



To: Public Works and Transportation Committee

Date: February 7, 2012

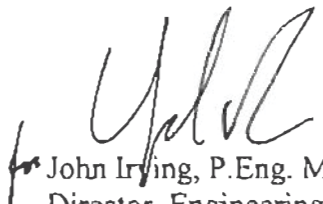
From: John Irving, P.Eng. MPA  
Director, Engineering

File: 10-6340-20-  
P.11314/Vol 01

Re: No.1 Road North Drainage Pump Station Upgrade

**Staff Recommendation**

That the design concept for the No.1 Road North Drainage Pump Station Upgrade be endorsed.

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

Att. 1, 2 & 3

FOR ORIGINATING DEPARTMENT USE ONLY			
ROUTED TO:	CONCURRENCE		CONCURRENCE OF GENERAL MANAGER
Sewerage and Drainage	Y	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks	Y	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Public Art	Y	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>REVIEWED BY TAG</b>	YES	NO	<b>REVIEWED BY CAO</b>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

## **Staff Report**

### **Origin**

The No.1 Road North Drainage Pump Station was constructed in 1976. Staff have advanced design to the point whereby the general layout and architectural features have been identified.

The purpose of this report is to provide Council information regarding the intended pump station layout, including potential architectural and public art features.

### **Analysis**

The City's extensive flood protection and drainage system includes 49 kilometres of dikes, a series of ditches/canals, underground pipe and 39 drainage pump stations. The drainage system is designed to prevent the City from flooding during up to a 1:10 year rainfall event.

The existing No.1 Road North Drainage Pump Station services areas along No.1 Road bounded by the north dike to Francis Road including Terra Nova. This station was constructed in 1976 and contains old, antiquated equipment and is in need of a pumping capacity increase to adequately meet current flood protection standards.

Design of an upgraded No.1 Road North Drainage Pump Station commenced in Fall 2011 and has advanced to a point whereby the general layout and architectural features have been identified (Attachments 1, 2 & 3).

In general, the pump station layout has been designed to keep as low a profile as possible in order to preserve view corridors. The design currently has the proposed pump station roof at a slightly lower elevation than the existing pump station roof, thereby preserving and/or enhancing the view corridor. The proposed pump station wall facing No.1 Road will be relatively prominent and present an opportunity for beautification and/or public art.

The station is also incorporated into the highly utilized dike trail system connecting the Middle Arm dike to Terra Nova. Accordingly, the pump station maintenance accesses are visualized to be appealing and complimentary to the existing trails while at the same time providing the necessary means for pump station operations and maintenance activities. It is also proposed that short sections of the adjacent dike be raised to meet the look-out/viewing area at the top of the proposed pump station structure which will be at 4.7 metres geodetic. The current elevation of the dike is approximately 3.3 metres geodetic. The 4.7 metre elevation is also consistent with the City's Long Term Flood Management Strategy to address sea level rise.

Subject to Council's support, a public open house will be held shortly to get feedback on the design.

It is anticipated that design will be complete by April 2012, with construction to follow immediately thereafter. It is anticipated that construction will take place over a period of approximately six months.

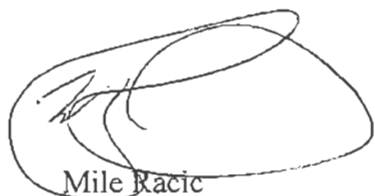
### **Financial Impact**

Funding to complete the No.1 Road North Drainage Pump Station upgrades has been approved by Council as part of the 2012 Capital Program.

While the total project value is \$3.45 million, the No.1 Road North Drainage Pump Station project has been approved for grant funding under the Build Canada Fund – Base Fund Agreement - Flood Protection Program for up to \$2.3 million in federal/provincial funding ( $\frac{2}{3}$  cost share).

### **Conclusion**

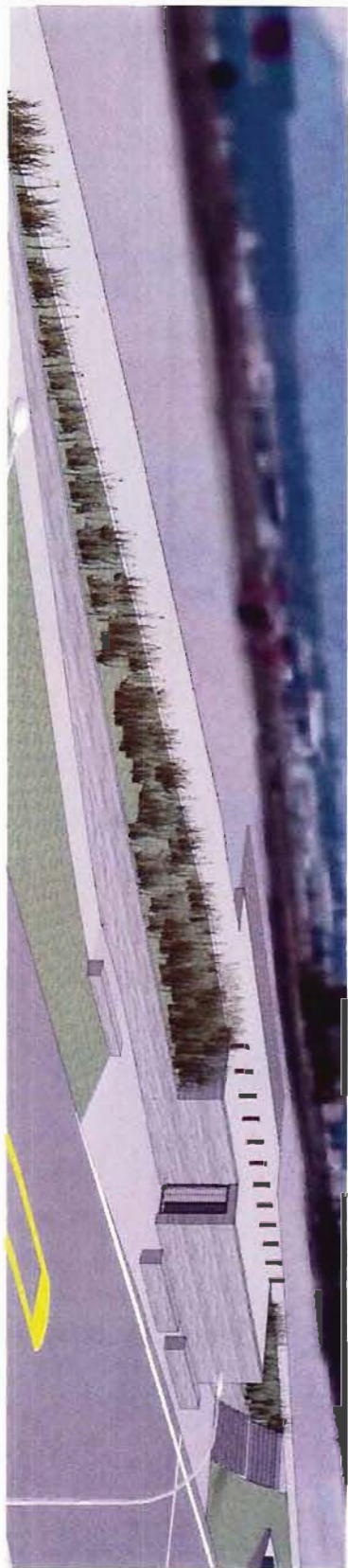
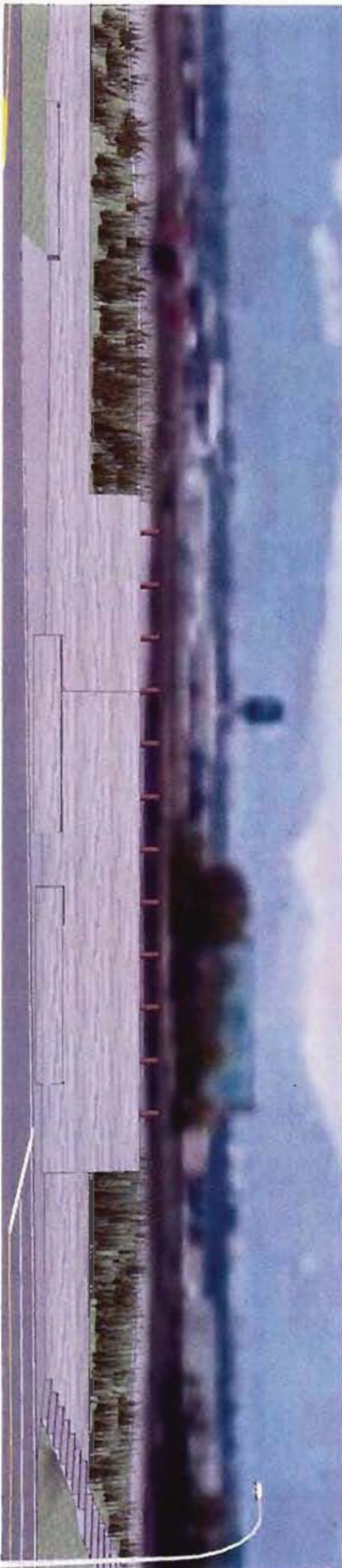
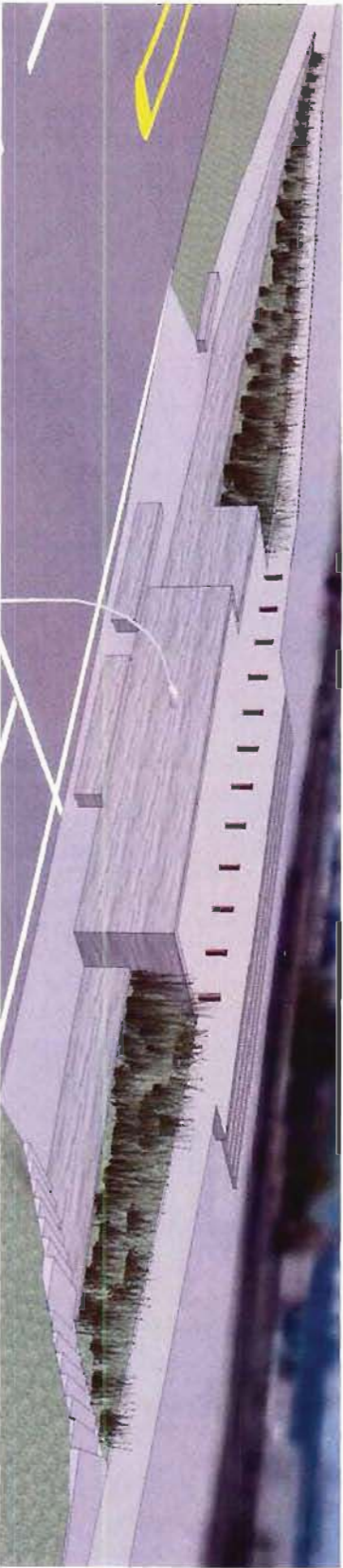
The No.1 Road North Drainage Pump Station has been approved in the 2012 Capital Program. Design has progressed to the point where the general layout and architectural features/opportunities have been identified. Subject to Council's support, a public open house will be held shortly to gain feedback on the proposed design.



Mile Racic  
Acting Project Manager, Engineering Design and Construction  
(604-247-4655)







ATTACHMENT 2





wethering steel



board formed concrete and wood



rammed earth



gabion and riprap



public art



plants

No.1 Road North Drainage Pump Station Upgrade materials



2012.01.24