JOE CASALI ENGINEERING, INC.

CIVIL • SITE DEVELOPMENT • TRANSPORTATION • DRAINAGE • WETLANDS • ISDS •TRAFFIC •FLOODPLAIN

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December 15, 2025

Mr. Ross Singer, Environmental Engineer III
RI Coastal Resources Management Council
4808 Tower Hill Road
Wakefield, RI 02879

RE: Assent Application No. 2025-09-101
Proposed Infill Revetment, 585 Atlantic Ave., Westerly, RI
Response to Save the Bay Letter

Dear Mr. Singer:

On behalf of our client, the Bruce H. Moeckel 2015 Revocable Family Trust and Ms. Carol Moeckel, Joe Casali Engineering, Inc. (JCE) respectfully submits this letter in response to Save The Bay's Objection letter regarding the subject application. JCE has reviewed the comments provided in the letter and offers the following responses.

Comment 1: *CRMC's prohibit shoreline protection facilities along Type 1 waters. CRMC rules prohibit "the construction of new structures other than access ways, walkover structures, and beach facilities in setback areas" and "alterations to beaches adjacent to Type 1 and Type 2 waters. 650-RICR-20-00-01§§ 1.2.2 (A)(2)(a) and (c). The dominant coastal features of the stretch of Atlantic Beach between Weekapaug Breachway to the east and Watch Hill Lighthouse to the west, is a coastal beach with dune, and is further defined by CRMC regulations as a developed barrier beach. 650-RICR-20-00-01§ 1.2.2 (B)(3).*

JCE Response: **We agree that the property abuts Type 1 waters. The dominant coastal feature in this area is not necessarily coastal beach with dune. In our professional opinion, the dominant coastal feature in this area is manmade shoreline. The Red Book defines a manmade shoreline as "those shorelines that are characterized by concentrations of shoreline protection structures and other alterations, to the extent that natural shoreline features are no longer dominant." Currently, stone revetments, or structural shoreline protection, extend approximately 700-ft to the east and approximately 1,140-ft to the west of the subject property, dominating the shoreline landscape. This project proposes to infill an approximately 50-ft area between these two sections of stone revetment in an effort to protect the homeowner's primary residence. Structural Shoreline Protection is allowed via a Category B Council Assent along Type 1 waters with manmade shorelines. As such, the proposed project is not prohibited.**

Comment 2: *CRMC's rules do not support the characterization that this shoreline is "manmade".*

JCE Response: **The Red Book defines a manmade shoreline as "those shorelines that are characterized by concentrations of shoreline protection structures and other alterations, to the extent that natural shoreline features are no**

longer dominant." Currently, stone revetments, or structural shoreline protection, extend approximately 700-ft to the east and approximately 1,140-ft to the west of the subject property, dominating the shoreline landscape. Given the expansive revetments to the west and east, these would not be considered isolated and meet the Red Book definition of a "manmade shoreline". We respectfully disagree with Save the Bay's assertion that this approval could "lead to incremental hardening to the east and west of the subject site", as stone revetments or structural shorelines extend continuously to the east and the west. There are no other comparable gaps, like the one at issue here.

Comment 3: *The proposed shoreline protection facility does not protect a structure integral to the primary structure on the property.*

JCE Response: **We respectfully disagree with this statement. The 50-ft gap in the existing revetment is a mere 16-feet from foundations associated with the structures deck and 35-feet from foundations associated with the dwelling. The terminal ends of revetments are known to be especially vulnerable to severe erosion because of how waves and currents interact with the structure; this is commonly referred to as end scour or terminal erosion. This concentrates wave energy at the edges; the energy is not dissipated and rather refracts and "bends" around the edge of the structure. Wave forces become focused on the adjacent natural bank, creating intense erosion on upstream and downstream sides. This can create toe scour, undercutting of the embankment and slope failure of the adjacent shoreline. This erosion and these failures can put the structural stability of the dwelling at severe risk.**

This property has a history of erosion and structural damage. As a result of the ongoing erosion in this area, the owner has reported significant "shaking" of the house due to wave action, especially during the winter storms, which may eventually result in potentially irreparable damage to the foundation of the main residence. The owner has previously attempted to mitigate this by restoring and replanting the sand dune (see, RICRMC Application No. 2012-11-318), but with no enduring success, as the dune has continued to erode significantly notwithstanding best efforts to maintain it. Additionally, Hurricane Sandy indicated how this shoreline protection is necessary to protect the main residence. Water entering and directed at the property in this narrow gap during Hurricane Sandy caused significant damage to the cinder block & mortar foundation of the primary residence (for subsequent repairs necessitated by this damage, refer to RICRMC Application No. 2013-01-098).

Given the very narrow gap (50-ft) between sections of revetment, the best methodology to alleviate the potential for intense erosion is to infill the open 50-ft section with revetment of similar size and geometry to the existing, which is exactly what this project and application proposes.

In addition to the responses to all three comments above, it is extremely important to note that the Applicant performed the necessary due diligence before making this application by filing a Preliminary Determination (PD) application with the RICRMC. The findings associated with this PD, which are attached for reference, note "**. The Executive Director has determined that the

circumstances of the site and the immediate surrounding area qualify the subject property to be considered "infill" and man-made shorelines, this allowing for a request for structural shoreline protection. Structural shoreline protection is not prohibited on Type 1 manmade shorelines."

Finally, we understand that Save The Bay's mission is to improve water quality, protect habitats and wildlife, and to ensure government oversight and public policy.

Improve Water Quality: A stone revetment can improve water quality in several indirect but important ways. Although its primary purpose is erosion control, the physical changes it creates along a shoreline or streambank often lead to better water conditions. A stone revetment reduces sediment runoff by protecting upland features from erosion. When banks erode, soil washes into the water. This sediment increases turbidity, smothers aquatic habitats and can carry pollutants like phosphorus or heavy metals. A stone revetment stabilizes the bank, dramatically reducing erosion, which means less sediment and fewer pollutants enter the water.

A stone revetment lowers nutrient pollution, as eroded soils often carries nutrients, particularly phosphorus, into waterways. By preventing soil loss, revetments help limit nutrient loading, reducing the risk of eutrophication. Stone revetments also significantly dissipate wave energy by breaking up wave force and slowing water velocity. Dissipating wave energy can help sediments settle instead of staying suspended and can prevent resuspension of coastal floor sediments, resulting in cleaner, clearer water. Stone revetments also create highly stabilized upland zones where native plans can establish roots and flourish to further stabilize soils. This vegetation also helps filter runoff before it enters the water; this creates a natural buffer that further improves water quality.

Protect Habitats and Wildlife: Stone revetments have significant void space between stones which can provide microhabitats for aquatic life. These void spaces provide refuge for macroinvertebrates and can support algae and periphyton growth, which helps filter water. These spaces, or gaps, become living spaces for aquatic insects, amphibians, snails, etc. As previously noted, revetments aid in creating stable conditions that allow grasses, shrubs, and shoreline plants to establish upland and between the stones. This vegetation provides food and shelter, offers temperature moderating shade, bank stabilization, and supports many birds, insects, amphibians and mammals. The combination of stone and vegetation mimics the natural aspects of a natural riparian zone.

Ensure Government Oversight and Public Policy: The CRMC is the primary state agency responsible for coastal zone management in Rhode Island. It was established by the state legislature to "preserve, protect, develop, and where possible, restore the coastal resources of the state." Shoreline protection structures, such as revetments, are explicitly defined in state law as regulated infrastructure. Under the state regulatory framework (the "Rhode Island Coastal Resources Management Program" — often called "the Red Book"), there are specific policies and standards that govern when and how revetments may be built or maintained. The design of the proposed revetment is in general accordance with the Red Book. Currently, stone revetments extend approximately 700-ft to the east and approximately 1,140-ft to the west of the subject property. This project proposes to infill an approximately 50-ft area between these two sections of stone revetment in an effort to protect the homeowner's primary residence.

In our opinion, the proposed stone revetment will enhance and improve water quality, will protect habitats and wildlife, and has been designed in general accordance with RICRMC requirements, the agency responsible for government oversight and enforcing public policy

relative to coastal zones in the State of Rhode Island. As such, the stone revetment helps achieve the goals of Save The Bay.

If you should have any questions or would like to meet to further discuss this application, please call me or Joseph Casali, PE, MBA, at 401-944-1300.

Sincerely,
JOE CASALI ENGINEERING, INC.

Daniel R. DeCesaris, P.E.
Project Manager

Cc: C. Moeckel, via e-mail; File

State of Rhode Island
Coastal Resources Management Council
Oliver H. Stedman Government Center
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RHODE ISLAND COASTAL RESOURCES MANAGEMENT COUNCIL
REPORT OF FINDINGS -- PRELIMINARY DETERMINATION

STATEMENT OF LIMITATIONS

The contents of this staff determination report shall be valid only for the period on and preceding the date of this report. This report is neither an approval nor denial of the subject proposal. It is an evaluation of CRMC regulations in effect as of November 26, 2024 as they pertain to the below stated proposal, including preliminary staff recommendations.

Modifications to the below stated proposal may, upon the discretion of the CRMC, render this determination null and void.

APPLICANT INFORMATION

NAME: **Bruce H Moeckel 2015 Rev. Fam. Trst.** **CRMC FILE NO.** D2024-08-066
LOCATION/POLE: 585 Atlantic Avenue
CITY/TOWN: Westerly **PLAT:** 156 **LOT:** 12

CONTACT PERSON(S) & ADDRESS:

Bruce H Moeckel 2015 Rev. Fam. Trst
c/o Carol Moeckel
585 Atlantic Avenue
Westerly, RI 02891

PRELIMINARY REVIEW INFORMATION

PROPOSAL: Determination of Man-made Shoreline

PLAN(S) REVIEWED: "585 Atlantic Ave Plat 157 Lot 12 Westerly Rhode Island" 2 sheets dated June 6, 2024, prepared by Cherenzia & Associates , Ltd.

INVESTIGATOR	DATE	TIME
Ross Singer	11/6/2024	10:00

MEASUREMENTS & OBSERVATIONS: General

PREVIOUS CRMC ACTIONS FOR SITE: 2011-11-098 2012-11-168 2012-11-318 2014-10-101 2022-11-104 2023-01-068

Preliminary Buffer and Setback Requirements:

SETBACK (ref. Section 1.1.7 Red Book) NA

NAME: **Bruce H Moeckel 2015 Rev. Fam. Trst.**
CRMC FILE NUMBER: **D 2024-08-066**

BUFFER (ref. Section 1.1.9 Red Book) NA

Note: **Setbacks** apply to "construction related activities" including filling, removing, and grading (ref: Section 1.3.1(B) Red Book). The coastal program requires a minimum setback of either 50', or the buffer zone width plus 25' (whichever is greater). Work within this minimum setback will require a variance per Section 1.1.5 of the Red Book. All variances must be requested in writing. No construction or construction related work shall occur within the required setback (exemptions include structural shoreline protection, outfalls and water dependant uses). Work within the required setback may require a Category "B" review (public notice and decision by the full coastal council) and would likely result in adverse CRMC staff recommendations to the Coastal Council during the review process.

Buffer zones are areas that must be retained in, or allowed to revert to, "an undisturbed natural condition." All structures (excluding accessory structures) should be setback a minimum of 25' from the buffer zone to allow for access, fire protection and maintenance without infringement into the buffer.

If applicable, the plan must show "area of land within 50 feet" in accordance with Rule 5.04 of The Rules and Regulations Governing the Protection and Management of Freshwater Wetlands in the Vicinity of the Coast (the Rules), and label this area as a "buffer zone" in accordance with Rule 5.14. In addition, no activities (such as: drainage, grading, filling, etc.) may affect the freshwater wetland or the buffer zone. Where such alterations occur, or are proposed, an application shall be submitted in accordance with CRMC's Freshwater Wetland Rules.

Coastal Hazard: In accordance with Section 1.1.10, the applicant is encouraged to utilize CRMC's "STORMTOOLS" mapping feature to better understand the impact of current and future Sea Level Rise and Storms on the subject property. Also, in accordance with Section 1.1.6(I), the applicant is required to complete a "Coastal Hazards Worksheet" to further understand the impact of climate change on a proposal (http://www.crmc.ri.gov/coastalhazardapp.html). While the RICRMP does not yet require structures to be designed for SLR scenarios, the applicant should consider SLR, Climate Change, and design life expectations in design planning.

Coastal feature verification shall be valid for one-year from the date of this Determination or until an erosion event (e.g., due to storm event, landslide, man-induced alteration, etc.) occurs that alters the coastal feature.

SUMMARY OF FINDINGS

CRMC JURISDICTION: YES NO
TYPE WATER: Type 1, Block Island Sound

For the purpose of this review the coastal feature(s) shall be the developed barrier with coastal beach backed by rip rap revetment and coastal headland, dike/dune
and the inland edge of coastal(s) feature shall be the top of the revetment, dike/dune

Applicability of Red Book and SAM Plans (as amended):

Red Book Sections: 1.2.1(B) 1.2.2(A) 1.2.2(B) 1.2.2(F) 1.2.2(G) 1.3.1(G)

NAME: **Bruce H Moeckel 2015 Rev. Fam. Trst.**
CRMC FILE NUMBER: **D 2024-08-066**

STAFF CONCERNS/COMMENTS/INFORMATION REQUIREMENTS:

The subject property consists of a single family dwelling with a partial riprap revetment adjacent to Type 1 waters. The shoreline feature consists of an existing revetment extending approximately 100ft protecting the dwelling, and an approximately 50ft section of unprotected dike/dune. The properties to the east and west of the subject property are protected by rip rap revetments. Furthermore, this section of shoreline consists of 0.35miles of hardened shoreline with the exception of the gap on the subject property. The Executive Director has determined that the circumstances of the site and the immediate surrounding area qualify the subject property to be considered "infill" and man-made shoreline, thus allowing for a request for structural shoreline protection. Structural shoreline protection is not prohibited on Type 1 Manmade shorelines.

SIGNATURE: _____ STAFF ENGINEER

SAVE THE BAY
NARRAGANSETT BAY

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phone: 401-272-3540

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November 26, 2025

Jeffrey Willis, Executive Director
Rhode Island Coastal Resources Management Council
Stedman Government Center
4808 Tower Hill Road
Wakefield, RI 02879

RE: Application 2025-09-101 (Bruce H Moeckel 2015 Rev. Fam. Trst.)

Dear Director Willis:

Save The Bay, on behalf of our members and supporters, has reviewed the Coastal Resources Management Council's (CRMC) public notice File No. 2025-09-101, and offers the following comments. The applicant has proposed to construct and maintain a new structural shoreline protection facility (SPF) on a 50ft section of the property (585 Atlantic Avenue, Westerly, RI 02891) on Type 1 waters. Save The Bay respectfully objects to this application for the following reasons:

1. CRMC's rules prohibit shoreline protection facilities along Type 1 waters.

CRMC rules prohibit "the construction of new structures other than access ways, walkover structures, and beach facilities in setback areas" and "alterations to beaches adjacent to Type 1 and Type 2 waters. 650-RICR-20-00-01 §§ 1.2.2 (A)(2)(a) and (c). The dominant coastal features of the stretch of Atlantic Beach between Weekapaug Breachway to the east and Watch Hill Lighthouse to the west, is a coastal beach with dune, and is further defined by CRMC regulations as a developed barrier beach. 650-RICR-20-00-01§ 1.2.2 (B)(3).

2. CRMC's rules do not support the characterization that this shoreline is "manmade."

This application to construct a new shoreline protection facility on a barrier beach in Type 1 waters, where it would be otherwise prohibited, is based on the agency's prior determination that this stretch of beach is "manmade shoreline" and the "subject property" to be considered "infill." This determination is not consistent with CRMC regulations and does not align with conditions on this barrier beach.

CRMC regulations define "manmade shoreline" as shorelines (most commonly abutting Type 3,5 and 6 waters) "that are characterized by concentrations of shoreline protection structures and other alterations, to the extent that natural shoreline features are no longer dominant. " 650-RICR-20-00-01 § 1.1.2 (A)(84). In addition, CRMC's regulations note that "manmade shorelines usually have a major impact on the appearance of the shore [and] interfere with public access to and along the coast…." 650-RICR-20-00-01 § 1.2.2 (F). Geospatial

analyses from RIDEM's Spring 2025 aerial imagery show that approximately 80% of this shoreline is characterized by a coastal/barrier beach with dunes that is free from structural shoreline protection facilities. Further, 100% of the subject shoreline still maintains ocean-fronting beach as the dominant natural coastal feature, providing lateral public access along the shoreline. For these reasons, Save The Bay objects to the agency's characterization of this stretch of shoreline as "manmade" as it defies logic and is inconsistent with CRMC's rules and the conditions present at this barrier beach.

Further, characterizing this portion of the barrier beach as "manmade" could lead to incremental hardening to the east and west of the subject site. If CRMC permits the proposed new hardening of this shoreline, inevitably, other landowners along this shoreline will look to CRMC to install shoreline protection facilities to combat the certain increase in erosion and beach scouring caused by adjacent hardening, and can then potentially rely on the characterization of this section of the beach as "manmade" to undermine CRMC's prohibitions on coastal armoring on this Type 1 barrier beach. Currently, only 20% of the coastline between Watch Hill Lighthouse to the west and Weekapaug Breachway to the east is characterized by presumably pre-act walls–some of which, including the subject site, have been built up beyond what is typically allowed via maintenance permits (source: Geospatial analyses from RIDEM's Spring 2025 aerial imagery). Labeling this section of shoreline as "manmade" will likely increase hardening, impound sand, increase erosion and decrease public access along this sandy beach habitat.

3. The proposed shoreline protection facility does not protect a structure integral to the primary structure on the property.

CRMC regulations prohibit the use of hybrid or structural shoreline protection to protect undeveloped land or structures not integral to the primary structure. 650-RICR-20-00-01 § 1.3.1 (G)(3)(b). The primary structure on the property is fronted and flanked by coastal armoring. The new wall is proposed to the east of the primary structure, with no structure behind the proposed wall (source: Geospatial analyses from RIDEM's Spring 2025 aerial imagery). Because of this, a wall should be prohibited from being constructed at this site.

Save The Bay appreciates the opportunity to comment on this application and urges the Council to prohibit the installation of a new sea wall on this site for the reasons outlined above.

Thank you for your consideration.

Sincerely,

Jed Thorp
Director of Advocacy
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