



Report to: Development Services Committee

Date Report: October 22, 2013

SUBJECT: Main Street Markham – Project Update

PREPARED BY: Alain Cachola, Senior Manager, Infrastructure and Capital Works, Ex. 2711

RECOMMENDATION:

- 1) **THAT** the report entitled “Main Street Markham – Project Update” be received;
- 2) **AND THAT** Purchase Order PD 13180 issued to Municipal Engineering Solutions for the Contract Administration and Inspection Service be increased by \$94,990.16, inclusive of HST, (from \$176,009.18 to \$270,999.34) to cover the additional contract administration work required for the additional work, and be funded from the following Capital Accounts:
 - a) 083-5350-11079-005 (Main Street Markham Reconstruction);
 - b) 058-6150-12328-005 (Watermain Construction & Replacement Program);
- 3) **AND THAT** an allowance of \$854,449.76, inclusive of HST, (from \$3,104,887.38 to \$3,959,337.14), be authorized for a Purchase Order increase (PD 13174) to Four Seasons for Contract 081-T-13 (Road Reconstruction of Main Street Markham from Highway 7 to Bullock Drive) to cover the additional construction costs associated with the watermain works, utility conflicts, and delay claims for the project, and that the Director of Engineering and Senior Manager of Purchasing & Accounts Payable be authorized to finalize the Purchase Order increase request, and the increase be funded from the following Capital Accounts:
 - a) 083-5350-11079-005 (Main Street Markham Reconstruction);
 - b) 058-6150-12328-005 (Watermain Construction & Replacement Program);
- 4) **AND THAT** the 2012 Waterworks Department Capital account 12328 (Watermain Construction & Replacement Program) be increased in the amount of \$247,843.40, inclusive of HST, for the additional construction costs associated with the watermain construction, and to be funded from the Waterworks Stabilization / Capital Reserve;
- 5) **AND THAT** the 2011 Engineering Department Capital account 11079 (Main Street Markham Reconstruction) be increased in the amount of \$701,596.52, inclusive of HST, for the additional construction costs associated with the road reconstruction and streetscaping works and to be funded from the following accounts / reserves:

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- a) Transfer funds (\$473,983.52) from Engineering Capital Account 13034 (Main Street Markham Storm Sewer Upgrade, from Bullock Drive to 16th Avenue)
 - b) Transfer funds (\$157,613.00) from Urban Design Project 1443
 - c) Life Cycle Replacement and Capital reserve (\$70,000.00)
- 6) **AND THAT** Staff be authorized and directed to do all things necessary to give effect to this resolution.

PURPOSE:

The purpose of this report is to obtain Council's approval regarding the following:

Purchase Order Adjustments

- Purchase Order adjustment for Municipal Engineering Solutions in the amount of \$94,990.16, inclusive of HST, for the additional contract administration and inspection services for the project;
- Purchase Order adjustment for Four Seasons in the amount of \$854,449.76, inclusive of HST, for the additional construction cost for the project;
- Total Purchase Order adjustment for project is \$949,439.925, inclusive of HST;

Capital Account Adjustments

- Capital account funding increase for Waterworks Department Capital account 12328 (Watermain Construction & Replacement Program) in the amount of \$247,843.40, inclusive of HST, for the additional construction costs associated with the watermain construction, and to be funded from the Waterworks Stabilization / Capital Reserve;
- Capital Account funding increase for Engineering Department Capital account 11079 (Main Street Markham Reconstruction) in the amount of \$701,596.52, inclusive of HST, for the additional construction costs associated with the road reconstruction and streetscaping works, and to be funded from the following reserves:
 - Transfer funds (\$473,983.52) from Engineering Capital Account 13034 (Main Street Markham Storm Sewer Upgrade, from Bullock Drive to 16th Avenue)
 - Transfer funds (\$157,613.00) from Urban Design Project 1443
 - Life Cycle Replacement and Capital reserve (\$70,000.00)
- Total Capital Account adjustment for project is \$949,439.925, inclusive of HST;

BACKGROUND:

The City of Markham commenced construction of the underground servicing for the Main Street Markham project, from Hwy 7 to Bullock Drive in July 2012 and completed this work in November 2012. As part of the second phase of construction, the City awarded the contract for the road reconstruction and streetscaping works (081-T-13) to the lowest priced bidder (i.e. Four Seasons) in June 2013.

OPTIONS/ DISCUSSION:**Construction Schedule**

During the Public Liaison Committee meetings for the Streetscaping design, the BIA advised staff that the construction for the second phase (i.e. roads and streetscaping) of the project would have to commence immediately after the Main Street festivals in June 2013, and should be completed prior to the Santa Clause Parade / Festivals of Lights which is scheduled for November 29, 2013.

In anticipation of these festivals, the City issued the tender for the road and streetscaping works in March 2013 with the intent to award the contract in June 2013 and start work by July 2, 2013. The tender document identified a completion date of November 1, 2013, with the strategy to have four (4) weeks in between the anticipated completion date and the Santa Clause Parade to deal with any potential delays due to inclement weather and unforeseen site conditions.

At the Public Liaison Committee (PLC) meeting of June 26, 2013, the contractor presented their overall strategy to the public on how the project was to be completed. The following is the original schedule as presented by Four Seasons;

- Start: July 2, 2013
- Complete: November 1, 2013
- Phase 1A – Hwy 7 to Robinson Street (East Side)
- Phase 1B – Hwy 7 to Robinson Street (West Side)
- Phase 2A – Robinson Street to Bullock Drive (West Side)
- Phase 2B – Robinson Street to bullock Drive (East Side)

The Public Liaison Committee (PLC) attendees were all advised by City staff and contractor that the schedule may be affected by delays due to inclement weather and unforeseen site condition.

Construction Issues

The contractor commenced work on July 2, 2013. As a part of the construction staging for the project, certain works needed to be completed first prior to the other items being started. The sequencing for the individual works is as follows:

1. Curb removal and installation
2. Electrical duct installation (streetlights)
3. Light pole base installation
4. Strata cell installation (tree pits)
5. Sidewalk removal and installation
6. Boulevard paver installation

During the first few weeks of construction in the east boulevard, the contractor encountered issues on site when the electrical ducts were being installed. The contractor encountered numerous utility infrastructures that were not identified in the design plans nor were they identified by the utility locates as shown in Attachment 'A'.

Due to these unforeseen site conditions, the electrical design for the streetlighting system had to be revised in order to ensure that the underground infrastructures and street light pole bases could be installed. The contractor also had to be more cautious with the excavation of the boulevards due to these unidentified utilities. The redesign for the electrical also included a redesign for the streetlight pole bases. The design engineer had to specify different types of pole bases with varying diameters to ensure that they could be installed and cleared the utility structures (Attachment 'B').

The impact of these issues to date to the overall schedule was a delay of 5-6 weeks.

Revised Schedule

Staff and the contractor met with the Ward Councillors, the BIA, and business owners on September 19, 2013 to provide an update of the construction schedule. It was discussed that due to the construction issues as noted above, the project had been delayed by 5-6 weeks and could not be completed by November 28, 2013. The BIA raised concerns regarding the impact to the holiday shopping season and requested that City review options to accelerate the work and be completed by November 28, 2013.

Staff reviewed the options with the contractor to complete the boulevard works by the November 28, 2013 deadline. In order to complete the boulevard works, an additional crew, working Saturday and extended hours was determined to be required. Based on the review of this option, it is considered feasible to have all boulevard works completed from Hwy 7 to Bullock Drive by November 28, 2013, contingent on inclement weather and unforeseen underground site conditions.

The contractor will however, still have to return to the site in Spring 2014 to complete the road paving and installation of interlocking at the Main Street and Robinson Street intersection. The contractor anticipates that this work will take between 4-5 weeks to complete.

Staff met with the Executive Leadership Team (ELT) on September 25, 2013 and was given the approval to move forward with the accelerated schedule option, and report to Council. The cost associated with this accelerated schedule is detailed in the "Financial Considerations" section of this report.

Budget Constraints

As a result of the site issues, the contractor has submitted extra claims relating to increase / change in the scope of work and delays. Staff has reviewed the extras claims relating to the works that are being completed on the east boulevard. In addition, staff has assessed

the potential claims that are anticipated on the west boulevard and have prepared an updated financial summary for the project.

The contract administration work for this project has also increased due to the number of on-going site issues. The contract administrator has provided an updated fee summary to deal with the site issues.

The details of these additional costs / allowances are explained further in the "Financial Considerations" section of this report.

FINANCIAL CONSIDERATIONS AND TEMPLATE:

Table 1, 2 and 3 outline the approved funding and potential extras for the project.

Table 1 – Budget Summary (Construction)

Item	Amount (Inclusive of HST)	Supplier
Construction	\$ 3,104,887.38	Four Seasons Site Development Ltd.
Construction Contingency (15%)	\$ 465,733.11	Four Seasons Site Development Ltd.
Change Orders Approved to date	\$ 361,768.60	
Remaining construction contingency:	\$ 103,964.50	
Potential Extras		
Allowance for extras (East Boulevard)	\$ 203,520.00	
Allowance for extras (West Boulevard and Roads)	\$ 335,808.00	
Contract Quantity Overruns	\$ 304,350.84	
Additional Claims (Contract)	\$ 119,151.80	
Total Potential extras (A):	\$ 962,830.64	
Premium to accelerate schedule for completion by November 28, 2013 (B):	\$ 122,112.00	Saturday work, extended days and additional crew. ELT approved.
Cost increase to defer road works to 2014 (C):	\$ 132,288.00	Defer road paving and interlocking
Total potential project extras and cost increases (D=A+B+C):	\$ 1,217,230.64	Cost increase related to accelerating schedule and deferring works to 2014

Less		
Remaining contingency amount (E)	\$ 103,964.50	
Over estimate in tender quantity (F)	\$ 258,816.38	Tender item related to soldier course pavers
Cost overrun (G=D-E-F):	\$ 854,449.76	Anticipated PO increase request for Four Seasons

East Boulevard

The anticipated extras on the east boulevard (\$203,520.00, inclusive of HST) are comprised of, but are not limited to the following items:

- Delay claims due to site conditions
- Utility chamber adjustments
- Existing streetlight pole base removals
- Driveway curb adjustments

West Boulevard and Roadworks

Based on known information on the east boulevard and applying the same assumptions, staff anticipates that the west boulevard extras will be in the order of \$152,640.00, inclusive of HST (i.e. light pole base removal and installation, utility grate adjustments, etc.). In addition, staff also anticipates an extra of \$183,168.00, inclusive of HST, related to the road works (i.e. intersection works, road, additional asphalt repairs and remaining watermain works, etc.). The total anticipated extras for the west boulevard and road works is \$335,808.00, inclusive of HST.

Contract Quantity Overruns

The anticipated contract quantity overruns in the contract (\$304,350.84, inclusive of HST) are comprised of, but are not limited to the following items:

- Catchbasin removals and relocation
- Additional catchbasins over and above contract items
- Additional asphalt quantities for road restoration (asphalt inlays)
- Additional sanitary sewer laterals (service connections)
- Additional waster service
- Additional duct structure required for electrical work

Additional Claims (Contract)

Extra costs related to tender items not included in contract award (\$119,15.80, inclusive of HST).

The anticipated extras are estimates only and are subject to changes. They are currently based on known site factors that the contractor encountered on the east boulevard. There may be a possibility that other unknown site conditions may come up during the construction of the west boulevard and road works.

Table 2 –Budget Summary (Contract Admin)

Item	Amount (Inclusive of HST)	Supplier
Contract Administration	\$ 176,009.18	Municipal Engineering Solutions
Contract Administration Contingency (H)	\$ 17,600.92	Municipal Engineering Solutions
Additional Contract Administration (I):	\$ 112,591.08	
Cost overrun (J=I-H):	\$ 94,990.16	PO increase for MES

The original scope of work included for the contract administration and inspection services for this project was for a full time inspector and a part time contract administrator. Due to the on-going site issues and requirements to find immediate solution to site problems, the City's contract administrator (Municipal Engineering Solutions) has been requested to spend more time out on site, over and above originally contracted site inspection services. In addition to the current project delay, it is anticipated that there will also be additional contract administration work for 2014 to complete the road works.

The contract administrator has submitted an estimate of the additional contract administration / site inspection services for the project which includes an adjustment for the project delays and deferring the road works to 2014. The additional cost associated with this work is in the order of \$112K.

Table 3 –Funding Summary

Item	Amount (Inclusive of HST)	Supplier
Anticipated Cost Overrun – Construction (G):	\$ 854,449.76	
Anticipated Cost Overrun – Contract Admin (J):	\$ 94,990.16	
Total Anticipated Cost Overrun (K=G+J):	\$ 949,439.92	

Item	Amount (Inclusive of HST)	Supplier
Funding Sources:		
Waterworks Stabilization / Capital Reserve:	\$ 247,843.40	Watermain related extras
Urban Design Account 1443:	\$ 157,613.00	Cash-in-lieu for trees
Capital Account 13034:	\$ 473,983.52	Gas Tax
Life Cycle and Replacement Program:	\$ 70,000.00	Traffic controller and poles
Total Available Funding Source (L):	\$ 949,439.92	
Remaining Available Funding Source (M=L-K):	\$ 0	

Waterworks Stabilization / Capital Reserve

The original contract included works for the Waterworks Department (i.e. watermain extension and water / sanitary sewer service replacement). The original amount included in the contract report was \$123,906.57 and a contingency amount of \$18,858.99.

The extra work required over and above the contract items include the following:

- Additional watermain work within Bullock and Main Street intersection
- New watermain and appurtenances (i.e. sleeve, valve, bends, etc.)
- Additional watermain services
- Additional sanitary services

Based on the above, the total extra relating to watermain and sanitary sewer replacement is \$247,843.40

Urban Design Funding

Urban Design account 1143 includes funding received from developers for the cash-in-lieu of tree replacement. To date, Urban Design has identified \$157,613.00 of funding collected through the development approvals process from projects along the Hwy 48 / Markham Road corridor, which can be utilized for the Main Street Markham reconstruction for the street tree component of the project.

Engineering Capital Account 13034

Capital Account 13034 (Main Street Markham Storm Sewer Upgrade, from Bullock Drive to 16th Avenue) was deferred and the funds used to offset the shortfall of the Main Street Markham construction contract award. The existing account currently has a remaining amount of \$473,983.52 and can be used to offset the extras as noted in the "Financial Considerations" section of this report.

Life Cycle and Replacement Program

Traffic Operations has requested a budget in the 2014 program for traffic controllers at the intersections of Centre Street/Main Street and Robinson Street/Main Street Markham. In addition, they were also anticipating requesting a budget in 2017 for the traffic pole replacement at the two (2) noted intersections. These proposed works are already included in the current work for the Main Street Markham reconstruction project. The total amount of funding being requested is in the amount of \$70,000.00. Operations staff has agreed that this funding can be utilized to offset the current project overrun for Main Street Markham.

Public Communications

Staff has been in discussions with the BIA and business owners during the past month regarding the project schedule. The BIA and the business owners have provided their concerns to the City relating to how the delay may have a potential impact on the Santa Clause Parade and the holiday shopping season. In addition, the businesses expressed concern with the on-going impact on their businesses of the Main Street construction.

The BIA is being provided with a weekly update on the construction of the project to ensure that they are able to provide up-to-date information to the business owners on Main Street. The City is also updating the Main Street Markham website to show the latest construction update every two weeks.

ALIGNMENT WITH STRATEGIC PRIORITIES:


The reconstruction of Main Street Markham from Highway 7 to Bullock has long been contemplated as a strategic priority. The project provides the necessary upgrades to the existing infrastructure, and the opportunity to enhance the existing streetscape, to promote pedestrian traffic and showcase this heritage area.

This project is in line with the City of Markham's strategic focus relating to Growth Management, Transportation/Transit, Safety, the Environment and Municipal Services.

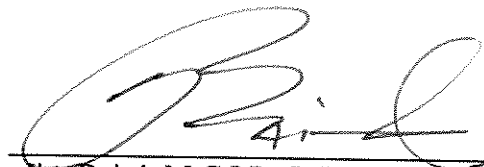
BUSINESS UNITS CONSULTED AND AFFECTED:

The Urban Design, Environmental Services, Operations, Finance, Corporate Communications and Legal Departments have been consulted and their comments have been incorporated.

RECOMMENDED BY:



Alan Brown, C.E.T.
Director of Engineering



Jim Baird, M.C.I.P., R.P.P.
Commissioner, Development Services

ATTACHMENTS:

Attachment 'A' – Utility Conflicts

Attachment 'B' – Revised Street Pole Base Design