



# City of Richmond

## Report to Council

**To:** Public Works and Transportation Committee

**Date:** September 6, 2016

**From:** John Irving, P.Eng. MPA  
Director, Engineering

**File:** 10-6060-01/2016-Vol  
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**Re:** **Drainage Box Culvert Replacement at No. 2 Road and Walton Road**

### Staff Recommendation

1. That funding of \$2,000,000 from the Drainage Utility Reserve be included as an amendment to the 5 Year Financial Plan (2016-2020) to complete the Drainage Box Culvert Replacement Project at No. 2 Road and Walton Road.
2. That the Chief Administrative Officer and General Manager, Engineering and Public Works, be authorized to award the Drainage Box Culvert Replacement Project at No. 2 Road and Walton Road and execute an agreement with respect thereto.

John Irving, P.Eng. MPA  
Director, Engineering  
(604-276-4140)

REPORT CONCURRENCE		
<b>ROUTED TO:</b>	<b>CONCURRENCE</b>	<b>CONCURRENCE OF GENERAL MANAGER</b>
Sewerage & Drainage Finance	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	
<b>REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b> DW	<b>APPROVED BY CAO</b> 

## **Staff Report**

### **Origin**

In August 2016, staff were advised that ground settlement was occurring in the northbound vehicle lanes along No. 2 Road near Walton Road. Further investigation has indicated that the settlement is due to a failing drainage box culvert. While the system is still operational, it is necessary to replace an approximate 50 meter section of drainage box culvert along No. 2 Road to prevent further ground settlement and maintain public safety.

Two lanes (left turn lane and one northbound lane) have been shut down to vehicular and pedestrian traffic as a precautionary measure until the drainage box culvert can be replaced.

This report supports Council's 2014-2018 Term Goal #6 Quality Infrastructure Networks:

*Continue diligence towards the development of infrastructure networks that are safe, sustainable, and address the challenges associated with aging systems, population growth, and environmental impact.*

### **Analysis**

There are approximately 629 kilometers of drainage mains owned and maintained by the City. The drainage network collects storm water throughout the City and discharges it directly to the Fraser River.

In August 2016, ground settlement in the northbound lanes of No. 2 Road was reported to staff. Subsequent inspection of the drainage box culvert revealed settlement, cracking and infiltration through an approximate 50 meter section near Walton Road.

While the drainage box culvert remains operational, the replacement of approximately 50 meters of 3.4 meter x 1.37 meter drainage box culvert is necessary to address the settlement issues and prevent further damage to the City's Major Road Network and maintain public safety at the earliest possible opportunity. The estimated cost to complete this emergency replacement is \$2,000,000.

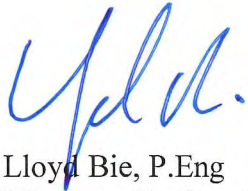
Staff have requested quotations from three (3) qualified contractors that are able to begin work immediately and have experience in constructing deep drainage box culverts. Staff are requesting approval to award the emergency replacement work to the best qualified contractor through an award memo to the Chief Administrative Officer and General Manager, Engineering & Public Works.

### **Financial Impact**

The total estimated capital cost is \$2,000,000 and is proposed to be funded from the Drainage Utility Reserve. There is \$30,651,673 remaining in the Drainage Utility Reserve.

## Conclusion

An approximate 50 meter section of drainage box culvert at No. 2 Road near Walton Road has settled and is experiencing cracking and infiltration. It is necessary to replace this section of drainage box culvert on an emergency basis to prevent further ground settlement and maintain public safety.



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Att. 1: Map: Box Culvert to be Replaced

