

6

REQUEST FOR ADDITIONAL FEES RV ANDERSON DETAILED DESIGN ASSIGNMENT P-04-76 BLOOMINGTON ROAD IMPROVEMENTS

The Transportation Services Committee recommends the adoption of the recommendation contained in the following report dated October 23, 2009, from the Commissioner of Transportation Services.

1. RECOMMENDATION

It is recommended that:

1. Blanket Purchase Order Number P-04-76 issued to RV Anderson Associates Limited for the detailed design and construction supervision of the Bloomington Road (Y.R. 40) improvements from Bathurst Street (Y.R. 38) to Highway 404 be increased by \$300,800.00, from \$1,012,604.54 to \$1,313,404.54 for additional engineering services due to changes in scope and project requirements.

2. PURPOSE

This report seeks Regional Council authorization to increase Blanket Purchase Order Number P-04-76 for consulting engineering services and construction supervision for the Bloomington Road improvements from Bathurst Street to Highway 404.

The Region's Purchasing By-law requires Regional Council authorization to increase the value of a purchase order in excess of 15% for contingencies and 20% for additional scope activities. As the additional fees being requested will exceed the staff authorities provided for in the Purchasing By-law, Regional Council approval is required for this increase.

3. BACKGROUND

Regional Council authorized award of the assignment in December 2004

Regional Council at their meeting on December 16, 2004, adopted without amendment Clause 5 of Report No. 12 of the Transportation and Works Committee, thereby authorizing award of the consulting assignment to RV Anderson Associates Limited (RVA) for the detailed design and construction supervision of Bloomington Road from Bathurst Street to Highway 404. The total value of the assignment was \$818,000, of which \$243,000, or approximately 30% was allocated for construction supervision.

Contingency work and scope revisions have been approved

To date, 10.9% contingency in the amount of \$89,162.00, and 12.9% scope in the amount of \$105,442.54 has been approved to address various project tasks such as additional survey, property impacts and intersection design changes. The total upset limit of the purchase order is now \$1,012,604.54 of which \$752,304.54 has been expended to date.

Additional work amounting to approximately \$300,800 is required to complete the detailed design

RVA was asked to provide a fee estimate to complete the remaining detailed design elements and prepare a tender package. The submission received from RVA identified additional fees in the amount of \$300,800. A portion (17%) of their request for additional fees is for work undertaken to date (\$50,700.00), and the balance for future work (\$250,100.00) to complete the detailed design and prepare the package for tender and construction.

4. ANALYSIS AND OPTIONS

The additional work undertaken pertains to addressing:

- Additional utility relocation coordination.
- Additional environmental permit requirements.
- Updated surveys and detail design updates.
- Electrical design standard updates and new intersections.
- Noise mitigation fencing design.
- Proposed storm sewer relocation.
- Coordination and incorporation of Regional watermain into the road contract and project management.
- Update contract documents, project management and disbursements.

Additional Utility Relocation Coordination - \$19,325

The Bloomington Road project required extensive utility coordination with four main utilities, Hydro-one, Powerstream, Bell and Enbridge, which could not have been expected at the time of the RFP. Record drawings provided by the utility companies were inaccurate, which necessitated extensive field investigations/test excavations to accurately locate the underground utilities. Further, to reduce property acquisition and construction costs, changes to the road alignment were done, which affected the proposed utility relocation designs. This resulted in an additional effort on the part of RVA to coordinate the submissions and complete the reviews. To date RVA has undertaken over twenty-four utility submission reviews. An additional effort of eleven reviews is required to finalize the utility relocation designs for final approval.

The estimated cost for this work is \$19,325.

Additional Environmental Permit Requirements - \$71,035
Toronto and Region Conservation Authority requirements changed following the start of work

The Environmental Study Report (ESR) that formed the basis of the detailed design assignment only identified one area, the Bloomington Wetland (White Rose – Preston Lake Wetland), as a regulated area requiring a permit from the Toronto Regional Conservation Authority (TRCA). In April 2006, Regulation 166/06 was enacted replacing Regulation 158. As a result of the new Regulation 166/06, additional sections of Bloomington Road within the project limits were identified as regulated areas, such as the Mallard Marsh.

These additional requirements, not known at the time of the RFP, included:

- Additional regulated areas identified for permit approval.
- Updating the Storm Water Management Report to reflect the new methodology.
- Hydraulic floodplain modeling (not required under Regulation 158).
- Culvert resizing and updating of design drawings.
- Updated erosion and sediment controls.

The Greenbelt Act increased the level of effort required to complete the detailed design

The Greenbelt Act, which was proclaimed in 2005, established requirements for infrastructure projects, which increased the level of effort required to complete the detailed design. These additional requirements, not known at the time of the RFP, included updates to the Significant Woodland Study and updates to the design drawings.

The estimated cost for this work is \$71,035.

Survey And Detailed Design Updates – \$113,670

The detailed design assignment pre-tender package was completed and submitted by RVA in December 2007. There has been extensive redevelopment along the Bloomington Road right-of-way since the original base plan was surveyed in 2004. Additionally, changes in the design criteria and the incorporation of impacts of development activity should be incorporated into the final tender package. This will reduce the need for changes during construction and reduce the risk of construction cost overruns.

The additional efforts required to update the detailed design package for tender are:

- Revise cross-section templates.
- Realignment of roadway and grading revisions to reduce property requirements.

- Construction staging for road closure and associated detour route.
- Update construction schedule, design quantities and estimates.
- Update contract documents.

The estimated cost for this work is \$113,670.

Electrical Design Standard Updates And Addition Of New Intersections - \$47,930

The design consultant was required to do a detailed review of the proposed design and update the tender package to reflect changes in the Region's electrical standards. In addition, due to extensive redevelopment along Bloomington Road from December 2007 to the present the design consultant RVA has had to incorporate additional intersection improvements (Signal and Pavement Marking Designs and additional road widenings) into the tender package.

The estimated cost for this work is \$47,930.

Noise Mitigation Design - \$14,150

In March 2006, the Region implemented an update policy for the mitigation of traffic noise on Regional roads. The updated policy required additional work that was not part of the RFP. In 2007, the Region retained a noise consultant, Marshall Mackiln Monaghan MMM Group (MMM), to complete a noise study in accordance with the 2006 policy. A final report from MMM was received in August 2008. The recommendations of the noise study is additional work is required by RVA to integrate the recommendations of the Bloomington Road Noise Analysis (MMM – August 2008) into the tender package for the Bloomington Road reconstruction project.

The estimated cost for this work is \$14,150.

Coordination And Incorporation Of Regional Watermain Into The Contract - \$19,420

The Region's Environmental Services Department is proposing to construct a Regional trunk watermain in 2010 on Bloomington Road from Bathurst Street to Bayview Avenue. The additional work proposed is required to facilitate the tender and construction of the road and watermain contract simultaneously to reduce inconvenience to the traveling public and reduce throw-away costs.

The estimated cost for this work is \$19,420.

The above noted additional work is summarized in Table 1.

Table 1
Summary of Additional Work

Description	Cost
Additional Utility Relocation Coordination	\$19,325
Additional Environmental Permit Requirements	71,035
Survey and Detailed Design Updates	113,670
Electrical Design Standard Updates and New Intersections	47,930
Noise Mitigation Design	14,150
Storm Sewer Relocation	15,270
Coordination and incorporation of Regional watermain into the road contract and project management.	19,420
Total	\$300,800

The additional work and fees have been reviewed in detail and are considered to be fair and reasonable

Staff have reviewed the request for additional fees and consider it fair and reasonable for the following reasons:

- The activities identified in the requested for additional fees are required and the work plan is deemed to be reasonable.
- RVA's original proposal was submitted in 2004, and the staff per diem rates have increased over the five years since the initiation of the assignment.
- RVA's original proposal was based on the ESR cost estimate for construction of \$12M and the current estimate is \$30M.
- The amount of additional fees while considerable represents only 1% of the estimated \$30M construction cost.

Project Schedule

Based on the approved 2009 – 10 Year Roads Construction Program the work would be done under three separate contracts

The approved 2009 – 10 Year Roads Construction Program identified the construction between Bathurst Street and Yonge Street starting in 2010, the construction between Yonge Street and Bayview Avenue starting in 2012 and the construction between Bayview Avenue and Highway 404 starting in 2011.

The addition of the Regional watermain across two of these sections of work has resulted in staff considering a different sequencing of the construction.

The draft 2010 – 10 Year Roads Construction Program proposes to construct all three sections and the Regional watermain under one contract

The draft 2010 – 10 Year Roads Construction Program has proposed to advance the start of construction to 2010 for the Yonge Street to Bayview Avenue and Bayview Avenue to Highway 404 sections. This will align the start of construction for the three road sections and the Regional watermain. The combined works can be tendered as one contract that will allow the Region to expedite construction, take advantage of economies of scale and reduced administrative effort, and reduce the duration of potential impacts to our road users and residents.

Provided the additional fees to complete the detailed design as outlined above are approved, the contract package can be tender ready by the second quarter (May) of 2010.

5. FINANCIAL IMPLICATIONS

The projected final cost for the detailed design portion of the assignment is estimated at \$1,070,404.54. There is \$243,000 allocated in the purchase order for construction supervision, which when combined with the detailed design portion equals the \$1,313,404.54 total purchase order value.

The current estimate for the construction value of this work is approximately \$30M. Therefore, the projected final cost for the detailed design is approximately 3.6% of the estimated construction value. This is below our conventional practice of estimating the cost of detailed design and engineering at 5-7% of the construction value.

There are sufficient funds in the 2009 Roads Capital Budget to cover the additional expenditures in 2009. All expenditures on this project will be funded 88% from Development Charges and 12% from Tax Levy.

Regional staff have reviewed the request in detail and believe that the additional work and fees are reasonable and fair. They account for the increased complexity of the assignment, prolonged schedule and increasing challenges associated with delivering a large capital road project.

Since 2003, 685 purchase orders with a total value of \$352,973,939 have been issued to secure engineering, consulting and construction services on Roads projects. Of these, 35 or 5% of the purchase orders have required increases beyond the increases allowed in the Region's Purchasing By-law. The total value of such increases is \$4,537,246 or 1% of the total original value of the purchase orders.

6. LOCAL MUNICIPAL IMPACT

The Towns of Richmond Hill and Aurora will benefit from the work under this project. The road improvements will provide additional capacity within the Regional corridor and improved access to the provincial freeway at the Highway 404 and Bloomington Road interchange.

7. CONCLUSION

RVA is required to assist the Region in completing the detailed design and contract preparation for the Bloomington Road improvements. In order to accomplish this additional services beyond the original scope of their assignment, which could not have been anticipated at the time of the RFP, are required. Fees for these services are in excess of the contingency and additional scope allowances provided for in the Region's Purchasing By-law. Accordingly, it is recommended that the purchase order for this assignment be increased to \$1,313,404.54, to fund the necessary additional services.

For more information on this report, please contact Paul Jankowski, General Manager, Roads at extension 5901.

The Senior Management Group has reviewed this report.