2
INCREASE TO THE TOTAL PROJECT BUDGET AUTHORITY FOR VARIOUS PROJECTS

The Environmental Services Committee recommends the adoption of the recommendation contained in the following report dated September 1, 2010, from the Commissioner of Environmental Services.

1. RECOMMENDATION

It is recommended that:

1. Regional Council authorize an amendment to the 2010 Capital Budget to increase the total project budget authority for projects outlined in Section 4 for issuance of tenders in advance of approval of the 2011 Capital Budget and that all project increases be funded on the same ratio as for the existing project.

2. PURPOSE

The purpose of this report is to seek authorization to amend the 2010 Capital Budget to increase the approved total project budget authority for a number of projects that are anticipated to be tendered prior to approval of the 2011 Capital Budget.

3. BACKGROUND

Approval of updated construction costs required to proceed with the tender process

For certain projects, the 2010 total project budget authority currently includes costs up to and including design only. Construction estimates for these projects were included in future budget years and were not in the requested 2010 total project budget authority. To proceed with tendering these projects in advance of the 2011 budget approval, construction estimates must now be included in the total project budget authority.

All of these projects are expected to proceed in advance of approval of the 2011 Capital Budget.

4. ANALYSIS AND OPTIONS

Three projects require inclusion of construction estimates to proceed with tendering process

Three projects shown in Table 1, that currently have only total project budget authority for costs up to and including the design phase are ready to proceed to tender for construction. However, in order to issue the tender, these projects require inclusion of the construction estimates in the total project budget authority. Estimated funding for construction of these projects is currently included in the approved 2010 Ten-Year Capital Plan as expected to be spent in either 2011 and / or 2012.

Table 1
Total Project Budget Authority Advancement – Inclusion of Construction Estimates

Project	Approved 2010 Project Budget	2010 Approved Authority	Advance Authority Request *	Requested Total New Authority
70120 – Orchard Heights PS	$9,478,000	$1,163,000	$8,315,000	$9,478,000
72170 - GWS-Keswick N. ET and Queensway N. W/M (Boyer's to Connecting W/M)	$6,678,000	$798,000	$5,880,000	$6,678,000
75420 – PD 7 Maple Pumping Station Expansion	$2,205,000	$180,000	$2,025,000	$2,205,000
TOTAL	**$18,361,000**	**$2,141,000**	**$16,220,000**	**$18,361,000**

*Advance Authority Request funds already identified in 2011 and/or 2012 program years of approved 2010 Capital Budget

Four capital projects require approval of updated construction costs to proceed with tendering process

Revised construction estimates that reflect increases in the total project scope have been prepared for four capital projects. These updated construction cost estimates are compared to those included in the 2010 Ten-Year Capital Plan as shown in Table 2. Approval of these updated costs is required to proceed with the tendering process for these four projects.

Table 2
Total Project Budget Authority Increases – Inclusion of Construction Costs and Cost Increases

Project	Approved 2010 Project Budget	2010 Approved Authority	Authority Request (Advancement)	Incremental Project Budget	Requested Total New Authority*
71180 – Queensville ET No. 1	$7,751,000	$3,901,000	$3,850,000	$1,853,600	$9,604,600
71285 – Georgina Transfer Station Upgrades	$1,800,000	$1,800,000	$0	$3,547,500	$5,347,500
74210 – PD6 Markham By-pass	$10,786,000	$1,922,000	$8,864,000	$3,328,000	$14,114,000
74260 – TO Supply – Kennedy WM – Milliken PS to Major Mackenzie	$36,724,000	$36,724,000	$0	$34,001,000	$70,725,000
TOTAL	**$57,061,000**	**$44,347,000**	**$12,714,000**	**$42,730,100**	**$99,791,100**

*Detailed project construction estimates are provided below and include 15% estimated contingency

Pre-tender construction cost estimate increases total project cost for Queensville Elevated Tank No. 1

This project was introduced in 2003 to provide storage required to supply additional capacity to accommodate growth in Queensville and Holland Landing. It was originally designed to provide 6.6 ML, however as a result of the Environmental Assessment study, the design has been changed to provide for an increased capacity of 7.6 ML. Cost estimates have also increased to address operational and 404 Interchange issues identified during detailed design.

Based on the above project scope increases, the Region’s consultant prepared an updated construction cost estimate that results in an increase of $1,853,600 in the total project cost to $9,604,600. Updated project costs are shown in Table 3.

Construction of this project is anticipated to start in Q4 2010 and completion is expected by the end of 2011.

Table 3
Updated Project Costs for Queensville Elevated Tank No. 1

Project Component	Cost
Elevated Tank including: • Concrete foundation and concrete pedestal • Steel tank • Mechanical, electrical and SCADA	$5,980,000
Site Works including: • Watermain connection • Temporary access road • Retention pond and site grading	$2,591,900
Construction Subtotal	$8,571,900
Engineering and Contract Administration and Site Inspection	$759,000
York Region Project Management	$115,000
Land Acquisition	$158,700
Project Total	**$9,604,600**

Evolving service levels and customer profile changes are driving the need for design changes to the Georgina Transfer Station

In October 2008, Regional Council authorized the retention of an engineering consultant for improvements to York Region's Georgina Transfer Station based on Community Environmental Centre Principles. The existing design configuration of the Georgina Transfer Station is based primarily on receiving waste in municipal curb-side collection vehicles and from industrial, commercial and institutional customers using large vehicles to deliver large loads. Over the past 10 years, the number of residential facility users, the number of loads delivered and the quantity of materials received at the Georgina Transfer Station have all increased, with the increase in residential vehicle traffic being the most dramatic.

In 1998, the average traffic throughput for residential customers was approximately eight vehicles per hour. In 2007, the average residential customer traffic throughput rate was more than 30 vehicles per hour. This more than three-fold increase has exceeded the facility's ability to meet required service levels and as a result, a number of concerns have arisen, including:

- Due to the current configuration, residential facility users must cross the weigh scales, even when dropping off minimum sized loads, increasing wait times and traffic queues.

- Safety concerns due to traffic queues extending out onto Warden Avenue during peak operating periods.
- Safety concerns due to smaller vehicles, typically used by residential customers, mixing with larger trucks used by the industrial, commercial and institutional customers.

The Georgina Transfer Station is no longer well-suited to meet local service demands in a manner consistent with the facility's current customer profile. Concerns can be addressed by applying the principles adopted by the Region for developing Community Environmental Centres (CECs), based on the following:

- Easily accessible
- Consistent program service delivery
- Safe for users, staff and contractors
- Convenient and supportive of a positive user experience
- Reflective of the priorities of the 4R's waste management hierarchy
- Flexible approach to design to suit the site and surrounding vicinity
- Maintain an attractive aesthetic appearance

Community Environmental Centres provide the public with a point of access to solid waste management services not available curb-side and ensures that materials are dealt with in a manner consistent with an environmentally sound, integrated waste management hierarchy.

Regional staff met with staff from the Town of Georgina to review the proposed changes and ensure the revised conceptual design is consistent with local service demands. To incorporate Community Environmental Centre principles into the design and address concerns at the Georgina Transfer Station, modifications to the conceptual design previously presented were required. These changes include the following:

- Raising / lowering site elevations for installation of saw tooth wall
- Canopy installation
- Flashing on existing commercial building
- New scale house
- Construction of Goodwill / Habitat for Humanity building

Based on the above changes, the Region's consultant prepared an updated construction cost estimate that results in an increase of $3,547,500 in the total project cost to $5,347,500. Updated project costs are shown in Table 4.

Table 4
Updated Project Costs for Georgina Transfer Station

Project Component	Cost
Site Construction Including: • Raising site elevation • Installing saw tooth wall • Paving site • Stormwater management • Electrical	$3,335,000
Upgrades and Renovations including: • Flashing on commercial building • Canopy installation • New scale house • Landscaping	$1,322,500
Construction of Goodwill / Habitat for Humanity Building	$345,000
Engineering and Contract Administration and Inspection	$287,500
York Region Project Management	$57,500
Project Total	**$5,347,500**

Construction of the project is anticipated to start in the fall of 2010 and completion is expected in June 2011.

Pre-tender construction cost estimate increases total project cost for Pressure District 6 Markham By-pass Watermain

This project was identified in the 2004 Water Master Plan and includes a watermain ranging in diameter from 600 mm to 750 mm along Major Mackenzie Drive and Donald Cousins Parkway from McCowan Road to Ninth Line in the Town of Markham.

The project is scheduled in the 2010 Ten-Year Capital Plan for construction in 2011 with an estimated total cost of $10,786,000 and includes a total project budget authority limit of $1,922,000.

Detailed design for the project has been completed ahead of schedule and is currently ready to be tendered for construction. In order to proceed to tender the total project budget authority must be increased to include the construction phase of the project. Furthermore, the pre-tender Engineer’s Estimate of the project equals $14,114,000 which exceeds the estimated total cost in the approved 2010 Ten-Year Capital Plan by $3,328,000.

The updated project budget estimate of $14,114,000 reflects recent tender prices submitted on similar projects and the need to tunnel under Markham Road, as well as additional traffic management, not included in the 2010 budget estimate.

Based on the above changes, the Region's consultant prepared an updated construction cost estimate. Updated project costs are shown in Table 5.

Table 5
Updated Project Costs for Pressure District 6 Markham By-Pass Watermain

Project Component	Cost
Construction • Watermain • Tunnel under Markham Rd • Chambers • Restoration • Traffic Management	$12,320,000
Engineering, Contract Administration and Inspection	$1,725,000
York Region Project Management	$69,000
Project Total	**$14,114,000**

Pre-tender construction cost estimate increases total project cost for Kennedy Road Watermain

This project, as identified in the 2004 Water Master Plan, includes a 1500 mm diameter watermain along Kennedy Road from the Milliken Reservoir on 14th Avenue just west of Kennedy Road to Major Mackenzie Drive in the Town of Markham. The Environmental Assessment was completed by the City of Toronto, on behalf of the Region, in October 2007. The Environmental Assessment identified and recommended the Kennedy Road route and indicated that the entire 6.5 kilometre length of watermain from the Milliken Reservoir to Major Mackenzie Drive could be constructed by the standard 'open cut' trenching method and that construction could be accomplished without the need for ground dewatering.

During the 30% design phase in discussions with the Region's Transportation Services Department as well as with staff from the Town of Markham, and factoring in past construction experiences on congested arterial roadways, it was agreed that approximately 3.0 kilometres of the total length of watermain from 14th Avenue to just north of Highway 7 should be constructed by tunnelling. This would eliminate the majority of the traffic congestion and disruption to both businesses and residents that would be encountered in this relatively dense section of the project. However, the decision to tunnel this section of watermain introduces additional costs that were not previously anticipated.

The project is scheduled in the approved 2010 Ten-Year Capital Plan for construction starting in 2010 with an approved total project budget of $36,724,000. The detailed design for the project is currently 90% complete and is scheduled to be tendered for construction in two separate phases later this year. One tender will be for the open cut work north of Highway 7 and the other will be for the tunnel work south of Highway 7. The exact alignment of the watermain within the Kennedy Road right of way has been established. This final location necessitates that ground dewatering equipment be located within the traveled lanes of Kennedy Road and requires a full lane closure for the duration of construction. A realignment of the watermain such that dewatering equipment does not impact the travel lanes is not possible due to conflicts with other utilities. Consequently, the tender for the tunnel section must specify the use of an Earth Pressure Balance Tunnel Boring Machine to eliminate the need for ground dewatering altogether.

The above issues have been incorporated into the 90% design Engineer's Estimate for the project. Given the complex nature of tunnel work, staff have included a 15% contingency to the estimate for a total updated project budget of $70,725,000.

Other factors contributing to this significant increase in the project cost include:

- Deeper and more elaborate chambers due to the depth of the tunnel
- Need for two separate tenders
- Increase in recent tender prices submitted on similar projects

Based on the above changes, the Region's consultant prepared an updated construction cost estimate. The breakdown of the estimated project costs are shown in Table 6.

Table 6
Updated Project Costs for Kennedy Road Watermain

Project Component	Cost
Open Cut Watermain Construction • Watermain • Tunnel under four local intersections • Chambers • Restoration • Traffic Management	$27,882,900
Tunnel Watermain Construction • Earth Pressure Balance Tunnel Bore Machine • Tunnel Shafts • Chambers • Traffic Management • Restoration	$40,370,750
Engineering, Contract Administration and Inspection	$2,344,850
York Region Project Management	$126,500
Project Total	**$70,725,000**

5. FINANCIAL IMPLICATIONS

This report includes two categories of projects that require an increase to the Total Project Budget Authority.

The first category includes projects where adequate funding for construction was included in the approved 2010 Ten-Year Capital Plan but were not anticipated to proceed to construction until 2011. Although these projects do not require additional funding, authority is required to permit the early tendering of construction contracts.

The second category includes projects where construction cost estimates have increased beyond the funding included in the approved 2010 Ten-Year Capital Plan.

All of the projects are to support growth expected in York Region and are to be funded from development charges with the exception of the Georgina Transfer Station which will be funded from the Solid Waste Reserve. Due to forecast under-expenditures in the 2010 capital program resulting from delays on key major projects (eg. Southeast Collector and Energy from Waste projects awaiting MOE permits/approvals), any spending on the above projects in 2010 will be accommodated within the current approved funding for 2010 for water, wastewater and solid waste. Adjustments will be incorporated into the 2011 capital budget process and in the 2012 update of the DC By-law.

6. LOCAL MUNICIPAL IMPACT

With the increased approved budget for the above noted projects, the Region will be able to issue the necessary tenders to keep these projects on track and therefore meet the infrastructure requirements of the affected local municipalities.

7. CONCLUSION

It is recommended that the approved budgets of the projects identified in this report be increased in advance of the approval of the 2011 Capital Budgets in order to facilitate the tendering of these projects.

For more information on this report, please contact Daniel Kostopoulos, Director of Capital Planning and Delivery at (905) 830-4444 Ext. 5070.

The Senior Management Group has reviewed this report.