



**General Purposes Committee
Electronic Meeting**

**Council Chambers, City Hall
6911 No. 3 Road**

**Monday, March 20, 2023
4:00 p.m.**

Pg. # ITEM

MINUTES

- GP-3** *Motion to adopt the **minutes** of the meeting of the General Purposes Committee held on March 6, 2023.*



ENGINEERING AND PUBLIC WORKS DIVISION

1. **STEVESTON ISLAND DIKE PRELIMINARY DESIGN – PUBLIC AND STAKEHOLDER ENGAGEMENT**
(File Ref. No. 10-6060-01) (REDMS No. 7123938)

GP-9 **See Page GP-9 for full report**

Designated Speaker: Eric Sparolin

STAFF RECOMMENDATION

That, as outlined in the staff report titled “Steveston Island Dike Preliminary Design – Public and Stakeholder Engagement,” dated February 8, 2023, from the Director, Engineering, the preliminary design for the Steveston Island Dike project be endorsed for the public and stakeholder engagement.



General Purposes Committee Agenda – Monday, March 20, 2023

Pg. #	ITEM	
2.	2022 GENERAL LOCAL AND SCHOOL ELECTION: SUMMARY OF HIGHLIGHTS (File Ref. No.)	
	<div>To be distributed at a later date</div>	<input type="checkbox"/>
	ADJOURNMENT	<input type="checkbox"/>



General Purposes Committee

Date: Monday, March 6, 2023

Place: Council Chambers
Richmond City Hall

Present: Mayor Malcolm D. Brodie, Chair
Councillor Chak Au
Councillor Carol Day
Councillor Laura Gillanders
Councillor Kash Heed
Councillor Andy Hobbs
Councillor Alexa Loo
Councillor Bill McNulty
Councillor Michael Wolfe

Call to Order: The Chair called the meeting to order at 4:02 p.m.

AGENDA ADDITION

It was moved and seconded

That Richmond's Ecowaste landfill removed from the Agricultural Land Reserve be added to the agenda as Item No. 4.

CARRIED

MINUTES

It was moved and seconded

That the minutes of the meeting of the General Purposes Committee held on February 21, 2023, be adopted as circulated.

CARRIED

General Purposes Committee
Monday, March 6, 2023

**PLANNING AND DEVELOPMENT AND ENGINEERING AND
PUBLIC WORKS DIVISIONS**

**1. STEVESTON HIGHWAY MULTI-USE PATHWAY PROJECT -
UPDATE**

(File Ref. No. 01-0060-20-LIEC1) (REDMS No. 7114588)

Staff noted that (i) the multi-use pathway project along Steveston Highway has been a part of the Regional and Municipal plans for a long time, (ii) Council approved Phase 1 and 2 of the project in 2019 and 2020, (iii) about \$350,000 of work has been completed to date, and (iv) if project scope is reduced, discussions with TransLink would be required to discuss funding options.

In reply to queries from Committee, staff advised that (i) a reduced scope could mean a shorter route, (ii) only the curb lanes will be narrowed, (iii) currently there is no automated enforcement along Steveston Highway, however it has been requested, and staff will follow-up, (iv) Regional strategies may not always align with municipal plans, (v) the Development Cost Charge budget has \$34M, (vi) standards for cycling networks have changed significantly over the years, (vii) no direct comparison has been done between Williams Road and Steveston Highway, (viii) costs for connection to the new tunnel has not been determined, (ix) boulevards will separate riders and traffic, (x) environmental studies have not been done, however our air quality is excellent, (xi) an in-depth analysis of Williams Road bike lanes can be conducted, and (xii) funding is at TransLink's discretion.

John Roston, Richmond resident, referenced his submission (attached to and forming part of these Minutes as Schedule 1) and expressed concerns with cyclist safety and air quality along Steveston Highway.

Discussion took place on safety concerns along Steveston Highway and comparing Williams Road and Steveston Highway for best options for the potential multi-use pathway.

As a result of the discussion, the following **referral motion** was introduced:

It was moved and seconded

That the staff report titled "Steveston Highway Multi-Use Pathway – Update" be referred back to staff to:

- a) compare the implications of Steveston Highway and Williams Road as multi-use pathways;*
- b) examine the feasibility of a Class A bike lane on Williams Road; and*
- c) investigate funding implications.*

2.

General Purposes Committee

Monday, March 6, 2023

The question on the referral motion was not called as discussion took place on planning for the future and air quality concerns.

In reply to a further query from Committee, staff advised that a report back could take a couple of months.

The question on the referral motion was then called and it was **CARRIED** with Cllr. Wolfe opposed.

CAO'S OFFICE

2. CITY OF RICHMOND FLAG POLICY

(File Ref. No. 01-0005-01) (REDMS No. 7066031)

In reply to queries from Committee, staff advised that (i) option 1 and 2 do not have a formal request process for the public, (ii) members of the public can delegate to Council or Council can bring forward a motion for additional flag requests, (iii) flag poles can be added to the City's infrastructure, and (iv) the City of Delta's City Clerk's Office manages flag requests from the public.

It was moved and seconded

- (1) *That option 2 as outlined in the report titled "City of Richmond Flag Policy" dated January 26, 2023 from the Director, Intergovernmental Relations and Corporate and Strategic Planning be endorsed; and*
- (2) *That an additional flag pole be erected at the east side of City Hall (fronting No. 3 Road) so long as the Ukrainian flag is flying.*

CARRIED

3. COUNCIL STRATEGIC PLAN 2022-2026

(File Ref. No. 01-0005-01) (REDMS No. 7142456)

It was moved and seconded

That the Council Strategic Plan 2022-2026 for the current term of office as outlined in the report titled "Council Strategic Plan 2022-2026" from the Director, Intergovernmental Relations and Corporate and Strategic Planning, dated February 15, 2023, be adopted.

The question on the motion was not called as in reply to queries from Committee, staff noted that housing needs falls under Strategic and Sustainable Community Growth, and focus areas and priorities are broad to allow Council to achieve the goals.

Discussion took place on addressing housing needs and including it as a specific priority, and as a result the following **referral motion** was introduced:

General Purposes Committee
Monday, March 6, 2023

It was moved and seconded

That the staff report titled “Council Strategic Plan 2022-2026” be referred back to staff to include housing options for all as a priority.

DEFEATED

Opposed: Mayor Brodie

Cllrs. Au

Heed

Hobbs

Loo

McNulty

It was moved and seconded

That the second bullet under Strategic and Sustainable Community Growth be amended by removing “enhance” and replacing with “prioritize”.

CARRIED

It was moved and seconded

That the fifth bullet under Strategic and Sustainable Community Growth be amended by adding “and proactively” following “Work collaboratively”.

CARRIED

It was moved and seconded

That the title to the fourth strategic focus area be amended to “Responsible Financial Management and Governance”.

CARRIED

Opposed: Cllrs. Heed

Loo

The question on the main motion, as amended, was then called and it was **CARRIED**.

4. RICHMOND’S ECOWASTE LANDFILL REMOVED FROM THE AGRICULTURAL LAND RESERVE

(File Ref. No.)

Discussion took place on the Provincial announcement to remove Richmond’s Ecowaste landfill from the Agricultural Land Reserve. As a result of the discussion, the following **referral motion** was introduced:

It was moved and seconded

That the Richmond’s Ecowaste landfill matter be referred to staff to analyze the removal of the land from the Agricultural Land Reserve and provide advice regarding options.

4.

General Purposes Committee
Monday, March 6, 2023

The question on the referral motion was not called as further discussion took place on concerns regarding potential future use for the land and soil reclamation and compensation for Richmond.

The question on the referral motion was then called and it was **CARRIED**.

ADJOURNMENT

It was moved and seconded

That the meeting adjourn (5:35 p.m.).

CARRIED

Certified a true and correct copy of the Minutes of the meeting of the General Purposes Committee of the Council of the City of Richmond held on Monday, March 6, 2023.

Mayor Malcolm D. Brodie
Chair

Sarah Goddard
Legislative Services Associate

**Schedule 1 to the Minutes of the
General Purposes Committee meeting
of Richmond City Council held on
Monday, March 6, 2023.**

**Submission to General Purposes Committee, March 6, 2023, Agenda Item 1, by John Roston
Steveston Highway MUP or Williams Segregated Bi-Directional Bike Path?**

Health Effects

The U.S. Environmental Protection Agency (EPA) has studied the health effects of air pollution from highways on those nearby (quotes below from attached report). A highway is defined as a roadway with four lanes or more of vehicular traffic. Steveston Highway is obviously a highway. Williams is not. The study outlines the health hazards for those within 300 ft. of the roadway. The proposed Steveston Highway MUP is 3 ft. (1m) from the roadway.

“Pollutants directly emitted from cars, trucks and other motor vehicles are found in higher concentrations near major roads. Examples of directly emitted pollutants include particulate matter (PM), carbon monoxide (CO), oxides of nitrogen (NOx), and benzene, though hundreds of chemicals are emitted by motor vehicles. ... Individually and in combination, many of the pollutants found near roadways have been associated with adverse health effects.”

“Health effects that have been associated with proximity to roads include asthma onset and aggravation, cardiovascular disease, reduced lung function, impaired lung development in children, pre-term and low-birthweight infants, childhood leukemia, and premature death.”

“The type of vehicles and fuel used, traffic activity, and the wind speed and direction can all have big effects on pollutant levels near major roadways. Generally, the more traffic, the higher the emissions; however, certain activities like congestion, stop-and-go movement or high-speed operations can increase emissions of certain pollutants. The combination of rush hour and calm winds in the morning often leads to the highest concentrations during this time of the day.”

Aside from the much greater number of vehicles using Steveston Highway, those vehicles have a much higher proportion of heavy-duty diesel trucks than the vehicles using Williams.

“Per vehicle, heavy-duty diesel trucks can emit more of certain pollutants (e.g., NOx and PM) and contribute disproportionately to the emissions from all motor vehicles.”

Translink and BC Government Funding

The staff report implies that the Translink funding secured for this project (\$5,010,000) and the BC Active Transportation Infrastructure Grant (\$500,000) will be lost if the Steveston Highway MUP is not constructed. There is no indication that Translink and the Infrastructure Grant will be lost if the segregated bike path is built on Williams instead. Neither Translink nor the BC Government wants to see headlines pointing out that they prefer to spend their money on a major health hazard.

Staff Report

The staff report says that the existing painted bike lanes on Williams “may not be considered suitable by all cyclists.” No one is suggesting that Williams be left as is. The alternative to the Steveston Highway MUP is a segregated, bi-directional bike path on Williams.

The staff report says that the Steveston Highway MUP “can encourage recreational walking.” The adverse health effects are far worse for someone walking along Steveston Highway with much longer exposure than for someone cycling. We should not be encouraging people to walk so close to a highway.



City of Richmond

Report to Committee

To: General Purposes Committee

Date: February 8, 2023

From: Milton Chan, P.Eng
Director, Engineering

File: 10-6060-01/2023-Vol
01

Re: **Steveston Island Dike Preliminary Design – Public and Stakeholder
Engagement**

Staff Recommendation

That, as outlined in the staff report titled “Steveston Island Dike Preliminary Design – Public and Stakeholder Engagement,” dated February 8, 2023, from the Director, Engineering, the preliminary design for the Steveston Island Dike project be endorsed for the public and stakeholder engagement.

Milton Chan, P.Eng
Director, Engineering
(604-276-4377)

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Real Estate Services	<input checked="" type="checkbox"/>	
Parks Services	<input checked="" type="checkbox"/>	
Roads & Construction	<input checked="" type="checkbox"/>	
Sustainability & District Energy	<input checked="" type="checkbox"/>	
Intergovernmental Relations	<input checked="" type="checkbox"/>	
SENIOR STAFF REPORT REVIEW	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

The Council endorsed Dike Master Plan—Phase 1 report assessed and recommended flood protection measures for the west dike south of Williams Road and the south dike from Garry Point Park to No. 2 Road. Recognizing the disruptions to residents, businesses, and heritage sites posed by upgrading the dike along its existing alignment between London Farm and Gary Point Park, Phase 1 proposed a new dike on Steveston Island with floodwalls and gates to enclose Steveston Harbour as the recommended long-term solution for flood protection in the Steveston area.

Subsequently, the City pursued the recommendations from Phase 1 to develop the Steveston Island dike concept further and was awarded \$1.2 million through the National Disaster Mitigation Program to complete the Steveston Island Flood Risk Investigation. The findings of this investigation, including the conceptual design, geotechnical investigations, and the sea gate concept, were presented at the Public Works and Transportation Committee Meeting on June 19, 2019, in a staff report titled “Steveston Island Flood Protection Update,” dated May 17, 2019, from the Acting Director, Engineering.

Following the work plan outlined in the Dike Master Plan - Phase 1, staff have progressed this project forward by completing further technical assessments and initial stakeholder engagement to inform the preliminary design of the Steveston Island dike. This report presents the findings of the Steveston Island Preliminary Dike Design project and seeks Council endorsement to engage the public and key stakeholders for feedback on the proposed concepts.

This report supports Council’s Strategic Plan 2018-2022 Strategy #1 A Safe and Resilient City:

Enhance and protect the safety and well-being of Richmond.

1.2 Future-proof and maintain city infrastructure to keep the community safe.

1.3 Ensure Richmond is prepared for emergencies, both human-made and natural disasters.

This report supports Council’s Strategic Plan 2018-2022 Strategy #2 A Sustainable and Environmentally Conscious City:

Environmentally conscious decision-making that demonstrates leadership in implementing innovative, sustainable practices and supports the City's unique biodiversity and island ecology.

2.1 Continued leadership in addressing climate change and promoting circular economic principles.

Analysis

Project Location – Steveston

Located in the southwest corner of Richmond, Steveston is home to a vibrant community with historical buildings, diverse cultural history, and an operating harbour with over 500 commercial fishing vessels. Harbour facilities are located at two different sites – the Gulf site and the Paramount site – managed by the Steveston Harbour Authority. Steveston is protected from flooding by a perimeter dike surrounding Lulu Island.

The assessment completed for the Dike Master Plan Phase 1 identified that raising the dike in its current alignment will majorly impact the existing properties, businesses, and infrastructure in the Steveston area. Additionally, it would leave many new and historic buildings like the Britannia Shipyards and the Gulf of Georgia Cannery outside of it unprotected.

The Steveston Island Dike project proposes to change the existing Steveston breakwater into the City's primary flood defense between London Landing and Garry Point Park as an alternative to raising the existing dike. The proposed dike would provide a standard of flood protection that meets provincial guidelines, working in tandem with the existing dike, with a navigable gate at the harbour entrance that would close under high water conditions that risk overtopping the existing dike. The foreshore area along the existing dike alignment will be raised over the years through development or as opportunities arise. Council endorsed this alignment presented in the staff report titled "Dike Master Plan – Phase 1 Report, at the April 22, 2013, Regular Council Meeting.



Figure 1. Steveston Island Dike Layout

Figure 1 above shows the proposed layout of the Steveston Island dike. The planned work area is primarily contained on Steveston Island and the Fraser River riverbed. This alignment ties into the existing dike at the eastern edge of Garry Point Park and at Dyke Road at the London Landing area. The section of dike east of this project will be raised in the upcoming years as a part of an active Capital project.

Technical and Environmental Site Assessments

With an average land elevation of 1.0 metre above sea level, Richmond is located wholly within the floodplain of the Fraser River and is susceptible to flood risks posed by climate change-induced sea level rise, spring freshets and storm surges. For this project, sea level rise was specified as 1.0 metre by the year 2100, as accepted by the province, and a land subsidence allowance of 0.2 metres was established for the same period.

This project completed hydraulic and seismic assessments, and wave impact analysis to inform the preliminary dike design. Additionally, preliminary environmental investigations were completed to better understand the existing habitat at this location. In addition, an Archeological Overview Assessment was also conducted for this project by the Musqueam Archeology Department; no archaeological sites or areas of archaeological potential were identified during the survey.

Preliminary Dike Design

The preliminary dike design outlined in Figure 2 is proposed to protect the harbour and the adjacent community from flood hazards and enhance the adjacent habitat. The concept involves enclosing the harbour with a dike on Steveston Island and floodwalls with gates at the east and west ends that can be closed during high water levels.

The dike will span the 3.3 kilometres length of Steveston Harbour from London Landing in the east to Garry Point Park in the west. From east to west, this includes the following:

- An earth-fill dike connection to the existing dike along Dyke Road at the London Landing parking area;
- A flood wall across the east entrance to the park;
- An earth fill dike along Steveston Island;
- A flood wall along part of the existing breakwater west of Steveston Island; and
- A flood wall along the river bed and harbour entrance to a connection at Garry Point.



Figure 2. Rendering of the Steveston Island Dike

Earth-Fill Dike: The earth-fill portion of the dike will have a crest width of ten metres to permit future raising without future widening of the base and a 4 metres maintenance access road atop the dike. The crest elevation will vary between 4.7 metres and 5.5 metres. Due to the varying width of the island along its length, the dike slopes will vary depending on available space. Where space permits, a 30 m riparian setback is proposed to avoid disturbing habitat and removing trees along the bank.

Flood Walls: The two proposed flood walls will consist of two rows of circular pile walls, at a width of 4 metres apart, topped with a minimum 4 metres maintenance access road with handrails. The flood walls will be designed at the second stage of preliminary design.

East Gate: The East Gate design, as shown in Figures 3 and 4, consists of a large concrete open box culvert with an access bridge above it and stop log slots to close off the gate during high tidal water levels. The access bridge design will be further refined in the second stage of the preliminary design. This gate will provide water access between the Fraser River and the Steveston Harbour for recreational use, including canoers, kayakers and paddle boarders.



Figure 3. Rendering of East Gate Concept (Looking East)



Figure 4. Bird's Eye View of the East Gate (Looking East)

Navigation Gate: The proposed type of gate for the Navigation Sea Gate is a horizontal axis sector gate. Figure 5 shows the closed Navigation Gate with an upper gate elevation of 5.5 metres to accommodate the anticipated sea level rise beyond 2100. The navigation gate design

will be completed at the second stage of preliminary design. No changes have been made since the concept design stage.

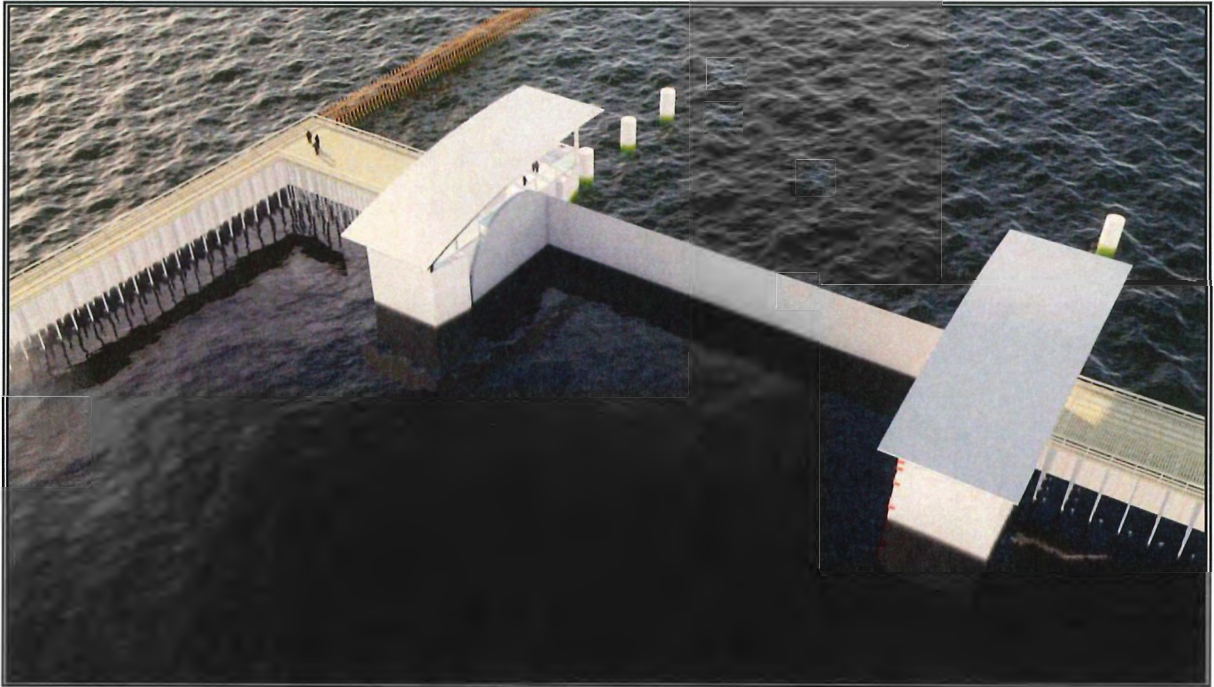


Figure 5. Closed Horizontal Axis Sector Gate (Looking West) Rendering

Breakwater: There are three proposed breakwater structures. The two rip rap breakwater structures are intended to reduce erosion from river flow and waves to protect habitat enhancement areas behind them. The third runs west of the navigation gate, as shown in Figure 2 above, and is intended to minimize wave action approaching and entering the gate. This will also be designed at a second stage of preliminary design.

Ecological Enhancement and Environmental Permitting

The proposed concept includes enhancing the existing habitat east of the East Gate (Figure 6). Enhancement works can be supported by constructing a rock berm and wood retaining walls that will be filled with river sediments to promote the development of intertidal marsh habitat at this location. Sediments will be contoured and planted, creating a diversity of elevations and habitat types, including intertidal marsh, tidal channels, and riparian floodplain. The proposed work, including enhancement, will be subject to provincial and federal environmental permitting requirements including the federal *Fisheries Act*, which is administered by the Department of Fisheries and Oceans Canada.

Council endorsed the pursuit of a formal agreement with the Department of Fisheries and Oceans Canada to establish a fish habitat bank in 2021. Staff continue the work to develop a formal, city-wide agreement for Richmond, which may take several more years to be operational. The ecological enhancements proposed for this project consider future permitting requirements to offset the modification of fish habitat that a final design may propose.



Figure 6. Proposed Intertidal Marsh Complex

Project Costs

Since the last update to Council, the project costs have continued to evolve as the project advanced and a substantial escalation in construction costs is anticipated. As the project decisions around the structural elements, land rights, environmental offsetting and public access are finalized, staff can estimate the project costs more accurately. The cost of this project will be comparable to the estimated cost to raise the dike in Steveston along the existing alignment through the village. However, the latter would significantly disrupt existing properties, underground utilities, commercial and heritage buildings, and infrastructure in Steveston, as well as impact the character of the existing waterfront area.

More refined project estimates will be prepared as the design progresses and will continue to be revised to suit the evolving market conditions. Additionally, staff will continue to develop and bring forward funding and resourcing strategies for the overall flood protection program in the coming years.

Opportunities and Considerations

Past community and stakeholder engagement generally supported creating a new dike alignment on Steveston Island based on the potential to minimize community disruption and maximize opportunities for long-term dike upgrades. The City proactively engaged key internal and

external stakeholders to inform the preliminary dike design. These discussions brought to light several opportunities and challenges associated with the project.

The proposed design and location of the Steveston Island dike presents the opportunity to integrate solutions to maximize habitat value, implement on-site habitat compensation requirements, and support a future habitat banking agreement. The proposed exploration of using dredged material for the construction of the dike aligns with circular economy objectives.

There are also opportunities to explore public access on Steveston Island by constructing trails and viewpoints along the dike and incorporating user amenities to enhance the experience. In addition, concepts to create a potential pedestrian and cyclist friendly loop connecting the London Landing to Garry Point across the stretch of Steveston Island Dike could be presented as a part of the public and stakeholder consultation to gauge public interest. This concept can be explored and developed further and incorporated into the design in future stages of the project, if supported. Additionally, staff will seek to secure senior government funding through grants and cost-share opportunities to support the development and construction of this project.

Some challenges identified for consideration include acquiring land use rights and regulatory environmental permits, a potentially extensive environmental assessment process, large project costs, and waterfront view obstructions at Steveston village. These challenges will be addressed during future stages of the project.

Proposed Public and Stakeholder Engagement

Staff recommend engagement with key external stakeholders and the public on the Steveston Island dike preliminary design. Key stakeholders include:

- Adjacent residences, businesses and the general public;
- Steveston non-profit associations and societies;
- Local First Nations;
- Richmond Advisory Committee on the Environment;
- Small Craft Harbours;
- Steveston Harbour Authority;
- Port of Vancouver;
- Department of Fishers and Oceans, Fish and Fish Habitat;
- BC Ministry of Forests;
- BC Ministry of Water, Land and Resource Stewardship;
- BC Inspector of Dikes;
- Transport Canada;
- Canadian Coast Guard;
- Urban Development Institute (UDI);
- Ducks Unlimited; and
- The City of Delta.

Public engagement events will aim to increase awareness of climate change impacts, including sea level rise and the associated flood risks. The engagement will identify public interests and opportunities relating to this project, build community support and gather stakeholder feedback.

Key external stakeholder groups will be engaged through leveraging the City's social media tools, such as Let's Talk Richmond, Facebook, Instagram, and a dedicated project webpage. In addition, staff will hold community workshops, focus group events and open houses targeting key external stakeholders either virtually or in person. The City will also engage the local indigenous communities to inform them of the proposed project and the community enhancement opportunities, and collect their feedback. The results of external stakeholder engagement and any updates to the Steveston Island dike preliminary design will be presented to Council in the future.

Next Steps

Moving forward, staff will undertake the following:

- Completing the second phase of the preliminary design, which will constitute the designs for the structural components, including the flood wall, navigation gate, breakwater, and wharf;
- Initiating conversations with the province to negotiate land tenure on Steveston Island to facilitate the dike construction;
- Establishing requirements for the environmental assessment;
- Working with key stakeholders to establish strategic partnerships that can be leveraged to reduce construction costs; and
- Seeking funding from the senior levels of government.

The Steveston Island dike project is a long-term initiative with a multi-decade implementation timeline. Planning and proactive engagement of stakeholders allow the City to strategically implement this upgrade through grants and partnerships and accelerate the construction schedule should funding opportunities or changes in climate change science arise.

Financial Impact

None.

Conclusion

Staff have completed the preliminary design for the Steveston Island Dike proposed between Garry Point Park to the west and London Landing to the east. This dike alignment protects Steveston from flood hazards without disrupting the residents, businesses and historical sites located on the foreshore. The completed preliminary design project aims to address the more significant design decisions, provides preliminary design drawings, formalizes stakeholder support, and prepares the City for public engagement.

The Steveston Island Dike project is a unique large-scale project which, in addition to strengthening flood protection infrastructure and safeguarding the Steveston community, also

February 8, 2023

- 11 -

presents many opportunities for the City to explore and benefit from. Staff will continue to advance the project and update Council as required.



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