



File 1415573

December 20, 2024

Patricia Sanders, Bruce Sanders, David Demner, Ethan Wilding and Heidi Kuhrt  
c/o Bradley Fossen, Aurora Professional Group

**Re: Nature Based Erosion Protection - Crown Lands Application on Baker Beach,  
Salt Spring Island, File 1415573**

Dear Brad,

Thank you for organizing the application for nature-based erosion protection on Baker Beach, Salt Spring Island. The Province commends the applicants for endeavoring to take a nature based approach to erosion protection. After a review of the project proposal, the Province is seeking clarification regarding the project design as per the content of this letter.

The following questions are raised in response to comments received from the public, First Nations, and internal/external referral agencies. Please answer the questions to the extent possible, to allow for a more informed review of the application.

**1. EROSION AND MITIGATION**

**Q1.1. Are the immediate upland properties at risk from erosion in the short term?**

Rationale for Q1.1: The risk of a geohazard event was reported as 'high' for the 3 coastal geohazard units fronting 235 Quarry Dr, 239 Quarry Dr and 434 Baker Rd , and 'moderate' for the geohazard unit fronting 431 Baker Rd. (Section 6.6 Geohazard Assessments of Land). Section 6.9 of each Geohazard Assessment reports each single family dwelling (SFD) to be safe for intended use. The Province understands that the mitigation measures are proposed to reduce the erosion risk, however, the current risks that the SFDs are facing due to erosion at the coastal bluff remains unclear. The Greenshores for Homes Checklist (Stewardship Center for BC) was a requirement for the nature based erosion application to be submitted to Crown lands. This checklist

indicates that the nature based erosion protection project design must be based on an “analysis of erosion potential, wave energy and backshore width AND a demonstrated need a) to protect existing permanent structures AND/OR b) to enhance degraded shore habitat that can be addressed by nature based shoreline measures. Please clarify how the geohazard risk on the coastal bluffs/shoreline translates to a risk for the upland properties.

**Q1.2. What is the rate of erosion at the project site?**

Rationale for Q2: The *Marine Shoreline Design Guidelines* states that “it is critical to have an understanding of the magnitude of the total erosion rate at a site prior to developing a beach nourishment design”. In absence of historical survey data, the Guidelines state that rates of erosion can be quantified based on referencing aerial imagery.

**Q1.3 Please clarify the mitigation measures recommended in the Coastal Reports and Crown Lands Application as per the rationale below.**

Rationale for Q1.3: The *Summary of Mitigation Measures* Report lists monitoring, bioengineering, wave deflection and beach nourishment as recommended mitigation measures. The report acknowledges that monitoring the rate of erosion is “one of the easiest and most effective management options”. Monitoring was reported to be the most suitable mitigation measure in the *Assessment of Marine Shoreline Characteristics* Report.

The application received by Crown lands includes reference to monitoring *after* the placement of beach nourishment and rock clusters but does not reference a commitment to monitoring erosion rates prior to the placement of beach nourishment or wave energy dissipation boulders. Please clarify the rationale behind the timing of monitoring.

**Q1.4 To what degree does wave action contribute to the rate of erosion? To what degree does wave action contribute to geohazard risk for the coastal bluffs and SFDs?**

Rationale for Q1.4: Section 6.7 of each Geohazard report cites the most active failure mechanism on each site being “punctuated landslide erosion of surficial materials at the shoreline”. Wave action and groundwater are reported to contribute to erosion hazard. In Section 6.4 of the *Assessment of Marine Shoreline Characteristics*, wind driven energy on site was determined to be moderate, and vessel wake wave energy

was reported to contribute to alongshore drift, moving fine sediment within the Drift cell. Tidal currents were reported to not have an apparent influence on wave dynamics on site. Common wave types near Baker Beach were reported as surging breaker waves, and plunging breaker waves (during storms). Storm events were reported to contribute to peeling the bedrock (Section 6.4 of each Geohazard Assessment). Please clarify how moderate wind driven energy, vessel wake energy, wave type, and storm events contribute to the current rate of erosion on Baker Beach. Explain the degree to which these mechanisms contribute to a risk of a punctuated landslide event over time.

## 2: IMPACT ON SHELLFISH, FORAGE FISH, AND EELGRASS

**Q2.1 Please comment on the appropriateness of the proposed *placement, volume, and grain size* of beach nourishment sediments – specifically regarding eel grass, forage fish habitat and clam beds on the intertidal area.**

Rationale for Q2.1 Given site specific wave dynamics and movement of the beach material over time, an assessment of the appropriateness of the beach nourishment for eelgrass, forage fish, and clam habitat over time is important to consider for overall ecological health.

**Q2.2 How will beach nourishment impact the known clam harvesting areas that overlap with the project area? What mitigation measures are proposed?**

Rationale for Q2.3: Extension of Q2.1. The location, amount and size of substrate will impact the clams harvested within the shellfish harvesting tenure File 1414788 that overlaps with this application. The specifics of beach nourishment will largely dictate the impact on the survivability and repopulation of the shellfish that are harvested. Please clarify the short term (e.g. crush by machinery) and longer-term impacts (e.g. movement of beach nourishment material), especially regarding manila clams. Please explain how these impacts will be mitigated.

**Q2.3 The Provincial Aquatic Plants team requires copies of any photos, surveys, or biological reports that have been conducted, or will be conducted related to the presence/absence of eelgrass, or the impact of the project on eelgrass within the project area or near to the project area. Please forward these surveys, photos, or biological reports to [AquaticPlants.Program@gov.bc.ca](mailto:AquaticPlants.Program@gov.bc.ca).**

Rationale for Q2.3 These reports may be used to inform decision making for wild aquatic plant harvester licences in and around the project area, and can help the team understand the impact of similar projects on wild aquatic plant beds.

**Q2.4 Eelgrass beds grow in fine sediments. Regarding the eelgrass beds offshore from the project area, where do they obtain their current sediment supply? How would a reduction in natural sediment impact these eelgrass beds?**

Rationale for Q2.4 The geotechnical report states that “Baker Beach is currently supply limited, resulting in discontinuous sections of beach face, with long-term coastline retreat driven by wave, water and weathering erosion mechanisms...Consequently, the primary source of sediment for Baker Beach are sections of the adjacent upland coastal bluff, which contribute silt, sand, gravel and limited larger clastics up to boulders”

### 3: OTHER

**Q3.1 The *Rationale for Design Sea Level* Report states it applied a design sea level of 75 years to match the lifespan of the existing structures. Does this mean that the proposed project design is expected to be effective in preventing structural damage on the properties for ~75 years? If not, can you estimate lifespan in that regard?**

**Q3.2 The proposed placement of wave deflection boulders has the potential to change the navigability of the waters just off Baker Beach by both members of the public, and members of Penelakut Seafoods. What mitigation measures would you propose to reduce the impacts and notify boaters of the changes?**

**Q3.3 What would be the main components of a monitoring plan for the beach nourishment and wave energy dissipation boulders?**

We appreciate you and your team taking the time to address the questions above. Please contact me at [celine.coschizza@gmail.com](mailto:celine.coschizza@gmail.com) or by phone at 250-824-2846 if you require clarification or have any questions in return.

Sincerely,

Celine Coschizza  
Authorizations Specialist  
Ministry of Water, Lands and Resource Stewardship