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YORK-PEEL WATER SUPPLY PROJECT UPDATE MARKHAM WATER SUPPLY AND AURORA NEWMARKET WATER SUPPLY PROJECTS UPDATE PROJECT NO. 77300, 77390, 70320, 77350, 78060 AND 74180

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, December 18, 2003, from the Commissioner of Transportation and Works:

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 Water Partnership (YPWP) projects and other related projects within York Region to service growth within Aurora, Newmarket, and Markham.

3. BACKGROUND

3.1 York-Peel Water Partnership Projects

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 was completed in late 2003.

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

The design-build 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 along Rutherford Road, from Highway 50 to Napa Valley Avenue, Weston Road between Rutherford Road and just north of the future Road ‘E’, and Teston Road between Jane Street and Keele street, including the elimination of the jog at Jane Street and Teston Road.

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.

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.

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

3.2 Aurora-Newmarket Water Supply

The Aurora-Newmarket Water Supply Project is required to service growth within Aurora and Newmarket. The proposed infrastructure will connect the Maple Reservoir located at Keele Street and Teston Road to the distribution mains in Aurora at Wellington Street. The project includes a new pump station at the Maple Reservoir, a water transmission main and an inground reservoir as illustrated in *Attachment 2*.

Consultants were retained to initiate a Class EA in December 2002.

3.3 Markham PD6 Water Supply

The Markham Pressure District 6 (PD6) Water Supply Project is required to service growth and provide adequate storage within PD6 in the Town of Markham. The project includes an in-bound reservoir in the vicinity of McCowan Road and Stouffville Side Road and a watermain along McCowan Road to connect the reservoir to existing watermain on Major Mackenzie Drive as illustrated in *Attachment 3*.

A consulting team was retained in December 2003 to initiate the Class EA.

3.4 McNaughton and Major Mackenzie Watermains

The watermains on McNaughton Road (between Keele Street and Major Mackenzie) and Major Mackenzie Drive (between McNaughton and Bathurst Street) were initiated in 2003 to improve transmission of water from the west to the east. The projects are critical to servicing growth within the Region.

Due to proposed road and sewer works along McNaughton Road and Major Mackenzie Drive by the City of Vaughan and York Major Holdings (YMH), the watermain will be integrated within the construction to be carried out by YMH. The approach was approved by Region Council on March, 2003.

The section of the watermain along Major Mackenzie Drive between Dufferin Street and Bathurst Street will be undertaken as a separate project. A consulting team was retained in June 2003 to undertake the Class EA, detailed design and contract administration services for this project.

4. ANALYSIS AND OPTIONS

4.1 York Peel Feedermain

4.1.1 Progress Update

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

- Moving forward on necessary property acquisition.
- Liasing with utilities and regulatory agencies.
- Project meetings to confirm organization, lines of communication, and procedures to be followed during the design, construction, and commissioning phases.
- Regular design review and project scheduling meetings with the design-builder.
- Additional field surveys and investigations by the design-builder.
- Ensuring critical approval submissions have been forwarded to regulatory authorities having jurisdiction.
- Road reconstruction works on Rutherford Road, Weston Road and Teston Road.

4.1.2 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 and Weston Road.
 - All property has been acquired for feedermain installation and road reconstruction.
- Block 33.
 - Agreements are in place and reference plans have been prepared.
- Teston Road.
 - 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.
 - 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 and are currently underway.

4.1.3 Contract Award and Execution

On June 26, 2003, Regional Council authorized the award of Design-build 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.

The concrete pressure pipe for this project will be supplied by Munro Concrete Products, an existing concrete pipe manufacturer in Barrie Ontario. The manufacturer will begin production of the concrete pressure pipe in early 2004.

Dufferin had 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. In late November, the construction of the Munro facility was on schedule. Pipe production will begin in early February. Based on this, procurement of pipe from alternate suppliers was not considered necessary. 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 inspect company will provide reports to both the Region and Dufferin.

4.1.4 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	November 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	December 2003
Commence concrete pipe delivery/installation	February 2004
Construction start on Weston Road – North of Major Mackenzie	May 2004

Drive

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

4.1.5 Forecast Activities for the Next Quarter

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

- Completion of design.
- Obtain regulatory agency approvals.
- Finalize property acquisition.
- Finalize and implement quality assurance/control, traffic management, environmental management, safety, and public communications plans.
- Complete preparatory work (removal and vegetation, utility relocation, etc.).
- Commence road and bridge reconstruction in three areas.
- Commence major highway and water crossings.
- Commence watermain installation.

4.2 Aurora Newmarket Water Supply

The Class EA was completed in November 2003. Detailed design has commenced. Property acquisition has been initiated for the pump station and the in-ground reservoir. The construction will be divided into multiple contracts and scheduled for tender in 2004. Commissioning of the infrastructure is scheduled for January 2006.

4.3 Markham PD6 Water Supply

The Class EA was complete in October 2003. Detailed design is approximately 50% complete. Property negotiations are underway for the reservoir site. The construction will be divided into two contracts and scheduled for tender in 2004. Commissioning of the infrastructure is scheduled for October 2005.

4.4 Major Mackenzie Drive/McNaughton Road Watermains

The detailed design for the McNaughton Road watermain and the Major Mackenzie Drive watermain between McNaughton Drive and Bathurst Street is complete. Regulatory approval submissions have been completed. These works will be tendered by York Major Holdings to prequalified contractors early in 2004.

The agreement between York Major Holdings and the Region to facilitate this project is currently under development and will be finalized in January 2004.

The Class EA is underway for the watermain east of Bathurst St. Both watermain projects are scheduled for completion late in 2004.

5. FINANCIAL IMPLICATIONS

The current estimates for the major components of the work are provided in Table 2. These amounts include management contingencies and GST, but may not reflect the final cost of land acquisition.

Table 2
Total Project Costs

	Project	Cost
	York Peel Feedermain	
1.	- Airport Road Reservoir Pumping Station to Hwy. 50 - Hwy 50 to Maple Reservoir	\$26,215,000 <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
	Aurora – Newmarket Water Supply	\$43,106,000
	Markham PD6 Water Supply	\$28,196,000

McNaughton Road – Major Mackenzie Watermains

\$9,229,000

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.

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 have been adjusted in the draft 2004 Plan.

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.

The Aurora Newmarket Water Supply Project is required to transmit water from Peel to the Town of Aurora and the Town of Newmarket. The project is required to accommodate future growth in these communities.

The Markham PD6 Water Supply Project is required to increase storage and accommodate future growth within Pressure District 6 in Markham.

The watermains along McNaughton Road and Major Mackenzie in the City of Vaughan will improve transmission of water from the west to the east. The project is required to accommodate growth in the Region.

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 York Peel Feedermain and the projects within Peel Region are on track for completion in 2004 to facilitate the transmission of water from Peel Region to York Region.

The Class Environmental Assessments have been completed for the Aurora-Newmarket Water Supply and the Markham PD6 Water Supply projects. Both projects are on schedule.

The Class Environmental Assessment for the Major Mackenzie Watermain between Dufferin Street and Bathurst Street is underway. The Region is working with York Major Holding to design and construct the watermain along McNaughton Road and Major Mackenzie Drive between McNaughton Road and Bathurst Street. This project is on track for completion early in 2005.

The Senior Management Group has reviewed this report.

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