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Item No. 12.4.1
Audit & Finance Standing Committee
November 28, 2018

TO: Chair and Members of the Audit & Finance Standing Committee

Original Signed

SUBMITTED BY:

Kelly Denty, Director, Planning and Development

Original Signed

Jacques Dubé, Chief Administrative Officer

DATE: September 12, 2018

SUBJECT: **Cogswell District Redevelopment 60% Design Review – Funding for Flood Mitigation Measures Adjacent to Karlson’s Wharf and Casino Nova Scotia**

SUPPLEMENTARY REPORT

ORIGIN

June 5, 2018 motion of Regional Council regarding item 17.1, Cogswell District Redevelopment 60 Percent Design and Approval:

“5. Direct the CAO to provide a report and recommendation through the Audit and Finance Standing Committee which identifies a funding source for flood mitigation measures adjacent to the Karlson’s Wharf area, once project scope and budget have been finalized, such that the measures can be implemented in conjunction with the Cogswell District Redevelopment.”

LEGISLATIVE AUTHORITY

Halifax Regional Municipality Council approved, December 11, 2012, that all budget increases are to be presented to the Audit and Finance Standing Committee, prior to submission to Council.

Halifax Charter, section 93(1) – The Council shall make estimates of the sums that are required by the Municipality for the fiscal year; Halifax Charter, section 79(1) – Specifies areas that Council may expend money required by the Municipality; Halifax Charter, section 35(2)(d)(i) – The CAO can only authorize budgeted expenditures or within the amount determined by Council by policy; Halifax Charter, section 120(6) – The Municipality may maintain other reserve funds for such purposes as the Council may determine; and the Halifax Regional Municipality Reserve Administrative Order – No reserve funds will be expended without the CAO’s recommendation and Council approval.

Recommendation on page 2.

RECOMMENDATION

It is recommended that the Audit & Finance Standing Committee recommend that Regional Council direct staff to include funding in the amount of \$600,000 for the additional work to the Cogswell District Redevelopment project for flood mitigation measures near the Karlson’s Wharf and Casino Nova Scotia sites as part of the 2020/21 capital planning process.

BACKGROUND

As noted in the May 2, 2018 Cogswell District redevelopment 60% design and approval staff report¹ to Regional Council, the need for flood mitigation measures near the Karlson’s Wharf area was identified as an item requiring further staff review and analysis. This report contains the results of that analysis and provides a funding recommendation for the Committee’s consideration.

The section of Upper Water Street in Halifax, near the Halifax Wastewater Treatment Facility and near the federal Department of National Defence (DND) wharf property (Karlson’s Wharf), is situated at a low point and experiences flooding during rainfall and coastal flooding events. The lack of an overland drainage route to the Harbour can cause surcharging of the combined sewer system. The frequency of flooding at this location is expected to increase with the increased intensity and frequency of rain events and higher maximum tidal levels resulting from climate change.

Given Upper Water Street’s status as an entrance to downtown Halifax and as an emergency evacuation route, combined with the redevelopment of the Cogswell lands, this site was identified as one of the top 10 risk areas in the National Disaster Mitigation Program (NDMP) Flood Assessment report (WSP, 2018).

In addition, during the Cogswell redevelopment 60% design review, a section of Upper Water Street near Casino Nova Scotia was identified as another location prone to future flooding, with the expected increased intensity of rainfall event and higher tidal levels resulting from climate change. Both sites are shown on Attachment A.

DISCUSSION

The Halifax/Halifax Water Integrated Stormwater Management Policy Framework was approved by Council on January 18, 2018. The policy is structured around four main themes:

- A capital investment strategy for stormwater infrastructure
- Ownership and maintenance of stormwater systems
- Land development practices, and
- Drainage on private properties.

One of the largest issues Halifax is currently facing is drainage and flooding problems that persist in areas that do not have a full and formal stormwater system that meets current standards. Current standards require that storm and sanitary flows be separated and that an overland storm drainage path be identified to accommodate major storm events. Upper Water Street has a combined (sanitary and storm) sewer and does not have an overland drainage path. Complicating this is the proximity of Upper Water Street to the Halifax Harbour and its elevation. High tides and storm surge limit the capacity of system to drain the street, and can cause surcharging of the sewer system.

The solution to the Karlson’s Wharf drainage problem is to raise the elevation of Barrington Street by about a metre to prevent future flooding of the street. This is consistent with measures identified in Policy E-22

¹ See report at: <https://www.halifax.ca/sites/default/files/documents/city-hall/regional-council/180605cow3.pdf>

of the Regional Plan, to mitigate the potential impacts of coastal inundation and storm surge events on human safety by placing the elevation of the street above the 3.8 metre elevation.

The solution for the second site (next to the Casino and Purdys Wharf) is a street centerline at a minimum elevation of 3.5 metres, to accommodate the proximity and elevation of the existing parking garage and the Casino entrance. Staff are recommending a modified street cross section and profile, so all new development (on the west side of the street) will be above the 3.8 metre elevation, and redevelopment to the east will be accommodated by modification of the street, if and when the Casino and Purdys Wharf sites are redeveloped.

Current technical stormwater standards have been developed with greenfield development in mind, and significant policy decisions are needed to address development in the Regional Centre. Emerging issues include how to deal with major stormwater flows, and what is an acceptable design storm on which to base capacity in a combined sewer. In the absence of these policies and a formal cost sharing agreement with Halifax Water, staff are recommending that cost sharing at the two sites be consistent with the provisions of the current transfer agreement between HRM and Halifax Water which requires that funding be provided by the benefitting parties. The overall responsibility of this problem is multi-jurisdictional.

The cost to raise the road elevation near Karlson’s Wharf is included of the Cogswell Redevelopment project. However, cost for reinstatement of non-HRM properties outside the right-of-way, estimated at \$300,000, has not been included in the Cogswell budget. The scope of this incremental work includes re-paving, curbing, replacement of gates and fencing, new storm sewer and reinstatement of the drainage systems on private property.

The benefit/responsibility for the work outside of the road right-of-way can be broken down as follows:

- The Municipality benefits from reduced flooding on the street and prolongation of the pavement structure life.
- While Halifax Water benefits from the diversion of the stormwater from its combined sewer system, the benefit is only marginal (<5%) and is not needed to service future off site development. Also, if not for the Cogswell Redevelopment project, Halifax Water would not be proposing to separate the combined sewer on Upper Water Street. Therefore, Halifax Water will not be cost sharing on the Karlsons Wharf work outside of the right-of way.
- Raising the road does not benefit the adjacent property owners, as it interferes with the ability to maintain drainage corridors on their property.

The cost to raise the road at the second site is, again, part of the Cogswell Redevelopment project. However, the cost for reinstatement of non-HRM (Casino and Purdys Wharf) properties outside the right-of-way, estimated at \$300,000, has not been included. The additional scope of work includes re-paving, curbing, and retaining walls. The scope of work does not include a new storm sewer. Since there is no benefit to the adjacent property owners, there will be no cost sharing at the second site.

Considering the two sites, the total incremental reinstatement cost – for work outside the right-of-way along Upper Water Street – is estimated to be \$600,000. This cost estimate assumes that the work will be carried out as part of the overall Cogswell Redevelopment project, likely during fiscal 2020/21.

FINANCIAL IMPLICATIONS

The costs for reinstatement of non-HRM properties adjacent to portions of Upper Water Street are estimated at \$600,000. Funding for this work will be considered as part of the 2020/21 capital budgeting process.

RISK CONSIDERATION

There is a moderate risk to HRM’s reputation if the work to mitigate the surface flooding and sewer surcharging is not completed as part of the Cogswell Redevelopment project. It is almost certain that surface flooding at the Karlson’s Wharf site will occur within the next five-years without the mitigation work.

COMMUNITY ENGAGEMENT

Community engagement was not undertaken as part of this report

ALTERNATIVES

There are no recommended alternatives.

ATTACHMENTS

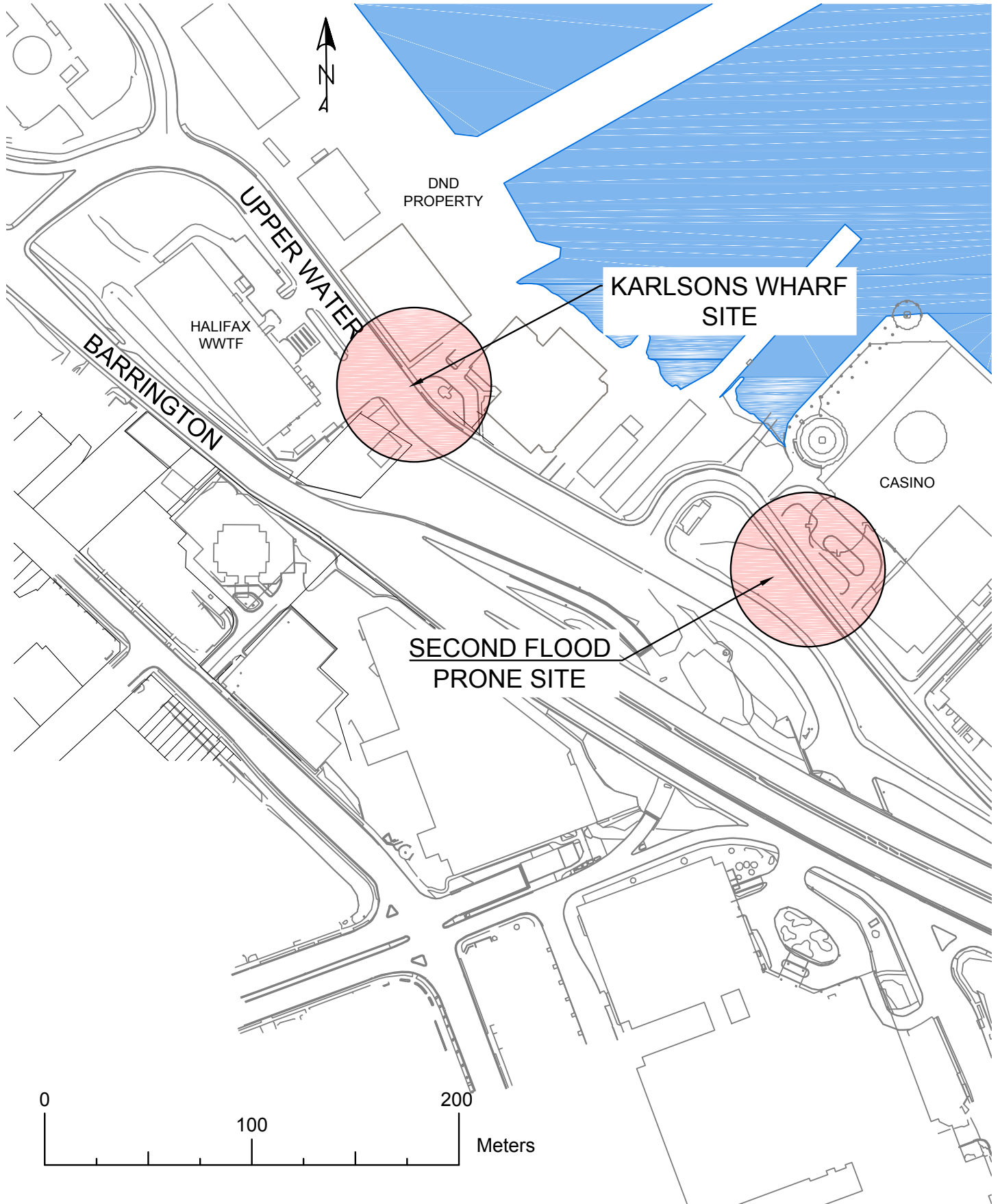
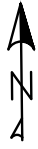
Attachment A: Site Plan

A copy of this report can be obtained online at or by contacting the Office of the Municipal Clerk at 902.490.4210.

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Report Approved by: Peter Duncan, Manager, Infrastructure Planning, Planning and Development

ATTACHMENT A



DND
PROPERTY

UPPER WATER

HALIFAX
WWTF

BARRINGTON

KARLSONS WHARF
SITE

CASINO

SECOND FLOOD
PRONE SITE

