

IB-117/0

**TOWN OF SOUTH KINGSTOWN
OFFICE OF THE TOWN MANAGER
INTEROFFICE MEMORANDUM**

TO: THE HONORABLE TOWN COUNCIL
FROM: STEPHEN A. ALFRED, TOWN MANAGER
SUBJECT: MATUNUCK RELIC WALL RECONSTRUCTION AND THE TOWN'S PLANNED SHEET PILE WALL PROJECT
DATE: JULY 7, 2016

At the June 27, 2016 Town Council regular session, Kate Coyne McCoy speaking under the public comment part of the agenda stated that, with the recent Coastal Resources Management Council (CRMC) approval of plans to reconstruct the relic wall at Matunuck, there was no need for the Town's long planned sheet pile wall structure. Ms. Coyne McCoy asked that the Town Council place this matter on a future agenda for discussion, as indicated in the enclosed letter that she provided to the Town Clerk at the meeting. This was agreed to by the Council, and the letter has been placed as a communication item on Monday's agenda for the July 11th regular session. This memorandum has been prepared to provide the Town Council a general commentary on this matter, in addition to providing the following pertinent legal, engineering and State permit related communications and information for the Council's reference:

- Town Solicitor memorandum dated July 1, 2016
- Director of Public Services memorandum dated July 6, 2016
- Consulting marine engineers Richard St. Jean and Robert Fairbanks letter dated July 7, 2016
- Annotated chronology of permits for the sheet pile wall and pending relic wall reconstruction
- Minutes excerpt from CRMC April 26, 2016 meeting - Initial review of CRMC application 2015-11-007, Town of South Kingstown Maintenance Assent for Reconstruction of Revetment, (AP 92-2, lot 4 and AP 92-3, lot 1, AKA "Relic Wall Reconstruction")

Ms. Coyne McCoy's view is not shared by the Town or the Coastal Resources Management Council's Executive Director and staff. The Town's long-planned project to construct a CRMC approved sheet pile wall is predicated on concerns about public safety and preserving of the infrastructure associated with Matunuck Beach Road. This sheet pile wall is a 202' long structure to be installed along the most vulnerable and eroded beach headland area along Matunuck Beach Road. This area is characterized by a "scour hole" in the headland at the east end of the tumbledown, relic wall structure on the former Mary Carpenter properties (now owned by the Town). The Town's public safety concerns include preserving emergency access to properties located easterly of the potential breach point and maintaining the integrity of the water main located within the road bed. Loss of these functional abilities of Matunuck Beach Road to provide emergency access and potable water to this vicinity would result in an unacceptable public safety condition for the entire area. The sheet pile wall is precisely intended to protect against this potential impact to the community. In the future, it may become necessary to extend

the sheet pile installation along Matunuck Beach Road due to damage or loss from significant storms and/or expected long-term sea level rise (SLR). In this regard it is of critical importance that eligible property owners along this stretch of beach front avail themselves of experimental erosion control technologies allowed by the Coastal Council in amendments adopted in 2013, Section 980, Experimental Coastal Erosion Control, Salt Pond Region Special Area Management Plan (SAMP). To date no eligible property owners have formally submitted plans or applications under this Section.

While the reconstruction of the relic wall proposed by Ocean Mist owner Kevin Finnegan will provide a redundancy of protection from minor storms that will complement the Town's sheet pile project, it is not a substitute for the Town's project. The CRMC permit requirements for the relic wall's reconstructed state will not result in a structure that will obviate the need for the sheet pile installation. This inadequacy is documented and detailed in the attached memoranda from the Public Services Director, Jon Schock, and the Town's consulting marine engineers, St. Jean and Fairbanks. Additionally Town Solicitor Michael Ursillo notes that the Assent to permit this work has not yet been reduced to writing and approved by the CRMC, and may be subject to appeals. This may serve to delay this reconstruction "for several more years in a like manner that the Town's sheet pile wall was held up by litigation." I would add that Mr. Finnegan and the Town will need to develop a memorandum of agreement that will detail necessary conditions and requirements to allow work on the Town property to proceed. It is noted that at this time no such agreement is in place. Given these circumstances, it is not likely that the reconstruction of the relic wall will get underway this calendar year.

The inadequacy of the reconstructed relic wall to protect the Town's public safety interests is a view shared by the Coastal Resources Management Council's Executive Director Grover Fugate who stated the following at the CRMC meeting held on April 26, 2016 where the maintenance permit application for the reconstruction of the relic wall revetment was first reviewed, "Mr. Fugate stated that the other issue is that he was questioned on the record to see if the wall will protect the road. Mr. Fugate again stated that the wall will not protect the road as it would be subject to overtopping by waves during storm event and the area behind the wall would be subject to erosion exposing the road to further erosion. This wall would need to be a secondary structure to the sheet pile wall.' Later in the discussion he again spoke to this issue directly "Mr. Fugate again clarified that the maintained revetment would only serve as a secondary level of protection for the sheet pile wall that is already permitted and the Town could start construction whenever they wanted." (*See attached excerpt from the CRMC meeting of 4/26/16 for additional detail*).

Mr. Fugate also noted that he viewed the request to reconstruct the relic wall as linked to two other anticipated applications by Mr. Finnegan pertaining to the Ocean Mist property - a plan to install experimental erosion control measures along the beachfront per Section 980 of the Salt Pond SAMP, and a plan to shift his building easterly on new raised steel jacketed, concrete filled pilings. Absent these plans, a reconstructed relic wall will actually increase the erosion risk potential at the Ocean Mist property. At this writing, neither of these applications has been placed formally before the CRMC, only conceptual plans have been provided.

Based on the above, as well as the attached supporting documentation, it is clear that the relic wall in a reconstructed condition is not a substitute for the long-planned, fully financed and permitted sheet pile wall installation. While a rebuilt relic wall offers a modest degree of redundancy in concert with the sheet pile wall structure, it does not protect public safety or reduce threats to the infrastructure associated with Matunuck Beach Road. Further, with the sheet pile wall construction contract being awarded by the Town Council on June 13, 2016 to Narragansett Dock Works, the project is ready to proceed in the Fall 2016 and cannot be cancelled without the Town being liable for damages. It is hoped this memorandum is useful in framing this matter in a rational and historic perspective. The Town's project needs to proceed in the public interest. Should the Council have any questions concerning this matter, please advise.

Attachments

A handwritten signature in black ink, appearing to read "J. Lee". The signature is stylized with a large, looping initial "J" and a cursive "Lee".



Ursillo, Teitz & Ritch, Ltd.

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MEMORANDUM

TO: The Honorable South Kingstown Town Council

FROM: Michael A. Ursillo, Town Solicitor

DATE: July 1, 2016

SUBJECT: Matunuck Shoreline Protection Improvements

As you are aware, on June 14, 2016, the Coastal Resources Management Council (“CRMC”) voted to approve the reconstruction of the Mary Carpenter revetment. At both that meeting and the meeting of April 26, 2016, Grover Fugate explained that the “revetment would only serve as a secondary level of protection for the sheet pile wall that is already permitted.” He pointed out that the revetment wall would not protect the road as it would be subject to overtopping by waves during a storm event and “the area behind the wall would be subject to erosion exposing the road to further erosion.” The revetment wall “would need to be a secondary structure to the sheet pile wall.”

The vote of the June 14th decision needs to be reduced to writing by legal counsel for the CRMC. Approval of that decision will take place at a future meeting most likely in July.

Once the decision is approved, a 30-day appeal period begins running. As you are aware, there were objectors present at the CRMC meetings who were represented by legal counsel on behalf of Save the Bay, the Conservation Law Foundation, and the Surfrider Foundation. This decision could be appealed to the Superior Court by any or all of those organizations. The appeal process in the Superior Court could take approximately two years. There is also the potential of a further appeal to the Supreme Court which would take, at minimum and additional one year. Consequently, notwithstanding the vote of the CRMC to approve the revetment reconstruction, it is possible that such construction could be held up for several more years in a like manner that the Town’s sheet pile wall was held up by litigation.

The Town Council, at its meeting of June 13, 2016, approved the award of bid for the construction of the sheet pile wall to Narragansett Dock Works, Inc. to replace HK&S which is in receivership. This bid was approved by both the Federal Highway Administration (“FHWA”) and Rhode Island Department of Transportation (“RIDOT”). The funding for this project is being provided by FHWA through RIDOT. Their acquiescence of both agencies was necessary for the project to move forward. Consequently, all of the approvals are now in place and the Town is obligated to move forward with the project. In the event that the Town were to back away from the project at this time, the contractor would be entitled to damages for which the taxpayers of South Kingstown would be responsible for paying.

Finally, as you recall, Kevin Finnegan had expressed an interest in purchasing the former Mary Carpenter property now owned by the Town where the sheet pile wall will be situated. I indicated to his attorney, William Landry, that it would require a perpetual easement for maintenance of the sheet pile and armor stone. The property would be sold for an amount representing the purchase price and closing costs incurred by the Town when it purchased the property. Additionally, the Town is responsible for sand replenishment pursuant to the approval granted to the Town by the CRMC, and such sand replenishment would have to be addressed in any agreement between the Town and Kevin Finnegan. Any such sale of the premises would require Town Council approval and might also require review and approval by the RIDOT, including potential reimbursement to the agency as the original funder of the purchase by the Town. Any potential sale could not take place until the sheet pile was installed.

I will of course be available to answer any questions you may have regarding this matter at the July 11th Council meeting.

MAU/gb

cc: The Honorable Stephen A. Alfred, Town Manager



TOWN OF SOUTH KINGSTOWN

MEMORANDUM

TO: Stephen A. Alfred, Town Manager

FROM: Jon R. Schock, Public Services Director

SUBJECT: Hang Ten Relic Wall vs. Town Sheet Pile Wall Comparison

DATE: July 7, 2016

As noted in the attached correspondence dated July 7, 2016, from Richard St. Jean, P.E., the Town's design engineer for the Matunuck Beach Road protection project, there are a number of fundamental and significant differences between the Hang Ten "Relic Wall" design and the Town's sheet pile wall design.

Unlike the Town's sheet pile wall design, the Hang Ten relic wall design was significantly restricted in scope in order to comply with CRMC's "Maintenance Assent" definition.

A comparison summary of major wall components is as follows:

Armor Stone Size

The Town's seawall is designed with armor stone seaward of the steel sheet piles with a minimum size of 11 tons. For purposes of comparison, a flatbed tractor trailer will only be able to transport two – (2) stones at a time from the rock quarry to the job site. The large size of the stones is necessary to attenuate wave energy associated with the open fetch they are exposed to during a coastal storm event.

Unlike the Town's armor stone, the Hang Ten design is limited to utilizing existing relic wall stone, which are sized 5-7 tons or smaller. Hang Ten is proposing to remove the limited number of existing concrete blocks that are intermingled amongst the relic wall stones and replace them with stones of an equal size. Hang Ten can also import additional stone to the site, but the CRMC Maintenance Assent limits them to importing no more than 20% of the existing wall volume.

Armor Stone Geometry

The Town's seawall armor stone will be comprised of angular stones that will be interlocked when placed by the project contractor. The angular interlocking stone geometry prevents the stones from moving and helps dissipate wave energy during heavy sea events, should waves come in contact with the armor stone.

However, the "relic wall" is comprised of non-angular stones that can shift far more easily from wave action. Although any new imported or replacement stone is anticipated to be angular in shape, it is unlikely that final angular stone volume will exceed 22% of the total wall stone volume.

Mr. Stephen A. Alfred, Town Manager
July 7, 2016
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Example:

Existing wall volume (non-angular stones):	950 cu. yds.
<u>Existing concrete blocks to be removed:</u>	<u>50 cu. yds.</u>
Total Existing Wall Volume:	1,000 cu. yds.
Final wall volume (non-angular stones):	950 cu. yds.
Concrete blocks replaced with angular stones:	50 cu. yds.
<u>Additional angular stones allowed by 20% increase</u>	<u>200 cu. yds.</u>
Final Wall Volume	1,200 cu. yds.
Percentage of angular stones in final wall volume:	20.83%

The above is for illustrative purposes only and is subject to change based upon the volume of concrete blocks that are removed and replaced with angular stone. However, it is evident that the majority of the reconstructed relic wall will be comprised of smaller and non-angular armor stone as compared to the Town's seawall.

Further, since the toe of the relic wall will be at or below the mean high water line (MHWL), on-going wall movement can be expected due to the armor stone size and geometry.

Steel Sheet Piles

The Town's steel sheet pile component is likely the most significant difference between the two- (2) wall designs. Whereas the Town's seawall employs driven, interlocking steel sheet piles landward of the armor stone, the Hang Ten relic wall reconstruction design includes no such provision. This component is critical for long term performance and protectiveness of Matunuck Beach Road and the 12" potable water main.

The Town's 47' long interlocking steel sheets will be driven to a depth of approximately -30.0' with approximately 3' of the sheet remaining above the Matunuck Beach Road grade elevation, which varies between 12.3' – 14.0' mean sea level (MSL). Although neither wall is designed to prevent overtopping by coastal storms, waves that overtop the Town's seawall cannot retreat back through the wall to the ocean, thereby preventing any erosion of materials (and the road) landward of the seawall.

However, waves that overtop the Hang Ten reconstructed relic wall can retreat back through the armor stone carrying upgradient fill and fines. Even though the Hang Ten design includes a multi-layer filter fabric provision, the filter fabric does not have the same long-term performance characteristics and "cut-off" provision as the Town's steel sheet piles. Waves retreating back through the armor stone will likely result in a loss of bedding sediment and fine material and associated eventual settlement of the wall.

Mr. Stephen A. Alfred, Town Manager
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Concrete Seawall Cap

As previously noted, neither wall is design to prevent overtopping by coastal storms; however, the Town's seawall incorporates a 42" high, cast in place concrete seawall. The concrete "cap" will be similar to the Narragansett seawall and will encapsulate approximately 36" of the steel sheet piles that are left above the 12.3' – 14.0' MSL road elevation.

As such, the Town's final seawall elevation will be just shy of 18' MSL, whereas the relic wall crest elevation will be approximately 14.0' MSL, or approximately equal with the elevation of Matunuck Beach Road. It should also be noted that the proposed relic wall crest is approximately 70' further seaward than the Town's sheet pile concrete seawall cap.

Finally, it is important to note that CRMC Executive Director Grover Fugate has gone on record stating that the Hang Ten relic wall reconstruction design will not protect Matunuck Beach Road and associated utilities. This issue is further detailed in September 9, 2014, Superior Court Remand Finding #14 and the CRMC April 11, 2016, staff report (copy attached hereto).

Although the relic wall reconstruction will provide an additional level of protection to the subject area of coastline, it is imperative that the Town's sheet pile seawall be constructed as designed to provide long term access to properties to the east and associated potable water and fire protection for reasons of public safety.

Enc.: Correspondence
CRMC April 11, 2016, Staff Report

Cc: Joshua Rosen, P.E., Town Engineer
Vin Murray, Director Planning
Michael Ursillo, Esq., Town Solicitor
Andrew Teitz, Esq., Special Legal Counsel

St. Jean Engineering, LLC

Structural, Marine & Civil Engineering

*Licensed In: Rhode Island
Massachusetts
Connecticut
Maine
New Jersey
U.S. Virgin Islands*

July 7, 2016

Mr. Stephen A. Alfred, Town Manager
Town of South Kingstown
180 High Street
Wakefield, RI 02879

Re: Proposed Bulkhead Toe Protection Need
Matunuck Shoreline Protection Improvements
South Kingstown, RI
Project No. 11019.00

Dear Mr. Alfred:

In accordance with your request, St. Jean Engineering, LLC (SJE) with assistance from Fairbanks Engineering Corporation (FEC) prepared this letter to address the need for the toe protection stone along the proposed bulkhead project. It's our understanding that as a result of the recent issuance by CRMC of a Maintenance Certificate to repair the existing stone revetment (aka Relic Wall) along the shoreline at lots 1 & 47 that a request has been made by an outside party to eliminate the toe stone along the proposed bulkhead length; there may also be a suggestion to eliminate the entire proposed bulkhead system. The structural integrity of the proposed steel sheetpile bulkhead system is dependent on the toe stone being installed as designed. Also the proposed bulkhead would more effectively protect Matunuck Beach Road and the water line than the existing stone revetment.

The purpose of the toe stone is to limit scour along the proposed bulkhead. Scour would increase the unsupported height of the bulkhead causing it to deflect seaward. If the scour were severe it could cause a failure of the bulkhead system which would compromise Matunuck Beach Road and the water line. The proposed toe stones are required to be 11-ton average size. These have been designed using the US Army Corps of Engineers (USCOE), Shore Protection Manual design guidelines. As a result, the bulkhead's toe stone size specification are stones between about 8 to 13-tons, with 75% of the overall stone size being greater than the 11-ton.

The FEMA Flood Insurance Study for Washington County, RI dated October 16, 2013 indicate this location is a high wave energy (velocity) zone. The 100 yr (1%) storm wave crest is elevation 17 ft (NAVD88 datum). The estimated 100 year (1%) storm's significant wave height (H_s) is estimated to be 9.57 ft. The associated H_{10} wave height is estimated at 12.15 ft. The required stone size for an adequately designed revetment, in accordance with USCOE requirements, would be about 7-tons and 14-tons for the significant and H_{10} wave heights respectively. Also per these design requirements about 75% of the stone size would be required to be up to 25% larger than the average size indicated (e.g., 9-ton to 17.5-ton size, respectively). It is noted that the recommendation for determining the design wave height is based on the importance of the structure and/or infrastructure being protected landward of the revetment. At this site, given the critical nature of the road and waterline, a revetment would typically be designed to resist the H_{10} wave height.

The existing stone revetment (aka Relic Wall), located about 75 ft seaward of the proposed bulkhead, is generally comprised of undersized stones; many of these stones visually appear to be less than 2-ton in size. This is supported by the many Maintenance Certificates issued by CRMC over the years to repair this structure. It is our understanding,

that due to regulatory requirements, the recently approved Maintenance Certificate limits the amount of stone which may be imported and also the imported stone size is limited to 5 to 7-ton size. The 5 to 7-ton imported stones are also required by design/permit to be used along the toe (bottom) of the structure with the smaller existing stones re-used on the upper sections of the revetment. The existing stone revetment, repaired in this manner, should be expected to suffer future damage from storm waves; this assumption is supported by the several previously issued Maintenance Certificates obtained to repair the existing revetment structure. As noted in the CRMC interoffice memorandum dated April 11, 2016; *“It is the opinion that much of the existing stone is undersized for this site and that during a major storm much of it will be moved and will likely get pushed up into the roadway area.”*

The proposed bulkhead would provide more protection to Matunuck Beach Road and the water line against damage from overtopping storm waves than the existing stone revetment (aka Relic Wall). The existing revetment is proposed to be constructed after repair to elevation 14 ft. The proposed bulkhead would extend to between elevation 16.5 and 17.25 ft which is 2.5 to 3.25 ft higher than the existing stone revetment. The top of the proposed bulkhead system generally extends to the top of the 100 year (1%) storm wave height (El 17 ft) and as a result would reflect wave energy and/or significantly limit wave overtopping that could damage the road and water line. The existing revetment would be overtopped by several feet during the 100 year (1%) storm event. Damage along the upper sections of the repaired revetment would be expected to result from overtopping. Sustained overtopping of the repaired stone revetment would be expected to initially scour the sand from the landward side of the revetment causing it to partially collapse along the upper sections and lowering its height as a result. This would lead to an accelerated advancement of scour landward to the toe of the proposed steel sheetpile bulkhead; or road if the bulkhead is not in place. If the proposed bulkhead is not in place during a storm the resulting wave related erosion would be expected to damage the road and waterline during severe coastal storm events. To paraphrase from the Findings of Fact and Decision Pursuant to Superior Court Remand dated September 9, 2014; *“CRMC Executive Director, Grover Fugate, advised the Council of the pros and cons of the proposal as well as the suggestion of Hang Ten, that the existing remnant wall be reconstructed. Fugate concluded rebuilding the wall was not a viable option on its own for protecting the town road, although it potentially could qualify for a maintenance permit, it would be subject to overtopping and would likely fail, exposing the road erosion.”*

To summarize, the proposed toe stones placed along the proposed steel sheetpile bulkhead are an integral component of the design and are required to provide structural integrity of the protection system. Elimination of the toe stones would create a condition that could result in excessive deflection and potential failure of the bulkhead system during a coastal storm event. Repairs to the existing stone revetment (e.g. relic Wall) does add a first line of defense to protect Matunuck Beach Road against moderate coastal storms; as does the placement of sand seaward of the proposed bulkhead as the Town is proposing. However, given the undersized nature of the stone proposed for use to repair the revetment system along the shoreline it is considered inadequate to protect the road and water line against the 100-year wave forces. As a result, the revetment is not considered a replacement for the toe stones proposed along the base of the proposed bulkhead. Also elimination of the proposed bulkhead system should be expected to leave the Matunuck Beach Road and water line at risk from storm related wave damage.

We trust this is sufficient for your needs at this time. If you have any questions, please do not hesitate to call me or Bob to discuss.

Very truly yours,

St. Jean Engineering, LLC

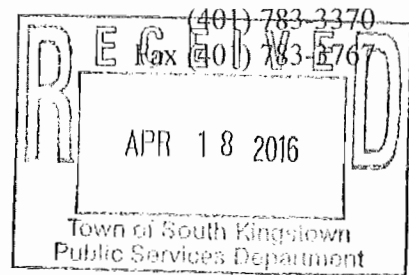
Richard N. St. Jean, P.E.
President

Cc: Robert Fairbanks, P.E.



State of Rhode Island and Providence Plantations

Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 116
Wakefield, RI 02879-1900



MEETING NOTICE

April 11, 2016


Site Address: 855 & 883 Matunuck Beach Road Plat: 92-2|92-3 Lot: 47|1
Site Town: South Kingstown
Proj. Desc: Reconstruction of revetment

The application of the Town of South Kingstown CRMC File Number 2015-11-007 will be reviewed at the next meeting of the Coastal Resources Management Council. If you are the applicant, it is necessary that you be present at the meeting to answer any questions that may arise. Please be advised that a copy of the CRMC staff engineer and biologist reports may be obtained from the CRMC offices in Wakefield for the applicant or his/her attorney. Interested parties may attend and present evidence for or against, or for informational purposes in accordance with CRMC rules. Parties interested in this matter are encouraged to review the latest information contained in this file and also should refer to Management Procedures 5.3(8) among others for additional information.

The meeting is to be held at **6:00 p.m.** (*please be advised that the CRMC Educational series begins at 6:00 p.m.*) on **Tuesday, April 26, 2016** in **Conference Room A, at the Administrative Building, One Capitol Hill, Providence, RI**. Evidence or testimony regarding this case may be submitted at the time of the meeting (see CRMC Management Procedures). The CRMC office policy for public review of files scheduled for review by the full Council states that they are available to the public until 12:00 p.m. on the day of the meeting. **Please confirm application's hearing status via CRMC website (www.crmc.ri.gov) or by calling 401-783-3370.**

Individuals requesting interpreter services for the hearing impaired must notify the Council office at 783-3370 at least 72 hours in advance of the hearing date.

Sincerely yours,


Lisa A. Turner, Office Manager
Coastal Resources Management Council

/lat

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
COASTAL RESOURCES MANAGEMENT COUNCIL
INTER-OFFICE MEMORANDUM

TO: Grover J. Fugate
DEPT: CRMC Executive Director
FROM: Danni Goulet, PE, David Reis, Tracy Silvia
DEPT: Combined Engineering and Biological Staff Review
RE: CRMC File No. 2015-11-007

DATE: April 11, 2016

Applicant's Name: Town of South Kingstown and Hang Ten LLC

Project: Demolish a dumped riprap seawall and reconstruct as a layered wall in a similar location with additional new stone brought in from off site.

Location: 855 & 833 Matunuck Beach Road Plat: 92-2/92-3 Lot: 47/1

Water Type/Name: Type 1, Conservation Area

Coastal Feature: Coastal Beach and Coastal Headland Bluff

- A. Project Overview:** The Town of South Kingstown and Hang Ten LLC (Ocean Mist) have submitted a joint application to demolish the existing dumped rip rap seawall and reconstruct the wall as a layered shoreline protection facility with the toe of the wall in the same location and the crest extending further landward. This wall extends over two lots and is directly in front of the steel sheetpile wall which was approved as a Special Exception (2011-09-005) in order to protect a portion of the road that was the subject of significant erosion. The sheetpile wall has not yet been constructed.
- B. Purpose of CRMC Staff Review:** In order to process this application in accordance with the applicable regulatory requirements contained in the RI Coastal Resources Management Program (RICRMP), the following decisions (determinations) must be made. CRMC Staff request that the Council consider Staff's analysis of this information and make a determination on each of these items. These critical determinations will then be used to determine how the application will be evaluated for consideration by the Council at a future hearing.
1. Determine for purposes of this application whether this specific segment of shoreline should be classified as "**Manmade Shoreline**" pursuant to RICRMP Section 210.6.
 2. Determine if the existing structural shoreline protection is **more or less than 50% destroyed** pursuant to RICRMP Section 300.14.
 3. Determine if the work proposed exceeds the scope of **maintenance** pursuant to RICRMP Section 300.14.
 4. Based on the determinations for Items 1-3 above determine if the work proposed requires a **Special Exception** and would require a public notice and advertisement as a Special Exception.
- C. Staff Analysis:** The following Staff analysis and comments are provided in the order of the determinations necessary to process this application as described above.

1. **Determination of Manmade Shoreline:** In the staff review of CRMC File No. 2011-09-005 in which the Council approved a steel sheet-pile seawall (Decision in Appendix A), CRMC Staff offered an opinion that much of the shoreline consisted of coastal beach and coastal headland bluff. This determination was adopted by the Council in two subsequent legal decisions (2011-12-017). The current application is for a smaller segment of shoreline west of the shoreline for the approved steel sheet-pile bulkhead. This shoreline segment currently consists of a beach backed by a 565 foot long section of displaced stone riprap and concrete blocks. In CRMC application 2011-12-017 (Appendix B – request and staff report), the Council denied a petition by the Town of South Kingstown that sought to reclassify a 1400-foot shoreline segment, shown in Figure 1 (between and inclusive of parcels 92-2:46 through 92-3:9) as manmade pursuant to RICRMP Section 210.6.A1 (definitions). The current application involves a shoreline segment (outlined in red on Figure 1) located within the 1400-foot shoreline (outlined in blue) that was the subject of the Town’s petition and has rip rap along its entire length. This section has a Council approved rip rap wall (1983-11-004) for its entire length.

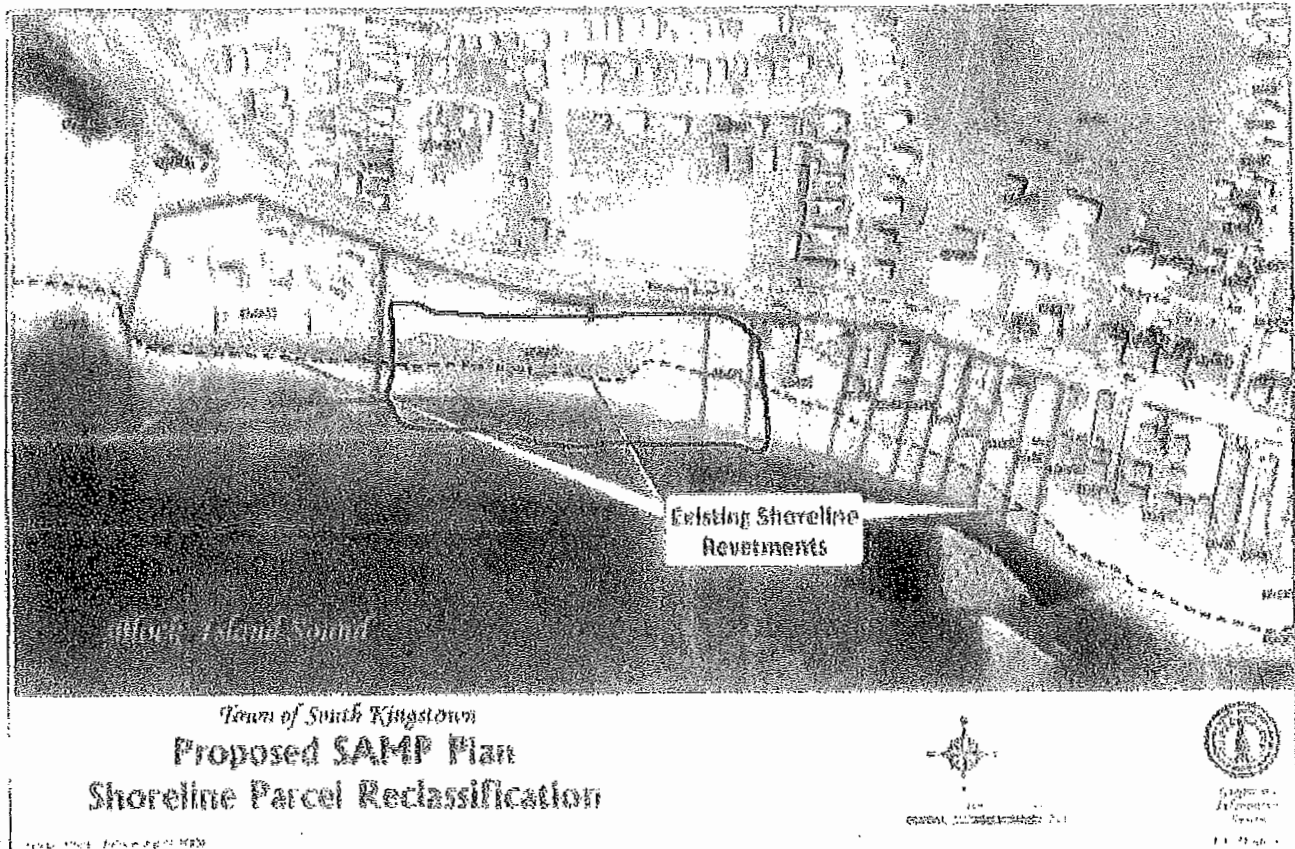


Figure 1

- 2. Determination if the existing displaced revetment is greater than or less than 50% destroyed:** Pursuant to RICRMP Section 300.14.B.4 and 300.14.B.5, it must be determined if the existing structure is considered greater than 50% destroyed (in total). If greater than 50% destroyed, the proposed work must be considered new and meet current regulations. If less than 50% destroyed, the application may be considered a maintenance activity and be allowed to be reconstructed to “previously approved conditions and dimensions” (ref. 300.14.A – Definitions). Staff has evaluated the historic and current condition of the wall from on-site inspections and photographs.

It is clear that some form of Council permitted dumped riprap / concrete block wall has existed in its approximate current location since the mid 1980’s (see photographs submitted as part of the application). This configuration is likely to be associated with a Council approval granted under CRMC File No. 1983-11-014.

A dumped stone wall is flexible and even in “new” condition will have a varied stone profile. The stone profile of the existing wall varies from west to east. In the western portion the wall has suffered from vertical stone displacement and some toe failure but is generally in fair condition and looks similar in comparison to historic photographs. The eastern end has suffered similar amounts of displacement but to a much greater degree in addition to erosion and loss of fill from behind the wall. This portion of the wall has suffered significant damage when compared to historic photographs. All of the displacement impacting the wall is typical of riprap that has been directly dumped on sand. Based on the current and historic photographs and the stone surveys provided, it is the opinion of Staff that while certain portions of the wall have been destroyed greater than 50%, the entire 560 +/- length of wall is not considered to be more than 50% destroyed.

- 3. Determine if the proposed work exceeds the scope of Maintenance:** As described above, structures determined to be less than 50% destroyed (at the time of application) may be reconstructed to “previously approved conditions and dimensions”.

The work proposed was filed as a maintenance application. Maintenance is defined in Section 300.14 of the RICRMP as:

“Maintenance of structures includes rebuilding, reconstructing, repairing or re-establishing to previously approved conditions and dimensions a damaged or deteriorated structure or facility. Maintenance includes only those activities that do not significantly alter the assented design, purpose and size of the structure.”

RICRMP Section 300.7.G.2 further states:

“Maintenance and repair of existing structural shoreline protection facilities shall be the minimum that is required to maintain the functional viability or structural integrity. In the case of riprap revetments, the addition of limited quantities of riprap armor stone to existing damaged revetments may be allowed as a maintenance activity provided that no impact to coastal resources or lateral access results.”

The application did not include a project narrative but the applicant did file supporting material in the form of photographs and notes on the drawings. Staff has attached a portion of the applicant's supporting material from file 1983-11-014 which the applicant feels supports the claim of maintenance and is reiterated in General Note 1 on sheet 5 of the proposed plans. Note 1 states "*The existing stone revetment shall be rebuilt to its previously assented condition and approximate dimensions utilizing the existing riprap on site (approximately 1 to 5 ton size), with a limited quantity of additional riprap armor stones to be imported to account for stone that cannot be retrieved from below MLW or are buried below existing grade*".

The Staff engineer has evaluated the application to determine if the proposed revetment reconstruction proposes what should be considered "*the addition of limited quantities of riprap armor stone*". The applicant performed a survey of the existing stone and found a total existing volume of material to be approximately 6274 CY of stone. The proposed wall is 8470 CY of stone or a 35% increase of which 20% is proposed to be 6-10 ton armor stones and the balance is proposed to be utilized as bedding stone. Section 300.7 does allow for some additional importation of stone for maintenance which has typically been limited to the addition 20% or less of new offsite material by practice.

The approved cross section from the 1983 (Figure 2) plan and the proposed maintenance cross section (Figure 3) are provided below for comparison. What is hard to see in the 1983 cross section but shown in the plan view (provided by the applicant as part of the supplemental information) is the fact that when the 1983 wall was approved there was approximately 80 feet of beach in front of the wall. The approved 1983 wall was to have had the majority of the wall covered by sand as can be seen in the cross section by the line that shows the grade on the left side of the cross section.

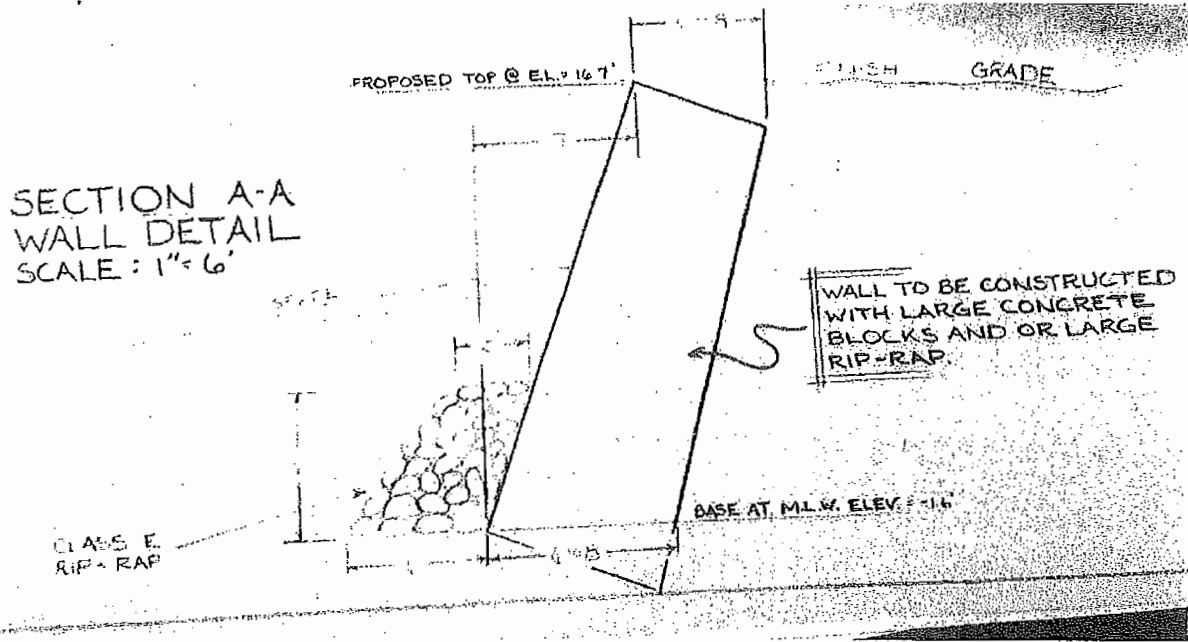


Figure 2 Approved Cross-Section from file 1983-11-014 – note overall dimensions and proposed MLW

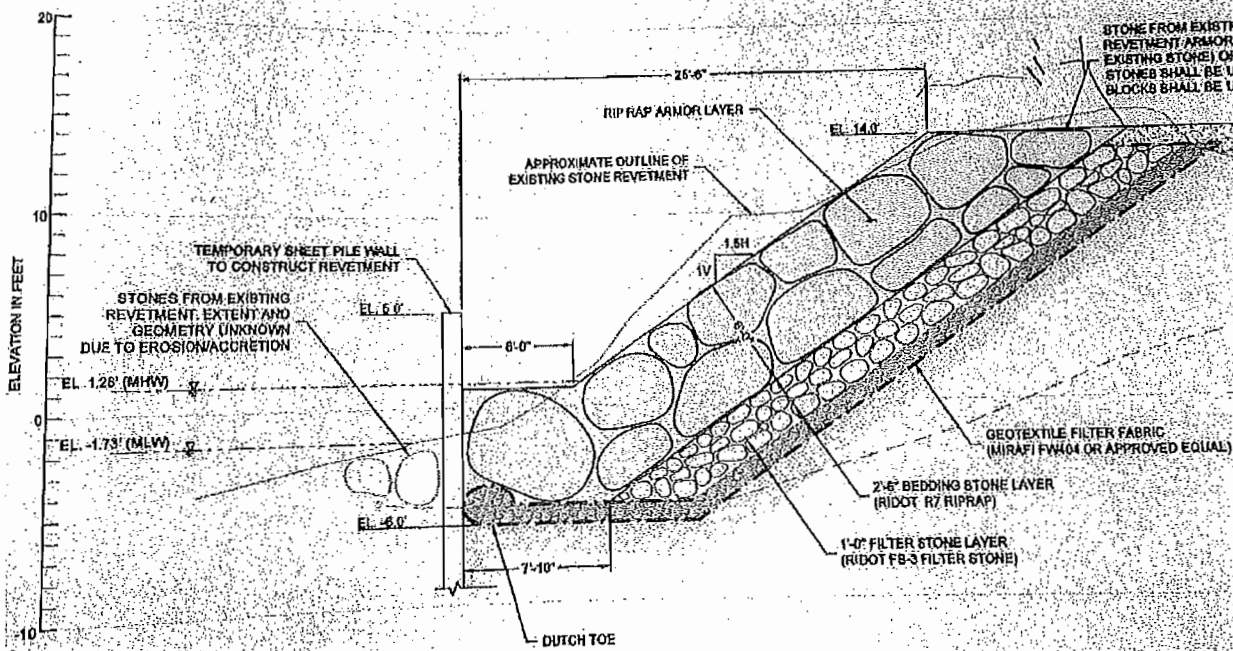


Figure 3 Proposed Cross-Section of Town and Hang Ten maintenance application

For comparison to the work now proposed, staff has attached a March 5, 2014 memo prepared by Mr. Russell Morgan of GZA (Appendix C) who is providing consulting engineering services to Hang Ten LLC and prepared the maintenance application. This memo is a synopsis of meeting, research and alternatives for work at the Mary Carpenters wall. In this memo the second option (which is similar to the current maintenance proposal) states "2. Complete Revetment Reconstruction (Category B Assent for the full 565ft of shoreline): This approach would include

a new revetment section (similar to that shown on our current plans). It would be more robust than the existing, will include several layers of stone and bedding, and will be set at a higher crest elevation. The assent approval process will include public hearings. It will be scrutinized by others, (Save the Bay, Surfriders, etc) will take 6 to 9 months and will require Army Corps of Engineers approval. Although this option is more robust there may still be some maintenance required to reset stone and regrade sand. It will provide the most protection to the property and adjacent road."

In the attached Findings of Fact and Decision Pursuant to Superior Court Remand dated September 9, 2014 (Appendix A) Finding 14 states *"As more fully set forth on the record, and incorporated herein by reference, CRMC Executive Director, Grover Fugate, advised the Council of the pros and cons of the proposal as well as the suggestion of Hang Ten, that the existing remnant wall be reconstructed. Fugate concluded rebuilding the existing remnant wall was not a viable option on its own for protecting the town road, although it potentially could qualify for a maintenance permit, it would be subject to overtopping and would likely fail, exposing the road erosion. An alternative could be designed to withstand wave attack but it would require a new permit, and still suffer overtopping potentially exposing the road to its original configuration. He stated the proposal for a wall would potentially cause more damage to Hang Ten than the current condition. Stated on behalf of staff, that alternative was rejected because it would have little benefit in general, is redundant to the existing wall behind it(planned town wall) and the planned wall by the Town would provide more protection to the road while causing less of threat to Hang Ten. When looked at in light of the beach nourishment proposed by the town for the towns new wall, maintenance of the existing wall without nourishment would cause more environmental damage than it would prevent."*

The council also found in Finding 11 that *"Morgan testified that in his opinion, restoring the remnants of an historical wall at the site would be the better option for minimizing environmental impacts in the area. As more fully set forth below the Council does not find that testimony credible"*. Finding 12 then states *"On cross examination, Morgan conceded that if the Town's proposal to maintain sand on the beach seaward of the proposed wall were implemented, that would in fact mitigate environmental impacts from the Town's proposal."*

The current proposal is to reconstruct the revetment at the water's edge. In order to undertake this construction, the wall toe must be excavated to the design depth below the mean low water line. The installation of a temporary sheet pile wall will be required to prevent sand from falling back into the excavation as it is opened to install the revetment toe stone.

The current proposal does not include beach nourishment in front of the proposed reconstructed wall nor is there a public access proposal. The September 9, 2014 Findings state in finding 16 *"Mr. Fugate advised the Council that with the Towns purchase of the two abutting lots, and making the commitment to provide beach replenishment and sediment replacement, as well as maintaining free public access to that re-nourished beach area, that would mitigate environmental impacts and any use conflicts"*.

Based on the definitions within the RICRMP that limit maintenance to *"Maintenance includes only those activities that do not significantly alter the assented design, purpose and size of the structure"* and *"shall be the minimum that is required to maintain the functional viability or structural integrity"* the current proposal

is in the opinion of staff beyond the scope of what can be considered as maintenance. A comparison of the engineering consultant's memo provided on behalf of the applicant in addition to the Council's Findings of Fact suggest limited maintenance of the previously authorized revetment would be acceptable. However a wholesale reconstruction, while it may be an appropriate engineering solution, appears to exceed the limits of what can be considered maintenance in this case.

If the Council determines that the proposal qualifies as maintenance, staff offers the following comments:

- a. The proposed wall would provide more protection to the road from erosion as it adds protection for the entire 560 +/- feet of roadway. Staff generally supports the increased erosion protection in this location (with some reservations see comment i.).
- b. The sloped face will dissipate energy; however the wall will still become overtopped during a major storm.
- c. The return that is proposed on the eastern end will limit the fill loss behind the wall. The return is likely to increase the erosion at the Ocean Mist (Hand Ten LLC) if experimental erosion protection is not installed and maintained (separate application)
- d. The proposal does not address or guarantee the public access in perpetuity which was an important consideration for the approval of the sheet pile wall.
- e. The proposal does not provide for beach nourishment; however the placement of sand in front of the proposed wall will disappear very quickly.
- f. It is the opinion of staff that there will be rock revetment to elevation 14 from the corner of the abutting property (trailer park) all the way to Ocean Mist that will not allow lateral access in front of the wall(s). There is virtually no lateral access currently except at the eastern end where the wall has more deterioration. (Please note that the trailer park revetment has received numerous maintenance permits since it was installed and approved after the fact and had a form of public access required 2011-09-005).
- g. If deemed maintenance, the approach taken by the applicant to build a structure that meets contemporary standards is prudent.
- h. The addition of geotextile, bedding stone, constructing in layers and embedding the toe will help provide erosion protection to the road.
- i. It is staff's opinion that much of the existing stone is undersized for this site and that during a major storm much of it will be moved and will likely get pushed up into the roadway area.

4. Determine if a Special Exception is required:

If the Council finds that the area is not a manmade shoreline and the proposal is beyond the threshold for maintenance the proposed work on the wall will require the application be amended to include all of the Special Exception criteria and information.

Conclusion

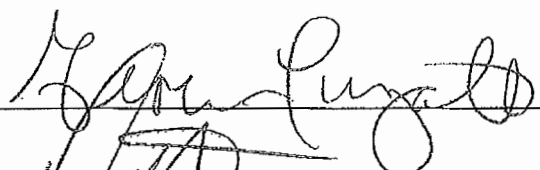
The approval of any work on this wall beyond limited maintenance could create the situation where there are two substantial shoreline protection facilities on one lot. This would be a precedent setting decision.

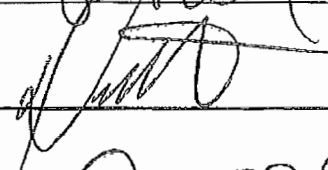
Staff recommends that the Council finds the proposed project be found to be beyond maintenance.

In the alternative staff recommends for determination of the area being a manmade shoreline as this area has been previously assented and the area under application is entirely altered by a stone revetment and consistent with other applications process by the council. Calling the area manmade will allow the applicant to move forward with a Category B application (versus Special Exception) and allow a trapezoidal structure with larger imported stone to be constructed.

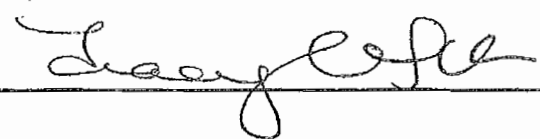
Staff finds that any choice in this location that includes additional infrastructure is not likely to benefit the coastal resources for the long term as the erosion and storm impacts will continue to increase. Although this area is already altered by the existing stone revetment. Included as Appendix D is the Matunuk Erosion staff report from 2011-09-005 which provides a good background of the erosion issues in this area.

Staff continues to recommend that the Council designate and adopt the "Matunuk Coastal Headland Natural Area" to mitigate and compensate for the loss of lateral shoreline access which can be expected from any Council decision to authorize reconstruction and improvements to the existing revetment (See March 6, 2012 Staff report Appendix B, pages 14-16 of 17).

Signed:  Executive Director

Signed:  Staff Engineer

Signed:  Supervising Environmental Scientist

Signed:  Staff Biologist

**Annotated Chronology of Consideration and Permitting:
TSK Sheet Pile Wall (SPW) and Maintenance Permit Application for Reconstruction of “Relic” Wall on
Former Mary Carpenter Properties, July 7, 2016**

- August 2011 CRMC Application for Sheet Pile Wall (SPW)
- April 10, 2012 CRMC Hearing – Denial
- May 8 2012 CRMC Hearing – Approval of 202’ SPW
- June 26, 2012 Decision Filed
- July 2012 Hang Ten Appeals CRMC Decision
- Sept. 2013 Contract award to HK&S.
- March 10 2014 Superior Court remands CRMC Decision Re: Environmental impact and potential use conflicts
- June 24, 2014 CRMC clarifies 2012 Decision and grants assent
- Sept. 9, 2014 Fugate CRMC finding. The relic wall is not a viable option...
- Sept. 29, 2014 CRMC Decision Files
- May 8, 2015 Superior Court approves CRMC Clarification of Decision
- Sept. 3, 2015 Landry contacts Ursillo Re 4 questions – Response to questions provided in memo to Landry from Ursillo on September 17, 2015

1. Will Town agree to submit a maintenance permit for relic wall?

Answer: Yes

2. Will the town agree to sell the Carpenter properties to Hang Ten?

Answer: Yes with a perpetual easement for maintenance of the SPW and armor stone

3. If Town agrees to question 1 and 2 Hang Ten will not object to the SPW being constructed if the Town Engineers deem it necessary, without armor stone and pay for its installation. Hang Ten will also implement a sandbag “soft” solution as proposed by CRMC in cooperation with the other property owners and will rise up his building and replace the existing foundation structure that includes a return to protect the building.

Answer: The armor stone may not be removed from the Town’s CRMC Assent to construct the SPW. The relic wall is undersized and inadequate for road protection and therefore not a suitable replacement for the SPW.

4. If the SPW is constructed with a suitable return and measures to protect the Ocean Mist Building, preconstruction requests will be approved.

Answer: Soft solutions advocated by CRMC staff should be adequate to meet the return needs.

Annotated Chronology of Consideration and Permitting:

TSK Sheet Pile Wall (SPW) and Maintenance Permit Application for Reconstruction of "Relic" Wall on Former Mary Carpenter Properties, July 7, 2016

- Sept. 23, 2015 Landry to Fugate Letter requesting a meeting and enclosing the Ursillo September 17, 2015 response to Landry's September 3, 2015 question
- October 15, 2015 CRMC Staff meeting with Town and Hang Ten Landry states that his client is no longer opposed to the SPW inclusive of the armor stone and that they wanted to get a maintenance permit for the relic wall implement soft solutions for the properties to the east of the SPW location and to move his building replace pilings and reset the building back on a proper foundation. No follow-up by Landry to set time schedule for various permits.
- October 22, 2015 The Town delays construction schedule to allow for the various permits (assents) to be drafted and to allow relocation of the OM building to be relocated.
- April 26, 2016 CRMC Informational Hearing Grover comments on the relic wall not protecting the road. Reiteration of same comments made on September 9, 2014.
- June 13, 2016 Town Council award of contract to Narragansett Dock Works for fall 2016 construction of SPW - \$1,198,800.

Mr. Reis gave a brief overview of the application explaining that the RIDEM was asking to build new steps utilizing existing shoreline stone that's at the base of Mohegan Bluffs to provide access to the bottom of the bluff. Mr. Reis explained that it was Type 1 waters and required a special exception. Mr. Reis stated that staff recommended approval with staff stipulations. Mr. Reis explained that RIDEM would like to have the project completed for the 2016 beach season. Mr. Reis explained that any repairs of the approved constructed project would require administrative approvals.

Mr. Hudner motioned, seconded by Vice Chair Lemont, to approve the Special Exception. Mr. Goldman did a roll call vote.

Mr. Sahagian	Yes
Mr. Hudner	Yes
Mr. Gomez	Yes
Mr. Coia	Yes
Mr. Beaudette	Yes
Mr. Affigne	Yes
Ms. Montanaro	Yes
Vice Chair Lemont	Yes
Chair Livingston	Yes

Unanimous on the Special Exception.

Vice Chair Lemont motioned, seconded by Mr. Coia, approval of the application.

Motion carried on a unanimous voice vote.

7. Applications before the Council for Review:

2015-11-007 TOWN OF SOUTH KINGSTOWN – Reconstruction of revetment. Located at plat 92-2, lot 4 and 92-3, lot 1; 855 and 883 Matunuck Beach Road, South Kingstown, RI.

Madam Chair clarified that the item is a staff discussion and update for the Council. No decision would be made and there would not be input from audience at this time.

Using a large scale drawing of Matunuck beach area, Mr. Fugate updated the Council on the progress of the Town of South Kingstown's Matunuck revetment application (co-applied for with Kevin Finnegan, owner of the Ocean Mist).

Mr. Fugate explained that the property was owned by the Town of South Kingstown and that the proposal received thus far exceeds the scope of a CRMC maintenance activity meaning that the plan submitted to the Council exceeds the current design. Mr. Fugate stated that if the scope of the application was to be brought back to maintenance confines, the application would be considered. Another option is for the Council to review the application and decide if they consider the project within the confines of a maintenance activity which the CRMC staff does not feel it falls within that scope. The 3rd option would be to call the wall a manmade shoreline and that would require a Category B review. The 4th option is to call it a Special Exception.

Mr. Fugate explained that the application is different than the previous application as the applicants are applying for an area that has a previous assent and a revetment is present.

Mr. Fugate stated that the other issue is that he was questioned on the record to see if the wall will protect the road. Mr. Fugate again stated that the wall will not protect the road as it would be subject to overtopping by waves during storm event and the area behind the wall would be subject to erosion exposing the road to further erosion. This wall would need to be a secondary structure to the sheet pile wall.

Vice Chair Lemont asked for clarification on scoping back the revetment and the impact and concern of the property owners. Mr. Fugate stated that the slope and the base of the structure are very expansive, and, the applicant's would need to reduce the amount of new stone being brought in as part of the project. Mr. Fugate stated that the applicant's engineer was advised of this and that if they brought the project scope back to the maintenance qualifications, it could be brought before the Council for their review and decision fairly quickly as it is the quickest solution. Mr. Fugate stated that it is unlikely that the walls proposed would provide protection to the structures during a significant storm event. Mr. Fugate stated that the Town is interested in protecting their road which is where the Council approved sheetpile was comes in. Mr. Fugate confirmed that the maintenance wall proposal would not harm the road but it would not serve to protect the buildings, especially in the event of a 100-year storm with waves in the area of about 20-feet or so.

Mr. Affigne asked what the benefit of maintaining the existing revetment would be if not to protect the road or the buildings. Mr. Fugate stated that they simply have the right to maintain the structure.

Mr. Fugate explained that Mr. Finnegan (the co-applicant) also had submitted an application to elevate his structure on a concrete pile supported foundation and elevate the structure three feet above base flood elevation; essentially getting the structure out of the wave envelope.

Mr. Fugate clarified that the applicant would like the Council to determine if the application, as submitted, would qualify as a maintenance application; again stating that it does not in staff's opinion.

Mr. Fugate again clarified that the maintained revetment would only serve as a secondary level of protection for the sheetpile wall that is already permitted and the Town could start construction on whenever they wanted.

Tony – if revetment was overtopped during a storm. Could it be repaired prior to sheetpile wall and road damage? GJF – depends on significance of storm. If the feature jumps, and leaves it in offshore area – wall cannot be rebuilt.

Mr. Fugate informed the Council that there were people who would object to any application that was submitted.

Chair Livingston reiterated that no action would be taken at this meeting.

Mr. Fugate explained that if the applicant wanted to proceed with the application as is, an evidentiary hearing would be scheduled and a subcommittee would be formed to start the hearing process.

Members of the audience voiced their opinion that they wanted the deliberation to start that evening.

Mr. Fugate explained that the other technologies being considered by other property owners down the strip would have to be able to tie into the existing revetment if built.

Lateral access was discussed and Mr. Fugate confirmed that the applicant was proposing ideas on how to increase lateral access in this area.

Mr. Coia asked that in future hearings, introductions and identification of applicants and their attorneys be made.

Mr. Fugate introduced the Town representatives and their attorneys, as well as the objectors from Save The Bay, Conservation Law Foundation and The Surfrider Foundation.

Chair Livingston thanked everyone and asked to move the meeting forward to the next application.

There was an interruption from the large quantity of audience members who wanted to be heard.

Chair Livingston called a brief recess.

8. **Rhode Island Superior Court Remand:**

The Court has ordered the CRMC to provide additional Findings of Fact on the record regarding its previous decision in the matter of:

A2009-09-100 PAUL and CAROL MERCURIO – Construct and maintain a 20' x 32' residential dwelling and permeable driveway with municipal water and sewer connections. Located at Plat L, Lot 178; Glenwood Avenue, Narragansett, RI.

Mr. Sahagian removed himself from the proceedings on this matter.

Mr. Goldman explained the process of what would be done stating that the four members of the Council that voted to approve the application would be clarifying and adding to the record the basis for their approval.

Joseph DeAngelis, Esq. was present for the applicants, Paul and Carol Mercurio
S. Paul Ryan, Esq. and Alexandre Graskemper, Esq. were present for Rodney Labreque.

Mr. Gomez spoke first stating that the judge had requested that the Council members go back over the record and the transcript and that he did just that to reacquaint himself with the project so that he could clarify his agreement to Variance criteria 1, 3, 5 and 6. In doing this, Mr. Gomez stated he came to his decision based on the applicant's civil engineer and geologist's expert testimony and their description of best practices for this project, such as the location, size and quality of the house that was designed as well as the function of the existing revetment. Mr. Gomez stated that the CRMC allowed existing properties that also had revetments to build. Mr. Gomez felt that there was no possibility of negative effects on surrounding property. Mr. Gomez stated that he did not want to deny the applicant the use of their property.

Mr. Coia spoke next going through his reasoning for the Section 120 elements that must be met under standard of review. Mr. Coia discussed numbers 1, 3, 5, and 6 as the judge had stated that he was satisfied that #2 and #4 were supported in their decision. Mr. Coia expounded on each element one at a time.

Mr. Coia stated that it was his understanding that one of the most important goals and policies was to protect the shoreline and the use of land to which its purpose is created and that his decision was made