

NO: **R201**

COUNCIL DATE: **December 15, 2014**

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## REGULAR COUNCIL

TO: **Mayor & Council**

DATE: **December 3, 2014**

FROM: **General Manager, Engineering**

FILE: **1711-007/11**

SUBJECT: **Increase in Expenditure Authorization for Contract M.S. 1711-007-11 - Roberts Bank Rail Corridor "Combo" Project**

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## RECOMMENDATION

The Engineering Department recommends that Council approve an increase in the expenditure authorization limit of Contract M.S. 1711-007-11 related to the Roberts Bank Rail Corridor "Combo" Project in the amount of \$887,000 including taxes that will increase the overall expenditure limit to \$97,687,000 including taxes, which increase is necessary to cover the cost related to works that were constructed on behalf of B.C. Hydro.

## BACKGROUND

The Roberts Bank Rail Corridor Program in Surrey consists of the construction of road/rail grade separations at 152 Street, 192 Street, 196 Street and 54 Avenue and related road works to reduce congestion at rail crossings. The Program also includes at-grade crossing improvements and closures along Colebrook Road to allow for the cessation of train whistling along the majority of the B.C. Railway corridor through Surrey. With the exception of completion of some railway at-grade crossing signal upgrading by the railway company, the construction of the Program works is now complete

The 192 Street, 54 Avenue, and 196 Street grade separations (see the attached Appendix A to Appendix I) are being delivered as one combined design-build project, referenced as the "Combo" Project. At its Regular meeting on February 6, 2012, Council approved the award of a design-build contract for the Combo Project, Contract M.S. 1711-007-11, to BA Blacktop Ltd.

## DISCUSSION

It is the nature of design-build projects that as the design of the project is developed to the state of being approved for construction and as construction proceeds, there are changes and opportunities for improvements identified within the general scope of the project.

Additional works were identified by the Ministry of Transportation and Infrastructure including the addition of a westbound dual left turn lane on Highway 10 at 192 Street, the investigation and remediation of contaminated soils, construction of civil works to facilitate relocation of Telus facilities, the cost of a project acceleration strategy to mitigate delay costs, the effects of the reintroduction of the PST, property restoration, and other miscellaneous works. The cost of these works have been reimbursed to the project by the respective requesting agencies and/or funding partners and the necessary increases in contract expenditure authority to \$96,800,000, including a contingency allowance, were previously approved by Council (see Corporate Report No. R240; 2013 attached as Appendix I).

One of the significant additional work items was a request from B.C. Hydro that the City have its Contractor construct an additional \$4.1 million of underground ductwork as part of Hydro's system expansion plans, for which B.C. Hydro agreed to reimburse the City.

As this work progressed, it was found that B.C. Hydro was unable to meet the schedule that they had provided for design approvals, resolution of technical issues, and construction support activities. The resulting delays caused delays in the construction of the overall Combo Project resulting in a cost of delay claim from the Contractor.

A commensurate claim has been issued to B.C. Hydro for recovery of these costs and the matter is currently being negotiated with B.C. Hydro. We expect to recover a significant portion of these costs.

The design-build contract was structured to share certain risks between the Owner and the Contractor. Cost of delay due to third-party utility company delays was included as a risk to be shared equally. Consequently the project became responsible for \$1,382,325.64 of the delay costs.

The addition of delay costs brings the final cost of the "Combo" Project to \$97,687,000, requiring the expenditure of previously authorized contingency funds plus an increase in contract expenditure authority of \$887,000. The City is acting as the lead agency on this project and, as such, awarded the contract to BA Blacktop. Any amendments to the scope of the contract must be approved by Council even though the City will only be responsible for paying a small fraction of the additional costs under the partnership agreement that covers the project, and the additional expenditure may ultimately be recovered from B.C. Hydro. This is discussed in more detail in the following section.

## **FUNDING**

The Roberts Bank Rail Corridor Program "Combo" Project is being funded by way of contributions from Transport Canada, Port Metro Vancouver, BC Ministry of Transportation & Infrastructure, City of Langley, Township of Langley, and City of Surrey with Surrey's funding partners contributing 88.4% of the project costs. Additional scope items added to the project have been funded by the agencies requesting the scope additions such as BC Hydro. The increase in expenditure falls within the pre-established Project Budget, and is expected to be the final expenditure authority increase on this project.

Funding to cover the City's share of the additional costs as described in this report is available in the Council-approved Capital Budget.

Fraser Smith, P.Eng., MBA  
General Manager, Engineering

KDZ/clr

Appendix I - Corporate Report R240; 2013 – Increase in Expenditure Authorization for Contract  
M.S. 1711-007-11 - Roberts Bank Rail Corridor Program “Combo” Project

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## CORPORATE REPORT

NO: *R240*COUNCIL DATE: *December 16, 2013*

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**REGULAR COUNCIL**TO: **Mayor & Council**DATE: **December 10, 2013**FROM: **General Manager, Engineering**FILE: **1711-007/11**SUBJECT: **Increase in Expenditure Authorization for Contract M.S. 1711-007-11 - Roberts Bank Rail Corridor "Combo" Project**

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**RECOMMENDATION**

The Engineering Department recommends that Council approve an increase in the expenditure authorization limit of Contract M.S. 1711-007-11 related to the Roberts Bank Rail Corridor "Combo" Project in the amount of \$10,000,000 including contingency and taxes that will increase the overall expenditure limit to \$96,800,000 including taxes, which increase is necessary to cover the cost of works that are being constructed on behalf of B.C. Hydro and the Ministry of Transportation and Infrastructure along with property restoration costs, works to minimize business impacts, and other miscellaneous works.

**BACKGROUND**

The Roberts Bank Rail Corridor Program in Surrey consists of the construction of road/rail grade separations at 152 Street, 192 Street, 196 Street and 54 Avenue and related road works to reduce congestion at rail crossings. The Program also includes at-grade crossing improvements and closures along Colebrook Road to allow for the cessation of train whistling along the majority of the B.C. Railway corridor through Surrey.

The 192 Street, 54 Avenue, and 196 Street grade separations (see the attached Appendix A) are being delivered as one combined design-build project, referenced as the "Combo" Project. At its Regular meeting on February 6, 2012 (see Corporate Report No. R024; 2012 attached as Appendix II of Appendix B) Council approved the award of a design-build contract for the Combo Project, Contract M.S. 1711-007-11, to BA Blacktop Ltd. and approved an expenditure authorization limit of \$78 million including contingency and HST. An increase in expenditure authorization to \$86.8 million was subsequently approved by Council at its regular meeting on April 22, 2013 (see Corporate Report No. R069; 2013 attached as Appendix B).

The project is progressing well and has currently reached approximately 90% completion. The photograph attached as Appendix C is a view facing south on 196 Street towards the completed 196 Street overpass.



## DISCUSSION

It is the nature of design-build projects that as the design of the project is developed to the state of being approved for construction and as construction proceeds there are changes and opportunities for improvements identified within the general scope of the project.

Since the April increase in expenditure authority a number of additional works have been identified as being appropriate to deliver by the design-build contractor. Most significantly, BC Hydro requested that the City have its contractor construct an additional \$1.7 million of underground ductwork as part of Hydro's system expansion plans, for which BC Hydro will reimburse the City.

Additional works have also been identified by the Ministry of Transportation and Infrastructure including the addition of a westbound dual left turn lane on Hwy. 10 at 192 Street (\$2 million), which is most efficiently delivered as part of the current contract. Other additional work also includes the investigation and remediation of contaminated soils, construction of civil works to facilitate relocation of Telus facilities, the cost of a project acceleration strategy to mitigate delay costs and the cost of delays due to Hydro works, the effects of the reintroduction of the PST, property restoration, and other miscellaneous works. The cost of these works totalling approximately \$8.3 million will be reimbursed to the project by the respective requesting agencies and/or funding partners.

The total additional work amounts to approximately \$10 million. The City is acting as the lead agency on this project and, as such, awarded the contract to BA Blacktop. Any amendments to the scope of the contract must be approved by Council even though the City will only be responsible for paying a small fraction of the additional costs under the partnership agreement that covers the project. This is discussed in more detail in the following section.

## FUNDING

The Roberts Bank Rail Corridor Program "Combo" Project is being funded by way of contributions from Transport Canada, Port Metro Vancouver, BC Ministry of Transportation & Infrastructure, City of Langley, Township of Langley, and City of Surrey with Surrey's funding partners contributing 88.4% of the project costs. Additional scope items added to the project will be funded by the agencies requesting the scope additions such as BC Hydro. The increase in expenditure falls within the pre-established Project Budget.

Funding to cover the City's share of the additional scope costs as described in this report is available in the Council-approved Capital Budget. The works being added to the scope of the contract are most economically constructed as part of this contract in comparison to alternative approaches to delivering the same work.



Vincent Lalonde, P.Eng.  
General Manager, Engineering

KZ/brb

Appendix A: Contract M.S. 1711-007-11 Map of Roberts Bank Rail Corridor Program Combo Project

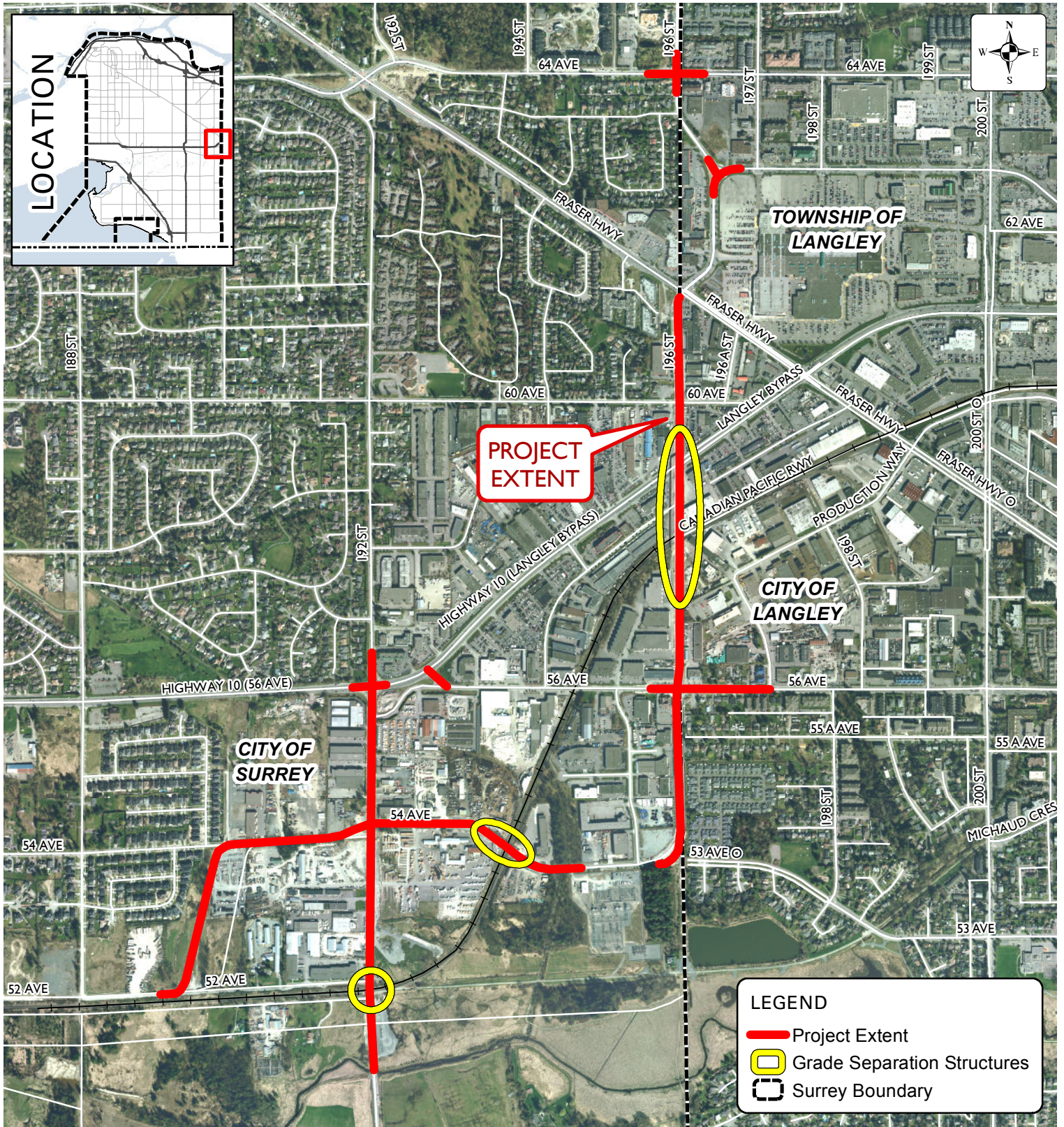
Appendix B: Corporate Report R069; 2013 - Increase in Expenditure Authorization for Contract M.S. 1711-007-11 - Roberts Bank Rail Corridor Program "Combo" Project

Appendix C: 196 Street Facing South Towards the Completed 196 Street Overpass

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# APPENDIX A



Produced by GIS Section: January 30, 2012, AW8

Date of Aerial Photography: April 2013



**CONTRACT M.S. 1711-007-11  
ROBERTS BANK RAIL CORRIDOR  
PROGRAM COMBO PROJECT**

**ENGINEERING  
DEPARTMENT**



# CORPORATE REPORT

NO: **R069**

COUNCIL DATE: **April 22, 2013**

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## REGULAR COUNCIL

TO: **Mayor & Council**

DATE: **April 18, 2013**

FROM: **General Manager, Engineering**

FILE: **1711-007/11**

SUBJECT: **Increase in Expenditure Authorization for Contract M.S. 1711-007-11 - Roberts Bank Rail Corridor "Combo" Project**

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## RECOMMENDATION

The Engineering Department recommends in relation to Contract M.S. 1711-007-11, for the Roberts Bank Rail Corridor "Combo" Project, that Council approve an increase in the expenditure authorization limit in the amount of \$8,800,000 including contingency and taxes that will increase the authorization limit from \$78,000,000.00 to \$86,800,000, which increase is necessary to cover the cost of works that are being constructed on behalf of B.C. Hydro and additional project scope related to water main works, storm sewer works, road works and other miscellaneous works.

## BACKGROUND

The Roberts Bank Rail Corridor Program in Surrey consists of the construction of road/rail grade separations at 152 Street, 192 Street, 196 Street and 54 Avenue and related road works to reduce congestion at rail crossings. The Program also includes at-grade crossing improvements and closures along Colebrook Road to allow for the cessation of train whistling along the majority of the B.C. Railway corridor through Surrey.

The 192 Street, 54 Avenue, and 196 Street grade separations (see the attached Appendix I) are being delivered as one combined design-build project, referenced as the "Combo" Project. At its Regular meeting on February 6, 2012 (see Corporate Report No. R024; 2012 attached as Appendix II) Council approved the award of a design-build contract for the Combo Project, Contract M.S. 1711-007-11, to BA Blacktop Ltd. and approved an expenditure authorization limit of \$78 million including contingency and HST.

## DISCUSSION

It is the nature of design-build projects that as the design of the project is developed to the state of being approved for construction there are changes and opportunities for improvement identified within the general scope of the project.

In this project a number of additional works have been identified as being appropriate. Most significantly, BC Hydro requested that the City have its contractor construct approximately \$3.3 million of underground ductwork as part of Hydro's system expansion plans, for which BC Hydro will reimburse the City.

Additional works have also been identified in relation to the Surrey drainage and water utilities, the City of Langley, the Township of Langley and the Ministry of Transportation and Infrastructure to take advantage of completing such work in conjunction with the main contract. The additional scope includes storm sewer installations, water main upsizing and extensions, road works, high grade stainless steel rebar in the 196 Street overpass deck and other miscellaneous works. The cost of these works will be reimbursed to the project by the respective requesting agencies and total approximately \$2.5 million.

Of the over sixty private properties impacted by the Combo Project, five have been subject to substantial impact and have potential for business loss. To mitigate this cost and to minimize overall project costs, some substantial property restoration works will be carried out by way of change orders to the design-build contract. The cost of these property restoration works totals approximately \$3.0 Million.

The total of the above-referenced additional work is \$8.8 million.

## FUNDING

The Roberts Bank Rail Corridor Program "Combo" Project is being funded by way of contributions from Transport Canada, Port Metro Vancouver, BC Ministry of Transportation & Infrastructure, City of Langley, Township of Langley, and City of Surrey with Surrey's funding partners contributing 88.4% of the project costs. Additional scope items added to the project will be funded by the agencies requesting the scope additions such as BC Hydro.

Funding to cover the City's share of the additional scope costs as described in this report is available in the Council-approved Utility Capital Budgets. The works being added to the scope of the contract for which the City will pay from the Utilities budgets are most economically constructed as part of this contract in comparison to alternative approaches to delivering the same work.



Vincent Lalonde, P.Eng.  
General Manager, Engineering

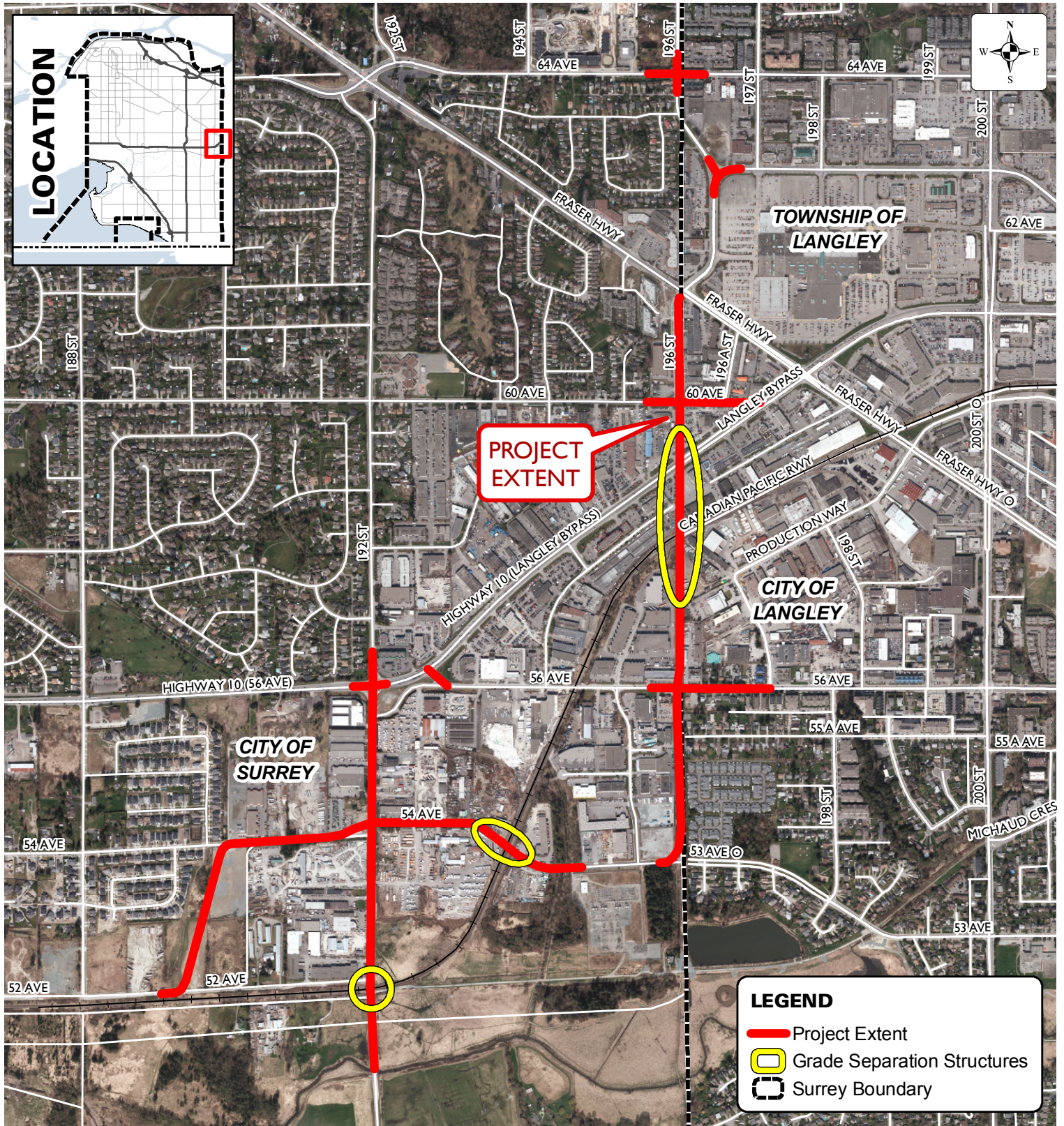
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Appendix I: Contract M.S. 1711-007-11 Map of Roberts Bank Rail Corridor Program Combo Project

Appendix II: Corporate Report R024; 2012 – Award of Contract M.S. 1711-007-11 Roberts Bank Rail Corridor Program "Combo" Project in Cloverdale



# APPENDIX I



Produced by GIS Section: January 30, 2012, AW8

Date of Aerial Photography: May 2011



CONTRACT M.S. 1711-007-11  
ROBERTS BANK RAIL CORRIDOR  
PROGRAM COMBO PROJECT

ENGINEERING  
DEPARTMENT



NO: R024

COUNCIL DATE: February 6, 2012

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**REGULAR COUNCIL**

TO: Mayor & Council

DATE: January 31, 2012

FROM: General Manager, Engineering

FILE: 1711-007/11

SUBJECT: Award of Contract M.S. 1711-007-11  
Roberts Bank Rail Corridor Program "Combo" Project in Cloverdale

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**RECOMMENDATIONS**

The Engineering Department recommends that Council:

1. Approve the award of Contract M.S. 1711-007-11 to B.A. Blacktop Ltd. for the design and construction of the Roberts Bank Rail Corridor Program "Combo" Project (192 Street, 54 Avenue and 196 Street railway grade separations and related road works) in the amount of \$70,240,423.49 including HST; and
2. Set the expenditure authorization limit for Contract M.S. 1711-007-11 at \$78 million including contingency and HST.

**BACKGROUND**

The Roberts Bank Rail Corridor Program in Surrey consists of the construction of road/rail grade separations at 152 Street, 192 Street, 196 Street, and 54 Avenue and related road works to reduce congestion at rail crossings as well as at-grade crossing improvements and closures along Colebrook Road to allow for the cessation of train whistling along the majority of the B.C. Railway corridor through Surrey.

The 192 Street, 54 Avenue and 196 Street grade separations (see the attached Appendix I) will be delivered as one combined design-build project, referenced as the "Combo" Project.

The procurement process for this Project was initiated by way of a request for Credential Submissions from design-build teams. Submissions responding to this request were received from ten teams involving a total of eighty-six construction and engineering design companies. An independent Evaluation Team supported by technical specialists evaluated the credential submissions and selected a short list of teams (as reported to Council in Corporate Report R067; 2011, attached as Appendix II) to submit detailed engineering design and construction price proposals for the Project. The short-listed teams included:

- BA Blacktop Ltd.;
- Graham Infrastructure, a joint venture; and

- SNC-Lavalin Constructors (Pacific) Inc.

A detailed proposal was subsequently received from each of these three proponents.

The proposals were subjected to an initial pass/fail evaluation to confirm that each proposal was a complete, workable design solution, prepared in accordance with good industry practice. All of the proposals passed this initial evaluation process. The Evaluation Committee and technical support specialists along with a Fairness Monitor then conducted a detailed evaluation of each of the proposals to identify the preferred proposal. This detailed evaluation was based on the following criteria:

- Design & Construction Cost;
- Operation and Maintenance Costs of the completed project;
- Design Quality;
- Project Plans, including plans for environmental monitoring, traffic accommodation, quality assurance, public information and minimizing public inconvenience during construction; and
- Project Schedule/Timeline (Completion Date).

Based on the detailed evaluation process and the listed criteria, the design-build team led by BA Blacktop Ltd. was selected by the Evaluation Committee as being the most advantageous to the City. The proposal from BA Blacktop also offered the lowest cost.

Staff has since the evaluation process been in discussions with BA Blacktop Ltd. to confirm minor required scope changes to their proposal and to confirm their continued willingness to enter into a formal Design-Build Agreement.

BA Blacktop is a long-standing well-managed civil construction company with significant experience in the areas of construction that are predominantly required for this Project. The Evaluation Team is satisfied that BA Blacktop Ltd. has the capacity and expertise to undertake this Project successfully.

## **SUSTAINABILITY CONSIDERATIONS**

The railway grade separations and related road works of the Combo Project will provide relief to Surrey road users that are affected by rail traffic. The project will reduce delays caused by rail traffic at intersections with major roads and will allow for an enhanced environment by eliminating train whistling at road/railway crossings along the BC Railway. This project will assist in achieving the vision of the City's Sustainability Charter; more particularly, the following Sustainability Charter Scope action items:

- SC13: Creating a Fully Accessible City
- EN13: Enhancing the Public Realm



## FUNDING

The Roberts Bank Rail Corridor Program "Combo" Project is being funded by way of contributions from Transport Canada, Port Metro Vancouver, BC Ministry of Transportation & Infrastructure, City of Langley, Township of Langley, and City of Surrey, with Surrey's funding partners contributing 88.4% of project costs in Surrey.

Funding to cover the City's share of the costs of this Contract is available in the Council-approved Capital Budget.



Vincent Lalonde, P.Eng.  
General Manager, Engineering

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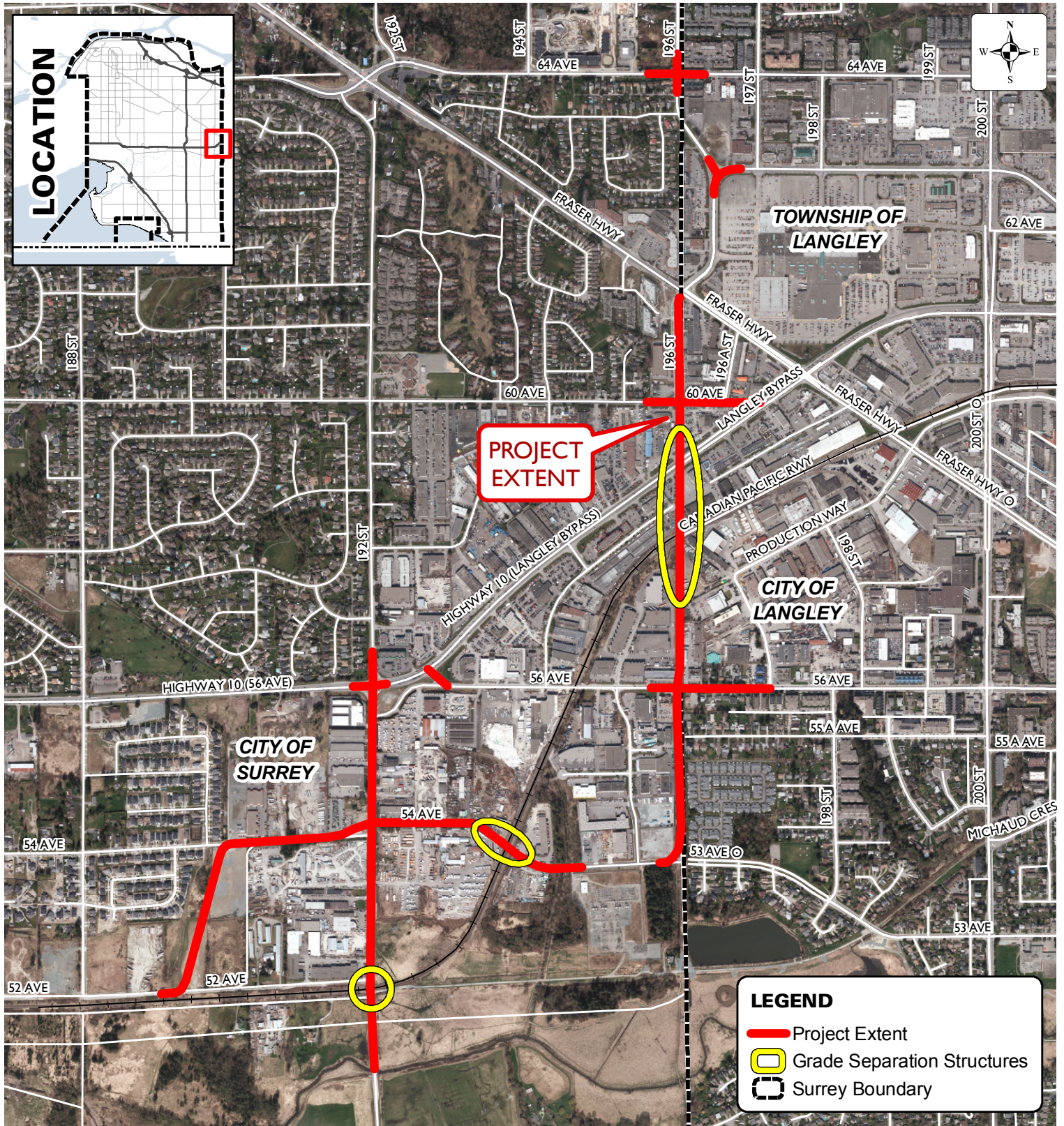
Appendix I: Contract M.S. 1711-007-11 - Map of Roberts Bank Rail Corridor Program, Combo Project

Appendix II: Corporate Report Ro67; 2011 - Update on the Surrey Projects in the Roberts Bank Rail Corridor Program

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# APPENDIX I



Produced by GIS Section: January 30, 2012, AW8

Date of Aerial Photography: May 2011



CONTRACT M.S. 1711-007-11  
ROBERTS BANK RAIL CORRIDOR  
PROGRAM COMBO PROJECT

ENGINEERING  
DEPARTMENT



# CORPORATE REPORT

NO: R067 COUNCIL DATE: April 18, 2011

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## REGULAR COUNCIL

TO: **Mayor & Council** DATE: **April 8, 2011**  
FROM: **General Manager, Engineering** PROJECT FILE: **1708-057/B**  
SUBJECT: **Update on the Surrey Projects in the Roberts Bank Rail Corridor Program**

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## RECOMMENDATION

The Engineering Department recommends that Council receive this report as information.

## INTENT

This report provides a status update on the selection of a Design-Build Team for the design and construction of the Roberts Bank Rail Corridor Program "Combo" Project. This project consists of railway grade separations and related road works at 192 Street, 54 Avenue and 196 Street.

## BACKGROUND

The Roberts Bank Rail Corridor Program in Surrey consists of the construction of road/rail grade separations at 152 Street, 192 Street, 196 Street and 54 Avenue and road works and at-grade crossing improvements and closures to allow for the cessation of train whistling along the majority of the B.C. Railway corridor through Surrey. The proposed Program will be funded by way of contributions from Transport Canada, Port Metro Vancouver, BC Ministry of Transportation & Infrastructure, BC Railway Company, CP Rail, Canadian National Railway, BNSF Railway, City of Langley, Township of Langley and the City of Surrey. Contributions from the funding partners will total 87.7% of the cost of the works in Surrey with the City of Surrey being responsible for the remainder. The City of Surrey is the delivery agent for the projects in Surrey that are part of the Program.

The grade-separations and other works will provide relief to Surrey road users that are affected by rail traffic. The project will reduce delays caused by rail traffic at intersections with major roads and will allow for an enhanced environment by eliminating train whistling at railway crossings along the majority of the B.C. Railway corridor in Surrey.

## DISCUSSION

The 192 Street, 54 Avenue and 196 Street grade separations (see the attached Appendix I) will be delivered as one combined design-build project, referenced as the "Combo" Project. A Design-Build (DB) process was chosen as the delivery method for this project. The DB process provides greater opportunity for innovation and efficiency in "value engineering" the design based on "constructability" knowledge and a higher level of competitiveness can be gained from major

firms with the ability and capacity to carry out large-scale projects. It is also noted that the projects are in relatively close proximity to one another and therefore lend themselves to a joint project.

To initiate the procurement process, a Request for Credential Submissions from design-build teams was issued on BC Bid, on the City's website and in the Journal of Commerce. The submission process closed on March 16, 2011 with submissions received from ten teams involving a total of eighty-six construction and engineering design companies. These teams are listed in Appendix II.

An independent Evaluation Team, supported by an independent team of technical specialists, was retained by the City to undertake an evaluation of the ten credential submissions. The Evaluation Team and technical specialists are listed in Appendix III. The evaluation process was based on the following criteria:

- Team Composition and Organization
- Team Members and Key Personnel
- Project Understanding and Vision

Based on this evaluation three teams were short-listed; these being:

- **Graham Infrastructure** a JV, supported by B&B Contracting Ltd., Brybil Projects Ltd., Thurber Engineering Ltd., PBA Engineering Ltd., Summit Environmental Consultants Ltd., ECL Envirowest Consultants Ltd., and Jack Stuempel & Associates Ltd;
- **BA Blacktop Ltd.**, supported by Coquitlam Ridge Constructors Ltd., Vancouver Pile Driving Ltd., Trans-Western Electric Ltd., McElhanney Engineering Services Ltd., Buckland & Taylor Ltd., Trow Associates Inc., DMD & Associates Ltd., Karyo Edelman Communications Inc., and Opus International Consultants; and
- **SNC-Lavalin Constructors**, supported by Tyam Group, SNC-Lavalin Inc., ISL Engineering and Land Services Ltd., Golder Associates Ltd., DMD & Associates Ltd., and ECL Envirowest Consultants Ltd.

These three short-listed teams will each be invited to submit detailed engineering design and price proposal to construct the Combo Project, which will be subjected to a second evaluation process. This evaluation process is expected to be complete in July 2011, which will be followed by a report to Council recommending the award of the design-build contract to the selected team.

#### **Other Projects in Surrey that are Part of the Roberts Bank Rail Corridor (RBRC) Program**

The other two projects in the RBRC Program in Surrey are:

- the 152 Street Grade Separation; and
- the Panorama Ridge Whistle Cessation Project (involving at grade rail crossing improvements, siding construction and road works).

Each of these projects is being delivered through a conventional design-bid-build process. A separate corporate report for each of these projects containing a recommendation for the award of a contract for construction is expected to be forwarded to Council for consideration in July 2011.

Property acquisition has commenced for all of the referenced projects in Surrey. Realty Services staff is contacting affected property owners and hope to have much of the realty work completed in the next six months. Surveying and property flagging has also commenced with initial attention being directed to any property owners who have indicated concerns, and to the areas of the overpass approaches where pre-loading will be necessary.

## CONCLUSION

Staff will continue to keep Council apprised of progress on the subject projects through information memoranda and/or corporate reports.



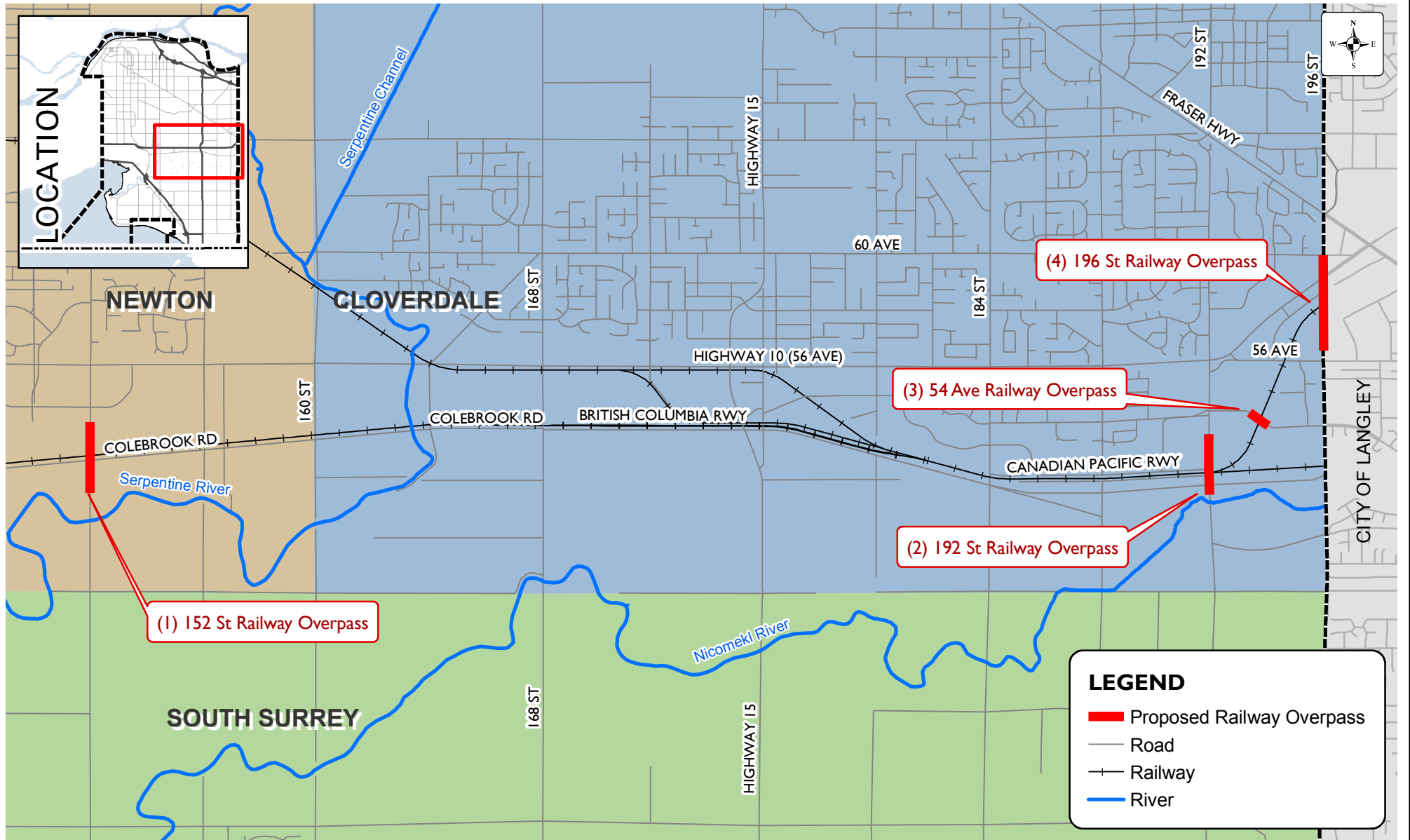
Vincent Lalonde, P.Eng.  
General Manager, Engineering

KDZ/brb

- Appendix I - Conceptual Plan of the Combo Project
- Appendix II - List of Lead Firms that Submitted Team Credentials
- Appendix III - Evaluation Team

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# APPENDIX I



Produced by GIS Section: December 2, 2010, AW



## PROPOSED RAILWAY OVERPASSES

ENGINEERING  
DEPARTMENT

The data provided is compiled from various sources and IS NOT warranted as to its accuracy or sufficiency by the City of Surrey. This information is provided for information and convenience purposes only. Lot sizes, Legal descriptions and encumbrances must be confirmed at the Land Title Office.

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### **Lead firms that submitted team credentials for the Design-Build of the “Combo” Project that is Part of the Roberts Bank Rail Corridor Program in Surrey.**

ACCIONA/Matcon Joint Venture

BA Blacktop Ltd.

EllisDon Corporation

Flatiron Constructors Canada Ltd.

Graham Infrastructure a JV

Ledcor CMI Ltd. and Gateway Infrastructure Group GP

PCL Constructors Westcoast Inc.

Peter Kiewit Infrastructure Co.

SNC Lavalin Constructors (Pacific) Inc.

Transport Network Solutions, (a joint venture including Dragados Canada Inc., Jacob Bros. Construction Ltd., and Westpro Infrastructure Ltd.)

### **Roberts Bank Rail Corridor Program, “Combo” Project Design-Build Credentials Evaluation Team and Technical Specialists**

#### **Evaluation Team**

Eric Dyck, Design-Build Project Management specialist  
Don Fraser, P. Eng., Ministry of Transportation & Infrastructure (retired) Project Manager  
Brian Stone, P. Eng., Ministry of Transportation & Infrastructure (retired) Project Manager  
Paul Lee, P. Eng., City of Surrey, Rapid Transit & Strategic Projects Manager

#### **Technical Specialists**

Klaus Biebach, Scout Consultants, heavy civil construction specialist.  
Bill Szto, P. Eng., Ministry of Transportation & Infrastructure, bridge engineer.  
Danielle Pricope, P. Eng., Ministry of Transportation & Infrastructure, electrical engineer  
Don Bergman, P. Eng., CWMM Consultants, bridge engineer  
James Wetherill, P. Eng., Braun Consultants Ltd., geotechnical engineer  
John Villamere, P. Eng., Hatfield Consultants Ltd., environmental engineer  
Terry Walton, P. Eng., R. F. Binnie & Associates Ltd., Owner's Engineer  
Scott Campbell, P. Eng., R. F. Binnie & Associates Ltd., Owner's Engineer  
Patrick Zoerb, City of Surrey, Project Manager



## APPENDIX C

### 196 Street Facing South Towards the Completed 196 Street Overpass

