

NO: R137

COUNCIL DATE: June 25, 2018

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## REGULAR COUNCIL

TO: **Mayor & Council** DATE: **June 20, 2018**

FROM: **General Manager, Engineering** FILE: **4813-002/21**

SUBJECT: **Increase in Expenditure Authorization for Contract No. 4813-002-21  
Surrey Fraser River Flood Protection Works – Phase 2**

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## RECOMMENDATION

The Engineering Department recommends that Council:

1. Increase the expenditure authorization limit for Contract No. 4813-002-21 from \$2,970,000.00 (including GST and contingency) to \$3,953,000.00 (including GST and contingency), an increase of \$983,000.00.
2. Authorize the General Manager, Engineering to sign the change order for the increase to Contract No. 4813-002-21.

## INTENT

The purpose of this report is to seek Council approval for an increase in the expenditure authorization of Contract No. 4813-002-21 (“the Contract”) in order to allow for the opportunity to increase the level of flood protection from 130 Street at Fraser River running easterly along the southern property line of CN Thornton Yard turning south across South Fraser Perimeter Road (“SFPR”) and then along the west side of Bolivar Creek to south of 115 Avenue.

## BACKGROUND

Council at its Regular Council Meeting on April 23, 2018, as part of Corporate Report R068; 2018, attached as Appendix “I” to this report, approved the award of the Contract to GCL Contracting & Engineering Inc. (“GCL”) in the amount of \$2,696,221.50, (including GST) and set the expenditure authorization limit for Contract No. 4813-002-21 at \$2,970,000.00, (including GST and contingency).

The Contract consists of approximately 980 metres of dyke improvements with sheet pile flood walls from 130 Street at Fraser River running easterly along the southern property line of CN Thornton Yard turning south across South Fraser Perimeter Road and then along the west side of Bolivar Creek to south of 115 Avenue, as illustrated in the map attached as Appendix “II” (Item 1). The construction of these works will bring the dyke to current design flood elevations.

## DISCUSSION

In May 2018, the Province was predicting water levels in the Lower Fraser River at or near current design flood elevations. At the same time, City staff were developing various options to increase the level of protection provided to the Bridgeview and South Westminster community. These improvements would have required a concerted effort from staff, material suppliers and local contractors to have the works completed in a short amount of time. While cost estimates were not prepared for the entire dyke system, preliminary estimates for temporary measures were estimated at least \$250,000.00 per kilometre of dyke to increase the height of the dyke by up to 0.6m. The existing dyke is approximately 4.7 km which results in an estimated cost of \$1.0 million.

At present, there is no refinement to the Provincial flood plan mapping to increase the level of protection provided along the Fraser River. The Fraser Basin Council, with support from the Province and the City are reviewing dyke design elevations along the Lower Fraser River. Revised dyke design elevations are not expected until 2019.

In advance of potential increases in dyke design elevation staff recommend increasing the level of protection provided along the Fraser River at this time, as it is favourable to increase the height of the dyke by 0.6m included in the Contract for the following reasons:

- The current pricing submitted by GCL provides the City a cost that is comparable or possibly lower than the cost to do a temporary raising of these dykes in the future;
- Increasing the dykes included in the Contract reduces the length of dyke along the Fraser River that the City would need to temporary increase during an extreme freshet, thereby allowing City staff to focus on other areas for dyke improvements at that time; and
- The City is only responsible to fund one third of the cost of this increase as the City received funding from the Province for the Fraser River Flood Protection Works – Phase 2 under the Emergency Management BC Flood Protection Program for up to two thirds of the cost of this project.

Given the above, it is recommended that the expenditure authorization limit for the Contract be increased from \$2,970,000.00 (including GST and contingency) to \$3,953,000.00 (including GST and contingency), an increase of \$983,000.00 in order to allow the planned dyke improvements to be increased by an additional 0.6m.

## FUNDING

The City received funding from the Province for the Fraser River Flood Protection Works – Phase 2 under the Emergency Management BC Flood Protection Program for up to two thirds of the cost of the project. Funding for the remaining one third portion is available in the approved 2018 Utility Budget.

## SUSTAINABILITY CONSIDERATIONS

The increase in the expenditure authorization for the Contract will enhance flood protection related to the annual freshet and act to mitigate and adapt to the effects of climate change as a result of changing flood elevations that have occurred due to climate change impacts and those predicted to come in the future. This report relates to the Sustainability Charter 2.0 themes of Public Safety and Infrastructure. Specifically, the dyke improvement works support the following Desired Outcomes (“DO”):

- Public Safety Do8: The community’s critical infrastructure and systems are designed to withstand climate change impacts and natural events and disasters, and include emergency response and reconstruction plans;
- Infrastructure Do3: Infrastructure systems are designed to protect human health, preserve environmental integrity, and be adaptable to climate change impacts; and
- Infrastructure Do6: The City anticipates changing weather patterns and sea level rise as a result of climate change, and implements appropriate infrastructure, land use planning and emergency response solutions that will be resilient over the long-term.

## CONCLUSION

Based on the above discussion, it is recommend that Council increase the expenditure authorization limit for the Contract from \$2,970,000.00 (including GST and contingency) to \$3,953,000.00 (including GST and contingency), an increase of \$983,000.00.

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

FS/JA/HL/jma/ggg

Appendix “I”: Corporate Report Ro68; 2018 – Award of Contract No. 4813-002-21, Surrey Fraser River Flood Protection Works – Phase 2

Appendix “II”: Map of Locations – Contract No. 4813-002-21 Fraser River Flood Protection Works Phase 2



CITY MANAGER'S  
DEPARTMENT

# CORPORATE REPORT

NO: **RO68**COUNCIL DATE: **April 23, 2018****REGULAR COUNCIL**TO: **Mayor & Council**DATE: **April 19, 2018**FROM: **General Manager, Engineering**FILE: **4813-002/21**

SUBJECT: **Award of Contract No. 4813-002-21  
Surrey Fraser River Flood Protection Works – Phase 2**

**RECOMMENDATION**

The Engineering Department recommends that Council:

1. Award Contract No. 4813-002-21 to GCL Contracting & Engineering Inc. ("GCL") in the amount of \$2,696,221.50, (including GST), for Surrey Fraser River Flood Protection Works – Phase 2;
2. Set the expenditure authorization limit for Contract No. 4813-002-21 at \$2,970,000.00, (including GST and contingency); and
3. Authorize the General Manager, Engineering to execute Contract No. 4813-002-21.

**SCOPE OF WORK**

The construction package related to this contract consists of the Surrey Fraser Flood Protection Works – Phase 2 from 130 Street at Fraser River running easterly along the southern property line of CN Thornton Yard turning south across South Fraser Perimeter Road ("SFPR") and then along the west side of Bolivar Creek to south of 115 Avenue. These works involve the construction of approximately 980 metres of dyke improvements with sheet pile flood walls to provide improved flood protection to industrial, commercial and residential properties within the South Westminster and Bridgeview area to meet the new provincial flood control levels for the Fraser River.

The project location is listed in the following table, which is illustrated on the map attached to this report as Appendix "I":

Map Reference Number	Project #	Project Description	Location
1	D-11678	Fraser River Flood Protection works – Phase 2	130 Street/Fraser River to Bolivar Creek/115 Avenue

The Contract work is expected to start on May 2018, and be completed by December 2018.

The current snowpack, La Nina weather influence, seasonal forecasts and impacts from the 2017 wildfires could lead to above average Fraser River freshet. It is too early to predict water levels in the Lower Fraser River will result in any flooding. The Contract work is not expected to be completed before this year's Fraser River freshet. Staff are currently developing opportunities to complete interim improvements along the project location should future predictions forecast water levels above our existing level of protection.

## TENDER RESULTS

Tenders for the subject Contract were opened on April 5, 2018 with the following results:

<i>Contractor</i>	<i>Tendered Amount with GST</i>	<i>Corrected Amount</i>
1. GCL Contracting & Engineering Inc.	\$2,696,221.50	No Change
2. Westshore Constructors Ltd.	\$3,267,318.00	\$3,267,317.55
3. Fraser River Pile & Dredge (GP) Inc.	\$3,619,661.85	No Change
4. Tybo Contracting Ltd.	\$4,625,748.23	No Change
5. JJM Construction Ltd.	\$4,925,261.25	No Change
6. IDL Projects Inc.	\$4,251,273.4	No Change

The Engineer's (Parsons Inc.) pre-tender estimate was \$3,710,836.00 (including GST).

## EVALUATION

The City's consultant reviewed the tender submissions for accuracy and completeness and found that the tender submission by IDL Projects Inc. was not compliant. The City's consultant reviewed the tender submissions for accuracy and completeness. There was one arithmetic error that had no bearing on the outcome of the tender. All submissions included the required 10% bid bond, were signed on the Tender Form, and were initialed on the Summary Sheet of the Schedule of Quantities and Prices.

The low bidder, GCL has provided a Consent of Surety for a Performance Bond and a Labour & Materials Bond, and agreed to complete the work within 120 working days, as stipulated in the Contract. GCL's past performance on similar work has been satisfactory. They have no outstanding legal claims against the City. It is recommended that GCL be awarded Contract No. 4813-002-21.

## SUSTAINABILITY CONSIDERATIONS

The work of this Contract will enhance flood protection related to the annual freshet and act to mitigate and adapt to the effects of climate change as a result of changing flood elevations that have occurred due to climate change impacts and those predicted to come in the future. This report relates to the Sustainability Charter 2.0 themes of Public Safety and Infrastructure. Specifically the dyke improvement works support the following Desired Outcomes (DO):

- Public Safety Do8: The community's critical infrastructure and systems are designed to withstand climate change impacts and natural events and disasters, and include emergency response and reconstruction plans;
- Infrastructure Do3: Infrastructure systems are designed to protect human health, preserve environmental integrity, and be adaptable to climate change impacts; and
- Infrastructure Do6: The City anticipates changing weather patterns and sea level rise as a result of climate change, and implements appropriate infrastructure, land use planning and emergency response solutions that will be resilient over the long term.

## FUNDING

The City received funding from the Province for the Fraser River Flood Protection Works – Phase 2 under the Emergency Management BC Flood Protection Program for up to two thirds of the cost of this project. Funding for remaining one third portion is available in the approved 2018 Utilities Budget.



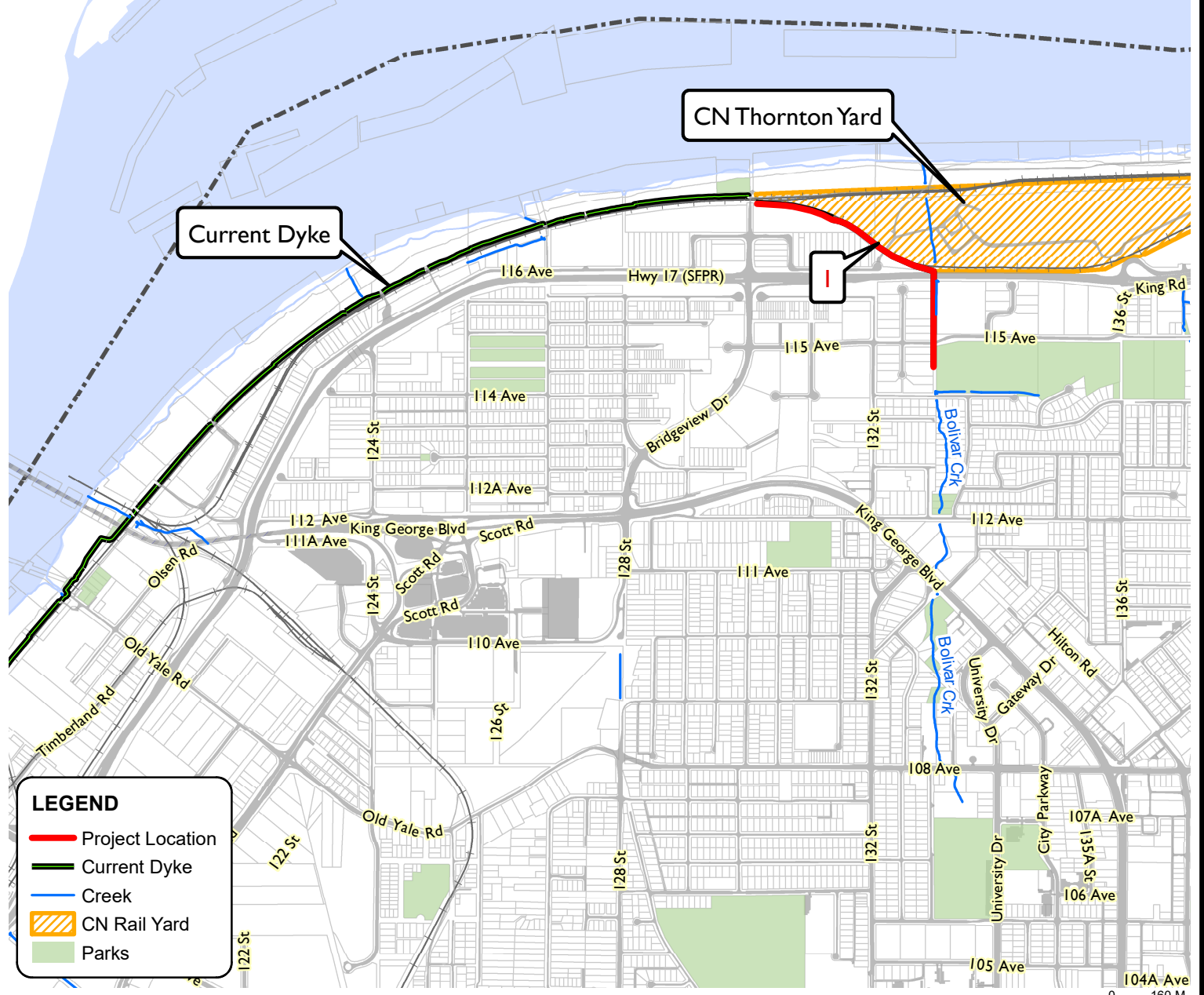
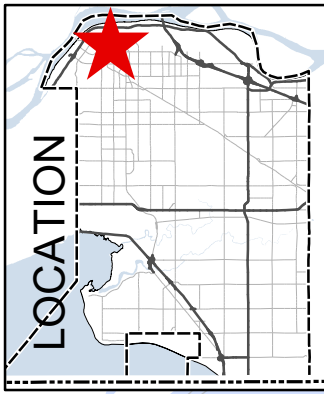
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Fraser Smith, P.Eng., MBA  
General Manager, Engineering

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Appendix "I": Map of Locations – Contract

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Note: Appendix "I" to R068; 2018 is available upon request



**LEGEND**

- Project Location
- Current Dyke
- Creek
- CN Rail Yard
- Parks

Produced by GIS Section: 20-Jun-2018, C9W

Scale: 1:19,246 0 160 M



## CONTRACT No. 4813-002-21 Fraser River Flood Protection Works Phase 2

**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.