

## CITY OF VAUGHAN

### **EXTRACT FROM COUNCIL MEETING MINUTES OF SEPTEMBER 16, 2015**

Item 9, Report No. 11, of the Finance, Administration and Audit Committee, which was adopted without amendment by the Council of the City of Vaughan on September 16, 2015.

#### **9 BUDGET AMENDMENT CAPITAL PROJECT CO-0074-14 - CULVERT WORK ON MAJOR MACKENZIE AND AWARD AMENDMENT T14-072 VAUGHAN HEALTHCARE CENTRE – CONTRACT 1 WARD 1**

The Finance, Administration and Audit Committee recommends:

- 1) That the recommendation contained in the following report of the Commissioner of Public Works and the Director of Capital Delivery and Asset Management, dated September 8, 2015, be approved; and
- 2) That the presentation by the Director of Capital Delivery and Asset Management and C5, presentation material titled “*Vaughan Healthcare Centre Precinct – moving forward with the site of our new hospital*” dated September 8, 2015, be received.

#### **Recommendation**

The Commissioner of Public Works and the Director of Capital Delivery and Asset Management, in consultation with the Director of Purchasing Services and the Director of Financial Planning and Analytics recommend:

1. That the award amount for ConDrain Company (1983) Limited be increased by \$1,588,000.00 plus applicable taxes and administration recovery as follows:
  - a. \$1,138,000.00 for Capital Project CO-0054-09 – Vaughan Hospital Precinct Development;
  - b. \$450,000.00 for Capital Project CO-0074-14 – VHPD Culvert Work on Major Mackenzie Drive;
2. That a budget amendment to Capital Project CO-0074-14 in the amount of \$450,000.00 plus applicable taxes and administration recovery be approved for the Vaughan Hospital Precinct Development and be funded from the City's Wastewater Reserve;
3. That the inclusion of this matter on a Public Committee or Council agenda with respect to amending Capital Budget CO-0074-14 – VHPD Culvert Work on Major Mackenzie Drive is deemed sufficient notice pursuant to Section 2(1)(c) of By-Law 394-2002 as amended; and
4. That the Mayor and City Clerk be authorized to sign the appropriate documents.

#### **Contribution to Sustainability**

The development of the Vaughan Healthcare Centre will support environmental sustainability and fulfill a number of goals and objectives outlined by the plan, specifically:

Goal 2: To ensure sustainable development and redevelopment.

Goal 3: To ensure that Vaughan is a city that is easy to get around with low environmental impact.

The needs of pedestrians, redevelopment and public transit will be supported by the strengthening and improvement of the public realm. The Vaughan Healthcare Centre will be

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instrumental in establishing and enhancing a strong sense of place and community image, while integrating the area's contemporary and heritage elements. Environmentally sustainable materials and features will facilitate pedestrian movement throughout the area; create street character, social spaces, streetscape quality and environmental sustainability.

#### **Economic Impact**

**T14-072 Vaughan Healthcare Centre – Contract 1 was awarded on June 24, 2014 in the amount of \$9,650,000.00**

Funding for T14-072 Vaughan Healthcare Centre – Contract 1 in the amount of \$9,650,000.00, which includes a contingency allowance, administration recovery and applicable taxes, for the Vaughan Healthcare Centre Precinct (VHCP) was approved by Council on June 24, 2014.

**Funding for T14-072 for the Site Pre-Grading/Major Mackenzie Improvements was allocated from CO-0054-09 and CO-0074-14**

As part of Tender T14-072 Vaughan Healthcare Centre – Contract 1, the earthworks and site grading, new traffic signals on Major Mackenzie Drive, the road network to modify access/egress to Canada's Wonderland including illumination and the storm water management pond, was allocated directly from CO-0054-09 which is funded from the annual tax levy established by Council on June 15, 2009.

The culvert work on Major Mackenzie Drive and the associated drainage channel completed within project CO-0074-14 is funded from the Wastewater Reserve. The tunneling portion of the twin culvert installations has been completed.

**An increase in funding is required from the City's Capital Projects CO-0054-09 and CO-0074-14**

In order to deliver an unencumbered site to Infrastructure Ontario for the MVH, a completed detailed design was required within a condensed schedule, which did not provide an appropriate amount of time to wholly refine the scope of work and resulted in the identification and management of several changes during construction. Details of these changes are explained in the Background - Analysis and Options section of this report.

An increase in funding of \$1,588,000.00, plus applicable taxes and administration recovery, is being requested to address the additional work required to complete T14-072 Vaughan Healthcare Centre – Contract 1.

The requested amount of \$1,138,000.00, plus applicable taxes and administration recovery, is available within CO-0054-09 Vaughan Hospital Precinct Development (VHPD) account.

To ensure appropriate funding is available a budget amendment to Capital Project CO-0074-14 in the amount of \$450,000.00, plus applicable taxes and administration recovery, funded from the City's Wastewater Reserve is required.

#### **Communications Plan**

Not Applicable.

#### **Purpose**

To obtain Council approval for the changes in scope for Tender T14-072 for the Vaughan Healthcare Centre – Contract 1 Site Pre-grading and Major Mackenzie Drive Improvements and the associated increases in funding.

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**Background – Analysis and Options**

**Aggressive development timeline requirements for the Mackenzie Vaughan Hospital were identified by Infrastructure Ontario**

In consideration of the compressed schedule to complete the detailed design and the aggressive timelines originally established by IO to provide an unencumbered MVH land site, Contract 1 was tendered in June 2014 with the intention of tendering Contract 2 in late 2014, subject to execution of a cost sharing agreement with Mackenzie Health. As a result of these proposed timelines, the work schedule for Contract 1 and 2 aligned with IO's original timeline.

**A proposed construction start dated of October 2015 for MVH resulted in a compressed schedule for detailed design of the early works infrastructure**

The original schedule for construction of the early works represented a total of 15 months ending in September 2015, at which time IO would then be on site. While an extended schedule to complete a more comprehensive detailed design for this scope of work would have been preferred, an adequate amount of detailed design activities were undertaken to capture the required information to inform the tender, given the available timelines. However, in reducing the preferred schedule for detailed design, not all risk could be mitigated, and were consequently deferred to the construction phase.

Based on the recently updated project schedule undertaken in collaboration with IO for the MVH, there has been an overall increase in the duration for the proposed construction activities to be undertaken by the City in Contracts 1 and 2 by 36 months. Contract 1 will be complete in September 2015, and construction activities associated with Contract 2 will commence in October 2015 with a completion date of June 2017. The revised construction start date for MVH is June 2016.

**The compressed detailed design schedule limited the risk mitigation activities undertaken**

The allotted timeframe to complete detailed design was very aggressive and did not provide sufficient time to undertake all risk mitigation activities. In addition, required elements of work were identified after the tender was awarded, rather than during the detailed design stage. While every effort was made to include a fully refined scope, working within a compressed design schedule has resulted in additional costs during construction of Tender T14-072 (Contract 1).

To meet the original accelerated timelines, Contract 1 was tendered with the intention of commencing work immediately upon award by Council. Permits from the Toronto Regional Conservation Authority (TRCA), the Ministry of the Environment and the Ministry of Transportation (MTO) could not be obtained prior to issuance of the tender. As part of the award of Tender T14-072, the City committed to ensure that the associated construction activities would only commence after these permits were received. Additional permit requirements generated additional scope of work to complete the project.

**The early works infrastructure required to provide an unencumbered site for the VHCP was separated into two contracts**

The lands within the VHCP are encumbered with historic road infrastructure currently serving Cedar Fair (Canada's Wonderland) and drainage channels crossing the Precinct. For orderly development of the Precinct, and of the MVH site specifically to proceed in an orderly fashion, new municipal infrastructure must be constructed. These infrastructure requirements are intended to be constructed in stages through two separate contracts. The first stage of infrastructure tendered under T14-072 (Contract 1), was awarded by Council in June 2014 and primarily

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includes site grading, construction of new road network to modify access/egress to Canada's Wonderland, and new traffic Signals and new culvert installation on Major Mackenzie Drive. The second stage of works for the Vaughan Healthcare Centre Precinct Plan consists primarily of the internal road network, sewer, water and storm water servicing. Shortly after the Cost-Sharing Agreement was executed with Mackenzie Health on July 2, 2015 Tender T15-230 (Contract 2) for these works was issued and closed August 17, 2015.

**Additional construction activities have depleted the approved contingency allowance of \$1,200,000.00**

Notable additions of work attributed to the Major Mackenzie Drive intersection and associated road works included guide rail modifications, electrical modification to the existing illumination of Canada's Wonderlands parking and ring road network and inclusion of the new street illumination. The design of the street illumination for the internal roads, Amusement Drive, Coaster Way, and the exit ramp was undertaken by PowerStream. Approximately \$800,000.00, representing half of the project contingency apportioned to Capital Project CO-0054-09, was utilized to provide for the illumination items that were included in the tender document for competitive pricing (as Provisional Items), but were not included in the total tender value awarded by Council.

Changes to the work also resulted from the earthworks and grading that were attributed to the City's obligation to provide Infrastructure Ontario and Mackenzie Health a site with acceptable soil conditions, as defined by the Ministry of the Environment. As a result, soil remediation was required (identified by Infrastructure Ontario's geotechnical consultant Conestoga Rovers & Associates) that required removal in order to finalize and file the Record of Site Condition. The geotechnical investigation conducted by IO's geotechnical consultant was completed in June of 2014, after Contract 1 was released. As a result, the areas identified were remediated and paid utilizing the contingency funds associated with Capital Project CO-0054-09.

Some of the approved changes to date accommodate needs identified during construction and not originally defined as part of the contract. Additional costs were incurred as a result of TRCA's final landscaping requirements for the drainage channel, which were provided to the City after the award of Tender T14-072. While the tender package included items (and quantities) to address comments based on TRCA's preliminary review (prior to tendering), further revisions were required to the design in order to obtain their final approval and issuance of a permit. As a result of these subsequent revisions, additional landscaping was required to meet the conditions of the TRCA permit, resulting in additional costs of approximately \$125,000.00 (four times greater than the original estimated value).

**Projections by City staff, along with the Contract Administration consultant and the Project Control & Risk Mitigation consultant, indicate that additional funding will be needed to address additional work required to complete Tender T14-072**

Summarized in Table 1 is the description and allocation of additional work required to complete Contract 1. As part of Tender T14-072 Vaughan Healthcare Centre – Contract 1, the earthworks and site grading, new traffic signals on Major Mackenzie Drive, the road network to modify access/egress to Canada's Wonderland including illumination and the storm water management pond, was allocated directly from CO-0054-09 which is funded from the annual tax levy established by Council on June 15, 2009. The internal road network providing access to Cedar Fair (Canada's Wonderland) and the signalized intersection is complete. The grading and earthworks are virtually completed with minor works left to be undertaken.

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The culvert work (required alleviate a pre-existing flooding condition which will benefit the entire Precinct) on Major Mackenzie Drive and the associated drainage channel completed within the project CO-0074-14 is funded from the Wastewater Reserve. The tunneling portion of the twin culvert installations has been completed.

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**Projected additional costs to CO-0054-09 for recently identified quantities of unsuitable material requiring disposal and related claims from the General Contractor for managing imported soil is projected to be in the magnitude of \$850,000.00**

Soil recently identified along the existing berms within the VHCP site revealed non-hazardous mixed content (i.e. concrete, asphalt). Provisions were made within Contract 1 for the removal and disposal of material considered unsuitable for engineered fill, however, geotechnical testing during detailed design did not identify significant volume of soil containing these elements.

Based on preliminary estimates, a total of approximately 28,000 m<sup>3</sup> of material (equivalent to 3,000 truckloads) has been identified. Verification of the actual quantity will be based on a topographical survey upon completion of the work. Staff, in collaboration with Cole Engineering Group (CEG) and its geotechnical consultant, are reviewing the options and feasibility of managing as much of the material on-site, to reduce the volume to be exported. The cost to export and dispose the full quantity to an approved facility is approximately \$1M. A preliminary review of alternatives to manage the material on-site will cost approximately \$500,000.00, and is the preferred solution. Managing the material onsite is consistent with Green Directions Vaughan to ensure sustainable development and redevelopment and by reducing transportation-related greenhouse gas emissions.

Lastly, staff is in the process of handling a recent claim from the General Contractor to double handle imported and stockpiled soil required for the VHCP. While staff is contesting the claim, it is appropriate to carry the full value until the matter is resolved.

In view of the above, additional funding for this work is required to accommodate additional work not defined as part of the original contract.

**Projected additional costs to CO-0074-14 attributed to the twin culvert construction and associated drainage channel are projected to be in the magnitude of \$450,000.00**

In the absence of sufficient time during detailed design to further mitigate potential risks with regards to the tunneling construction of the twin storm culverts crossing Major Mackenzie Drive as well as the drainage channel traversing the western portion of the VHCP necessitated changes during construction. Additional scope was added as a result of regulatory agencies (in order to obtain required approvals), as well as utility and infrastructure conflicts that impacted tunneling activities.

Following the award of Tender T14-072, the MTO requested a higher frequency of pavement elevation monitoring on Major Mackenzie Drive during the tunneling operation (in order to observe any settlements) as a condition of the permit issued to ConDrain Ltd. In addition, and as a result of the settlements that did occur during the tunneling operation, the duration of the monitoring was extended into Spring 2015. This requirement was greater than the provision stipulated within the contract. The required monitoring activities resulted in additional costs of approximately \$200,000.00.

Conflicts with existing utility infrastructure, not identified during detailed design, have also resulted in additional construction works during the tunneling operation.

In order to reduce the impact of the additional time required in executing the additional scope of work to the overall schedule, an accelerated tunneling program was developed and implemented, whereby activities would be carried out 24 hours per day, 6 days per week, which has also contributed to an increase in construction costs. These measures were implemented to ensure that the early works are completed in advance of the MVH construction. As some of the

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construction issues experienced during the tunneling operation occurred as a result of existing infrastructure owned by the MTO, the City is currently negotiating cost recovery for a portion of the additional costs incurred for the installation of the twin culverts. City staff, the City's Contract Administration consultant, as well as the City's Cost Control and Risk Mitigation Consultants, have evaluated the validity of the claims from ConDrain Ltd.'s for tunneling and have agreed to additional costs of approximately \$190,000.00.

The apportionment of the costs is summarized as follows:

<b>TABLE 2 : ADDITIONAL CONSULTING COSTS</b>			
	CO-0074-14	CO-0054-09	TOTAL
Additional Funding T14-072	\$450,000.00	\$1,138,000.00	\$1,588,000.00
H.S.T. (1.76%) Not Recoverable			\$27,948.80
<b>Sub-Total</b>			\$1,615,948.80
Administration Recovery (3%)*			\$48,478.46
<b>Net Additional Consulting Costs</b>			\$1,664,427.26
<b>ROUNDED</b>			<b>\$1,664,000.00</b>

All costs and estimates have been reviewed by staff and verified by the City's Cost Control and Risk Mitigation Consultants, p2i Strategies Ltd., and finds this amount to be fair and reasonable.

#### **Completion of the early works in advance of the Mackenzie Vaughan Hospital remains a priority**

While issues have been experienced during construction of Tender T14-072 that have necessitated changes in scope, construction activities continue to advance and will be complete in September 2015. Contract 2, Tender T15-230, for the site servicing for the VHCP is scheduled to commence in October 2015, with construction activities planned for completion in June 2017, based on updated timelines developed with Infrastructure Ontario and Mackenzie Health.

#### **Relationship to Vaughan Vision 2020/Strategic Plan**

This report is consistent with the priorities previously set by Council and ties into the following Vaughan Vision 20/20 Goals and Objectives:

Goal: Service Excellence

Objective: Promote Community Safety, Health, & Wellness

Continuing with the Hospital Precinct Development, and completing the servicing of the lands for the new Mackenzie Vaughan Hospital in partnership with Mackenzie Health, will ultimately provide a new much-awaited hospital and healthcare facility for Vaughan, thus contributing to fulfilment of this vital Strategic Objective.

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**Regional Implications**

The Regional Municipality of York continues to be a participating stakeholder for the required approvals during the detailed design and construction of infrastructure related to the development of the Precinct Plan.

**Conclusion**

As a result of changes in scope, additional funding will be required to complete the work associated with T14-072 Vaughan Healthcare Centre – Contract 1 Site Pre-grading and Major Mackenzie Drive Improvements. The costs have been reviewed by staff, and verified by the City's Cost Control and Risk Mitigation Consultant, p2i Strategies Ltd. It is therefore appropriate to approve an increase in the award amount to ConDrain Company (1983) Limited.

**Attachments**

Not applicable

**Report Prepared by:**

Paolo Masaro, Manager, Design and Construction, Ext. 8446

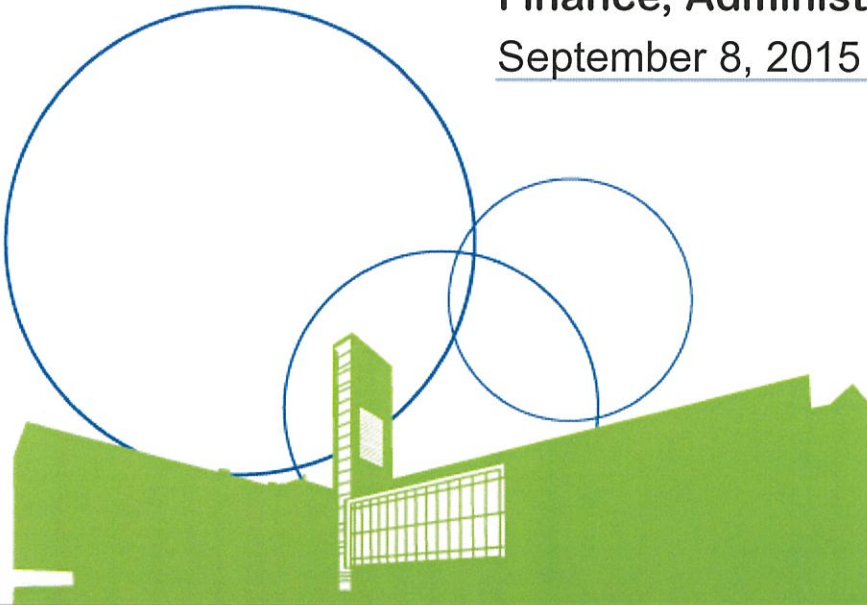


# Vaughan Healthcare Centre Precinct

“moving forward with the site of our new hospital”

Finance, Administration and Audit Committee

September 8, 2015



# Where We Are Today

- Awarding the final City servicing contract to support the construction of the Mackenzie Vaughan Hospital
  - new intersection on Jane Street to be opened in June 2016
  - City streets to be opened to traffic by October 2016
  - watermains, sanitary and storm sewers
  - streetscaping and landscaping
- Amend related projects and reconcile budget allocations





# 2015 Project Success

DATE	ACHIEVEMENT
May	City and Mackenzie Health sign 99-year lease for land
June 29	The Province announces release of requests for proposals for the three teams shortlisted to design, build, finance and maintain new hospital
July 2	City and Mackenzie Health sign Municipal Infrastructure and Cost Sharing Agreement
July 9	City issues contract for phase 2 of early works
September	Phase 1 of early works are complete



# Funding Sources

All City works are being funded from multiple sources:

- **Municipal Infrastructure and Cost-sharing Agreement with Mackenzie Health**
  - For eligible municipal infrastructure
- **Tax levy (\$80 million)**
  - Land purchase = \$60.8 million
  - Remainder allocated to site preparation, servicing and “place making” within the healthcare precinct
- **Sewer reserve**
  - For stormwater sewer improvements near site
- **City-wide development charges**
  - For new roads and related works

**No additional tax  
impact**





# Funding Breakdown

Figures in \$millions

	Tax levy	Sewer reserve	DCs	Total
Land purchase	60.8			60.8
Site preparation and servicing	32.1	4.6	5.0	41.7
<b>TOTAL</b>	<b>92.9</b>	<b>4.6</b>	<b>5.0</b>	<b>102.5</b>
Eligible for cost sharing	-15.9			-15.9
Remaining	77.0	4.6	5.0	86.6

Capital projects to fund City's share	Tax levy	Sewer reserve	DCs	Total
CO-0054-09*	80.0		5.0	85.0
CO-0074-14*		4.6		4.6
<b>TOTAL</b>	<b>80.0</b>	<b>4.6</b>	<b>5.0</b>	<b>89.6</b>

<b>Residual funds</b>	<b>3.0</b>	<b>0.0</b>	<b>0.0</b>	<b>3.0</b>
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\*If agenda items nos. 7, 8, 9 and 10 are approved.

**Notes:** Some numbers may not add due to rounding. Numbers are based on estimates and subject to completion of work.

# Decision Requested – Item No. 10

- Final contract for municipal early works on the health precinct lands
- Lowest compliant bidder is Con Drain Co. Ltd.
- Budget = \$25.5 million
  - Includes award of \$21.1 million, plus 15% contingency and taxes and administration
- Budget amendment requested to include previously identified development charge funding for road works





# Decision Requested – Item No. 9

- Original budget = \$9.7 million
- Award amendment = \$1.6 million plus taxes and administration (includes a budget amendment for additional storm sewer)
  - This will cover additional storm-sewer improvements, streetlights on Amusement Drive and Coaster Way, earthworks and signalized intersection at Major Mackenzie Drive completed by Con Drain Co. Ltd. under contract 1



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Additional details on pages 9.5 and 9.7

# Decision Requested – Item No. 7

- Current approved award value = \$729,000
- Award amendment = \$512,000 plus taxes and administration
  - This will cover additional time required to manage the early works contracts
  - Contract management and administration are being performed by Cole Engineering Group Ltd.



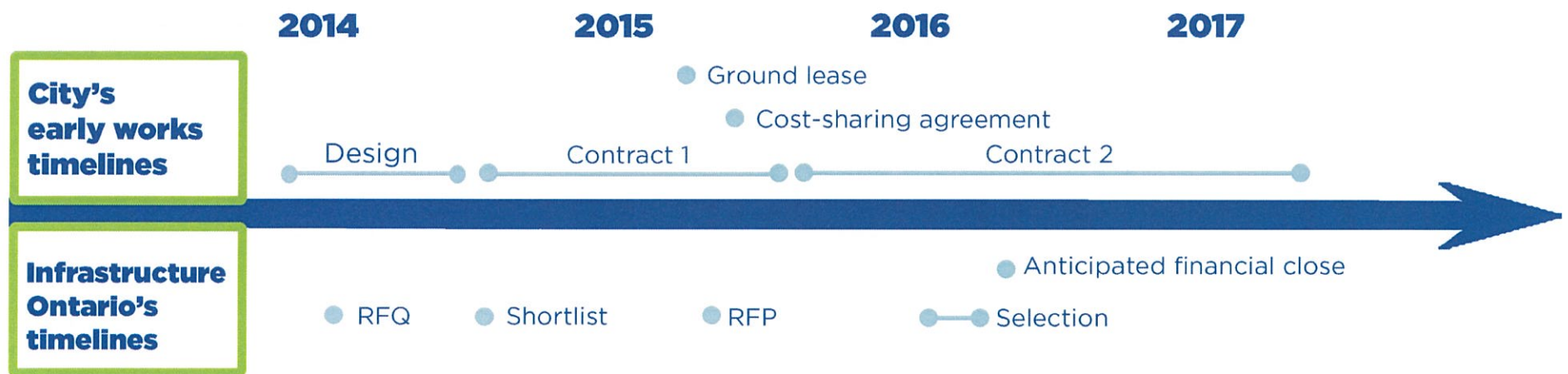


# Decision Requested – Item No. 8

- Original budget = \$166,000
- Award amendment = \$309,720 plus taxes and administration
  - This will cover both additional time and services to reflect the increased complexity of co-ordinating with Infrastructure Ontario, cost sharing with Mackenzie Health, and the timelines for contract 2
  - Project controls and risk management are being performed by p2i Strategies Ltd.



# Overlap of Timelines



# Summary

- City has worked hard to accelerate municipal early works – an integral part in the Mackenzie Vaughan Hospital project
- Lays the groundwork to move forward with our new hospital
- Landscaping that promotes “place making” to improve health and wellness
- Budget amendments allocate costs to appropriate funds with no additional tax impacts
- Completion of phase 2 ensures hospital site is “unencumbered” – a requirement of Infrastructure Ontario – and aligns with project timelines



**BUDGET AMENDMENT CAPITAL PROJECT CO-0074-14 - CULVERT WORK ON MAJOR MACKENZIE AND AWARD AMENDMENT T14-072 VAUGHAN HEALTHCARE CENTRE – CONTRACT 1  
WARD 1****Recommendation**

The Commissioner of Public Works and the Director of Capital Delivery and Asset Management, in consultation with the Director of Purchasing Services and the Director of Financial Planning and Analytics recommend:

1. That the award amount for ConDrain Company (1983) Limited be increased by \$1,588,000.00 plus applicable taxes and administration recovery as follows:
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**Economic Impact**

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**Communications Plan**

Not Applicable.

**Purpose**

To obtain Council approval for the changes in scope for Tender T14-072 for the Vaughan Healthcare Centre – Contract 1 Site Pre-grading and Major Mackenzie Drive Improvements and the associated increases in funding.

**Background – Analysis and Options**

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**The compressed detailed design schedule limited the risk mitigation activities undertaken**

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Notable additions of work attributed to the Major Mackenzie Drive intersection and associated road works included guide rail modifications, electrical modification to the existing illumination of Canada's Wonderlands parking and ring road network and inclusion of the new street

illumination. The design of the street illumination for the internal roads, Amusement Drive, Coaster Way, and the exit ramp was undertaken by PowerStream. Approximately \$800,000.00, representing half of the project contingency apportioned to Capital Project CO-0054-09, was utilized to provide for the illumination items that were included in the tender document for competitive pricing (as Provisional Items), but were not included in the total tender value awarded by Council.

Changes to the work also resulted from the earthworks and grading that were attributed to the City's obligation to provide Infrastructure Ontario and Mackenzie Health a site with acceptable soil conditions, as defined by the Ministry of the Environment. As a result, soil remediation was required (identified by Infrastructure Ontario's geotechnical consultant Conestoga Rovers & Associates) that required removal in order to finalize and file the Record of Site Condition. The geotechnical investigation conducted by IO's geotechnical consultant was completed in June of 2014, after Contract 1 was released. As a result, the areas identified were remediated and paid utilizing the contingency funds associated with Capital Project CO-0054-09.

Some of the approved changes to date accommodate needs identified during construction and not originally defined as part of the contract. Additional costs were incurred as a result of TRCA's final landscaping requirements for the drainage channel, which were provided to the City after the award of Tender T14-072. While the tender package included items (and quantities) to address comments based on TRCA's preliminary review (prior to tendering), further revisions were required to the design in order to obtain their final approval and issuance of a permit. As a result of these subsequent revisions, additional landscaping was required to meet the conditions of the TRCA permit, resulting in additional costs of approximately \$125,000.00 (four times greater than the original estimated value).

**Projections by City staff, along with the Contract Administration consultant and the Project Control & Risk Mitigation consultant, indicate that additional funding will be needed to address additional work required to complete Tender T14-072**

Summarized in Table 1 is the description and allocation of additional work required to complete Contract 1. As part of Tender T14-072 Vaughan Healthcare Centre – Contract 1, the earthworks and site grading, new traffic signals on Major Mackenzie Drive, the road network to modify access/egress to Canada's Wonderland including illumination and the storm water management pond, was allocated directly from CO-0054-09 which is funded from the annual tax levy established by Council on June 15, 2009. The internal road network providing access to Cedar Fair (Canada's Wonderland) and the signalized intersection is complete. The grading and earthworks are virtually completed with minor works left to be undertaken.

The culvert work (required alleviate a pre-existing flooding condition which will benefit the entire Precinct) on Major Mackenzie Drive and the associated drainage channel completed within the project CO-0074-14 is funded from the Wastewater Reserve. The tunneling portion of the twin culvert installations has been completed.



### Table 1: Summary of Additional Work T14-072

<b>CO-0074-14</b>		<b>CO-0054-09</b>	
<b>Twin Culverts</b>		<b>Lighting</b>	
<ul style="list-style-type: none"> <li>Tunnel Extension</li> <li>Utility relocation (Gas/ Hydro) Major Mackenzie Dr.</li> <li>Emergency Asphalt Padding/grinding for settlement of Major Mackenzie Dr.</li> <li>Existing steel Culvert diversion/grouting</li> <li>Major Mackenzie Dr. Survey Settlement Monitoring</li> <li>24/6 Tunneling Premium</li> </ul>	\$850,000.00	<ul style="list-style-type: none"> <li>Relocate existing Canada's Wonderland Lighting Feed</li> <li>Street Lighting Amusement Dr./Coaster Way/Loop Ramp</li> </ul>	\$347,000.00
		<b>Soil Management/ Earthworks-Grading</b>	
		<ul style="list-style-type: none"> <li>Soil Remediation</li> <li>Additional Erosion &amp; Sediment Control (TRCA)</li> <li>Pending Claim for double handling imported material</li> <li>Additional export and disposal of mixed soil material</li> <li>Additional topsoil export and disposal</li> </ul>	\$1,167,000.00
		<b>Major Mackenzie Dr. Roadworks/ Other</b>	
		<ul style="list-style-type: none"> <li>Landscaping Revisions (TRCA)</li> <li>Guiderail reconfiguration (YR)</li> <li>Jersey Barrier Relocation, Temporary Line Painting, Additional Traffic Signage on Major Mackenzie Dr.</li> </ul>	\$424,000.00
Subtotal	\$ 850,000.00		\$ 1,938,000.00
Original T14-072 Contingency	\$ 400,000.00		\$ 800,000.00
Balance	\$ 450,000.00		\$ 1,138,000.00



**Projected additional costs to CO-0054-09 for recently identified quantities of unsuitable material requiring disposal and related claims from the General Contractor for managing imported soil is projected to be in the magnitude of \$850,000.00**

Soil recently identified along the existing berms within the VHCP site revealed non-hazardous mixed content (i.e. concrete, asphalt). Provisions were made within Contract 1 for the removal and disposal of material considered unsuitable for engineered fill, however, geotechnical testing during detailed design did not identify significant volume of soil containing these elements.

Based on preliminary estimates, a total of approximately 28,000 m<sup>3</sup> of material (equivalent to 3,000 truckloads) has been identified. Verification of the actual quantity will be based on a topographical survey upon completion of the work. Staff, in collaboration with Cole Engineering Group (CEG) and its geotechnical consultant, are reviewing the options and feasibility of managing as much of the material on-site, to reduce the volume to be exported. The cost to export and dispose the full quantity to an approved facility is approximately \$1M. A preliminary review of alternatives to manage the material on-site will cost approximately \$500,000.00, and is the preferred solution. Managing the material onsite is consistent with Green Directions Vaughan to ensure sustainable development and redevelopment and by reducing transportation-related greenhouse gas emissions.

Lastly, staff is in the process of handling a recent claim from the General Contractor to double handle imported and stockpiled soil required for the VHCP. While staff is contesting the claim, it is appropriate to carry the full value until the matter is resolved.

In view of the above, additional funding for this work is required to accommodate additional work not defined as part of the original contract.

**Projected additional costs to CO-0074-14 attributed to the twin culvert construction and associated drainage channel are projected to be in the magnitude of \$450,000.00**

In the absence of sufficient time during detailed design to further mitigate potential risks with regards to the tunneling construction of the twin storm culverts crossing Major Mackenzie Drive as well as the drainage channel traversing the western portion of the VHCP necessitated changes during construction. Additional scope was added as a result of regulatory agencies (in order to obtain required approvals), as well as utility and infrastructure conflicts that impacted tunneling activities.

Following the award of Tender T14-072, the MTO requested a higher frequency of pavement elevation monitoring on Major Mackenzie Drive during the tunneling operation (in order to observe any settlements) as a condition of the permit issued to ConDrain Ltd. In addition, and as a result of the settlements that did occur during the tunneling operation, the duration of the monitoring was extended into Spring 2015. This requirement was greater than the provision stipulated within the contract. The required monitoring activities resulted in additional costs of approximately \$200,000.00.

Conflicts with existing utility infrastructure, not identified during detailed design, have also resulted in additional construction works during the tunneling operation.

In order to reduce the impact of the additional time required in executing the additional scope of work to the overall schedule, an accelerated tunneling program was developed and implemented, whereby activities would be carried out 24 hours per day, 6 days per week, which has also contributed to an increase in construction costs. These measures were implemented to ensure that the early works are completed in advance of the MVH construction. As some of the construction issues experienced during the tunneling operation occurred as a result of existing infrastructure owned by the MTO, the City is currently negotiating cost recovery for a portion of

the additional costs incurred for the installation of the twin culverts. City staff, the City's Contract Administration consultant, as well as the City's Cost Control and Risk Mitigation Consultants, have evaluated the validity of the claims from ConDrain Ltd.'s for tunneling and have agreed to additional costs of approximately \$190,000.00.

The apportionment of the costs is summarized as follows:

<b>TABLE 2 : ADDITIONAL CONSULTING COSTS</b>			
	CO-0074-14	CO-0054-09	TOTAL
Additional Funding T14-072	\$450,000.00	\$1,138,000.00	\$1,588,000.00
H.S.T. (1.76%) Not Recoverable			\$27,948.80
<b>Sub-Total</b>			\$1,615,948.80
Administration Recovery (3%)*			\$48,478.46
<b>Net Additional Consulting Costs</b>			\$1,664,427.26
<b>ROUNDED</b>			<b>\$1,664,000.00</b>

All costs and estimates have been reviewed by staff and verified by the City's Cost Control and Risk Mitigation Consultants, p2i Strategies Ltd., and finds this amount to be fair and reasonable.

#### **Completion of the early works in advance of the Mackenzie Vaughan Hospital remains a priority**

While issues have been experienced during construction of Tender T14-072 that have necessitated changes in scope, construction activities continue to advance and will be complete in September 2015. Contract 2, Tender T15-230, for the site servicing for the VHCP is scheduled to commence in October 2015, with construction activities planned for completion in June 2017, based on updated timelines developed with Infrastructure Ontario and Mackenzie Health.

#### **Relationship to Vaughan Vision 2020/Strategic Plan**

This report is consistent with the priorities previously set by Council and ties into the following Vaughan Vision 20/20 Goals and Objectives:

Goal: Service Excellence

Objective: Promote Community Safety, Health, & Wellness

Continuing with the Hospital Precinct Development, and completing the servicing of the lands for the new Mackenzie Vaughan Hospital in partnership with Mackenzie Health, will ultimately provide a new much-awaited hospital and healthcare facility for Vaughan, thus contributing to fulfilment of this vital Strategic Objective.

#### **Regional Implications**

The Regional Municipality of York continues to be a participating stakeholder for the required approvals during the detailed design and construction of infrastructure related to the development of the Precinct Plan.

**Conclusion**

As a result of changes in scope, additional funding will be required to complete the work associated with T14-072 Vaughan Healthcare Centre – Contract 1 Site Pre-grading and Major Mackenzie Drive Improvements. The costs have been reviewed by staff, and verified by the City's Cost Control and Risk Mitigation Consultant, p2i Strategies Ltd. It is therefore appropriate to approve an increase in the award amount to ConDrain Company (1983) Limited.

**Attachments**

Not applicable

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Respectfully submitted,

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PM: cg