

# Appendix I

## Correspondence Generated by Public Review of Draft Report

1. Letter from the Town of Hull dated June 4, 2014
2. Responses to Town of Hull issues
3. Email message from Mike Bromberg, private citizen, dated June 12, 2014
4. Letter from Conservation Law Foundation dated June 12, 2014
5. Email message to Conservation Law Foundation dated July 28, 2014
6. Letter from Commonwealth of Massachusetts Office of Coastal Zone Management dated September 4, 2014
7. Letter to Commonwealth of Massachusetts Office of Coastal Zone Management dated October 3, 2014
8. Memo from Commonwealth of Massachusetts Office of Coastal Zone Management to Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs dated October 28, 2014





# *Town of Hull*



## BOARD OF SELECTMEN

MUNICIPAL BUILDING  
HULL, MASSACHUSETTS 02045  
(617) 925-2000

June 4, 2014

U.S. Army Corps of Engineers  
District Engineer  
696 Virginia Road  
Concord, MA 01742  
Attn: Engineering/Planning Division

The Town of Hull offers the following comments regarding the Coastal Storm Damage Reduction Project proposed by the Army Corps of Engineers (ACOE) for the Department of Conservation and Recreation (DCR) Nantasket Beach Reservation. Our comments address the benefit to cost ratio (BCR) analysis, the impact on the recreational beach and, community involvement.

### BENEFIT TO COST RATIO

The ACOE divides the DCR Nantasket Reservation into three zones. Zone 1 extends from the southern end of the reservation to approximately Wharf Avenue. Zone 2 comprises the area roughly from Wharf Avenue to Water Street and Zone 3 extends from Water Street to the northern end of the reservation at Phipps Street. Zone 1 includes the "temporary seawall fortification" (TSF) constructed in 2005. The revetment, located in Zone 3, was constructed in 2008.

The ACOE limited their project study area to Zone 2. This 2,100 foot section comprises only 30% of the 6,800 foot length of the DCR Nantasket Reservation. In multiple previous studies, the ACOE has considered storm damage and flood control solutions for the entire reservation.

The ACOE describes the reason for excluding Zones 1 and 3 from their analysis as follows:

"Significant actions taken by the DCR at the Nantasket Beach Reservation in the last ten years included construction of the TSF as an emergency measure in 2005 and construction of the new Northern Revetment in 2008. These measures changed the level of protection afforded to the backshore in Zones 1 and 3, as the volume of water due to wave overtopping and wall failure risk in Zone 1 and 3 are significantly reduced." (page 14, DRAFT Feasibility Report and Environmental Assessment, May 2014)

The report also notes that the portion of Zone 3 not protected by the revetment (from the northern end of the revetment to Phipps Street) has "little or no backshore development" (page 10).

The presumed protective impacts of the TSF and Northern Revetment on Zones 1 and 3 stated above are demonstrably false and not supported by the ACOE's own reports filed with the Public Notice. It is critical to distinguish between flood impacts due to wave overtopping and those due to wall failure risk.

With regard to wave overtopping, the ACOE "Coastal Engineering Appendix, July 2013" says the following:

"For the revetment alternatives, overtopping will likely not be reduced significantly from the without project condition (wall still standing condition) due to the relatively low crest elevation of the revetment and the resulting limited freeboard between the revetment crest and the storm water surface. The real benefits of the revetment will be to keep the seawall standing and for both the revetment and seawall to provide protection levels similar to existing conditions." (page 54)

A review of storm damage claims paid to Hull property owners supports the analysis that the revetment will not reduce overtopping impacts. ACOE documents reference the significant damage done during the December 1992 storm, an approximately 10-year storm event. After the TSF was installed, Hull was impacted by a northeaster in December 2010. That storm was a much less significant 4-5 year storm event. Yet FEMA records show that the value of flood damage reimbursement to properties affected by overwash from Zone 1 was three and one-half times larger as a result of the December 2010 storm than it was for the December 1992 storm. This 350% increase in damages far exceeds the 55% inflation rate from 1992 to 2010.

Further, in the December 2010 storm, FEMA also reimbursed property owners just north of Zone 3 for flood damage claims. The ACOE report rightly notes there is little current development landward of the northern section of the reservation not protected by revetment. Yet, the ACOE fails to take into account the fact that flood waters from this section of the reservation currently settle in residential areas just north of the reservation. In fact, the area impacted by Zone 3 has historically experienced some of the most severe flooding in Hull. It must also be acknowledged that the Hull Redevelopment Authority is actively seeking to develop the parcels landward of Zone 3. A recent build-out analysis estimated the value of commercial and residential development at \$82 million.

The Town of Hull has invested significant resources in analyzing and addressing flooding and storm damage. As part of this work, the town analyzed FEMA flood insurance claims for the 21 coastal storms that resulted in claims from 1987 to 2007. Attached to this comment letter is a graphic showing the locations impacted by flooding from the DCR Reservation. The graphic clearly identifies the areas vulnerable to overwash flooding from Zones 1 and 3. While the

properties in Zone 3 are also impacted by overwash originating north of the reservation, overwash from the reservation is significant. Both of these areas have been identified by the town as flooding "hotspots" due to the concentration of FEMA repetitive loss properties located there. In addition, the graphic reflects that the properties landward of Zone 2 have been least affected by overwash flooding.

It is unclear to us whether the ACOE BCR also assumed, as stated in their narrative and despite their own analysis, that the proposed revetment would reduce overwash from Zone 2. The Woods Hole Group, on behalf of DCR, conducted an in-depth study of the two alternatives the ACOE found had a positive BCR. Their study encompassed the entire reservation. They concluded that upland damage costs over a 50-year time horizon would be \$2.5 million with beach nourishment and \$19.8 million with a revetment. The decision to limit the study area to Zone 2 is flawed, as the ACOE wrongly assumed that flood protection was no longer needed for the properties affected by overwash from Zones 1 and 3. Given the reality of flood vulnerability, the Town of Hull maintains that an appropriate BCR analysis must encompass the entire reservation.

The decision to restrict the analysis to Zone 2 impacts the beach nourishment analysis. The report acknowledges that the small area of proposed nourishment would require much more frequent renourishment due to end losses. As a rule of thumb, doubling the size of renourishment quadruples its longevity. The ACOE decision to consider nourishing only 30% of the reservation significantly increases the needed frequency of renourishment.

An additional flaw with the BCR analysis is that it "assumes a 100% probability of wall failure in the project base year because the current beach does not meet the original design requirements and beach is only expected to degrade further over time" (page 5, Economic Analysis, July 2013). This analysis ignores the fact that fully one-third of the 2,100 feet in Zone 2 is already protected by a variety of recently installed ramps, stairwells and stone toe. The ramps and stairways vary from ten to almost twenty feet wide and were installed with steel sheet piling that extends 5 feet deeper than the current seawall. Essentially much of the seawall is now a 10 to 20 foot wide concrete wall protected with deep sheet piling. In addition, it appears that the BCR was not updated to take into account the fact that as of 2013 the Mary Jeanette Murray Bathhouse, which the report notes has been restored at the cost of \$2 million, is now protected with a 150-foot length of stone toe similar to the TSF.

Finally, while the BCR credits the additional recreational beach that would be created with the beach nourishment alternative, it does not take into account the loss of beach that a revetment would require. The ACOE calculates that the proposed revetment would displace 129,800 square feet of beach. This loss should be reflected in the BCR in the same manner as additional beach was credited. Alternatively, the cost of mitigation for the loss of beach should be included in the BCR.

## RECREATIONAL BEACH

As noted above, the ACOE BCR failed to recognize the loss of recreational beach in its analysis. This point is critical as the purpose of the Nantasket Beach Reservation is to provide a recreational beach for Commonwealth residents. It is already the case that there is no dry beach available for as much as 2 hours per tide cycle for much of the reservation. The ACOE proposal will remove a 27 foot wide swath of beach along 2,100 feet in the heart of the reservation.

Among the opportunities for the project cited by the ACOE are: "enhance the economic strength, recreational opportunities and well-being of the area." The proposed revetment will not serve any of these functions. A further reduction in the size of the beach reduces recreational opportunities. The revetment itself is a safety hazard for children and adults who are tempted to climb on it during high tides and as it harbors trash and rodents. A result of the loss of high tide beach is that a mass exodus occurs at the time of high tide. This results in a loss of economic benefit to nearby businesses as patrons do not spend a full day at the beach. It has also resulted in notable traffic tie ups to the detriment of public safety.

## COMMUNITY INVOLVEMENT

No Town of Hull official, board or commission member was consulted or even aware of this latest ACOE study. Town officials and community representatives actively participated in the Community Advisory Council (CAC) sponsored by the DCR in 2007/2008. As part of the CAC process, the DCR made a significant investment in engineering consultants. Their analysis considered a broader range of options for storm damage reduction and allowed for community input. The ACOE does not appear to take into account the analysis or the community deliberations and recommendations. The ACOE must revisit their analysis, consider the entire reservation, and solicit community input regarding alternatives. The work of the CAC should be part of an updated analysis.

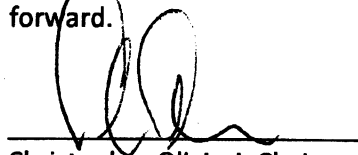
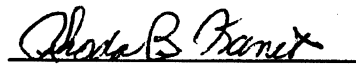
## CONCLUSION

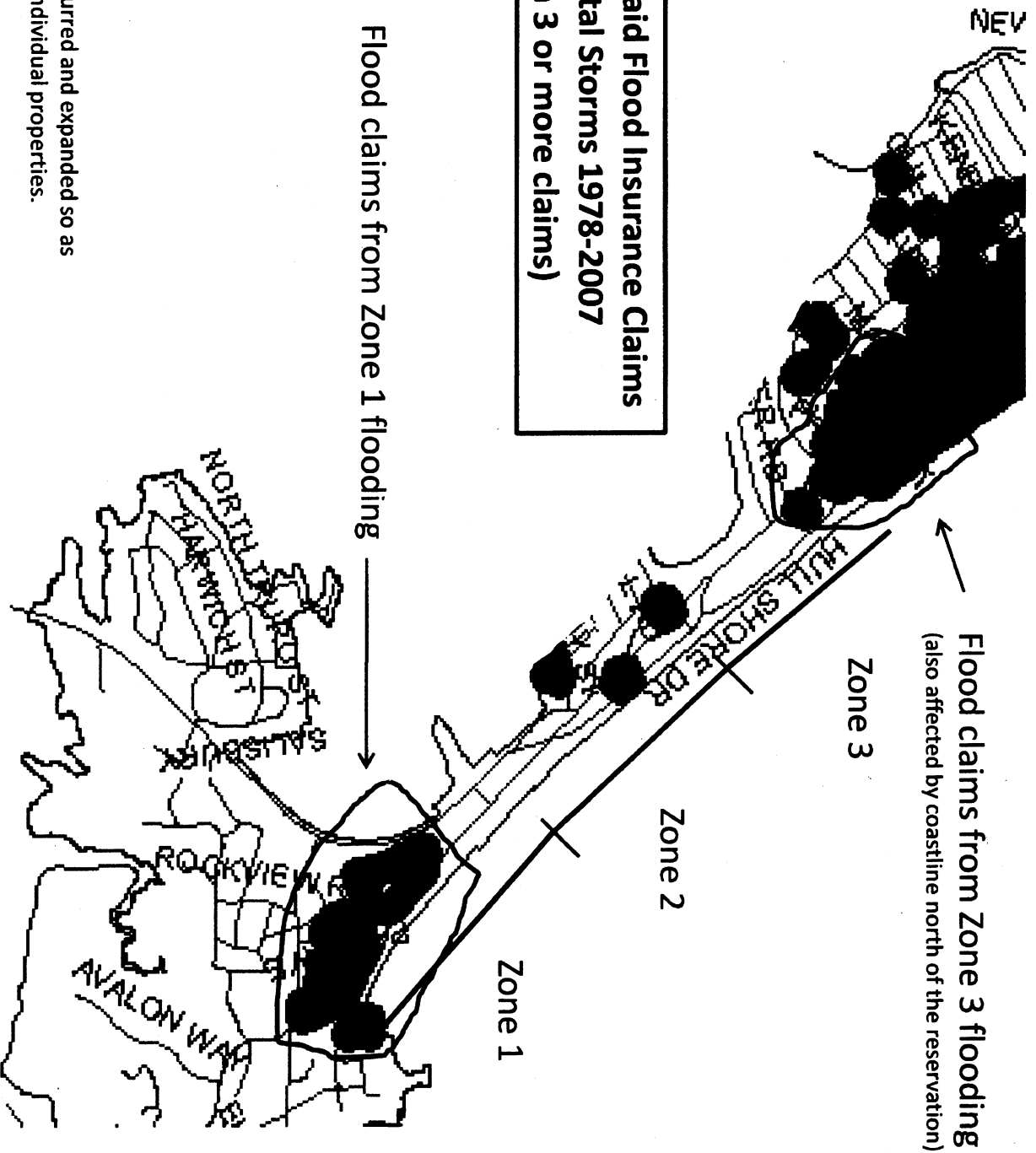
The ACOE report is fundamentally flawed in its analysis of flooding conditions. Further, it does not consider the walls, ramps and stone toe constructed in Zone 2 in recent years. The TSF and stone toe at the MJM Bathhouse, while providing protection to the seawall, significantly reduce the available recreational beach and do nothing to address the fundamental problem of long-term beach loss. The proposed revetment will have the same impacts. In short, the ACOE advocates a solution that does little to reduce flood damage from overwash, armors a seawall that is already armored over 1/3 of its length, reduces the recreational beach by an additional

129,800 square feet, and does nothing to address the fundamental problem of long-term erosion.

Beach nourishment, as proposed in the past by the ACOE, would protect the seawall, address flooding that results from overtopping, and provide a recreational beach. The town is well aware of the many challenges that make a large scale beach nourishment project unlikely in the short-term. The town has, in the past, suggested that each fall the need for beach nourishment to buttress areas of vulnerable seawall be evaluated.

The revetment as proposed will provide protection only against a 10-year storm. We believe that a project that provides 10-year protection to the seawall, does not protect against overtopping, does not address erosion, yet encroaches on the recreational beach, is not in the public interest. For these reasons, the ACOE Coastal Storm Reduction Project should not go forward.

  
\_\_\_\_\_  
Christopher Olivieri, Chairman  
Hull Board of Selectmen  
\_\_\_\_\_  
Sheila Connor, Chairman  
Hull Conservation Commission  
\_\_\_\_\_  
Rhoda Kanet, Chairman  
Beach Management Committee



Locations are blurred and expanded so as not to identify individual properties.



## COMMENT/RESPONSE TO ISSUES RAISED BY TOWN OF HULL, MA

Comment: A review of storm damage claims paid to Hull property owners supports the analysis that the revetment will not reduce overtopping impacts. ACOE documents reference the significant damage done during the December 1992 storm, an approximately 10-year storm event. After the TSF was installed, Hull was impacted by a northeaster in December 2010. That storm was a much less significant 4-5 year storm event. Yet FEMA records show that the value of flood damage reimbursement to properties affected by overwash from Zone 1 was three and one-half times larger as a result of the December 2010 storm than it was for the December 1992 storm. This 350% increase in damages far exceeds the 55% inflation rate from 1992 to 2010.

Further, in the December 2010 storm, FEMA also reimbursed property owners just north of Zone 3 for flood damage claims. The ACOE report rightly notes there is little current development landward of the northern section of the reservation not protected by revetment. Yet, the ACOE fails to take into account the fact that flood waters from this section of the reservation currently settle in residential areas just north of the reservation. In fact, the area impacted by Zone 3 has historically experienced some of the most severe flooding in Hull. It must also be acknowledged that the Hull Redevelopment Authority is actively seeking to develop the parcels landward of Zone 3. A recent build-out analysis estimated the value of commercial and residential development at \$82 million.

*Response: The areas just north of the DCR Reservation lie outside of the study area. Ten or more years ago the Town of Hull rejected a Corps plan to provide storm damage reduction to the area north of Phipps Street. The Hull Redevelopment Authority parcels landward of Zone 3 have been vacant for decades. Federal expenditures under the Corps Continuing Authorities Program cannot be justified based on future real estate development.*

Comment: The Town of Hull has invested significant resources in analyzing and addressing flooding and storm damage. As part of this work, the town analyzed FEMA flood insurance claims for the 21 coastal storms that resulted in claims from 1987 to 2007. Attached to this comment letter is a graphic showing the locations impacted by flooding from the DCR Reservation. The graphic clearly identifies the areas vulnerable to overwash flooding from Zones 1 and 3. While the properties in Zone 3 are also impacted by overwash originating north of the reservation, overwash from the reservation is significant. Both of these areas have been identified by the town as flooding "hotspots" due to the concentration of FEMA repetitive loss properties located there. In addition, the graphic reflects that the properties landward of Zone 2 have been least affected by overwash flooding.

It is unclear to us whether the ACOE BCR also assumed, as stated in their narrative and despite their own analysis, that the proposed revetment would reduce overwash from Zone 2. The Woods Hole Group, on behalf of DCR, conducted an in-depth study of the two alternatives the ACOE found had a positive BCR. Their study encompassed the entire reservation. They concluded that upland damage costs over a 50-year time horizon would be \$2.5 million with beach nourishment and \$19.8

million with a revetment. The decision to limit the study area to Zone 2 is flawed, as the ACOE wrongly assumed that flood protection was no longer needed for the properties affected by overwash from Zones 1 and 3. Given the reality of flood vulnerability, the Town of Hull maintains that an appropriate BCR analysis must encompass the entire reservation.

*Response: Because coastal engineering is not an exact science, absolute predictions of overtopping volumes are not possible. The project as proposed will assure consistent protection of the seawall in the DCR reservation for the postulated storms. Overtopping with the project should be reduced. If the wall were to not remain in place as per the without project condition, the damages experienced would be significantly higher.*

Comment: The decision to restrict the analysis to Zone 2 impacts the beach nourishment analysis. The report acknowledges that the small area of proposed nourishment would require much more frequent renourishment due to end losses. As a rule of thumb, doubling the size of renourishment quadruples its longevity. The ACOE decision to consider nourishing only 30% of the reservation significantly increases the needed frequency of renourishment.

*Response: The cost for placement of large beach nourishment volumes would be significantly higher than the \$5,000,000 limit for Federal participation under Section 103, thus beyond the scope of the current study.*

Comment: An additional flaw with the BCR analysis is that it "assumes a 100% probability of wall failure in the project base year because the current beach does not meet the original design requirements and beach is only expected to degrade further over time" (page 5, Economic Analysis, July 2013). This analysis ignores the fact that fully one-third of the 2,100 feet in Zone 2 is already protected by a variety of recently installed ramps, stairwells and stone toe. The ramps and stairways vary from ten to almost twenty feet wide and were installed with steel sheet piling that extends 5 feet deeper than the current seawall. Essentially much of the seawall is now a 10 to 20 foot wide concrete wall protected with deep sheet piling. In addition, it appears that the BCR was not updated to take into account the fact that as of 2013 the Mary Jeanette Murray Bathhouse, which the report notes has been restored at the cost of \$2 million, is now protected with a 150-foot length of stone toe similar to the TSF. Finally, while the BCR credits the additional recreational beach that would be created with the beach nourishment alternative, it does not take into account the loss of beach that a revetment would require. The ACOE calculates that the proposed revetment would displace 129,800 square feet of beach. This loss should be reflected in the BCR in the same manner as additional beach was credited. Alternatively, the cost of mitigation for the loss of beach should be included in the BCR.

*Response: The report's economic analysis was finalized prior to DCR's placement of stone in front of the bathhouse as an emergency measure. As such, DCR's 2013 emergency placement of*

*stone would be removed in order to properly construct the recommended plan. The sea wall is comprised of multiple segments, most of which are not fronted by stairs and ramps. A wall failure at any point could result in significant damages if a storm of longer duration with multiple high tides occurred.*

Comment: As noted above, the ACOE BCR failed to recognize the loss of recreational beach in its analysis. This point is critical as the purpose of the Nantasket Beach Reservation is to provide a recreational beach for Commonwealth residents. It is already the case that there is no dry beach available for as much as 2 hours per tide cycle for much of the reservation. The ACOE proposal will remove a 27 foot wide swath of beach along 2,100 feet in the heart of the reservation.

*Response: While there is already no beach at high tide, the additional loss of a small portion of the recreational beach from construction of the proposed revetment project is a valid concern. The Corps has concluded that this loss is a worthwhile trade-off for the protection the project will afford and DCR, who owns and manages the recreational beach property, agrees.*

Comment: Among the opportunities for the project cited by the ACOE are: "enhance the economic strength, recreational opportunities and well-being of the area." The proposed revetment will not serve any of these functions. A further reduction in the size of the beach reduces recreational opportunities. The revetment itself is a safety hazard for children and adults who are tempted to climb on it during high tides and as it harbors trash and rodents. A result of the loss of high tide beach is that a mass exodus occurs at the time of high tide. This results in a loss of economic benefit to nearby businesses as patrons do not spend a full day at the beach. It has also resulted in notable traffic tie ups to the detriment of public safety.

*Response: The economic benefit of the project from the Federal perspective of coastal storm damage reduction is demonstrated in the report. If the local roads in the vicinity of the DCR Nantasket Beach Reservation already experience traffic tie-ups due to the loss of beach at high tide, the implementation of the proposed revetment project will not make them better or worse, they will simply occur at a different time in the tide cycle. In public places such as Nantasket Beach, public safety and sanitation are local management responsibilities. Public education, signage and trash receptacles should be provided in such areas.*

Comment: No Town of Hull official, board or commission member was consulted or even aware of this latest ACOE study. Town officials and community representatives actively participated in the Community Advisory Council (CAC) sponsored by the DCR in 2007/2008. As part of the CAC process, the DCR made a significant investment in engineering consultants. Their analysis considered a broader range of options for storm damage reduction and allowed for community input. The ACOE does not appear to take into account the analysis or the community deliberations and recommendations. The ACOE must revisit their analysis, consider the entire reservation, and solicit

community input regarding alternatives. The work of the CAC should be part of an updated analysis.

*Response: This study is, in fact, the same study of Nantasket Beach that has been ongoing for many years. The town was aware of it, however they cannot be faulted if they thought the recommended plan would be beachfill. Many years earlier the Corps had proposed that solution, however there were objections expressed to the grain size and color of sand by the town of Hull. Plan formulation went 'back on the drawing board' with many years of investigations and intermediate products leading up to this report. As discussed in the current report, changes to protection provided by construction of the TSF in 2005 and the Northern Revetment in 2008 changed the level of protection afforded to the backshore in Zones 1 and 3 respectively, and therefore the focus of the Corps study is now Zone 2, where the sea wall remains vulnerable. The town received multiple copies of our earlier draft report.....and this is the same study reformulated.*

Comment: The ACOE report is fundamentally flawed in its analysis of flooding conditions. Further, it does not consider the walls, ramps and stone toe constructed in Zone 2 in recent years. The TSF and stone toe at the MJM Bathhouse, while providing protection to the seawall, significantly reduce the available recreational beach and do nothing to address the fundamental problem of long-term beach loss. The proposed revetment will have the same impacts. In short, the ACOE advocates a solution that does little to reduce flood damage from overwash, armors a seawall that is already armored over 1/3 of its length, reduces the recreational beach by an additional 129,800 square feet, and does nothing to address the fundamental problem of long-term erosion.

Beach nourishment, as proposed in the past by the ACOE, would protect the seawall, address flooding that results from overtopping, and provide a recreational beach. The town is well aware of the many challenges that make a large scale beach nourishment project unlikely in the short-term. The town has, in the past, suggested that each fall the need for beach nourishment to buttress areas of vulnerable seawall be evaluated.

The revetment as proposed will provide protection only against a 10-year storm. We believe that a project that provides 10-year protection to the seawall, does not protect against overtopping, does not address erosion, yet encroaches on the recreational beach, is not in the public interest. For these reasons, the ACOE Coastal Storm Reduction Project should not go forward.

*Response: The revetment as proposed will provide protection against a variety of storms up to and including a ten year return. Due to our conservative design, we expect the project to perform adequately beyond a ten year storm. If a wave attack was sufficiently high and prolonged, the revetment would tend to come apart sacrificially and still offer some protection to the seawall and its footing. The project will address erosion in the sense that it is providing a face that is far preferable to a vertical wall when it comes to scour from plunging waves.*

*An important point we stressed at our August 27, 2014 meeting with officials from DCR and the Town of Hull was that constructing the proposed revetment does not preclude future beach nourishment. If indeed it was decided that the entire beach should be renourished, that work would likely take ten or more years to accomplish. Our project is consistent with the wall protection both north and south of the project area and will provide protection that's needed now. Our recommended plan is the least expensive effective solution, and it makes sense in the context of the other protective measures that came before at the DCR Nantasket Beach Reservation.*



**Larsen, David A NAE**

---

**From:** Swabeeone@aol.com  
**Sent:** Thursday, June 12, 2014 9:48 AM  
**To:** Larsen, David A NAE  
**Subject:** [EXTERNAL] Nantasket Beach comments

Dave,

Countless people enjoy Nantasket Beach and much has already been taken away with boulders rendering it useless at near high tide. I am not in favor of losing more beach with boulders for added protection. Please seek another alternative to remedy these issues.

It doesn't make sense to lesson the beach area when the population of beach goers is increasing.

Thank you,

Mike Bromberg  
373 Forest Street  
Rockland, Ma. 02370







For a thriving New England

CLF Massachusetts 62 Summer Street  
Boston MA 02110  
P: 617.350.0990  
F: 617.350.4030  
www.clf.org

June 12, 2014

**VIA EMAIL**

David Larsen, District Engineer  
696 Virginia Road  
Concord, MA 01742  
david.a.larsen@usace.army.mil

**Re: Comment for Nantasket Beach, Department of Conservation & Recreation (DCR)  
Reservation, Hull, Massachusetts Coastal Storm Damage Reduction Project, FONSI  
Release no. 2014-059**

Dear Mr. Larsen:

The Conservation Law Foundation ("CLF") appreciates the opportunity to provide comments to the U.S. Army Corps of Engineers ("Corps") regarding the Finding of No Significant Impact ("FONSI") and Environmental Assessment ("EA") released for the Nantasket Beach, Department of Conservation & Recreation ("DCR") Reservation in Hull, Massachusetts Coastal Storm Damage Reduction Project.

Founded in 1966, CLF protects New England's environment for the benefit of all people. CLF uses the law, science and the market to create solutions that preserve our natural resources, build healthy communities and sustain a vibrant economy. CLF operates advocacy centers in Massachusetts, Vermont, New Hampshire, Maine and Rhode Island. In coordination with this geographic structure, CLF's work is organized into four substantive program areas: Ocean Conservation; Clean Energy and Climate Change; Healthy Communities and Environmental Justice; and Clean Water and Healthy Forests. CLF's approach to environmental advocacy is distinguished by our close involvement with local communities; CLF's ability to design and implement effective strategies; and our capacity for developing innovative and economically sound solutions to our region's environmental challenges. CLF promotes implementation of climate change adaptation policies in the Commonwealth of Massachusetts and throughout New England, as well as the conservation and proper management of the coastal environment.

Given its aesthetic and recreational appeal, the Massachusetts coast has been and continues to be subject to intense development. Much of this development is susceptible to on-going risks from winds, waves, storm surge, flooding, sea level rise, and the associated erosion of coastal landforms. The Massachusetts Coastal Zone Management Policy Guide ("CZM Policy Guide"), developed pursuant to the federal Coastal Zone Management Act ("CZMA"), recognizes that protective structures, including revetments, are "[I]ncreasingly recognized as expensive short-term solutions, which frequently exacerbate problems elsewhere along the coast



and foster a false sense of security.”<sup>1</sup> All of Nantasket Beach is designated as a barrier beach by the Massachusetts Office of Coastal Zone Management. Nantasket Beach’s location on the Atlantic Ocean and close proximity to the urban areas of greater Boston result in a substantial increase in local population and usage of the DCR reservation and beach during the summer months. Storm waves from the east have caused extensive loss of beach material in front of the concrete sea wall and the consequent lowering of the beach. The widely recognized negative impacts of seawalls and revetments on beach erosion coupled with sea level rise and increased intensity of storms due to climate change mandate revocation of the FONSI and preparation of a revised EA that adequately considers the potential for increased impacts of climate change on the proposed Nantasket Beach project.<sup>2</sup>

A FONSI is meant to “briefly present the reasons why an action, not otherwise excluded, will not have a significant effect on the human environment and for which an environmental impact statement therefore will not be prepared.”<sup>3</sup> The document “shall include the environmental assessment or a summary of it.”<sup>4</sup> In assessing the substantive adequacy of an agency’s FONSI pursuant to NEPA, courts will analyze whether the agency accurately identified relevant environmental concerns.<sup>5</sup>

The Council on Environmental Quality (“CEQ”) has published a draft guidance memorandum (“Draft Guidance”) on the ways in which Federal agencies can improve their consideration of the effects of climate change in their evaluation of proposals for federal actions under NEPA.<sup>6</sup> The Draft Guidance advises Federal agencies to adapt their proposed federal

---

<sup>1</sup> Massachusetts Office of Coastal Zone Management Policy Guide at 20 (October 2011), *available at* <http://www.mass.gov/eea/docs/czm/fcr-regs/czm-policy-guide-october2011.pdf>

<sup>2</sup> Ells, K. *Long-term non local coastline responses to local shoreline stabilization*. Geophysical Research Letters. 39 (2012) (“studies show that sea level rise is expected to produce shoreline erosion”); Miles, Jonathon, *Field Measurements of Sediment Dynamics in Front of a Seawall*. Journal of Coastal Research. 17(1), 195-206 (2001) (“Seawalls are widely considered to slow the recovery of beaches from coastal erosion, therefore exacerbating the effects of sea level rise on shorelines”); Hanak, E. *California coastal management with a changing climate*. Climatic Change. 111, 45-73 (2012) (“Seawalls, or revetments, have been found to diminish and destroy coastal structure by reflecting wave energy rather than dissipating it as a beach does when naturally in equilibrium, resulting in sediment erosion. Such passive erosion is expected to worsen with acceleration of sea level rise, resulting in further loss of beaches for both recreational and ecological use.”).

<sup>3</sup> 40 C.F.R. § 1508.13.

<sup>4</sup> *Id.*

<sup>5</sup> The District Court of Massachusetts has held that in assessing the substantive adequacy of an agency’s FONSI, pursuant to NEPA, the Court applies a four-part analysis: (1) the agency must have accurately identified the relevant environmental concerns; (2) once the agency has identified the problem it must have taken a hard look at the problem in preparing the EA; (3) if a FONSI is made, agency must be able to make a convincing case for it; and (4) if the agency does find an impact of true significance, preparation of an EIS can be avoided only if the agency finds that changes or safeguards in the project sufficiently reduce the impact to a minimum. *Advocates for Transp. Alternatives, Inc. v. U.S. Army Corps of Engineers*, 453 F. Supp. 2d 289 (D. Mass. 2006).

<sup>6</sup> Council on Environmental Quality, *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions* at 1 (Feb. 18, 2010), *available at*

actions to climate change impacts throughout the NEPA process and to address these issues in their agency NEPA procedures.<sup>7</sup> It requires federal agencies to ensure the scientific and professional integrity of their assessment of the ways in which climate is affecting or could affect environmental effects of the proposed action.<sup>8</sup>

The Draft Guidance requires a consideration not only of a project's potential effect on climate change through greenhouse gas emissions but also the effects of climate change on the project; for example, the risk that climate change will "[A]ffect the integrity of a development or structure by exposing it to a greater risk of floods, storm surges, or higher temperatures."<sup>9</sup> CEQ also recommends that climate change effects be considered "[I]n the analysis of projects that are designed for long-term utility and located in areas that are considered vulnerable to specific effects of climate change (such as increasing sea level or ecological change) within the project's time frame."<sup>10</sup> This analysis includes an examination of whether design parameters may be affected by accelerated sea level rise projections.<sup>11</sup> At least one court has found the draft CEQ Guidance useful in assessing the substantive adequacy of a FONSI.<sup>12</sup> This highlights the importance of consideration of climate change and its impacts with respect to federal activity.<sup>13</sup>

The Corps completely failed to consider the effects of climate change and climate change adaptation in the FONSI or the EA (neither document so much as mentioned climate change). Neither document discussed anticipated impacts of climate change on the stone revetment, such as accelerated beach erosion and flooding from sea level rise and increased storms. It is clear that the legislative intent of NEPA requires agencies to at the very least consider climate change impacts in their assessment of environmental effects pursuant to the statute.

---

[http://ceq.hss.doe.gov/nepa/regs/Consideration of Effects of GHG Draft NEPA Guidance FINAL 02182010.pdf](http://ceq.hss.doe.gov/nepa/regs/Consideration%20of%20Effects%20of%20GHG%20Draft%20NEPA%20Guidance%20FINAL%2002182010.pdf).

<sup>7</sup> *Id.* at 1.

<sup>8</sup> *Id.* at 1.

<sup>9</sup> *Id.* at 6.

<sup>10</sup> *Id.* at p.7.

<sup>11</sup> *Id.* at p.7.

<sup>12</sup> *WildEarth Guardians v. Jewell*, 738 F.3d 298, 309 (D.C. Cir. 2013), *see also WildEarth Guardians v. Bureau of Land Mgmt.*, 1:11-CV-1481 (R.J.L), 2014 WL 1285505, at \*11 (D.D.C. Mar. 31, 2014).

<sup>13</sup> Additionally, in the absence of centralized formal guidance on how to address climate change in the EIS process, some federal agencies have taken the initiative and have themselves established guidelines. The U.S. Forest Service issued "Climate Change Considerations in Project Level NEPA Analysis," which states that environmental impact statements ought to address "the effect of climate change on a proposed project."

[http://www.fs.fed.us/emc/nepa/climate\\_change/includes/cc\\_nepa\\_guidance.pdf](http://www.fs.fed.us/emc/nepa/climate_change/includes/cc_nepa_guidance.pdf). The Federal Highway Administration also released a report entitled *Integrating Climate Change into the Transportation Planning Process*, *Federal Highway Administration* in July 2008, which covers climate change adaptation in transportation planning. [https://www.fhwa.dot.gov/environment/climate\\_change/adaptation/resources\\_and\\_publications/integrating\\_climate\\_change/climatechange.pdf](https://www.fhwa.dot.gov/environment/climate_change/adaptation/resources_and_publications/integrating_climate_change/climatechange.pdf).



The Corps should also provide an explanation of the CZMA analysis it has indicated that it intends to submit to the Commonwealth.<sup>14</sup> The CZMA itself identifies sea level rise due to global climate change as an important issue for states to manage under the Act and requires that federal activity in coastal zones be “carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs.”<sup>15</sup> The MA CZM Policy Guide explains that current rates of sea level rise are significant threats to coastal development resources in MA, which will “[I]ncrease the height of storm surges and associated coastal flooding frequencies, and amplify shoreline erosion.”<sup>16</sup> The CZM Policy Guide clearly states that flood and erosion control structures, such as the proposed revetment, may be allowed “[O]nly when it is determined through an alternatives analysis that non-structural alternatives are not feasible,” stressing that “[R]ates of erosion and relative sea level rise should be taken into consideration in the review of proposed new, substantially reconstructed, or substantially improved construction” in the coastal zone.<sup>17</sup> The current EA and FONSI do not indicate the required level of analysis on this topic, and it is not clear that a project of this type could be considered to conform to Massachusetts’ implementation of the CZMA.

In order to properly address the environmental effects of the proposed project given the effects of climate change on coastal areas, the FONSI must be withdrawn and the EA revised, with a detailed description of how the project conforms to MA’s Coastal Zone Management policies. Agencies must use the NEPA process to reduce vulnerability to climate change impacts, adapt to changes in our environment, and mitigate the impacts of federal agency actions that are exacerbated by climate change. The process of adaptive planning requires constant learning to reduce uncertainties and improve adaptation outcomes, and the CEQ guidelines provide a process for agencies to include this in their project assessments. The future-oriented scheme adopted by Congress in enacting NEPA was designed explicitly to take account of impending as well as current environmental crises.<sup>18</sup>

Thank you for your consideration of these comments. Please do not hesitate to contact me if you have any questions.

Respectfully submitted,

Caitlin Peale Sloan  
Staff Attorney  
[cpeale@clf.org](mailto:cpeale@clf.org)

---

<sup>14</sup> EA at 23-24.

<sup>15</sup> 16 U.S.C. §§ 1451(l), 1452(2)(B), (K); 16 U.S.C. § 1456(c)(1)(A).

<sup>16</sup> Massachusetts Office of Coastal Zone Management Policy Guide at 21.

<sup>17</sup> *Id.* at 23-24.

<sup>18</sup> See Congressional Declaration of National Environmental Policy, 42 U.S.C.A. § 4331. *See also City of Los Angeles v. National Highway Traffic Safety Administration*, 912 F.2d 478, 485(D.C. Cir. 1990).

## **Larsen, David A NAE**

---

**From:** Larsen, David A NAE  
**Sent:** Monday, July 28, 2014 8:45 AM  
**To:** 'Caitlin Peale Sloan'  
**Subject:** RE: CLF Comments re Nantasket Beach Revetment (June 12, 2014)

Caitlin-

Conservative application of SLR criteria per Corps guidance was applied in the engineering analysis.

Your point regarding a specific discussion of climate change in the EA is acknowledged and will be added to the EA.

Comments received from the public will be incorporated into the report, which is not yet final.

David Larsen  
U.S. Army Corps of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742

Phone (978) 318-8113  
Fax (978) 318-8080

-----Original Message-----

**From:** Caitlin Peale Sloan [<mailto:CPeale@clf.org>]  
**Sent:** Thursday, July 24, 2014 4:46 PM  
**To:** Larsen, David A NAE  
**Subject:** [EXTERNAL] RE: CLF Comments re Nantasket Beach Revetment (June 12, 2014)

Dear Mr. Larsen,

I'm writing to follow up on CLF's comments submitted on June 12 by the email below. Is the Corps preparing any sort of response to comments document? Is it possible to see any comments submitted by other interested parties? Thanks!

Caitlin Peale Sloan  
Staff Attorney  
CLF Massachusetts

62 Summer Street  
Boston, MA 02110

P: 617-850-1770

C: 603-852-6296

E: [cpeale@clf.org](mailto:cpeale@clf.org)

For a thriving New England





**THE COMMONWEALTH OF MASSACHUSETTS**

EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS  
OFFICE OF COASTAL ZONE MANAGEMENT  
251 Causeway Street, Suite 800, Boston, MA 02114-2136  
(617) 626-1200 FAX: (617) 626-1240

September 4, 2014

Mr. David Larson  
Engineering/Planning Division  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742

Re: Coastal Storm Damage Report Draft Feasibility Report and Environmental Assessment for the Nantasket Beach DCR Reservation in Hull, Massachusetts

Mr. Larson,

Thank you for the opportunity to review the U.S. Army Corps of Engineers' (ACOE) *Coastal Storm Damage Report Draft Feasibility Report and Environmental Assessment for the Nantasket Beach DCR Reservation in Hull, Massachusetts*. As described in the Public Notice for this activity, dated May 13, 2014, the recommended alternative involves construction of a 2,200 linear foot stone revetment seaward of the existing concrete seawall. The proposed revetment will extend from a point near the intersection of Nantasket Ave and Wharf Ave to a point near the intersection of Hull Shore Drive and Water Street. The proposed revetment will have an 8.25 foot wide crest at elevation 10 ft NGVD and a 1V:3H slope to meet the existing beach at elevations that range from 3 to 6 ft NGVD. Total seaward encroachment of the structure will be approximately 45 feet, permanently filling approximately 129,800 square feet of beach. The Nantasket Beach Reservation is owned by the Commonwealth and managed by the Massachusetts Department of Conservation and Recreation (DCR).

Based on our review of the Public Notice, Feasibility Report, Environmental Assessment, Finding of No Significant Impact, and information provided at a meeting with the ACOE and DCR on July 21st, conference call with the ACOE on August 13th, and a meeting with the ACOE, DCR, and the Town of Hull on August 27<sup>th</sup>, CZM offers the following comments on the Public Notice:

- CZM is concerned that the proposed revetment may not meet the stated goals for the project. The report's Study Object states "the purpose of this Feasibility Study is to determine the most technically and economically feasible, and socially, environmentally, and culturally acceptable project, if any, to control damages to the sea wall and the storm driven ocean flooding of back shore properties due to overtopping of the seawall" (Page 2). However, the Draft Coastal Engineering Appendix for the report, dated July, 2013, states "For the revetment alternatives, overtopping will likely not be reduced significantly from the without project condition (wall still standing condition) due to the relatively low crest elevation of the revetment and the resulting limited freeboard between the revetment crest and the stormwater surface." (Page 54). In addition, CZM believes the proposed revetment will have adverse effects on the coastal beach.





**THE COMMONWEALTH OF MASSACHUSETTS**

EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS

OFFICE OF COASTAL ZONE MANAGEMENT

251 Causeway Street, Suite 800, Boston, MA 02114-2136

(617) 626-1200 FAX: (617) 626-1240

- Subsequent to the release of the Public Notice, DCR provided CZM with beach profile data collected from 2008 to the present at 68 transects, 20 of which are in the project area. This data indicates that the beach elevations are generally higher than the survey conducted by the ACOE in 2005. The data set also helps characterize how the beach responds to storm events.
- It is CZM's understanding that based on a 2004 stability analysis for the seawall, conducted by the ACOE, a beach elevation of +7 ft (NGVD) was required in front of the wall for the no-storm condition and a beach elevation of +9 ft (NGVD) was necessary for the 100-year storm event. However, at the July 21<sup>st</sup> meeting with the ACOE and DCR an alternate analysis, which indicated the +9 ft (NGVD) elevation provided a reduced level of stability for a given return frequency storm event, was identified.
- CZM reviewed the draft Final Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for this project, dated January, 2013. The EA states "The proposed activity will provide increased opportunities for recreational use of public beaches along the Boston south shore region." CZM believes this statement is not accurate and is concerned about the permanent loss of beach in the footprint of the proposed revetment, which will result in loss of all remaining high tide beach. The beach is a very important resource in terms of providing storm damage protection as well as being one of the most heavily used recreational beaches in the area. CZM is concerned about the increased interaction of the waves and tides with the proposed revetment that will result in an increase in suspended sediments and erosion, particularly during storms. The proposed project also appears to be inconsistent with Executive Order 11988, which recognizes the important functions of resource areas in the floodplain. The existing beach that would be permanently replaced by the revetment is part of the floodplain. It is currently able to move, shift and change in response to waves. The revetment will not dissipate as much energy as the beach does now.
- CZM recommends that the ACOE evaluate the additional beach profile data discussed above and provide additional information and clarification regarding structure stability for a given beach elevation as this is an important consideration in the evaluation of alternatives and the required degree of intervention. CZM also recommends that two additional alternatives including a smaller revetment and a cobble berm option (including design considerations for the 10 and 25-year return frequency storm events, including cost-benefit analysis and other factors as considered for the nourishment and larger revetment alternatives) be considered in a revised alternatives analysis.

The proposed project will be subject to CZM federal consistency review, and therefore must be found to be consistent with CZM's enforceable program policies. For further information on this process, please contact, Robert Boeri, Project Review Coordinator, at (617) 626-1050 or visit the CZM web site at [www.state.ma.us/czm/fcr.htm](http://www.state.ma.us/czm/fcr.htm).







**THE COMMONWEALTH OF MASSACHUSETTS**

EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS  
OFFICE OF COASTAL ZONE MANAGEMENT  
251 Causeway Street, Suite 800, Boston, MA 02114-2136  
(617) 626-1200 FAX: (617) 626-1240

Sincerely,

Brad Washburn  
Assistant Director

cc: John Kennelly, Chief, Engineering/Planning Division, U.S. ACOE  
Karen Adams, Chief, Regulatory Branch, U.S. ACOE  
Mike Galvin, Project Engineer, DCR  
Joe Orfant, Chief, Bureau of Planning and Resource Protection, DCR  
Elizabeth Kouloheras, Section Chief, Southeast Regional Office, DEP  
Ben Lynch, Section Chief, Waterways Program, DEP  
David Hill, Waterways Program, Southeast Regional Office, DEP  
Tay Evans and John Logan, Division of Marine Fisheries  
Deirdre Buckley, Director, MEPA Office  
Anne Herbst, Hull Conservation Agent







DEPARTMENT OF THE ARMY  
US ARMY CORPS OF ENGINEERS  
NEW ENGLAND DISTRICT  
696 VIRGINIA ROAD  
CONCORD MA 01742-2751

October 3, 2014

Engineering/Planning Division  
Planning Branch

Mr. Brad Washburn  
Commonwealth of Massachusetts  
Executive Office of Energy and Environmental Affairs  
Office of Coastal Zone Management  
251 Causeway Street, Suite 800  
Boston, MA 02114-2136

Response to comments on Draft Coastal Storm Damage Reduction Report – Feasibility  
Report and Environmental Assessment for DCR Reservation, Hull, Massachusetts

Dear Mr. Washburn:

I am writing in response to your letter dated September 4, 2014 that provided comments on the Corps draft report that proposes to construct a 2,100 foot-long stone revetment to protect the sea wall and back shore infrastructure at the Department of Conservation and Recreation's Nantasket Beach Reservation.

The following discussion is presented in a comment/response format addressing the issues you have raised.

**CZM Comment #1**

CZM is concerned that the proposed revetment may not meet the stated goals for the project. The report's Study Object states "the purpose of this Feasibility Study is to determine the most technically and economically feasible, and socially, environmentally, and culturally acceptable project, if any, to control damages to the sea wall and the storm driven ocean flooding of back shore properties due to overtopping of the seawall" (Page 2). However, the Draft Coastal Engineering Appendix for the report, dated July, 2013, states "For the revetment alternatives, overtopping will likely not be reduced significantly from the without project condition (wall still standing condition) due to the relatively low crest elevation of the revetment and the resulting limited freeboard between the revetment crest and the storm water surface" (Page 54). In addition, CZM believes the proposed revetment will have adverse effects on the coastal beach.

### **USACE Response #1**

Our proposed project will help to protect the sea wall from failure and reduce the significant risk of exposure that exists for the properties behind the wall. The comment from CZM is true that the revetment will not reduce overtopping significantly and therefore will not reduce the present degree of flooding from overtopping significantly. The Corps was unable to identify a cost effective solution to the back shore flooding problem which fit within the funding limitations of the Section 103 program. The adverse beach impacts may be less dry beach at low tide due to the footprint of the revetment. However the sand from the revetment installation will be moved seaward. At the middle and southern end of the revetment (lowest beach elevation) there will be more revetment exposed and less dry beach. At the northern end of the revetment where the beach elevation is highest most of the revetment will be buried by the existing beach. We will also amend the wording of the text from page 54 of the Coastal Engineering Appendix to read: "For the revetment alternatives, overtopping will likely not be reduced significantly from the wall still standing condition due to the relatively low crest elevation of the revetment and the resulting limited freeboard between the revetment crest and the storm water surface."

### **CZM Comment #2**

Subsequent to the release of the Public Notice, DCR provided CZM with beach profile data collected from 2008 to the present at 68 transects, 20 of which are in the project area. This data indicates that the beach elevations are generally higher than the survey conducted by the ACOE in 2005. The data set also helps characterize how the beach responds to storm events.

### **USACE Response #2**

It is understood that the beach elevation is varied and higher in some areas. Generally the beach is higher at the north end of the project and at a minimum at the south end of the project. The structure was designed using a composite of the available beach profiles collected under a USACE beach survey contract and also using the most recent available LIDAR data set. The revetments design elevation was set by structural stability requirements and the subsequent design stability analysis. It is appreciated that for much of the time the beach is at or near acceptable elevations to provide adequate stability to the wall. However, based on the available survey data this generally applies to the northern one third to one half of the project. At the middle and south end the beach is typically below the acceptable stability elevation. Also, during storm events the northern or higher elevation beach is susceptible to erosion below the acceptable elevation. Although surveys at the north end of the beach conducted after storms show the beach is still at fairly high level, this does not mean that during storms the beach will not be eroded below the acceptable elevation since the minimum beach profile caused by a storm typically occurs during the storm when surveys cannot be conducted. An additional consideration is that for the healthier, northern beach, the revetment will be almost completely buried due to the higher beach. This means minimal or no dry beach will be lost.

**CZM Comment #3**

It is CZM's understanding that based on a 2004 stability analysis for the seawall, conducted by the ACOE, a beach elevation of +7 ft (NGVD) was required in front of the wall for the no-storm condition and a beach elevation of +9 ft (NGVD) was necessary for the 100-year storm event. However, at the July 21st meeting with the ACOE and DCR an alternate analysis, which indicated the +9 ft (NGVD) elevation provided a reduced level of stability for a given return frequency storm event, was identified.

**USACE Response #3**

The revetment design presented in the draft feasibility report utilized the information referenced above which was outlined in a February 2004 letter from the Corps to the DCR. The revetment is designed to provide stability protection to the wall which also includes a toe depth sufficient to resist scour and sufficient layers of material above to maintain effective protection even after some material moves, shifts or slumps in the face of storm wave attack. The design recommended in the draft report is based on the footprint and top elevation of the constructed TSF, which has performed well. The final design of the revetment will occur in the next phase of the project.

**CZM Comment #4**

CZM reviewed the draft Final Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for this project, dated January, 2013. The EA states "The proposed activity will provide increased opportunities for recreational use of public beaches along the Boston south shore region." CZM believes this statement is not accurate and is concerned about the permanent loss of beach in the footprint of the proposed revetment, which will result in loss of all remaining high tide beach. The beach is a very important resource in terms of providing storm damage protection as well as being one of the most heavily used recreational beaches in the area. CZM is concerned about the increased interaction of the waves and tides with the proposed revetment that will result in an increase in suspended sediments and erosion, particularly during storms. The proposed project also appears to be inconsistent with Executive Order 11988, which recognizes the important functions of resource areas in the floodplain. The existing beach that would be permanently replaced by the revetment is part of the floodplain. It is currently able to move, shift and change in response to waves. The revetment will not dissipate as much energy as the beach does now.

**USACE Response #4**

We agree that the revetment will likely not increase recreational benefits and will revise the text in the draft EA accordingly. Your letter's statement 'CZM is concerned about the increased interaction of the waves and tides with the proposed revetment that will result in an increase in suspended sediments and erosion, particularly during storms' is puzzling. We disagree that there will be increased interaction with waves and the revetment in the context that waves interacting with the revetment will be a relative improvement versus waves interacting with the existing seawall. The revetment will absorb more of the breaking wave energy than the wall and be less reflective. However, the interaction of the waves with the seawall has not been shown to be a problem based on the comparison of matching survey lines from the 1960s and 2004. These surveys

have shown the beach in front of the wall has been eroding at a low rate over the previous 40 to 50 years. A few short years ago, CZM was saying that vertical walls in coastal environments promote scour. Our proposed project will change and should improve that condition.

#### **CZM Comment #5**

CZM recommends that the ACOE evaluate the additional beach profile data discussed above and provide additional information and clarification regarding structure stability for a given beach elevation as this is an important consideration in the evaluation of alternatives and the required degree of intervention. CZM also recommends that two additional alternatives including a smaller revetment and a cobble berm option (including design considerations for the 10 and 25-year return frequency storm events, including cost-benefit analysis and other factors as considered for the nourishment and larger revetment alternatives) be considered in a revised alternatives analysis.

#### **USACE Response #5**

As noted in the previous comments, it is recognized that the beach does increase in elevation to the north and that the existing beach elevation does afford higher levels of protection than the beach to the south. However, as noted, the minimum profile during storms must be a consideration for the design. The beach to the north could fall below minimum elevation criteria during storms. As we discussed in our meeting, much of the revetment will be buried by the higher beach and therefore will minimally impact the beach use in that area. If the beach remains high, the revetment could be considered as a safety net, if not it will provide essential protection to the wall. Regarding a cobble and gravel berm alternative, the discussion paper we previously provided (attached) regarding this type of protection concluded that the alternative would have much greater maintenance requirements as well as adverse impacts to the recreational use of the beach than a revetment would. In a setting where the protection at each end of the project is also a revetment, our project recommendation will provide a continuity of protection that makes more sense to us. The discussion paper makes a point that the redistribution of cobble or mixed sediment as a result of storm wave attack would not enhance the recreational experience at Nantasket Beach.

The scope of our alternatives formulation is constrained by the need to provide effective protection within the framework of the Corps Section 103 Continuing Authority and the fact that DCR's Nantasket Beach Reservation is an intensive use recreational area where the quality of the recreational experience is to be preserved as much as possible. We consider that engineering solutions such as offshore breakwaters and cobble berms would have greater adverse impacts to recreation than our recommended plan. We also want to emphasize the fact that our proposed project does not preclude future beach nourishment at the site. Future nourishment, the cost of which would be far above the Federal spending limit for a Section 103 project, could be used to enhance the coastal storm protection of the area, recreation, or both.

I hope this information addresses your concerns. If you have any questions or wish to discuss in more detail, please contact me at (978) 318-8505 or the study manager, David Larsen, at 978-318-8113.

Sincerely,

  
John R. Kennelly  
Chief, Planning Branch







THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS  
OFFICE OF COASTAL ZONE MANAGEMENT  
251 Causeway Street, Suite 800, Boston, MA 02114-2136  
(617) 626-1200 FAX: (617) 626-1240

## MEMO

**TO:** Maeve Vallely Bartlett (EEA)  
**CC:** Jack Murray (DCR); Patti Vantine (EEA), Marty Suuberg (EEA), Brad Washburn (CZM)  
**FROM:** Bruce Carlisle (EEA-CZM)  
**RE:** US Army Corps project: seawall protection at DCR Nantasket Reservation, Hull  
**DATE:** October 28, 2014

---

- The Corps, through a Section 103 program authorization for the study, design, and construction of small coastal storm damage reduction projects (up to \$5M), developed a proposed project to protect a large segment of the existing sea wall at DCR's Nantasket Reservation from failure and to reduce risk for properties and infrastructure behind the existing seawall. The Corps' preferred alternative involves the construction of a 2,200 linear foot stone revetment seaward of the existing concrete seawall.
- CZM reviewed the Corps' Public Notice, Feasibility Report, Environmental Assessment, Finding of No Significant Impact and met with representatives from the Corps, DCR, and the Town in July and August 2014. In a letter and in meetings with the agencies and the Town, CZM provided the following comments and recommendations:
  - Primary concern is permanent loss of nearly 3 acres of beach from the proposed revetment, including the loss of all remaining high tide beach (i.e. at mid and high tides, there will be no beach in front of large sections of the proposed structure). The beach is a very important resource in terms of providing storm damage protection as well as being one of the most heavily used recreational beaches in the area.
  - Concern that the proposed revetment will not reduce storm surge overtopping of the seawall from the current conditions.
  - Recommendation to consider other alternatives including a smaller revetment and/or a cobble berm.
  - Recommendation for beach nourishment. Adding compatible sand would help restore the storm damage protection, recreational functions, and environmental benefits of the beach and would help achieve the stated goal of providing structural support to the sea wall.
- The Corps' response to the above CZM concerns were essentially dismissed. CZM will not object to the Corps / DCR project through federal consistency review; however, we maintain that the preferred approach is a beach nourishment project, acknowledging that permitting and constructions costs will be greater but that the recreational and environmental benefits support this approach. As you know, the Town also has expressed significant concerns, and in their June 2014 letter, opposed the project.



