

CRMC DECISION WORKSHEET

2025-02-078

Department of Transportation

Hearing Date:	
Approved as Recommended	
Approved w/additional Stipulations	
Approved but Modified	
Denied	Vote

APPLICATION INFORMATION						
File Number	Town	Project Location		Category	Special Exception	Variance
2025-02-078	Barrington	Barrington Bridge #123 (County Rd.)		B	<input type="checkbox"/>	<input type="checkbox"/>
		Plat	Lot			
		Owner Name and Address				
Date Accepted	2/27/2025	Department of Transportation Attn: Alisa Richardson 360 Lincoln Avenue Warwick, RI 02888		Work at or Below MHW		X
Date Completed	9/26/2025			Lease Required		<input type="checkbox"/>

PROJECT DESCRIPTION

The proposed rehabilitation work for the bridge (Barrington Bridge #123) includes the replacement of the deck expansion joint glands, minor concrete patching repairs of the substructure and concrete arch panels, restoring the contact area at select bearings, underwater repairs to the tremie seals of the bridge piers (Piers 1-4), and the installation of scour countermeasures. Underwater repairs include void repairs, grout bags stacked by divers around the tremie to an elevation 18-inches above the top of the existing tremie. Riprap will also be placed by divers along the river bed between the piers, sloping up from the existing mudline to the elevation of the top of the grout bags.

KEY PROGRAMMATIC ISSUES

Coastal Feature: Concrete Bridge Abutments/Seawall
Water Type: Type 3, High Intensity Boating
Red Book: 1.1.3.E, 1.2.1.D, 1.3.1.A, 1.3.1.G, 1.3.1.J, 1.3.1.M
SAMP: None
Variances and/or Special Exception Details: None

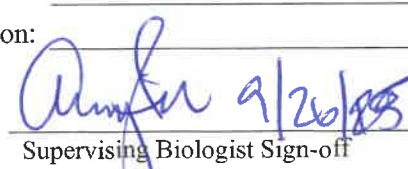
Additional Comments and/or Council Requirements:


Specific Staff Stipulations (beyond Standard stipulations): SEE STAFF REPORT

STAFF RECOMMENDATION(S)

Engineer RML Recommendation: Approval
 Biologist _____ Recommendation: _____
 Other Staff _____ Recommendation: _____

 9/26/25
 Engineering Supervisor Sign-Off date

 9/26/25
 Supervising Biologist Sign-off date

 9/30/25
 Executive Director Sign-Off date

Staff Sign off on Hearing Packet (Eng/Bio) date

**STATE OF RHODE ISLAND
COASTAL RESOURCES MANAGEMENT COUNCIL
ENGINEERING REVIEW**

TO: Jeffrey M. Willis, Acting Executive Director
DEPT: Coastal Resources Management Council
FROM: Richard M. Lucia, P.E.
DEPT: CRMC Engineering Section

Date: September 26, 2025

SUBJ: **CRMC File No.:** A2025-02-078

Owner: Department of Transportation

Site Address: Barrington Bridge #123 (County Rd.)

Site Town: Barrington

Project: The proposed rehabilitation work for the bridge (Barrington Bridge #123) includes the replacement of the deck expansion joint glands, minor concrete patching repairs of the substructure and concrete arch panels, restoring the contact area at select bearings, underwater repairs to the tremie seals of the bridge piers (Piers 1-4), and the installation of scour countermeasures. Underwater repairs include void repairs, grout bags stacked by divers around the tremie to an elevation 18-inches above the top of the existing tremie. Riprap will also be placed by divers along the riverbed between the piers, sloping up from the existing mudline to the elevation of the top of the grout bags.

Water Type/Name: Type 3, High Intensity Boating, Barrington River

Coastal Feature: Concrete Bridge Abutments/Seawall

Plans Reviewed: "Barrington Bridge No. 123, Underwater Repairs..." sheets 1-10, by Collins Engineering

Previous relevant CRMC Assent(s): . 2019-09-078, Underwater Repairs to Piers 5 and 6, 2012-06-048 Maintenance: Remove and Replace Deteriorated Concrete Wall, Replace riprap. 2002-11-050, Demolish and Rebuild Bridge

STAFF REPORT

The project is located within the Barrington River, Town of Barrington. The Bridge is owned and maintained by RIDOT, it is designated as Bridge #123 and carries Route 114 over the Barrington River. Per the RIDOT consultant's report "*Underwater inspections and scanning of the piers showed deficiencies in the footings of Piers 1-4. In 2019, similar deficiencies were observed in Piers 5-6 and were addressed through a Maintenance Certification (2019-09-078) authorized by CRMC. Piers 5-6 were observed to be stable during the most recent inspection. Other minor deficiencies that will be addressed as part of this project include concrete spalling on the bridge deck and arch panels and wear and tear on the deck expansion joins and contact bearing.*"

To address the heavy scouring that has occurred, RIDOT proposed to install scour countermeasures which include installing grout bags which will function as the scour countermeasure for the existing tremies. Rip rap stone will also be placed by divers and will extend the full length of the bridge, around the piers, and around the grout bags from the west abutment to the east abutment. Two feet

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of R-4 (6" – 12") rip rap stone will be sloped at a 1.5:1 (horizontal: vertical) ratio from the top elevation of the grout bags to the mudline. The rip rap will function as scour countermeasure for the riverbed.

Additionally, tremie concrete will be used to fill the voids and restore the bridge pier structure to as-built conditions. There are no proposed water control methods that will dewater the area.

In addition to the rehabilitation of the bridge piers and the installation of scour countermeasures at the piers and along the river bottom, this project will only include minor above tidal water activities during construction. These activities include replacing the deck expansion joint glands, restoring the contact area at select bearings, and minor concrete patching repairs of the superstructure and arch panels.

CRMP Section § 1.2.1(D) – Type 3 High Intensity Boating

The bridge is located over CRMP Water Type 3 designation: the designated priority use is High Intensity Boating. It is staff opinion that the repairs will not significantly interfere with recreation boating and without these necessary repairs the bridge will have negative impacts on boaters and other watercrafts.

Please note that there were two comments/concerns submitted during the notice period. One comment/concern was from Jane and Stephen Mainella (email dated June 4, 2025) who own and operate the Atlantic Marine which is located north of Barrington Bridge. Their concern was related to navigation for boaters during construction and protection against their marina facility. ***“At a scheduled hearing, we would like a detailed presentation by RI DOT that explains this rehabilitation work to be done on the Barrington Bridge #123 showing how boaters can safely navigate that area of the Barrington River during the rehabilitation.”***

RIDOT consultant Crossman Engineering has addressed their concerns in a follow up technical report dated August 6, 2025. *“It is the intention of this project to have no or minimal impact to the recreational function of the waterbody during construction. To ensure this, a note has been added to the contract documents stating, “The Contractor shall schedule and perform his/her operations in a manner to allow full water access to and from the marina at all times.”* To address their concern CRMC recommends a stipulation, if approved, that requires that full water access to and from the marina be maintained during construction mobilization, construction and demobilization (See “Recommended Additional Stipulation”).

The other comment/concern was received from Warren Harbor Commission (See email from Rock Singewald, June 5, 2025). Their concerns were the new water depths and the possible increase in velocity of river flow. ***“Even if flow does not increase, which seems unlikely to us, the raising of the river bed with rip rap will make for a much more shallow passage at low tide especially in the arches near either end of the bridge. Does your technical staff agree with the conclusions in Appendix C that flow and tide heights will not increase?”*** CRMC Staff had forwarded this concern to the RIDOT, and they responded in the same follow up technical report from Crossman Engineering dated August 6, 2025. The letter states that *“As you can see from Table 1 above, the proposed water depths will range from just below eleven feet to just above eighteen feet during normal low and high tide conditions, respectively, which is one-foot deeper than the depth to the historic mudline....”* and *“the hydraulic model also compared flow velocities under the bridge during the four modeled events (normal tide, highest astronomical tide, 10-year storm surge and*

100-year storm surge) for the existing and hypothetical conditions. The model determined that the highest velocities were consistently through Spans D, E and F.”

Existing and Hypothetical Conditions	Span D		Span E		Span F	
	EX	HYP	EX	HYP	EX	HYP
Normal Tide	1.0	1.1	1.4	1.3	1.0	1.2
Highest Astronomical Tide	1.9	2.0	2.2	2.2	1.5	1.7
10-Year Storm Surge	3.0	3.0	3.9	3.5	2.0	2.7
100-Year Storm Surge	3.1	3.0	3.9	3.6	1.9	2.7

Table 2: Flow velocities in feet/second.

As shown in this table (**Table 2**) there will be small or no increase in flow velocities in Normal Tide (0.0 to 0.2 ft/sec increase). Only during large storm events (100-year storm surge) will there be an increase of over 0.8 ft/sec on Span F. Based on the submitted information it is CRMC staff opinion that this repair will not have a significant impact on normal navigation. Please note a detailed scour analysis was performed by Pare Engineering (Appendix C) that provided a hydraulic model, scour countermeasure design calculations based upon the model results.

With regard to water depth decrease due to the construction of the scour protection (2 feet of riprap in between spans) the technical report (**Table 1**) and the submitted plans show that water depths will be approximately one foot deeper than the historic mudline through the middle spans and 2 feet deeper at the outside spans (Span A and G), which was a concern stated in correspondence by Warren Harbor Commission. Please note, if one was to look at water depths existing, the depth will decrease at MLW from 12.77’ to 10.77’ at Span A and 13.77’ to 11.77’ at Span G. The Center Span (Span D) depth will decrease from 15.77’ to 13.77’. Still, these water depths appear sufficient for normal safe navigation through the spans.

	Span A	Span B	Span C	Span D	Span E	Span F	Span G
Mean High Water (MHW)	2.27	2.27	2.27	2.27	2.27	2.27	2.27
Mean Low Water (MLW)	-2.23	-2.23	-2.23	-2.23	-2.23	-2.23	-2.23
Historic Mudline	-12.0±	-12.0±	-12.0±	-12.0±	-12.0±	-12.0±	-12.0±
Existing Mudline	-15.0±	-15.0±	-16.0±	-18.0±	-15.0±	-16.0±	-16.0±
Proposed Top of Riprap	-13.0±	-13.0±	-14.0±	-16.0±	-13.0±	-14.0±	-14.0±
Historic Mudline Depth at M HW (ft)	±14.27	±14.27	±14.27	±14.27	±14.27	±14.27	±14.27
Historic Mudline Depth at MLW (ft)	±9.77	±9.77	±9.77	±9.77	±9.77	±9.77	±9.77
Proposed MHW Depth (ft)	±15.27	±15.27	±16.27	±18.27	±15.27	±16.27	±16.27
Proposed MLW Depth (ft)	±10.77	±10.77	±11.77	±13.77	±10.77	±11.77	±11.77

Table 1: Vertical clearances.

CRMP Section §1.3.1(J) – Filling in Tidal Waters

The total area of permanent impact will be 0.84 acres with a volume of 4,500 cubic yards. No excavation is proposed for the project. As previously noted, the only project activity involving filling in tidal water will be the installation of grout bags for pier protection and riprap as scour countermeasures. It is staff opinion based on the submitted Scour Analysis, the proposed activity was designed in accordance with CRMP § 1.3.1(J)(1)(d), which states that filling may be permitted where necessary for an approved erosion control but only when it has been demonstrated that the amount of filling has been minimized in accordance with the requirements of § 1.3.1(G) (Shoreline Protection Facilities).

Furthermore, it is staff opinion that the filling proposed is to accommodate the designated priority use (Type 3, High Intensity Boating) by protecting this informal navigational channel and the project has met the other two criteria as described below and therefore is not prohibited (Reference CRMP §1.3.1(J).3.C:

Filling in Type 3, 4, 5, and 6 waters is prohibited unless:

- (1) The filling is made to accommodate a designated priority use for that water area;
- (2) The applicant has examined all reasonable alternatives, and the Council has determined that the selected alternative is the most reasonable; and
- (3) The filling is the minimum necessary to support the priority use.

Recommendations and Conclusion:

It is staff opinion that the filling is necessary for the protection of the public infrastructure and the safety of the public as a whole and there is no viable alternative for protecting the bridge structure. Furthermore, it is staff engineer’s opinion that the project meets the Policies and Standards of the RICRMP and based on review of the plans and submitted technical analysis, there are no engineering objections to the above-described project.

Recommended Additional Stipulation:

(RL) Water access for vessels utilizing Atlantic Marina shall be maintained during the construction mobilization, construction and demobilization of this project.

Signed _____



Staff Engineer