

# San Francisco Bay Conservation and Development Commission

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**TO:** Engineering Criteria Review Board (ECRB) Members

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**SUBJECT: Greenwood Bay Condominium Seawall Repair Project, One Greenwood Bay Drive, Tiburon; BCDC Permit Amendment Application 1973.015.04**  
(For Board consideration on June 22, 2023)

## Project Summary

**Project Name:** Greenwood Bay Condominium Seawall Repair Project  
**Applicant:** Greenwood Bay Condominium Homeowners Association

**Applicant Representative:** PJ Cosgrove, Barnegat Group  
**Applicant Representative #2:** Jordan Theyel, Anchor QEA

### Project Engineers

#### Project Engineer of Record

Justin Pyun, P.E., Simpson, Gumpertz & Heger (SGH), [JJPyun@sgh.com](mailto:JJPyun@sgh.com)

#### Geotechnical Consultants

Eric Chase, GE and Jared Pratt, CEG, RGH Consultants

### Project Components under Review

A sea wall repair/replacement is being proposed for the west shore of the One Greenwood Bay Drive Condominium Complex in Tiburon. See Design Documentation Report (DDR) Figure 1-1 and Sheet G00 of the Plan set.

### Board Meeting Purpose

The purpose of the meeting is to request the review and advice of the ECRB about the safety aspects of the sea wall design in general that could impact the public and the natural resources of the Bay, but, more specifically, BCDC requests the assessment of the adequacy of the engineering criteria of the new sea wall (the project) that is the main focus of this review.

The authority to review and revise engineering criteria and any safety provisions is bestowed on the ECRB through the Bay Plan policies, especially policies Nos. 1 and 2 on the Safety of Fills, and the McAteer-Petris Act government section code 66605(e), which require that all fill must be constructed "in accordance with sound safety standards which will afford reasonable protection to persons and property against the hazards of unstable geologic or soil conditions or of flood or storm waters."



**Key Policy Issue: Flooding and Sea Level Rise**

The project is located in a FEMA 100-year recurrence probability flood plain of 10 feet NAVD88 and the top of the new wall pile cap will be at 9.34 feet NAVD88, matching the height of the existing wall. The Applicant has explained that since they consider this project a “repair” of an existing wall, the new wall height will match that of the existing wall. As a result, the wall is more of a bulkhead than a sea wall, holding up the land but not providing 100-year recurrence flood protection. As a shoreline protection project, BCDC’s Shoreline Protection Policies apply, including 1(c) addressing erosion control and flood protection; however, the Climate Change Policies do not as it is not considered a “larger shoreline project”.

**Project Description**

The 49-unit, 3-story condominium complex was originally constructed in 1973 under BCDC permit 1973.015.00. At that time a timber sea wall, approximately 440 feet long, was constructed that is currently beyond its functional life. In 1989 a new timber sea wall with tiebacks was constructed in front of (on the Bay side of) that wall, which is also starting to fail at the mudline. A new fiber-reinforced polymer (FRP) sheet pile wall will be installed on the upland side of the existing timber walls. The new wall is approximately 20-30 feet from the corner of the condominium buildings. The existing tiebacks will be reused if observed to be in good condition, or new tie-backs will be installed. The old timber pilings and wall will be removed completely except on the south end, where the timbers will be replaced. The new FRP wall is up to 5.5 feet high above the mudline and will be embedded a minimum of 7 feet. A guardrail will be installed on top of the wall. A wedge of native soil from behind the new sheet pile wall will be removed and replaced with lighter lava rock wrapped in a geotextile fabric to reduce earth pressures on the new wall. A foot of soil will be placed on top of the lava rock for landscaping to grow in.

Access of the site for construction is challenging and will be done completely from land. The contractor is expected to start construction from the south end of the project and work their way to the north end.

Public access facilities are not an aspect of this project; they are located elsewhere on the property.

**Project Site Existing Conditions**

The Project faces a tidal channel with wetland vegetation called the Salt Works Canal which is connected to Richardson Bay. The condominium complex sits on a peninsula whose south and east sides have a sloped, earthen shoreline, shown in Figure 1 below.



Figure 1. Site Map (from Anchor QEA 2021)

The FEMA FIRMS map in Figure 2 shows the 100-year floodplain at 10 ft NAVD88 elevation encircling the condominium complex.

In Richardson Bay near the project site, the tidal datums are as follows (NAVD88) (AECOM 2016):

MLLW: 0.068

MSL: 3.282

MHW: 5.472

MHHW: 6.028

1% Storm Tide: 7.216

50% Storm Tide: 9.184

100% Storm Tide: 9.641

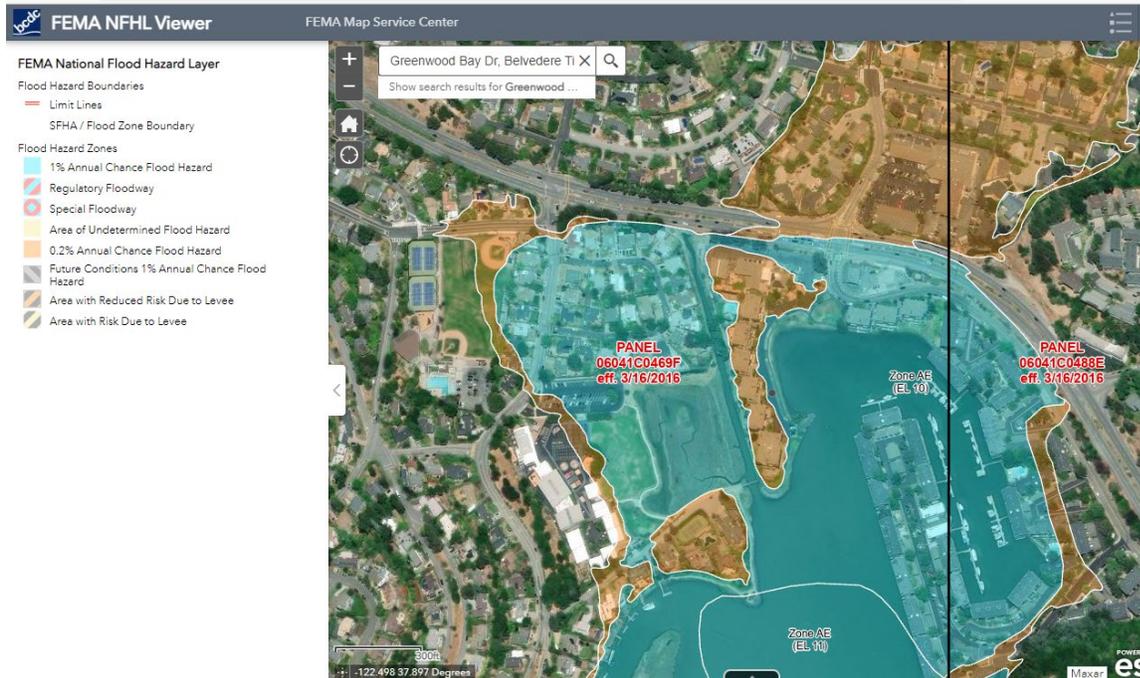


Figure 2. FEMA FIRM Map for the Project Area

**Permit Authorization and Additional Permitting**

The Applicant submitted an application for a permit on March 20, 2023, and the permit will be processed as a permit amendment and therefore does not require a hearing by the Commission. The permit application is incomplete pending the receipt of additional materials, the outcome of the ECRB review, and receipt of additional permit fees.

At the time the BCDC application was submitted, a permit application was filed with the Regional Water Quality Control Board for a Section 401 Water Quality Certification. Marin County is preparing the CEQA compliance for this project. The County Site Plan Review is not yet complete.

**Staff Questions to the Board**

Specifically, BCDC requests the Board to assess:

1. Whether the design criteria of the Site are appropriate for the existing site hazards and conditions;
2. Whether current flooding and future rising sea level impacts on the retaining wall are addressed adequately based on the references and the nature of the project; and
3. Whether there are any design and physical concerns that have not been addressed.

**Commission Findings & Policies**

**Bay Plan Policies**

The project raises issues related to Bay Plan policies on topics including Safety of Fills, Shoreline Protection and Climate Change.

The following policies are relevant for the Board's review:

### **Safety of Fills**

The policies on the Safety of Fills seek to reduce risk of life and damage to property for projects that require construction on fill in San Francisco Bay. The following policies apply:

1. **Policy No. 1.** The Commission has appointed and empowered the ECRB to "establish and revise safety criteria for Bay fills and structures thereon."
2. **Policy No. 2.** Even if fill may be permissible, no fill or building should be constructed if hazards cannot be overcome adequately for the intended use in accordance with the criteria prescribed by the ECRB.
3. **Policy No. 3** requires the installation of strong-motion seismographs on all future major landfills with the guidance of and recommendations by the California Geological Survey, for purposes of data comparison and evaluation.
4. **Policy No. 4** Adequate measures should be provided to prevent damage from sea level rise and storm activity that may occur on fill or near the shoreline over the expected life of a project. The Commission may approve fill that is needed to provide flood protection for existing projects and uses. New projects on fill or near the shoreline should either,
  - a. be set back from the edge of the shore so that the project will not be subject to dynamic wave energy,
  - b. be built so the bottom floor level of structures will be above a 100-year flood elevation that takes future sea level rise into account for the expected life of the project,
  - c. be specifically designed to tolerate periodic flooding, **or**
  - d. employ other effective means of addressing the impacts of future sea level rise and storm activity.

### **Shoreline Protection Policies**

Section 66605 of the McAteer-Petris Act authorizes fill when it would, to the maximum extent feasible, establish a permanent shoreline. The following policies of Shoreline Protection apply:

1. **Policy No. 1** New shoreline protection projects and the maintenance or reconstruction of existing projects and uses should be authorized if:
  - (a) the project is necessary to provide flood or erosion protection for
    - (i) existing development, use or infrastructure, or
    - (ii) proposed development, use or infrastructure that is consistent with other Bay Plan policies;
  - (b) the type of the protective structure is appropriate for the project site, the uses to be protected, and the causes and conditions of erosion and flooding at the site;
  - (c) the project is properly engineered to provide erosion control and flood protection for the expected life of the project based on a 100-year flood event that takes future sea level rise into account;

(d) the project is properly designed and constructed to prevent significant impediments to physical and visual public access;

(e) the protection is integrated with current or planned adjacent shoreline protection measures; and

(f) adverse impacts to adjacent or nearby areas, such as increased flooding or accelerated erosion, are avoided or minimized.

2. **Policy No. 6** Adverse impacts to natural resources and public access from new shoreline protection should be avoided. When feasible, shoreline protection projects should include components to retain safe and convenient water access, for activities such as fishing, swimming, and boating, especially in communities lacking such access. Where significant impacts cannot be avoided, mitigation or alternative public access should be provided. Shoreline protection projects that include natural and nature-based features may be self-mitigating or require less mitigation than projects that do not include any natural or nature-based features.

### **Climate Change Policies**

The Bay Plan Climate Change policies requiring a sea level rise risk assessment do not apply to the proposed project since it is not considered a “larger shoreline project.”

### **Subtidal Areas Policies**

The Bay Plan includes the following Subtidal Area policies relevant to the proposed project:

1. **Policy No. 1:** Any proposed filling or dredging project in the subtidal area should be thoroughly evaluated to determine the local and Bay-wide effects of the project on: (b) tidal hydrology and sediment movement; ... and (e) the Bay’s bathymetry. Projects in the subtidal areas should be designed to minimize and, if feasible, avoid harmful effects.

### **Material Enclosed with this Staff Report for the June 22, 2023 meeting includes:**

The Applicant provided the following design documents for review:

1. Greenwood Bay Condominiums Seawall Repair dated 2/3/2023 by SGH (9 sheets)
2. Green wood Bay Condominium Complex Design Report dated 2/3/2023 by SGH with appendices containing:
  - As-Builts of the Existing Bulkhead
  - Geotech Report by RGH dated
  - Site Photos
  - Cut Sheets for the Lava Rock, SuperWale Anchors, and SuperLoc FRP Sheet Wall
  - Structural Calculations
3. Technical specifications were not provided since according to the Design Engineer they were general in nature and the plans have all the data needed as notes.