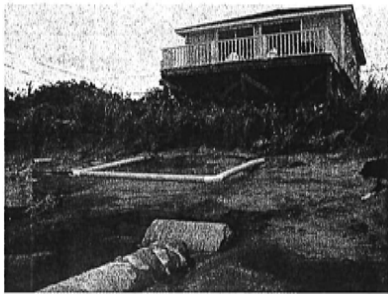
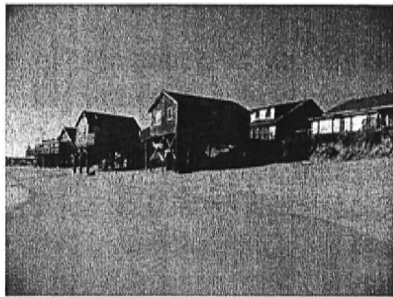


Appendix Section 5
Matunuck Coastal Area Report
South Kingstown Planning, April 2010

MATUNUCK COASTAL AREA REPORT

Storm Related Shoreline Impacts (1939 – present)



South Kingstown Planning Department

April 2010

Introduction

The purpose of this report is to provide an historical context of recent impacts that have occurred within the Matunuck coastal area of South Kingstown. The basic issue is that coastal erosion caused by severe storm event, most notably over the past fifteen or so years, pose an immediate threat to properties located directly along the shoreline. Those processes also represent a future threat to Matunuck Beach Road that could result in severely impacting and undermining the structural integrity of the roadway and associated infrastructure. These include the 12" main that supplies water to the East Matunuck area from the Town's South Shore Water System. The water main also serves as a secondary supply line, should water in the future be purchased from the Town of Narragansett.

South Kingstown's coastal location serves as a major tourist attraction, enhancing the social, scenic and economic experience of the community. The very nature of a coastal location also encompasses greater vulnerabilities to natural hazards, particularly during the summer months when the influx of vacationers significantly increases the population at risk. The South Shore area of South Kingstown has experienced significant erosion as a result of coastal storms, hurricanes and winter storms.

The Village of Matunuck is an important natural and cultural setting within South Kingstown. Matunuck is a fine example of a coastal, seasonal tourism setting with a varied mix of summer and year round homes and a small business core. The business core provides services and goods to both local residents and visitors. The area serves as perhaps the major source of rental properties for tourists. Businesses on the shorefront (south side) of Matunuck Beach Road include: The Vanilla Bean (seasonal ice cream shop), Ocean Mist Restaurant and Bar and Tara's Joyce Family Pub represent a significant source of employment in the area. It is estimated that these businesses provide 75 jobs and are thus an important part of the local economy. The Town Beach, surfing at Matunuck Point, Trestles and Deep Hole and fishing along this shorefront also provides significant recreational resources for Town residents and visitors alike. All of these activities may be negatively impacted by the erosion the area has been experiencing.

The coastal erosion is such that the integrity of Matunuck Beach Road may be compromised with a future major storm. Matunuck Beach Road is the only access/egress/evacuation route for some 514 seasonal and year round dwellings south of Atlantic Avenue. The road is an essential element to ensure the health and safety of the residents that reside in this area. The impacts of storm events and associated erosion have encroached upon various commercial and residential properties on the south side of Matunuck Beach Road.

In the past several years two dwellings were razed as a result of erosion undermining their land base and foundations. Those structures being a small cottage adjacent to the "Ocean Mist" and "The Sea View", a community hall & bath house associated with "Carpenter Beach Meadows". Erosion impacts continue on remaining commercial businesses, residential dwellings, and recreational areas along the shorefront.

A review of Tax Assessor records indicates that, within the subject area, there are approximately 718 parcels and/or sub-parcels with a total assessed value of \$236,038,100. That figure is delineated as follows: Land = \$161,739,500; Buildings = \$65,031,400; and tangibles (i.e. seasonal cottages) = \$9,267,200. (NOTE: The property values shown are as of 12/31/06).

Matunuck Headland

The Matunuck area is part of the Rhode Island barrier and headland system whose origins are the result of the geologic processes that occurred during and after the last glacial period. Approximately 21,000 years ago the extensive glacier ice of the Laurentide Ice Sheet began to melt as a result of global warming. Sediments that had been held within the ice were released and deposited as glacial till. Meltwater rivers flowing underneath the melting ice sheet added additional sediments that were deposited on glacial river flood plains and in glacial lakes. As stated in the Salt Pond Region Special Area Management Plan (SAMP), *"The more widely distributed deposits, those left by meltwater flowing from the retreating ice sheet, are glacial river sand and gravel, such as that exposed along the eroding Matunuck headland."*

The Salt Pond Region SAMP also notes that, *"The present arrangement of barriers and headlands is controlled by the topography of the glacial till and glacial river sediment. The areas of glacial deposits with higher relief are exposed at the surface and form the present headlands. . . ."* The Matunuck Headland is one such area. CRMC in concert with the University of Rhode Island – Coastal Hazards Group has developed depictive cross-sections of both barrier and headland geology (see Appendix G).

Coastal Erosion Processes

Put simply, the extensive erosion that has occurred to the Matunuck headland is the result of storm induced wave action/energy. During fair weather the wave energy impacting the Matunuck headland results in little change to the coastal feature. However, significant storm events are responsible for the vast majority of erosion to those features. In particular, the storms having the greatest effect on the Rhode Island south shore are extratropical Nor'easters and Sou'easters that normally occur in late fall, winter and early spring. In addition, the tropical hurricanes in late summer and early fall obviously can have dramatic impacts to the south shore (i.e. 1938 hurricane, Hurricane Carol).

Extratropical storms and tropical hurricanes produce a storm surge that can cause extensive erosion to coastal features such as the Matunuck Headland. A storm surge is the height of the ocean surface above the normal tidal elevation. As stated in the Salt Pond Region SAMP, *"Storm surges result from several factors, but are primarily a function of the high winds blowing across the ocean surface and reduced atmospheric pressure associated with extratropical and tropical storms. The onshore-directed winds of a severe storm or hurricane interact with the ocean surface and actually pushes the ocean water mass toward the shoreline."*

It is important to note that the severity of storm-surge impacts (i.e. erosion, flooding) is directly related to their storm paths and associated wind patterns. Extratropical storms and hurricanes that have a storm path situated west of Rhode Island (i.e. along the Connecticut River valley) result in maximum onshore winds. Those onshore winds produce a strong storm-surge that cause maximum coastal erosion and flooding. The storm paths of the 1938 hurricane and Hurricane Carol (1954) are examples of this scenario.

Conversely a storm path that is located east of Rhode Island (i.e. moving over Cape Cod) will result in offshore winds. Under this scenario the storm-surge is appreciably less and flooding and erosion is normally minimal. The Salt Pond SAMP includes a definitive graph of both storm scenarios (see Appendix G).

Coastal Erosion- Matunuck Area

Staff has held discussions on numerous occasions with Dr. Jon C. Boothroyd regarding the storm related erosion to coastal features and potential shoreline protection options. Dr. Boothroyd is the appointed geologist for the State of Rhode Island and has served for thirty three years as a professor in the Geology Department at the University of Rhode Island. He has also been directly involved in the development of the shoreline change maps referenced within the CRMC Program. These maps reflect the effort to document the extent and rate of coastal erosion along the South Shore (see Appendix E).

Dr. Jon Boothroyd and others have established fixed transect lines (Digital Shoreline Analysis transects) along the south shore and perform periodic monitoring program that records data to ascertain the annual rate of change in the position of the high water line (HWL) as measured from vertical aerial photographs dating back to 1939.

The data points, for each transect, can be connected for any given year to accurately illustrate the high water line. Landward movement of the HWL indicates periods of erosion to coastal features (i.e. headland, barrier, berm) while a seaward movement of the HWL is representative of a period of sand accretion to the barrier and/or berm.

The most recent maps developed show the shoreline depicted for 1939, 1975, 1985, 2004 and 2006 (see Appendix E). There are four (4) transects along the Town Beach shoreline. Data indicates that the overall shoreline movement landward in this area, for the period from 1939 to 2006, ranges from 212.2', 234.8', 250.8' and 241.6' (from west transect to most easterly transect).

There are also four transects along that portion of the Matunuck headland within the focus area of this report. A comparison of the 1939 and 2006 shorelines shows that the HWL has migrated landward at total distances of: 89.4' (at the Matunuck Beach Trailer Association rip-rap wall); 67.7'; 101.9' (at Mary Carpenters Beach); and, 50.1' (at Tara's Joyce Family Pub).

It is interesting to note that within certain sections of the headland there has periodically been an actual overall net gain of sand. The shoreline configurations for 1975 and 1985 show a migration of the HWL in excess of 50' seaward of the 1939 HWL. As such the total shoreline change from 1975 and 1985 to 2006 in those areas is greater than the 1939 to 2006 shoreline change by a distance of approximately an additional fifty feet (see Appendix E, Card Pond – Matunuck Shoreline Change 1939 – 2006).

As a comparison, the South Kingstown Planning Department has geo-referenced aerial photos of the Town Beach area from 1939, 1978, 1997 and 2006 in an effort to approximate the extent to which coastal erosion has changed the shoreline configuration (see Appendix A). Data calculated approximates a total shoreline change of between 145' to 200'. The related tabular information is as follows.

Town Beach: Estimated Range of Shoreline Erosion Rates (1939 – 2006)

Period	Time Span (yrs)	(Changes Under 145' Scenario)			(Changes Under 200' Scenario)		
			Tide Line Change (ft.)	Pct. of Total Tide Line Change		Tide Line Change (ft.)	Pct. of Total Tide Line change
1939 – 1977	38		30	21%		50	25%
1978 – 1997	19		70	48%		80	40%
1998 – 2006	8		45	31%		70	35%
TOTAL	65		145	100%		200	100%

A review of the data indicates that between 1939 and 1977 the overall shoreline changes are less dramatic than in later years. Shoreline changes accelerated during the nineteen year period of 1978 to 1997 where a marked increase in the movement of the tide lines landward is revealed. The eight year span between 1998 and 2006 saw an even greater increase in coastal erosion.

Based on the range of estimated coastal changes shown above, between 75% to 79% of the erosion of coastal features has occurred over the past twenty seven (27) years while only 21% to 25% of the total changes occurred during the prior thirty eight (38) year period (1939 to 1977). *NOT TO INCLUDE 1951 & 1993*

As previously discussed, there is nominal erosion to the coastline during fair weather. Significant erosion to coastal features (i.e. Matunuck Headland) is primarily a result of the storm-surge that occurs during extratropical and tropical (hurricane) storms. Based on those factors it would be concluded that a greater frequency of storms with on-shore winds that produce a storm-surge has been occurring since 1998. *CHECK 1951 to 1977 RATES*

Discussions with Dr. Jon Boothroyd indicate that changes in weather patterns over recent years have resulted in numerous extratropical storms following tracks west of Rhode Island. These paths, with their associated on-shore winds, result in severe erosion and coastal flooding. This change in extratropical and tropical hurricane patterns appears to be responsible for the significant shoreline changes calculated for the Matunuck headland area for the period of 1985 to 2006 (i.e. approximately 100' in the area just east of the Tara's Joyce Family Pub site).

Recent Storm Events

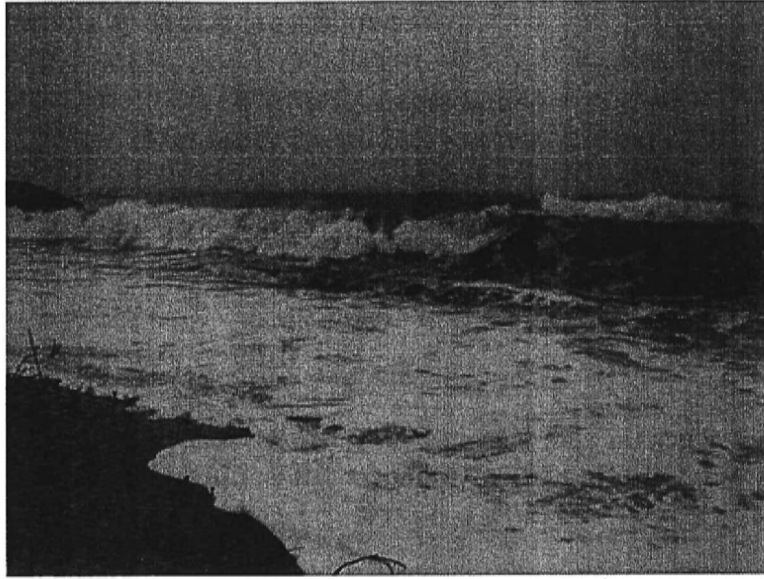
The most recent storm events of March and April 2010 have further exacerbated erosion of the natural coastal features, particularly in the Matunuck shoreline area. Wave action during the moon high tide of the late March storm caused considerable coastal erosion and damage to both commercial and residential properties.



Wave Inundation @ Matunuck (March 30, 2010)
Photo Courtesy of Michael McKenna

The recent erosion to the headland in Matunuck also results in further encroachment of tidal waters inland as that section of headland/bluff between the ocean and Matunuck Beach Road is reduced.

The March/April 2010 storm events also resulted in significant erosion to both the exposed beach and upland escarpment. At this time it does not appear that the Town Beach, in its present condition, could serve as a viable summer recreational facility. Considerable natural sand accretion will need to occur, or a municipal sand replenishment effort will have to be undertaken, before the beach could be useable by the public.



Storm Surge – Town Beach (March 2010)
Photo Courtesy of Michael McKenna



Erosion to Escarpment @ Town Beach (March 2010)
Photo Courtesy of Michael McKenna

Authorized Repairs / Mitigating Action

Research of CRMC assents for those private properties located on the seaward side of Matunuck Beach Rd. indicate that the State has issued a total of one hundred (100) permits that specifically address shoreline protection repairs and other related mitigating action (see Appendix B for specific parcel breakdown and related map).

A review of those CRMC records indicates that assents have been requested and issued for thirty one (31) individual private properties along the Matunuck shoreline.

A summary of permits by decade is as follows.

**CRMC Assents Issued
(Matunuck Beach Rd. – seaward area)**

1975 – 1979	2
1980 – 1989	17
1990 – 1999	40
2000 – 2009	39
2010	2

A further delineation of the above noted CRMC assent data indicates that the number of permits approved increased significantly beginning in 1998. During that year alone twenty six (26) assents were issued.

Between the twenty two year period of 1975 to 1997 a total of thirty one (31) CRMC assents were granted for shoreline protection measures to private property owners in the subject area. That number has increased *over three fold* for the eleven year period of 1998 to March 2010. Since 1998 a total of sixty nine (69) assents have been issued for shoreline protection mitigation within that same locus.

A similar research of CRMC assents regarding municipal property shows that thirteen (13) approvals have been issued to the Town for mitigation work relating to erosion of the Town Beach, as well as, coastal storm damage to shoreline structures within the Town Beach complex (see Appendix C). Those activities include: sand replenishment and profile grooming to the beach; removal of the boardwalk; removal of storm drain pipes and associated rip-rap; and post storm cleanup activities.

Most noteworthy storm related impacts were damage to the boardwalk located at the Town Beach. The various sections of the boardwalk structure were constructed in 1990 and 1992. Commencing in 1996 the boardwalk began to be negatively impacted primarily from winter and early spring coastal storms (i.e. nor'easters). In 1997 the two outboard extensions of the boardwalk were removed after the pilings were undermined by abnormally high wave action. Ultimately the entire 1100 linear foot main boardwalk section had to be removed in 2005 due to safety concerns.

Significant erosion to the Town Beach has occurred since about 1997. Over the past twelve or so years the Town has periodically replenished the beach with sand. The most notable effort being the project in May 1998 when over 5,500 cubic yards of material was deposited and graded at the Town Beach.

Multi-Hazard Mitigation Strategy Plan

The federal Disaster Mitigation Act of 2000 mandates the preparation of a multi-hazard mitigation strategy plan for each State, municipality and tribal government. The Act

specifies the purpose of the Plan being to identify “. . . the natural hazards, risks, and vulnerabilities of the area under the jurisdiction of the government”. Approval of the plan is also required to ensure municipal eligibility for federal funding under various programs.

Town staff and our Local Hazard Mitigation Committee (LHMC), in concert with the Rhode Island Emergency Management Agency (RIEMA) and the URI Coastal Resource Center prepared the plan titled Multi-Hazard Mitigation Strategy Plan – Strategies for Reducing Risk from Natural Hazards in South Kingstown, Rhode Island. The LHMC is comprised of representatives from the Planning Dept., SKPD, SKEMS, Public Services Dept., Parks & Recreation Dept., Communications Dept. and the Coastal Resources Management Council.

The plan received initial Town Council approval on January 23, 2006. The Federal Emergency Management Agency (FEMA) and RIEMA reviewed the plan and staff subsequently revised the text in conformance with FEMA and RIEMA recommendations. The final plan received Town Council endorsement on April 10, 2006.

The 2006 Haz-Mit Plan included a risk assessment matrix that placed areas vulnerable to natural hazards in a priority format. This matrix included the following areas within the coastal zone of Town:

- 2A Town Beach and Pavilion/Boardwalk Facility
- 2B South Shore Bordering Atlantic Ocean
- 2C Matunuck Beach Road
- 3A South Shore Water System Main
- 4A Barrier Beaches and Coastal Ponds
- 5C Potter Pond Channel Bridge
- 8 “Evacuation Route” and “Storm Surge Elevation” Signage
- 11 Ocean Avenue Pedestrian Ramp

In January 2007 the Town of South Kingstown submitted a Pre-Disaster Mitigation grant application to the Rhode Island Emergency Management Agency (RIEMA) for funds to update the local Multi-Hazard Mitigation Strategy Plan. FEMA obligated funds to support the grant application and the Town of South Kingstown contracted with Pare Corporation to facilitate the update. The overall purpose of this update was to advance action items identified in the existing local hazard mitigation plan with an emphasis on studying coastal hazards in the Matunuck area (Vulnerable Areas 2A, 2B and 2C from the 2006 Plan).

A major focus of this update was a preliminary Engineering/Planning Study (Vulnerable Area #2C /Mitigation Action #1) of the southerly segment of Matunuck Beach Road and the immediate environs (see enclosed map). An evaluation of existing conditions was followed by an assessment/selection of potential mitigation measures to ensure the integrity of Matunuck Beach Road and protect properties within the study area.

The Haz-Mit Plan Update includes the following revised vulnerability matrix that reflects present conditions. Those hazards shown in bold print are applicable to the South Kingstown coastal area in general and to the Matunuck area in particular.

Hazard	Future Occurrence	Potential Damage
Coastal Erosion	High	Severe/Moderate
Coastal Storm	High	Severe/Moderate
Dam Failure	Medium/Low	Moderate
Drought	Low	Low
Earthquake	Low	Severe
Flood	High	Moderate
Hurricane	High	Severe/Moderate
Winter Storm	High	Moderate
Wildfire	Medium/Low	Moderate/Low

The Haz-Mit Plan, as updated through 2009, contains a revised risk assessment matrix that takes into consideration those mitigating actions that have been implemented since approval of the 2006 Plan. The amended risk assessment (and priority placement) identifies the following areas pertinent to the Matunuck area.

- 1 South Shore Water System Main
- 2A Matunuck Beach Road
- 2B Town Beach and Pavilion Facility
- 2C South Shore Bordering Atlantic Ocean
- 4A Barrier Beaches and Coastal Pond
- 5C Potter Pond Channel Bridge
- 8 "Evacuation Route" and "Storm Surge Elevation" Signage
- 11 Ocean Avenue Pedestrian Ramp

Mitigation Options

The close proximity of Matunuck Beach Road to the ocean continues to increase, given recent trends of shoreline/coastal bluff erosion. A preliminary Engineering/Planning Study was completed in 2009 to update and advance action items identified in the existing local hazard mitigation plan (2006) by specifically studying coastal hazards in the Matunuck area. The major focus of this update was an Engineering/Planning Study (Vulnerable Area #2C/ Mitigation Action #1 from the 2006 Plan) of the southerly segment of Matunuck Beach Road and the immediate environs.

An evaluation of existing and historic shoreline conditions, followed by a review of best management practices implemented in other locations, resulted in the development of a range of ten (10) alternative shoreline mitigation measures - four soft and six hard-armor solutions (see Appendix D). A matrix of the alternative mitigation measures was created and presented to the LHMC, CRMC, and the general public at a public hearing in August 2008 for consideration. The matrix includes advantages and disadvantages, a description of

the role in shoreline protection/design life, and estimated costs for each individual measure investigated.

Following the public comment period and a follow up meeting with CRMC, the LHMC determined that the soft-armor alternatives identified would not adequately protect the integrity of Matunuck Beach Road over the long-term, based on the high-energy wave environment. Four hard-armor alternatives appropriate for the site were selected for consideration and include:

Concrete Gravity Seawall – Seawalls are usually massive, vertical structures used to protect backshore areas from heavy wave action, and in lower wave energy environments, to separate land from water. Gravity seawalls rely on the weight of the materials they are constructed of to provide the required stability against wave action. They require strong foundation soils to adequately support their weight.

Concrete Gravity Seawall on Steel Sheet Pile Foundation – Steel sheet pile foundation seawalls consist of thin, interlocking sheet piles driven deeply into the ground. Drainage openings are also utilized to provide drainage from the backshore area.

Riprap Revetment – Riprap revetments are placed on a sloping bank, depend on the stability of the underlying soil for support and require a large physical area (footprint) for construction and installation. Fill material beneath a revetment must be adequately compacted prior to installing the riprap. A riprap revetment, like other revetments, consists of two or more layers (filter and armor).

Offshore Breakwater – Offshore breakwaters, also called bulkheads, reduce the intensity of wave action in inshore waters and thereby reduce coastal erosion. They are constructed some distance away from the coast or can be built with one end linked to the coast. The breakwaters may be small structures, placed one to three feet offshore in relatively shallow water, designed to protect a gently sloping beach and can be either fixed or floating.

Initial engineering conceptual review indicates the proposed hard armored structure would be approximately 1200 l.f. to 1500 l.f. in length and would commence at the eastern terminus of the existing riprap wall located on the Matunuck Trailer Association property and follow a traverse that would align with a ten to twenty foot offset from the existing shoreline configuration. That area between the proposed seawall and adjacent property would be backfilled to achieve a level grade between the structure and aforementioned properties.

define.
Shoreline

Estimated costs for each of the four hard-armor alternatives selected for consideration are presented below:

<u>Structure</u>	<u>Cost</u>
Concrete Gravity Seawall	\$15M - \$17M
Concrete Seawall on Steel Sheet Pile Foundation	\$17M - \$19M
Riprap Revetment	\$8M - \$11M
Offshore Breakwater Options:	
Reef	\$12M - \$15M
Rubble Mound	\$25M +

Based on a further assessment staff has recommended that the Town focus on the feasibility of design and construction of the concrete seawall on steel sheet pile foundation alternative. It is their position that this shoreline protection design option provides the more optimum long range solution.

Shoreline Protection Area

Staff and consultants have determined that the most beneficial location for a hard armored structure would be an area beginning at the termination of the existing rip-rap wall on the Matunuck Trailer Association property (A.P. 92-2, Lot 46) and thence continuing approximately 1200 to 1500 linear feet in an easterly direction (see Appendix F). This determination is based partially on the Shoreline Change Maps that indicate this area represents the region of most significant erosion over recent time.

Regulatory Framework

All developments or operations occurring on or within two hundred feet of coastal features, as well as, above or below tidal waters, are under the jurisdiction of the Coastal Resources Management Council. As such, activities that impact those coastal resources require an assent from the Council.

Particular activities are either allowed or prohibited based on factors that include: the specific activity proposed; the water type classification; and, the specific shoreline feature category where the work will occur (see Appendix G).

The waters adjacent to the Matunuck upland (i.e. that area seaward of Matunuck Beach Rd.) are classified by CRMC as Type 1 waters. The shoreline feature is categorized as "coastal cliffs, bluffs and banks". The applicable activity matrix for Type 1 waters lists those permitted and prohibited activities for "Headlands, Bluffs and Cliffs".

Section 130 of the CRMC Program (commonly referred to as the "Redbook") provides a legal mechanism whereby the Council may grant a special exception to allow otherwise prohibited activities. To procure a special exception the applicant must demonstrate that:

- 1) The proposed activity serves a compelling public purpose which provides benefits to the public as a whole as opposed to individual or private interests.
- 2) All reasonable steps shall be taken to minimize environmental impacts and/or use conflict.
- 3) There is no reasonable alternative means of, or location for, serving the compelling public purpose cited.

Feasibility of Mitigation Options

The two major impediments to constructing the selected shoreline protection option (i.e. seawall on steel sheet pilings) are: procuring the necessary funding; and, acquiring the required state and federal permits. As discussed above, the existing CRMC activity matrices do not permit construction of a hard armor shoreline protection structure for a coastal feature categorized as "Headlands, Bluffs and Cliffs". ^{ON TIME / WATER} As such, there are two alternatives available to the Town that might allow for construction of the needed shoreline protection structure to be permitted by CRMC. Those options are:

- 1) request a special exception under Section 130 of the CRMC Program; or
- 2) petition the CRMC to change the category of the Matunuck area from "Headlands, Bluffs and Cliffs" to "Manmade Shoreline"

It should be noted that the existing Coastal Resources Management Program regulations do not allow for a private property owner to apply for a special exception under Section 130 of CRMC Program ("The Redbook"). However, the Town does have the legal ability to request such a special exception. If the Town was successful in changing the coastal feature category to "Manmade Shoreline" they would then request a Category B application assent from CRMC. Such a process would require compliance with the specific provisions of Section 300.7 (Construction of Shoreline Protection Facilities) of the CRMC Program.

Town staff has discussed with CRMC staff and Dr. Boothroyd over the past few years various strategies that might be utilized to protect the structural integrity of Matunuck Beach Rd., as well as, those residential and shoreline properties seaward of the roadway (see Appendix H). These discussions continue in an attempt to move forward with a strategy that achieves the desired goals within the applicable regulatory framework.

Recent discussions with CRMC staff indicate that the special exception strategy may be preferable to requesting a shoreline feature category change. If the Town applies for a special exception, to construct a hard armored shoreline protection structure, it could also request approval to fill behind the seawall. However, requesting a change in the shoreline feature category would not allow for backfilling behind the seawall, per CRMC Program prohibitions.

It should be noted that any major coastal project, such as construction of a manmade shoreline protection device, would also require federal review and approval from the Army Corps of Engineers (ACOE).

Summary

Based on trends over the past fifteen years (i.e. coastal storms, climate change), it appears that erosion of coastal properties seaward of Matunuck Beach Rd. could inevitably result in undermining or loss of the roadway.

Clearly, loss of the roadway and associated infrastructure is not an acceptable consequence. Similarly, the loss of the commercial and residential properties would have a severe impact on the character of the Matunuck Village area. Therefore, consideration should be given to the alternate strategy of land acquisition of those properties in Matunuck located seaward of Matunuck Beach Rd. This alternate effort is seen as a back-up contingency and would be executed only if engineering and structural steps to preserve and protect the roadway and associated commercial and residential properties cannot be successfully achieved.

Town's
Review 12/16/17?
Erosion areas
only cost is
owned

At this point in time the following basic recommendations are made in response to this continuing severe development.

1. Continue an active dialogue with shoreline property owners and CRMC to identify those 'soft' shoreline protection options that may provide emergency and short term (temporary) measures to either stabilize and preserve existing conditions or at least minimize the rate of coastal erosion.
2. Meet with CRMC officials and staff to discuss viable scenarios whereby the preferred hard armor shoreline protection options might be permitted within a modified regulatory framework (i.e. special exception, shoreline feature category change).
3. Research, identify and procure funding sources for design, construction and preparation of an Environmental Assessment (EA) of the preferred man made shoreline protection system. It is the Town's expectation that those stakeholders whose properties at present are negatively impacted by coastal erosion will financially contribute to a project whereby a constructed man made shoreline protection system will result in preservation of their properties.

THAT'S
INTERESTING

Given that continuing negative impacts to the Matunuck shoreline affect residential property owners, local businesses, employment opportunities and public access to the shore, it is imperative that the Town continue its proactive approach that includes a cooperative posture with private property stakeholders, as well as, State and Federal regulatory agencies. In addition, the process moving forward must include a public review, comment and recommendation element to ensure that all interested parties are provided the opportunity to directly participate in the process.