

Nanaimo Waterfront Walkway

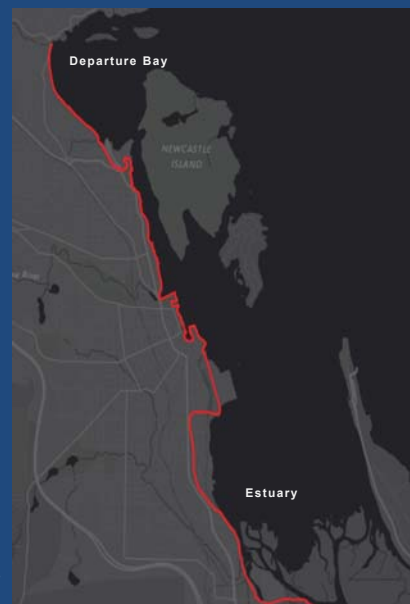
Departure Bay Update

2021-APR-28



A Little Bit Of History

- The Waterfront Walkway project has been identified as a Council priority initiative in each of the last three Strategic Plans.
- In 2017, the City completed an overall Implementation Plan for the creation of a continuous walkway from Departure Bay to the Nanaimo River Estuary.
- The plan was completed with significant input from the community and revealed strong public support for the development of the waterfront walkway.
- The Waterfront Walkway Implementation Plan endorsed by Council in December 2017.



The Implementation Plan

- Walkway route broken up into segments.
- Provides a framework for each segment which includes:
 - Existing features
 - Recommended alignment and cross-sections
 - Issues and considerations for decision making
 - Amenities to consider



Framework for Departure Bay Segment



Figure 3: Section 1 map

Previous Design Work

- In 2018, a Functional Design was completed for an elevated walkway near the Ferry Terminal.
- Revealed construction costs far exceeded original estimates, in part due to increased costs of structural steel and other specialized construction requirements.
- A Value Engineering Assessment was completed and it was recommended that an on-beach option be considered to reduce projects costs.



Current Design Work

- On 2019-MAR-18 Council allocated \$400,000 from the 2018 general surplus to fund the Waterfront Walkway Feasibility Study and Functional Design
- Staff issued a Request for Statement of Qualifications to identify a multi-disciplinary team to deliver the project
- A team led by McElhanney Consultants was selected to undertake the project
- The project has two distinct phases:
 - Phase 1: Feasibility Study (Complete)
 - Phase 2: Functional Design



Feasibility Study and Functional Design



Phase 1: Feasibility Study

- Data collection and modelling to understand the challenges and design opportunities.
- The study area included both the foreshore and adjacent lands.
- 3 conceptual designs along the foreshore.
- Costs for the 3 conceptual designs are estimated to be between \$18-\$19M.
- Other Critical Design Direction included:
 - Flood Protection and Resiliency
 - Future Upgrade Allowance for Sea Level Rise
 - Structure Design for Minor Slide Events
 - Extreme Storm Event Risks
 - Works on Crown Land to avoid Impact on Private Property

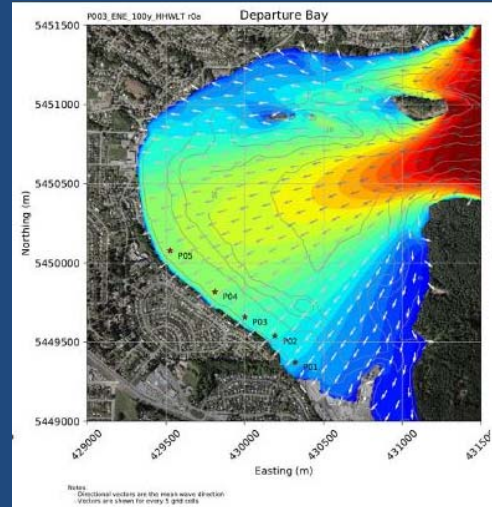
Challenge: Wind, Current and Wave Modelling

Issue:

- The project needs to account for storm surge, storm wave run up, and freeboard. Modelling of Departure Bay shows impacts during various weather events.

Design Opportunity:

- Construct the walkway to account for wave action. Use a gradual slope to reduce wave action. Use headlands/reefs to break wave action.



Challenge: Sea Level Rise

Issue:

- Local sea level rise is predicted to be 0.60m in 50 years. Sea level rise was incorporated into the wave modelling.

Design Opportunity:

- Incorporate sea level rise into project for 50-year horizon. Design with ability to adjust the height when trail needs to be resurfaced.



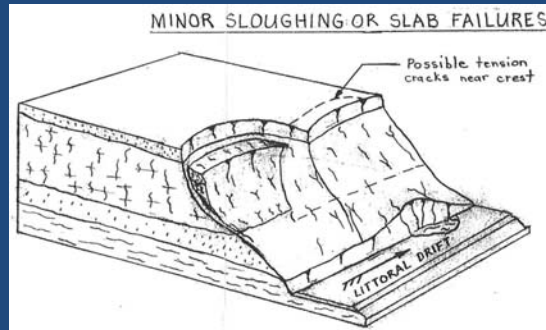
Challenge: Geotechnical Concern with Cilaire Bluff

Issue:

- There is slope instability in certain areas along the Cilaire Bluff that could result in slumping and vegetation falling

Design Opportunity:

- Mitigate the erosion of the toe of slope and adjust the alignment to minimize the risk of debris from slope failure in select locations



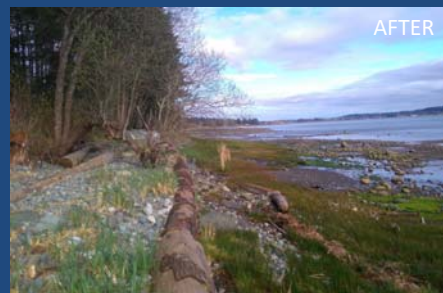
Challenge: Environmental Values of Shoreline

Issue:

- Work on the foreshore will impact existing habitat. Most of foreshore is considered low-value habitat.

Design Opportunity:

- The project must be designed to meet "No-Net-Loss" Principle
- Principle is intended to conserve productivity of aquatic habitats
- The project should be designed to ensure a "Net Gain" of habitat



Challenge: Archaeological

Issue:

- Departure Bay lies within the traditional territory of the Snuneymuxw First Nation
- Registered archaeological site within project area is a shell midden near Northfield Creek and has been disturbed
- Remainder of project area considered to have low archaeological potential

Design Opportunity:

- Ensure early involvement with Snuneymuxw First Nation
- A permit under the Heritage Conservation Act may be required



Challenge: Permitting

Issue:

- Will require permits from DFO and a Lease License or Right-of-Way from the Province (can take upwards of 18 months)
- DFO requires bonding for environmental work
- Approvals required from BC Ferries, Transport Canada, and the Regional District of Nanaimo

Design Opportunity:

- Permitting requires detailed design work to be completed
- Both DFO and the Province will require consultation with local first nations



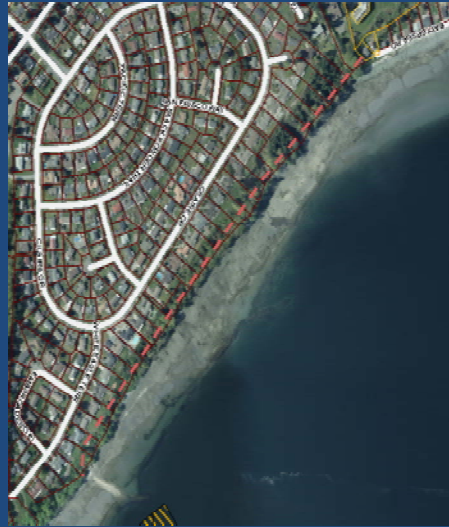
Challenge: Riparian Rights

Issue:

- 30 private property owners along the Cilaire Bluff have riparian rights
- Construction of walkway will require each homeowner to provide consent for the project

Design Opportunity:

- An acquisition program should be started to acquire the riparian rights in advance of permitting



Conceptual Renderings



Conceptual Renderings



Conceptual Renderings



Conceptual Renderings

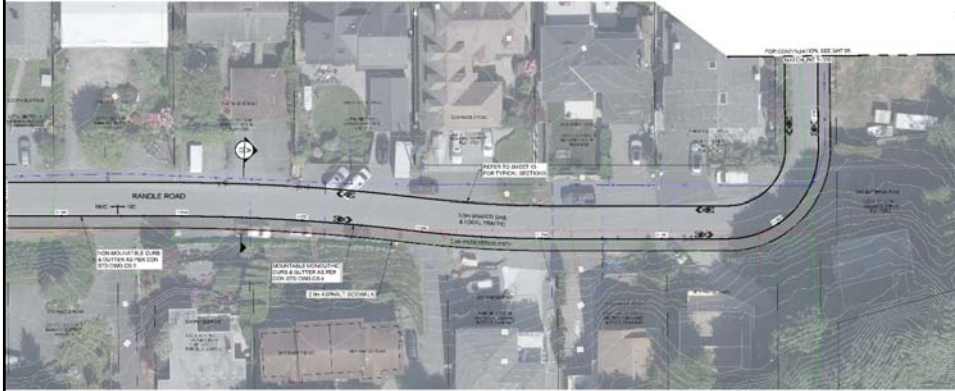


Conceptual Renderings



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- An aerial photograph of a coastal town. A large white ferry with blue stripes is docked at a concrete pier in the foreground. The town is built along the shoreline, with a mix of residential buildings and green spaces. A winding road runs along the coast, bordered by trees and a low wall. In the background, there are rolling hills and a larger town built into the slopes. The water is a deep blue with some ripples.

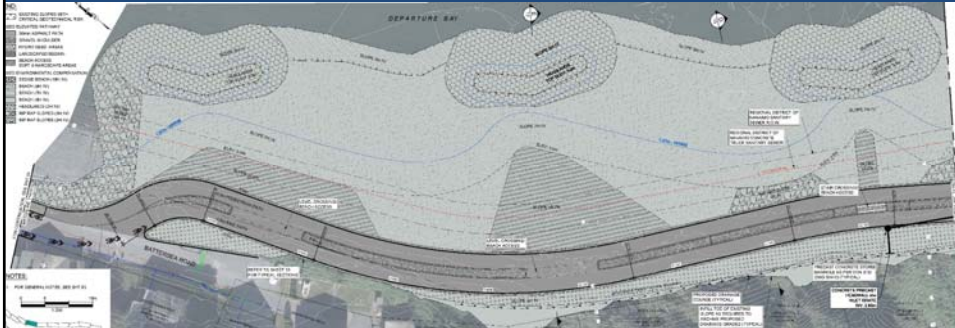
Draft Functional Design



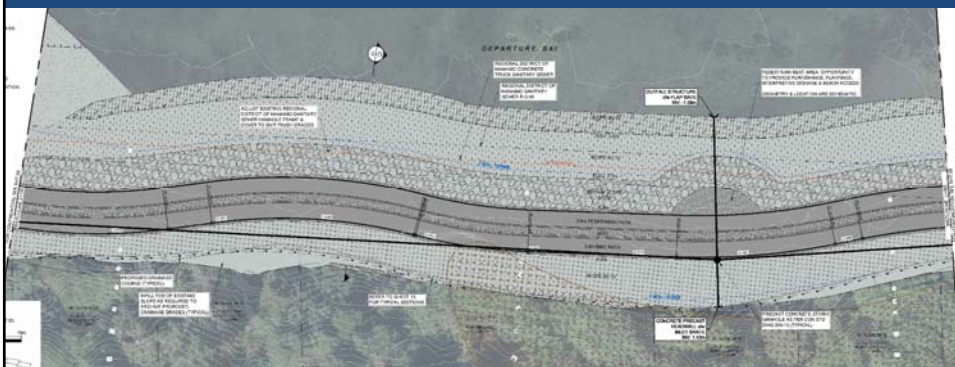
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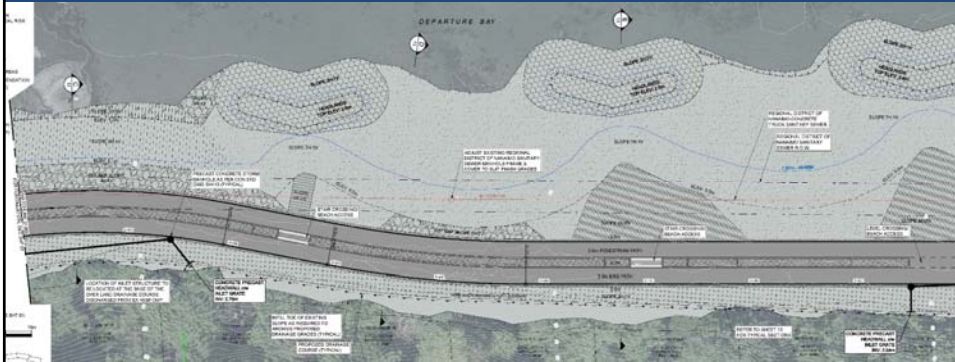
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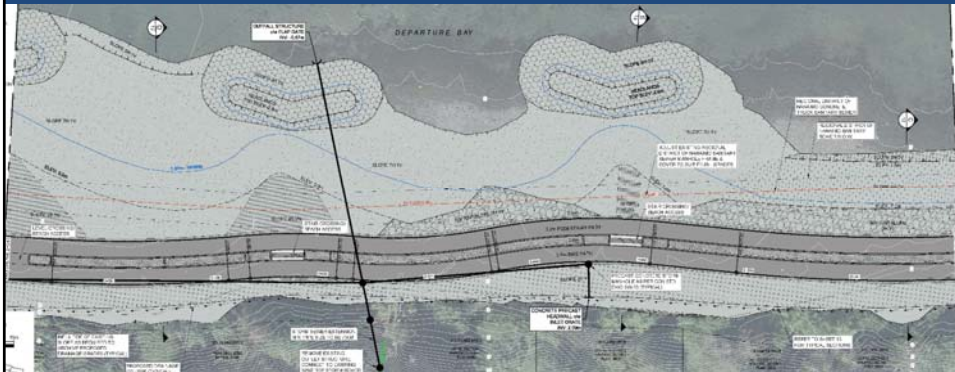
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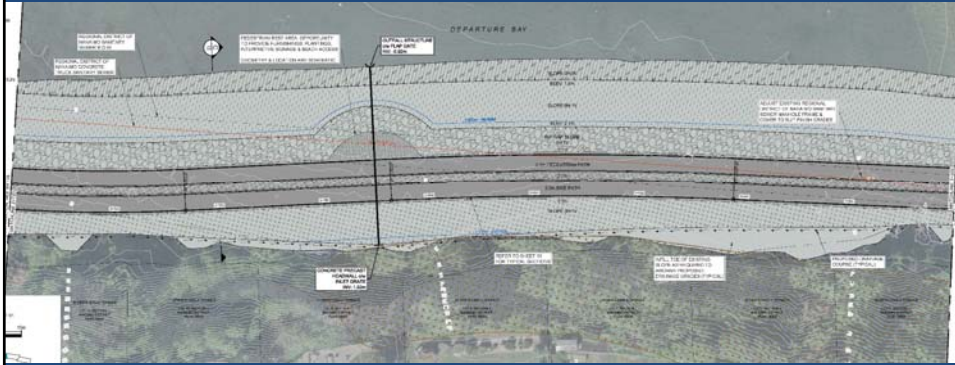
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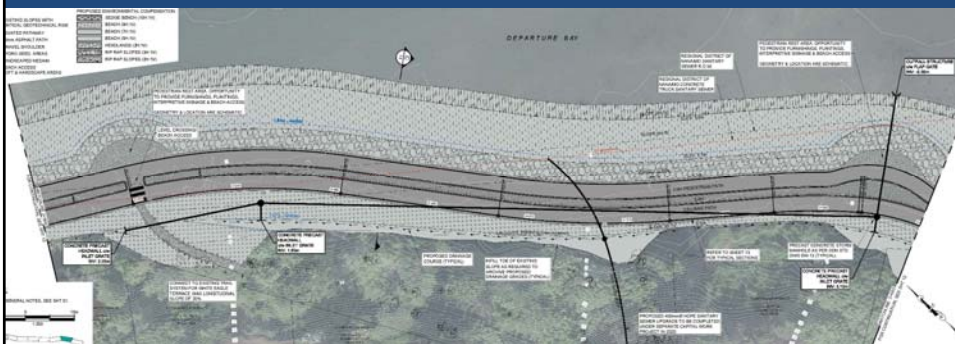
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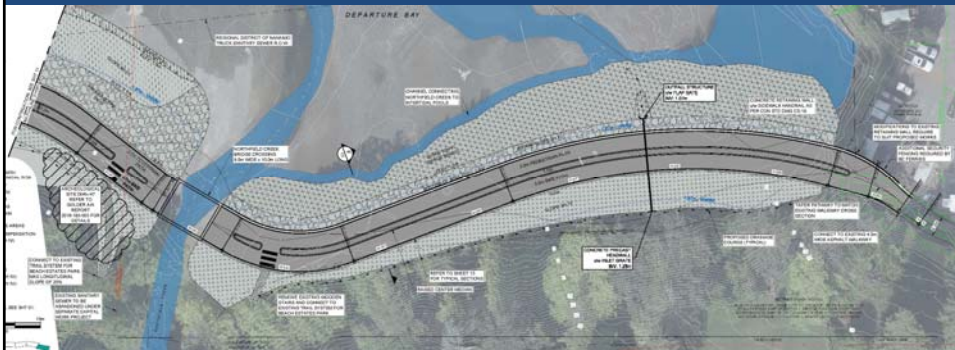
Draft Functional Design



Draft Functional Design



Draft Functional Design



Next Steps

- Present the initial Functional Design findings to Snuneymuxw First Nation
- Additional public consultation using the City's online platform with a survey to capture feedback and gauge support for continuing the project
- Coordinate a meeting with the RDN to obtain approval in principle for the Functional Design and to discuss rights-of-way details
- Coordinate a meeting with BC Ferries to review their letter of support based on the Functional Design and legal agreements that might be needed to secure access in perpetuity
- Coordinate a meeting with the Department of Fisheries and Oceans to present initial Functional Design findings, review foreshore restoration concepts, and define bonding requirements to meet their obligations
- Review internal City funding mechanisms
- Undertake detailed design of the project in stages

Questions?

1. What elements of the Waterfront Walkway Project compliment accessibility and inclusiveness?
2. What additional elements could be incorporated into the Waterfront Walkway Project for improved accessibility and inclusiveness?

