road reconstruction is as follows:

- Rutherford Road from Highway 50 to CPR crossing.
 - Nearly all property has been acquired for feedermain installation and road reconstruction. The Region will gain possession of the remaining parcel in September 2003 (via expropriation).
- Rutherford Road from CPR crossing to Weston Road.
 - All property has been acquired for feedermain installation and road reconstruction.
- Weston Road – Rutherford Road to Major Mackenzie Drive.
 - All property has been acquired for feedermain installation and road reconstruction.
- Weston Road – North of Major Mackenzie Drive.
 - Negotiations have commenced to acquire property for road widening and the Hwy. 400 feedermain crossing. Reference plans have been prepared and fee appraisals are currently being obtained. The earliest date for property acquisition by expropriation is August 30, 2004
- Block 33.
 - Agreements are in place and reference plans have been prepared.
- Teston Road.
 - Property on the south side of Teston Road is owned either by York Region or the City of Vaughan. York Region must reach an agreement with the City of Vaughan to provide easements or transfer property to the Region for the feedermain and road construction. Property acquisition on the north side of Teston Road is being negotiated with individual landowners. Reference plans have been prepared and fee appraisals are currently being obtained. The earliest date for property acquisition by expropriation is August 30, 2004. All property required for the feedermain installation is in place. Arrangements for relocation of a church building must be made in order to permit proposed road improvements.

4.3 Contract Award and Execution

On June 26, 2003, Regional Council authorized the award of Contract No. 03-04 in the amount of \$72,310,643.87 including GST for feedermain installation and road reconstruction to Dufferin Construction Company, a division of St. Lawrence Cement Inc. Dufferin has subsequently provided the requisite bonds and insurance, and the notice to proceed has been issued by the Region.

Dufferin will be playing a major role in the construction of the overall YPWP project. Peel Region also awarded Dufferin the approximately \$30 million design/build contract for the Airport Road/Castlemore Road feedermain, subsequent to a separate evaluation

process, as well as the \$35 million contract for the Queen Street Reconstruction and Feedermain Installation, through a conventional tendering process.

The concrete pressure pipe for this project will be supplied by Munro Concrete Products, an existing concrete pipe manufacturer in Barrie Ontario. The proposed manufacturer will begin production of the concrete pressure pipe in early 2004. The Regional project team is working with Dufferin to ensure quality assurance and scheduling requirements associated with the supply of concrete pressure pipe for this project are addressed.

Dufferin has provided assurances to the Region that alternate suppliers will be used if schedule commitments by the Munro facility are not met. Dufferin's assurances include firm dates on which decisions to procure pipe from alternate suppliers will be finalized. Quality Control (QC) and Quality Assurance (QA) for the concrete pressure in accordance with American Water Works Association (AWWA) Standard C301 was a requirement of the design-build RFP. Dufferin's QA/QC Plan includes the retention of an independent inspection company to ensure compliance with the AWWA Standard C301. The independent inspection company will provide reports to both the Region and Dufferin.

4.4 Schedule Overview

Table 1 provides milestone dates for future activities.

Table 1
Project Master Schedule Key Dates

Task	Schedule Date
Construction start on Rutherford Road – CPR to Napa Valley Avenue	September 2003
Start of Elder Mills and Robinson Creek – Bridge reconstruction	September 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	October 2003
Commence concrete pipe delivery/installation	February 2004
Construction start on Weston Road – North of Major Mackenzie Drive	May 2004

Construction start on Teston Road – Jane Street to Block 33	May 2004
Feedermain construction substantially performed – Including testing	October 2004
Complete overall water supply system commissioning – Including Airport Road Reservoir and Pumping Station	November 2004
Construction (inclusive of road works) substantially performed	September 2005
Total Performance of the Work	November 2005
Final Acceptance (end of Warranty Period)	November 2007

4.5 Forecast Activities for the Next Quarter

The following are key events scheduled over the next few months. These milestones will be achieved through co-ordination between the Region, our Facilitation/Process Consultant and the Design-Builder:

- Complete design and design review.
- Obtain regulatory agency approvals.
- Finalize property acquisition.
- Finalize construction schedules.
- Finalize quality assurance/control, traffic management, environmental management, safety, and public communications plans.
- Complete preparatory work (removals, utility relocation, etc.).
- Commence road and bridge reconstruction in three areas.
- Commence major highway and water crossings; complete tunnelling.

5. FINANCIAL IMPLICATIONS

The current estimates for the major components of the work being managed directly by York Region are provided in Table 2. These amounts include management contingencies and GST, but may not reflect the full cost of land acquisition.

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

Table 2
Total Project Costs

	Project	Cost
	York Peel Feedermain	
1.	• Airport Road Reservoir Pumping Station to Hwy. 50	\$26,215,000
	• Hwy 50 to Maple Reservoir	<u>58,224,000</u>
	Total	\$84,439,000
2.	Teston Road Improvements	
	• Jane Street to Keele Street	10,165,000
3.	Rutherford Road Improvements	
	• Highway 50 to Napa Valley Avenue	13,375,000
4.	Weston Road Improvements	
	• Rutherford Road to Major Mackenzie	7,811,000
5.	Pressure District 7 Watermain (funded by City of Vaughan)	\$3,900,000

The Region's 10 year Capital Plans include sufficient budget to cover engineering, construction, and project management costs for the feedermain and road works incorporated in design-build contract

Where Regional Council has approved advancing road improvement expenditures, the relevant line items in the 10 year Roads Capital Plan will be adjusted in the 2004 Plan.

6. LOCAL MUNICIPAL IMPACT

The 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 being undertaken in York Region is progressing. The feedermain portion of the work is scheduled for commissioning by the end of November 2004.

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.)