CRMC File Number:

RICRMC COASTAL HAZARD ANALYSIS WORKSHEET

APPLICANT NAME: Nicholas Veltri

PROJECT SITE ADDRESS: Wilson Drive; A.P. N-A, Lot 28K, Narragansett

STEP 1. PROJECT DESIGN LIFE

☐ A. For properties in a FEMA-designated **A,** or **X** Zone, provide the first floor elevation (FFE) of the proposed structure referenced to NAVD88, **OR**
For properties in a FEMA-designated **V** or **Coastal A** Zone, please provide the elevation of the lowest horizontal structural member (LHSM) referenced to NAVD88.

FFE 14.5 **ft**

OR

LHSM elevation **ft**

☐ B. How long do you want your project to last? Identify the expected design life for the project (CRMC recommends a **minimum of 30 years**)

Design Life: 30 **yrs**

☐ C. Add the number of years you identified in 1B to the current year. (For example, if you are completing this form in the year 2020, and you want your project to last 30 years, your design life year will be 2050.)

Design Life Year: 2054

☐ D. **CHECK** beneath the sea level rise (SLR) projection that matches or comes closest to project design life year.

Year	2030	2040	2050	2060	2070	2080	2090	2100
SLR	0.71	1.11	1.60	2.29	3.17	4.19	5.35	6.47
	○	○	◉	○	○	○	○	○

Source: Sea Level Rise (SLR) Projections (Feb. 2022). NOAA High Curve, Newport, RI Tide Gauge. All values are expressed in feet relative to NAVD88. https://sealevel.nasa.gov/task-force-scenario-tool?psmsl_id=351

NOTE: The present National Tidal Datum Epoch (NTDE) is 1983 through 2001. The NOAA 2017 data use a baseline starting at 2000, and the NOAA 2022 data use a baseline starting at 2020. Between 1991 and 2020 there was an annual average of 4.03 mm/year of sea level rise at the Newport (8452660) tide station based on the trends data from the Permanent Service for Mean Sea Level (https://www.psmsl.org/products/trends/). Because the PSMSL trends are based on a minimum 30 years of data we will assume a similar trend applies to the shorter 20 year period of 2000 to 2020. Thus, there was approximately 8.06 cm (3.39 inches) of sea level rise during the period 2000 to 2020. Accordingly, the MHHW elevation of 3.85 feet at the Newport station (Epoch 1983-2001) would be adjusted an additional 3.39 inches to 4.13 feet MHHW. For reference, NAVD88 at Newport is 2.04 feet.

STEP 2. SITE ASSESSMENT

☐ A. Open *RICRMC Coastal Hazard Mapping Tool*. Following the tutorial along the left side of the screen, enter the project site address and turn on the sea level layer closest to the number you circled in 1D.

☐ B. **ENTER** the STORMTOOLS SLR map layer closest to the SLR value you checked in Step 1D above. If the value falls between the available STORMTOOLS SLR map layers, round up to the closest of these sea level rise (SLR) numbers: 1ft, 2ft, 3ft, 5ft, 7ft, 10ft, or 12ft

2 **ft**

☐ C. Does the STORMTOOLS SLR map layer you circled above expose your project site to future tidal inundation? **CHECK YES or NO**

◉ **YES**
○ **NO**

☐ D. List any **roads or access routes** that are potentially inundated from SLR. To do this, ZOOM OUT from your project location, change BASEMAP on the viewer to "street view" – see Step 2A.

Wilson Drive

Please be advised that CRMC staff may also review the implications of sea level rise in combination with nuisance storm flooding and discuss these potential project concerns with the applicant. Nuisance flooding impacts may be viewed in STORMTOOLS here.

STEP 3. STORMTOOLS DESIGN ELEVATION (SDE)

☐ A. Follow the tutorial included along the left panels of the viewer to enter the address of your project site. Select the tab across the top that corresponds to the sea level rise projection you identified in STEP 1

☐ B. Click on the map at project site to identify **STORMTOOLS Design Elevation (SDE)**

from the pop up box. **Enter the SDE value:** 16.3 **ft**

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STEP 4. SHORELINE CHANGE

A. Using the *CRMC Shoreline Change maps*, indicate the transect number closest to your site, and erosion rate listed for that transect. **Transect Number:** n/a

Erosion Rate: **ft/year**

B. **CHECK** below the Projected Erosion Rate that corresponds to the design life you identified above.

Year	2050	2060	2070	2080	2090	2100
Projected Future ErosionMultiplier	1.34	1.45	1.57	1.70	1.84	2.00
	◉	○	○	○	○	○

Source: Projected Shoreline Change Rate multipliers. (Oakley et al., 2016)

C. **COMPLETE EROSION SETBACK CALCULATION:**

Historic shoreline change rate, STEP 4A		Design Life, STEP 1C		Projected Future ErosionMultiplier, STEP 4B		Erosion Setback (ft) 4A x 1C x 4B
0	X	30	X	1.34	=	0

***NOTE:** Setbacks are required per the CRMC Red Book, Section 1.1.9. A minimum setback of 50-feet is required, but a greater setback may be necessary and/or desirable based on this analysis.*

STEP 5. OTHER SITE CONSIDERATIONS: CERI & SLAMM

A. Use the **Coastal Environmental Risk Index (CERI) map (See Tab 5A on the viewer)** to enter your address and CHECK the level of projected damage to your location, as indicated on the map that corresponds to the design life identified in STEP 1.

CERI Level:	Moderate	High	Severe	Extreme	Inundated by 2100	Not applicable
	○	○	◉	○	○	○

B. **Sea Level Affecting Marshes Model (SLAMM) (See Tab 5B on the Viewer)** - This step is for Large Projects and Subdivisions only, six (6) or more units, as defined by the CRMC Red Book Section 1.1.6.I(1)(f). This step may be skipped for other projects. Use the Sea Level Affecting Marshes Model (SLAMM) Maps to assess potential impacts to large projects and subdivisions from salt marsh migration resulting from projected sea level rise. CRMC SLAMM maps can be accessed here. The CRMC recommends using the 3-foot SLR projection within SLAMM to assess future potential project impacts on migrating marshes. Does the SLAMM map that corresponds to the design life you identified in STEP 1 expose your project site to future salt marsh migration? **CHECK YES or NO**

○ **YES** ○ **NO**

C. Consider and discuss with your design consultant other forces or factors that might impact the development, such as coastal habitats, shoreline features, public access, wastewater, storm water, depth to water table/groundwater dynamics, saltwater intrusion, or other issues not listed above. In addition, pressure from rising sea levels will result in rising subsurface groundwater levels ultimately effecting wells and septic systems.

STEP 6: DESIGN EVALUATION

A. Using Chapter 7 of the RI Shoreline Change SAMP as a guide, investigate mitigation options for the exposure identified above and include that in the final application.

This fully completed Coastal Hazard Application Guidance worksheet must accompany the application. If you are a design or engineering professional, please print and sign here that you have discussed the findings of this worksheet with the Owner.

DESIGN/ENGINEER SIGNATURE: _____ **DATE:**

OWNER'S SIGNATURE: _____ **DATE:** 3.07.2024