

Oliver Allamby

From: Rich Lucia
Sent: Wednesday, March 25, 2026 3:19 PM
To: Megan Elwell; Amy Silva; Cstaff
Cc: Tim Smith
Subject: RE: 2026-01-003 - Newport Cliff Walk

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Oliver

Megan

Reviewing your responses from March 10 and February 27, 2026 and they do not address the issue of the riprap in front of the outcrop. The March 10 response was to the HPHC concerns/comments, they did not have any comments directly related to the riprap in front of the bedrock outcrop. The February 27 correspondence was where it was stated that the necessity of riprap in front of the outcrop would be addressed and provide justification for the filling in tidal waters (See Below excerpt from correspondence). Please follow up with a justification before we can notice (this is necessary for the public notice).

CRMC has requested that the City of Newport provide clarification on two items:

1. Necessity of the rip rap revetment placement around the bedrock outcrop (approximately station 3+75 to 4+75)

We acknowledge the CRMC staff concern over the necessity of the placement of rip-rap revetment around the bedrock outcrop. We, collectively, will develop a response to justify the necessity of placement of revetment within this area.

Our goal is to provide satisfactory justification for the necessity of the rip rap placement between approximately station 3+75 to 4+75 to allow for a favorable staff review.

Thanks
Rich

Richard Lucia, P.E.
Environmental Engineer IV
RI Coastal Resources Management Council

From: Rich Lucia
Sent: Wednesday, March 18, 2026 12:21 PM
To: 'Megan Elwell' <Megan.Elwell@gza.com>; Amy Silva <asilva@crmc.ri.gov>
Cc: Tim Smith <Timothy.Smith@gza.com>
Subject: RE: 2026-01-003 - Newport Cliff Walk

Just confirming that the plans will not change from the original submission.\=

Thanks
Rich

Richard Lucia, P.E.
Environmental Engineer IV
RI Coastal Resources Management Council

From: Megan Elwell <Megan.Elwell@gza.com>
Sent: Tuesday, March 17, 2026 2:35 PM
To: Amy Silva <asilva@crmc.ri.gov>; Rich Lucia <rlucia@crmc.ri.gov>
Cc: Tim Smith <Timothy.Smith@gza.com>
Subject: 2026-01-003 - Newport Cliff Walk

Good Afternoon,

I wanted to follow up on the Cliff Walk application (2026-01-003) status following the additional information recorded on February 27 & March 10. Is the application on the path for Public Notice or there anything that GZA can provide to assist?

Thank you,
Megan

Megan Elwell
Assistant Project Manager
GZA | 188 Valley Street, Suite 300 | Providence, RI 02909
C: 401.256.3991 | megan.elwell@gza.com | www.gza.com

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Oliver Allamby

From: Megan Elwell <Megan.Elwell@gza.com>
Sent: Tuesday, March 10, 2026 3:09 PM
To: david.martone@dot.ri.gov; Personeus, Neal (DEM); jeffrey.emidy@preservation.ri.gov; Waterhouse, Elizabeth C CIV USARMY CENAE (USA); Amy Silva; Rich Lucia; Cstaff
Cc: Riccio, William; Boardman, William; Tim Smith; Matt Page; Russ Morgan
Subject: Newport Cliff Walk Repairs - HPHC Comment Responses (2026-01-003; PTSID 9002N; NAE-2026-00021)
Attachments: HPHC Comments_Newport Cliff Walk Repairs_GZA Response.pdf

Follow Up Flag: Follow up
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Good Afternoon All,

On behalf of the City of Newport, GZA GeoEnvironmental (GZA) has developed the attached responses for comments issued by the State of Rhode Island Historical Preservation & Heritage Commission (HPHC) regarding proposed repairs to the Newport Cliff Walk. The letter received is dated February 20, 2026.

Please do not hesitate to reach out with any questions or if I missed anyone that the responses should be forwarded to.

Thank you,
Megan

Megan Elwell
Assistant Project Manager
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RESPONSE TO COMMENTS

To: State of Rhode Island Historical Preservation & Heritage Commission (HPHC)

From: GZA GeoEnvironmental, on behalf of the City of Newport, Rhode Island

Date: March 10, 2026

Re: Newport Cliff Walk Repairs

On behalf of the City of Newport, Rhode Island, GZA GeoEnvironmental (GZA) submits the response below to comments received from the State of Rhode Island Historical Preservation & Heritage Commission (HPHC) regarding the Section 106 of the National Historic Preservation Act review of proposed repairs to the Newport Cliff Walk. The letter received is dated February 20, 2026. For ease of review, comments received are included below, followed by GZA's response formatted in italics.

HPHC Comment - Overall: Based on the section drawings, the proposed sloped armor stone will extend between approximately 32 and 55 feet from the most seaward extent of the cliff at the MLW level and extends approximately 27 feet above MLW across the entire project area. This will create a significant change in appearance to the Cliff Walk. It will be visible from the water within Easton Bay and appears that parts of it could be visible from the Cliff Walk Path. Only a segment of the 550-foot project area has collapsed. What factors led to the determination to extend the project area.

GZA Response: *Several factors informed the decision to extend the project limits beyond the originally damaged area.*

The initial project objective was to address the March 2023 failure; however, the subsequent December 2023 failure of the articulating block system located immediately landward of the arc shaped granite block wall prompted a broader evaluation of this segment of the walkway. That assessment identified multiple locations exhibiting erosion and structural instability, including undermined walls, voids behind the wall, and other indicators of compromised support conditions.

Site access was a major factor in determining the project limits. The shallow bedrock throughout the immediate and surrounding area makes it unsafe and impracticable to perform construction from a barge-mounted crane, requiring all work to be completed from land using cranes and other heavy equipment. This approach necessitates coordinated access through the Ochre Point Mansion property. To avoid multiple mobilizations and repeated access agreements, it is in the interest of all parties to reinforce the entire affected walkway segment in a single, continuous construction effort.

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HPHC Comment - Overall: Waves tend to hit a mostly vertical wall in existing condition. Will adding a stone-armored slope effectively push the waves' force further up to areas that are comprised of softer material (specifically at the area designated as Section 1 and 5 as shown on Drawing 3), furthering erosion at those levels and allowing eventual undermining of the armored slope from behind?

GZA Response: *A site-specific met-ocean study was performed to characterize the environmental conditions influencing this reach of shoreline, including wave propagation, wave energy reduction, and wave runup. The resulting analysis informed the revetment design, which uses a stone riprap armor layer configured to dissipate wave energy as it migrates up and through the armor matrix. By reducing transmitted force through both slope geometry and stone interlock, the revetment provides a stable, rather than a hard, reflective surface that concentrates energy up the slope face.*

In addition, the proposed revetment crest has been set at an elevation above the modeled 100-year storm wave runup and will terminate above the FEMA Base Flood Elevation along the entire project length. This means that under extreme storm conditions, wave runup is contained on the armored slope itself, rather than being driven into the upland wall systems. As a result, the design is not expected to push damaging forces into Sections 1 and 5 or promote undermining from behind, but instead to reduce erosion potential and improve long-term stability along the entire area.

HPHC Comment - Section 1: The armoring assembly will be installed in front of conglomerate bedrock. Conglomerates can vary in hardness; what is the hardness in the conglomerate here? Are there signs of eroding?

GZA Response: *Both Shale and Conglomerate Bedrock were encountered within subsurface exploration GZ-01 and GZ-02 and both are visibly interwoven at varying elevations along all exposed portions of the cliff face between Webster Street and Narragansett Avenue.*

The shale was observed to have a hardness ranging from soft (Can be gouged or grooved readily with a knife or pick point. Can be excavated in chips to pieces several inches in size by moderate blows of a pick point. Small thin pieces can be broken by finger pressure) to medium (Can be grooved or gouged 1/16-in deep by firm pressure on knife or pick point. Can be excavated in small chips to pieces about 1-in maximum size by hard blows from the point of a pick) and was generally identified as being severely to moderately weathered and extremely to moderately fractured.

The conglomerate bedrock was observed to have medium hardness and like the shale, was identified as being severely to moderately weathered and extremely to moderately fractured.

The southernmost portions of the Section 1 work area appear to be compromised primarily by the Shale bedrock (see Photo 1) whereas the more northern portion of Section 1 adjacent to the extant granite block wall exhibits more conglomerate bedrock (see Photo 2). There is evidence of accelerated wear of the Shale bedrock which is interwoven with the conglomerates and voids behind the man-made structures.

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PHOTO 1: BEDROCK AT SECTION 1 CLIFF FACE - LOOKING NORTH



PHOTO 2: INTERWOVEN BEDROCK AT SECTION 1 CLIFF FACE - LOOKING NORTH

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HPHC Comment - Section 2: When was the extant granite block wall installed? If there is not an additional armor layer present, one might presume that the wall was designed to not need one. Are plans from the wall construction project available to indicate whether or not there was an armor layer seaward of the wall which was either not installed or has been displaced? If there was not such a layer, what has led to the decision to install one?

GZA Response: *The extant granite block wall is understood to have been installed circa 1976, based on CRMC Assent 75-9-13, which depicts both the stone wall and a revetment seaward of it. While the original plans indicate the intended presence of a protective stone layer, existing-condition surveys show that no functional armor layer remains in place today. Field observations instead document undermining at the wall's interface with the bedrock surface, indicating that any previously placed armor was either never installed as designed or has since been displaced by decades of wave action.*

Two lines of evidence support the need for a new armor layer:

- *Structural condition of the wall — Survey data show voids and undercutting at the bedrock contact, demonstrating that the wall is currently exposed to direct wave attack. This condition is inconsistent with long-term stability and suggests that the wall is no longer receiving the toe protection originally envisioned.*
- *Visual evidence of active erosion — Photographs of the site clearly show eroded and scalloped bedrock outcrops seaward of the wall. This pattern of bedrock wear is characteristic of repeated high-energy wave impact and confirms that the shoreline is actively retreating at the toe. Continued erosion of this surface will progressively remove support from the base of the granite wall, eventually leading to settlement, rotation, or localized failure.*

Given these conditions, the decision to install a new riprap armor layer is driven by the need to re-establish the level of protection the wall requires to remain stable. The proposed riprap revetment will shield the exposed bedrock and wall toe from further erosion, dissipate wave energy before it reaches the wall, and prevent the progressive undermining that is already observable in the field.

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PHOTO 3: BEDROCK UNDERCUTTING AT THE TOE OF THE EXTANT GRANITE BLOCK WALL - LOOKING SOUTH

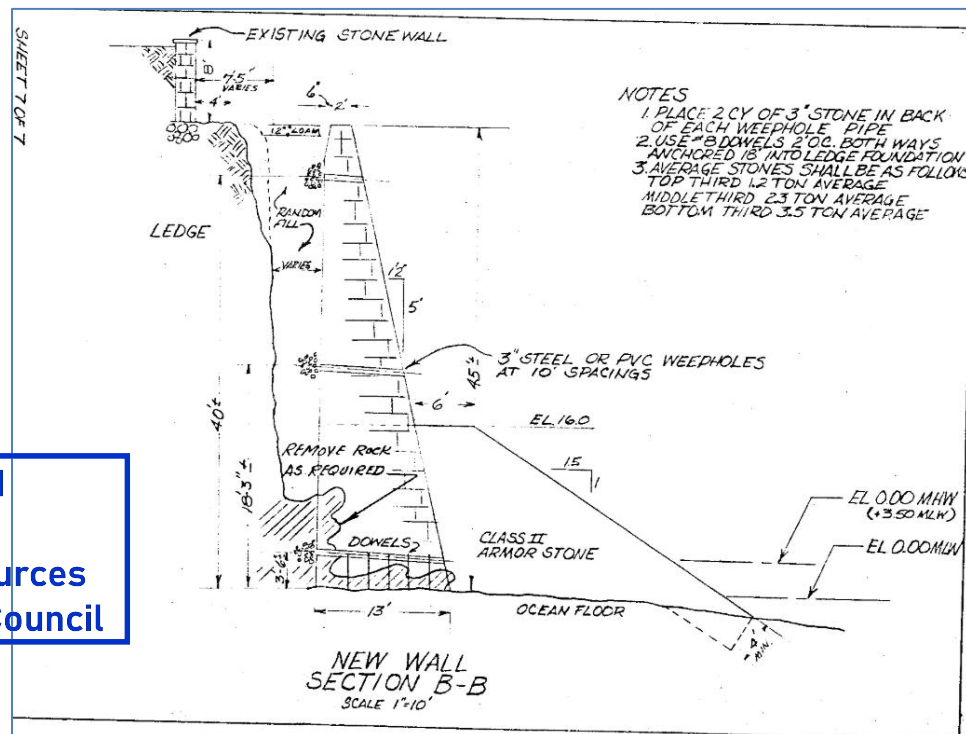


PHOTO 4: EXTANT GRANITE BLOCK WALL SECTION ILLUSTRATED WITHIN CRMC ASSES 75-9-13

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HPHC Comment - Section 3: Multiple repair and reinforcement projects over the years have caused the cliff face to become a patchwork of various natural and man-made stone types. Is the proposed stone-strong block in use anywhere else on the Cliff Walk? If so, please provide elevation photographs taken from the water or a drone keyed to a map that show where it has been installed. Please provide a catalogue or other photographs of what the Stone Strong blocks look like.

GZA Response: *It is our understanding that Stone Strong or other block walls have not been utilized along the Cliff Walk to date. Below are some examples photos of Stone Strong walls installed along the shoreline obtained from Stone Strong.*



PHOTO 5: EXAMPLE PRECAST CONCRETE STONE STRONG SEAWALL (SOURCE – STONE STRONG)

HPHC Comment - Section 3: If Stone Strong blocks are concrete, are they rated for a marine environment? The armor slope appears that it will push waves right up to the Stone Strong Block Wall. Are the blocks mortared together, to keep water under wave pressure from getting between them and soaking into the concrete, then spalling?

GZA Response: *Stone Strong blocks are comprised of pre-cast concrete. The block are not mortared together, instead they interlock through a keyed geometry and are internally stabilized by compacted structural fill placed within each unit. In addition, the proposed Stone Strong wall will be secured via mechanical earth stabilization elements consisting of high-strength geotextile layers embedded into the retained soil mass.*

Durability in the marine environment will be addressed directly in the concrete mix design. The mix will include anti-corrosion and anti-chloride admixtures, which enhance long-term performance under salt spray, wind-driven



moisture, and freeze thaw cycling. These additives reduce the potential for steel reinforcement corrosion and concrete degradation.

The retaining wall will be supported on a pile-supported reinforced concrete cap, providing a stable foundation independent of variable surface conditions or localized erosion. The wall alignment is positioned approximately 10 feet above both the FEMA Base Flood Elevation and the modeled 100-year storm wave runup elevation. At this height, no direct wave action or hydrodynamic loading is expected to impact the wall system, meaning the structure will not be subjected to the cyclic forces typically associated with coastal retaining walls located within the active wave zone.

HPHC Comment - Section 3: Has granite block like that which has been used elsewhere on the Cliff Walk, including within the project area, been considered for use in place of Stone Strong block? If so, why was it not proposed?

GZA Response: *Granite blocks were considered for use as an alternative to the stone strong wall but was not selected due to cost of materials, availability of materials, and installation. Use of granite blocks would increase the overall weight of the structure and result in an increase in size of the reinforced concrete cap, and both the size and quantity of the underlying steel micropiles.*

HPHC Comment - Section 3: Please provide details for the proposed paved gutters shown on Drawing 19, such as the paving material, edge treatments, and side-to-side section

GZA Response: *It is the design intent for gutters / paved waterways to be installed to better convey surface water from the walkway to the cliff face, bypassing the erodible sediment layer. They may be comprised of bituminous asphalt, concrete, or rip-rap revetment. The gutter / waterway will be similar to (but smaller than) RI Standard Detail 8.2.0, 8.3.0, or 8.4.0.*

GZA will revise the drawings to include a better detail and include the system within the Contract Specifications and will periodically direct water from the walkway to the face of the cliff to reduce erosion of sediments.

HPHC Comment - Section 3: Do the proposed galvanized steel tube railings shown on Drawing 20 match others in place on the Cliff Walk in both design and finish? Please provide details of the proposed design and photographs of the similar Cliff Walk railings, if applicable.

GZA Response: *At this time, the proposed final handrail has not been selected, and the drawing is a placeholder. Currently, a black chain link fence is present along this portion of the cliff walk. At a minimum, the railing will be replaced in kind.*

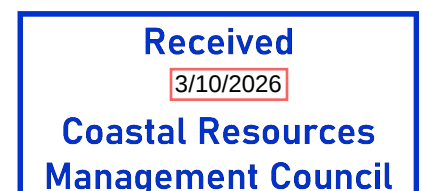




PHOTO 6: RAILING ALONGSIDE CLIFF WALK WITHIN PROJECT LIMITS

HPHC Comment - Section 3: Drawing 20 – Note 5 states that, [Walkway] concrete shall be integrally colored and stamped where shown on the plans”. Does this match existing treatment elsewhere on the Cliff walk? Please provide details of the proposed coloring and stamping, and photographs of similar Cliff Walk surfaces, if applicable

GZA Response: Detail 7 on Drawing 20 refers to the installation of new sidewalk along Webster Street and Narraganset Avenue and the note serves to match existing sidewalks in the area. This note will be removed for clarity.

HPHC Comment - Section 4: No comments

HPHC Comment - Section 5: When was the existing granite block wall installed. Other than the void behind, does this wall show signs of movement or deterioration that indicate that it needs to be armored?

GZA Response: It is not definitively known when the existing granite block wall was constructed, but available records and historic aerial imagery indicate it has been in place for several decades and predates the more recent shoreline protection features in this area.

This condition shows that, although the main wall remains intact, it is still vulnerable to continued wave attack that can cause toe undermining or overtopping-induced backfill loss. Without added protection, the same erosion mechanism that

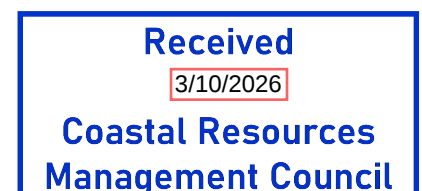


created the existing void could recur elsewhere along the wall, eventually compromising stability behind the structure and the cliff walk.

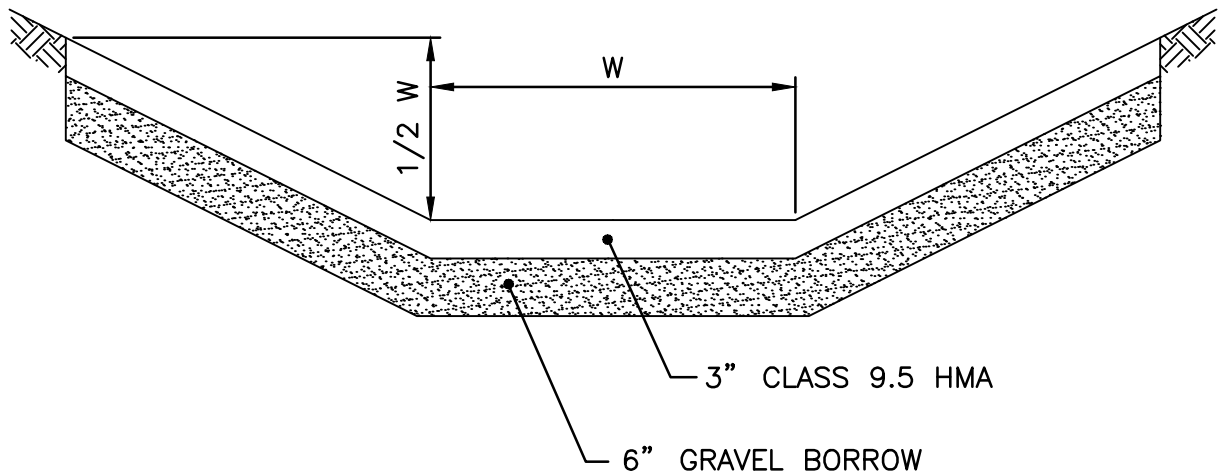
Installing an armor-stone revetment will protect the wall by reducing wave energy, limiting overtopping, and preventing further backfill loss. By eliminating the erosion mechanism that created the existing void, the revetment provides long-term stability for both the wall and the soils behind it.

HPHC Comment - Section 5: We would like more information on the proposed RIDOT R-8 riprap area. What color and kind of stone? Angular or rounded? Will it be stacked or dumped?

GZA Response: *RIDOT R-8 gradation rip rap stone will be installed along the upper portion of the slope within Section E to replace the failed concrete mattress. The stone will be angular granite and placed, not dumped.*



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NOTE:

SLOPES MAY VARY TO SUIT CONDITIONS AS PER PLANS OR ENGINEER.

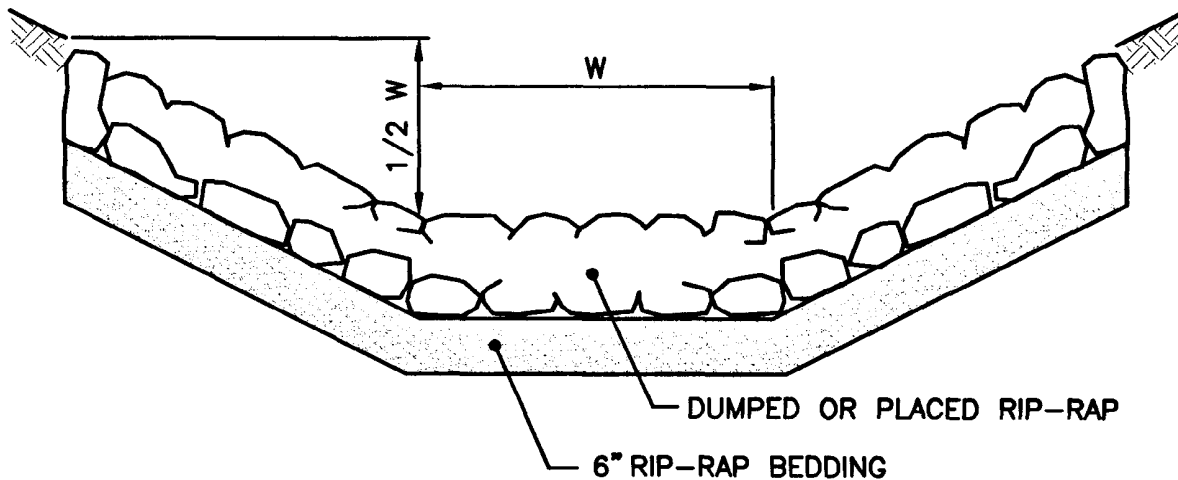
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REVISIONS			PAVED DITCH		R.I. STANDARD 8.2.0
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1	AMM	Jan 25			
			<i>Robert Rocchio</i>	<i>Lori A. Fisette</i>	JUNE 15, 1998
			Chief Engineer for Infrastructure TRANSPORTATION	Director, Division of Project Management TRANSPORTATION	ISSUE DATE

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NOTES:

1. SLOPES MAY VARY TO SUIT CONDITIONS AS PER PLANS OR ENGINEER.
2. RIP-RAP AND BEDDING SIZE MAY VARY. SEE CONTRACT DOCUMENTS.

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RIP-RAP DITCH

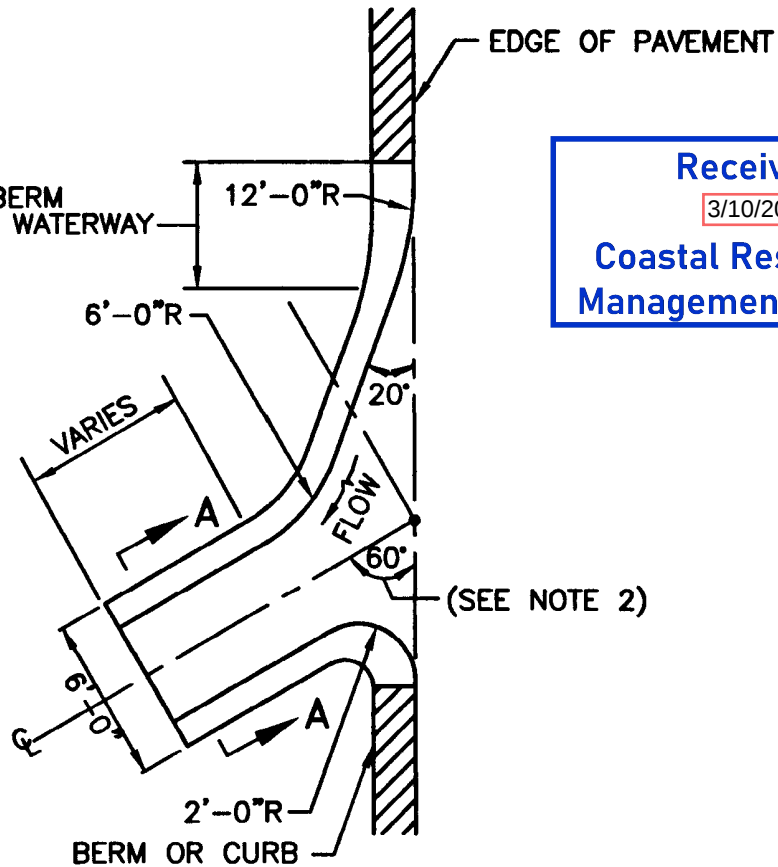
James H. Casabelli
CHIEF ENGINEER
TRANSPORTATION

Edmund J. Parker Jr.
CHIEF DESIGN ENGINEER
TRANSPORTATION

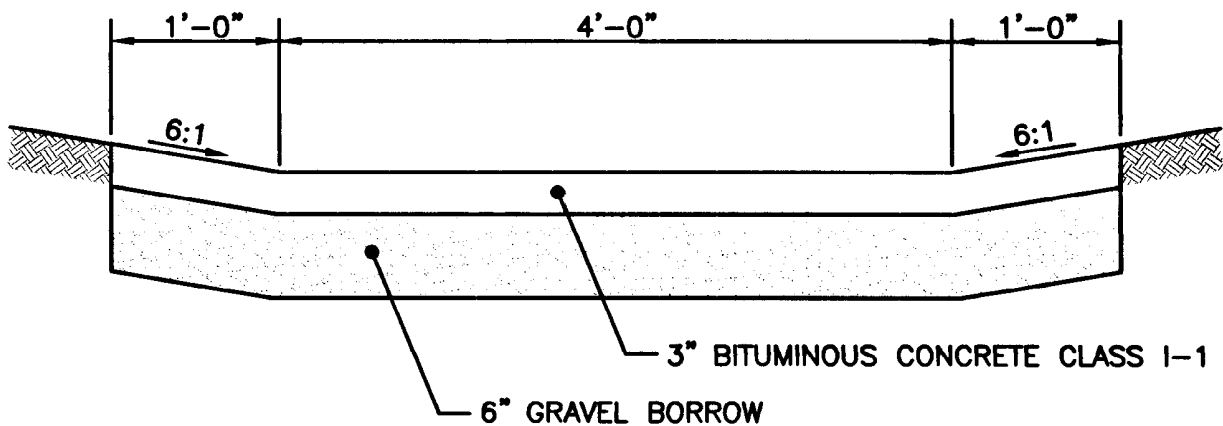
JUNE 15, 1998
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TRANSITION FROM BERM
TO SIDE OF PAVED WATERWAY



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SECTION A-A

NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 711 OF THE R.I. STANDARD SPECIFICATIONS.
2. WHEN PAVED WATERWAY IS USED AT A LOW POINT THIS ANGLE SHALL BE 90°.

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PAVED WATERWAY

James H. Cignelli
CHIEF ENGINEER
TRANSPORTATION

Edmund J. Parker Jr.
CHIEF DESIGN ENGINEER
TRANSPORTATION

JUNE 15, 1998
ISSUE DATE

