

**BRIDGE REPLACEMENT AT UPLANDS GOLF AND SKI CENTRE – WARD 5**

The Finance and Administration Committee, at its meeting of February 13, 2012 (Item 9, Report No. 2) recommended the following:

**The Finance and Administration Committee recommends approval of the recommendation contained in the following report of the Commissioner of Community Services, dated February 13, 2012:**

Report of the Commissioner of Community Services, dated February 13, 2012.

**Recommendation**

The Commissioner of Community Services, in consultation with the Commissioner of Finance/City Treasurer and the Director of Budgeting & Financial Planning, recommends:

1. That the 2012 Capital Budget includes the required bridge replacement works for the pedestrian bridge system located within Uplands Golf and Ski Centre for \$65,000.00 and funded from AMO Federal Gas Tax.
2. That this report be forwarded to the February 13<sup>th</sup>, 2012 Special Council Meeting for approval and inclusion with the Proposed Capital Budget.

**Contribution to Sustainability**

This report is consistent with the priorities previously set by Council in the Green Directions Vaughan, Community Sustainability Environmental Master Plan Goal 2, Objective 2.2:

- To develop Vaughan as a City with maximum green space and an urban form that supports our expected population growth.

**Economic Impact**

The total estimated budget of \$65,000 for the bridge replacement work is to be funded from Federal Gas Tax funding. Proceeding with the above recommendation will require an adjustment to the Proposed 2012 Capital Budget, but will not impact the Proposed 2012 Operating Budget, currently reflecting a 2.95% tax rate increase.

**Communications Plan**

N/A

**Purpose**

The purpose of this report is to seek approval to add the pedestrian bridge replacement work at the Uplands Golf and Ski Centre to the 2012 Capital Budget, which will be funded from AMO Federal Gas Tax.

**Background - Analysis and Options**

Bridges throughout the City are inspected by Engineering Consultants commissioned under Engineering Services and a summary of the recommendations and maintenance needs is established on a priority basis. Engineering Services develops a rehabilitation/replacement plan and schedule for bridges that are typically within the City of Vaughan road right of way. Although,

Engineering Services is tasked with inspecting of all bridges owned by the City of Vaughan, the on going maintenance and replacement for parks bridges remains the responsibility of Parks. The inspection reports are developed strictly for use by Parks and Forestry as a tool to monitor this asset class.

Bridge 1014 is located within the Uplands Golf Course and Ski Centre not only provides a crossing for golfers, it forms part of the existing footpath and hiking trail, which is a Class 4 trail facility forming part of the Tertiary System (TS) of the Vaughan Pedestrian and Bicycle Network as per the Pedestrian and Bicycle Master Plan Study. These trails are not only for passive or special uses in the Neighborhood systems, they form an important part of the footpaths and hiking trails in the tertiary system. The bridge system allows trail users an accessible route and is a means of connectivity for the surrounding neighbourhoods.

AECOM's Bridge inspection report was completed in 2010 for Bridge 1014 and was reviewed using the Ontario Structure Inspection Manual (OSIM). During the time of the inspection, no major maintenance or repairs had been identified. The report only noted minor repair/rehabilitation to the existing concrete bridge abutment walls. These repairs had been noted and prioritized for repair/rehabilitation in 1-3 years at an estimated cost of \$6,000.00. The municipal structural report also noted light to moderate corrosion on the floor beams, stringers and bottom cords with no immediate repair and rehabilitation recommended.

During the month of December 2011, it was brought to Parks and Forestry staff's attention that the soffit and floor beams of the bridge has corroded drastically and may require repair works as soon as possible. Parks staff had requested a further review and Engineering Services staff contacted Isaak Finkelsteyn, I&F Engineering, to undertake an immediate review of bridge 1014, located within Uplands Golf and Ski Centre.

Following the inspection of the bridge system, the bridge was deemed unsafe for use due to severe corrosion of the steel elements located under the wood deck and immediately closed for public use. The engineer who inspected the bridge believes that the main reason for corrosion is due to the application of snow melting salt. The current operators at Uplands noted that this trail system was used heavily during the 2010 and 2011 season by hikers and was kept open during the winter season.. In addition, if this bridge is not repaired/replaced, not only will it have an impact on the revenues received from the golf operations, it may also affect the management agreement with Smirnoff Golf Management Ltd.

In several discussions with the inspection engineer parks staff had developed two options in dealing with the repair or replacement of the bridge system as follows:

**Option 1 (Repair):**

- Bridge super structure repair = \$24,100.00.
- TRCA permit = \$3,600.00;
- Abutment Patch and Repair = \$6,000.00
- Localized Slope Modification = \$3,500.00
- Associated Engineering Costs = \$5,450.00

Estimated cost for Option 1 = \$42,650.00  
+ 10% Construction Contingency = \$4,265.00

**Total Estimated Cost for Option 1 = \$ 46,915.00**

Estimated timeline for the repair work to be completed based on the inspection engineer's recommendation for repair works is approximately 2 - 3 weeks from date of approval, weather permitting. The estimated life span of the repair work to the bridge is estimated to be +/- 15 years, pending on going care and maintenance of bridge system. The value of the proposed repair works amortized over the estimated life cycle of a repaired bridge is estimated to be \$3,128.00

per year. A winter maintenance schedule will also be developed and provided to the operators of the Uplands facility.

**Option 2 (Replacement):**

- Manufacturing, delivery and supply of new bridge system = \$ 33,190.00;
- TRCA permit = \$3,600.00;
- Abutment Patch and Repair = \$6,000.00;
- Localized Slope Modification = \$3,500.00; and
- Removal and reinstallation of existing electrical and irrigation conduit, tree pruning, removals, site restoration to accommodate crane and site works = \$12,800.00.

Estimated cost for Option 2 = \$59,090.00  
 + 10% Construction Contingency = \$5,910.00

**Total Estimated cost for Option 2 = \$65,000.00**

Estimated timeline for delivery of new bridge is 4 - 5 weeks from date of approved drawing submission. The installation of new bridge system would take approximately 1 day, weather permitting. The inspection engineer indicated that the useful life cycle for a new bridge system is estimated to be +/- 50 years, pending ongoing care and maintenance of the bridge system. The value of the replacement works amortized over the estimated life cycle of a new bridge system is estimated to be \$1,300.00 per year. Furthermore, the inspection engineer had advised that the approximate life span of the existing concrete abutments is estimated to be approximately +/- 40 years, pending ongoing care and maintenance. Recalculating the cost over the remaining life of the abutments provides and annual amortized cost of \$1,625, which is substantially lower than option 1. Although option 2 requires a larger initial upfront investment, the benefit of a new bridge, extended life and lower annual amortized cost indicates this is the preferred option.

Based on the available options, staff recommends the bridge system be replaced (Option 2) and the total value illustrated below for the removal and replacement of the bridge system be added to the 2012 capital budget and funded through Federal gas tax. In order to ensure that these works are completed in a timely manner, it is recommended that these works be added to the current scope of work that is being completed to the Uplands Trail systems, under Quote 11-098 to the awarded general contractor.

<b>Recommended Option #2 - Estimated Cost of Bridge Replacement Works</b>	
<b>Item Summary</b>	<b>Estimated Totals</b>
Replacement Cost	\$55,490.00
TRCA Permits	\$3,600.00
<b>Sub-Total</b>	<b>\$59,090.00</b>
Contingency Allowance	\$5,910.00
<b>Sub-Total</b>	<b>\$65,000.00</b>
HST (1.76%) *	Full HST Rebate
<b>Sub-Total</b>	<b>\$65,000.00</b>
Administration Fees (3%) not permitted on Gas Tax Funded Projects	0
<b>Total Cost</b>	<b>\$ 65,000.00</b>

The Uplands Golf and Ski Centre receive a full HST rebate and therefore HST is not included in this summary.

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

In consideration of the strategic priorities related to Vaughan Vision 2020, the project will provide:

- STRATEGIC GOAL:  
Service Excellence - Providing service excellence to citizens.
- STRATEGIC OBJECTIVES:  
Pursue Excellence in Service Delivery;  
Enhance and Ensure Community Safety, Health and Wellness; and,  
To deliver high quality services and to promote health and wellness through design and program.

This report is consistent with the priorities previously set by Council.

### **Regional Implications**

N/A

### **Conclusion**

Funding is required in the 2012 Capital Budget to complete the bridge replacement works to the pedestrian bridge system within the Uplands Golf and Ski Centre. The funding source for these works is Federal Gas Tax funding. Including the Capital funding for this bridge replacement will ensure that the golf operations and the public hiking and trail will remain accessible and safe for use and the existing system is maintained. If the bridge repairs/replacement is not completed, it will impact the golf operations as previously noted, but also reduce the revenues received from the golf operations impacting the management agreement with the operators.

Should Council concur with this funding request of \$65,000, the permit submission to TRCA would commence immediately, and this work will be added to an existing contract currently underway at the site to repair and replace pathways and trails to ensure the bridge system is replaced in a timely manner.

### **Attachments**

N/A

### **Report prepared by:**

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