



To: Public Works and Transportation Committee

Date: December 22, 2014

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

File: 10-6340-20-
P.14306/Vol 01

Re: **Design Concept - No.2 Road North Drainage Pump Station Upgrade**

Staff Recommendation

That the design concept for the No.2 Road North Drainage Pump Station Upgrade be endorsed.

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

Att. 3

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Sewerage and Drainage	<input checked="" type="checkbox"/>	
Parks	<input checked="" type="checkbox"/>	
Arts, Culture & Heritage	<input checked="" type="checkbox"/>	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

The No.2 Road North Drainage Pump Station was constructed in the mid 1970's. Council approved an upgrade to this drainage pump station as part of the 2014 Capital Program. Staff have advanced the 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 41 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.2 Road North Drainage Pump Station services areas adjacent to No.2 Road, roughly bounded by the north dike, Francis Road, Railway Avenue and Gilbert Road. This station was constructed in the mid 1970's 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.2 Road North Drainage Pump Station commenced in Fall 2014 and has advanced to a point whereby the general layout and architectural features have been identified (Attachments 1 and 2).

In general, the pump station has been designed to reflect the location's proximity to the airport as well as highlight the mechanical equipment of the pump station. The roof will be designed in a wing-like form, and the walls will consist primarily of glass to showcase the generator and control panels within the station.

Through the City's public art program, an artist was selected to work closely with the consulting team on developing the conceptual design. As the detailed design progresses, the public art features will continue to be refined and integrated into the overall project.

This 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 4.7 metres geodetic, which is consistent with the City's Long Term Flood Management Strategy to address sea level rise. The current elevation of the dike is approximately 3.3 metres geodetic.

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 completed by Spring 2015, 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.2 Road North Drainage Pump Station upgrades has been approved by Council as part of the 2014 Capital Program.

Conclusion

The No.2 Road North Drainage Pump Station has been approved in the 2014 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
Project Manager
(604-247-4655)

MR: mr

- Att. 1: Street Level View
- 2: Dike View
- 3: Aerial View

Attachment #1: Street Level View



Attachment #2: Dike View



Attachment #3: Aerial View

