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June 17, 2014

VIA HAND DELIVERY

Southeast Regional Office
Massachusetts Department of Environmental Protection
20 Riverside Drive
Lakeville, MA 02347
Attn: Wetlands Section

Re: Request for Superseding Order of Conditions
Applicant – Siasconset Beach Preservation Fund, Inc.
Property Location – Sconset Bluff, Nantucket
From No. 91 Baxter Road to No. 105 Baxter Road

Dear Sir/Madam:

On behalf of the Siasconset ("Sconset") Beach Preservation Fund, Inc. ("SBPF"), an Applicant in the above-referenced matter, we hereby submit this letter, together with the attached exhibits, as SBPF's Request for a Superseding Order of Conditions pursuant to 310 C.M.R. § 10.05(7) (the "Request for a Superseding Order"). The Request for a Superseding Order pertains to the Order of Conditions in the form of a Denial (the "Order" or the "Denial") from the Nantucket Conservation Commission (the "Commission") dated June 3, 2014. This Request for a Superseding Order is filed within ten (10) business days of that date. As more fully set forth below, this Request for a Superseding Order seeks review of the Commission's Denial because the Denial is inconsistent with the Wetlands Protection Act (the "WPA") Regulations found at 310 C.M.R. § 10.00, and does not contribute to the protection of the interests identified in G.L. c. 131, § 40.

The original Request for Departmental Action Fee Transmittal Form and the check payable to the Commonwealth of Massachusetts in payment of the $245.00 filing fee have been submitted to the Department of Environmental Protection (the "Department" or "DEP") at Box 4062. Copies of the Departmental Action Fee Transmittal Form and of the filing fee check are attached hereto as Exhibits A and B respectively. A copy of the Commission's Denial is attached hereto as Exhibit C. A copy of the Applicant's Notice of Intent dated October 23, 2013 (the "October 2013 NOI"), is attached hereto as Exhibit D. Additionally, the following materials

provided by or submitted to the Commission by SBPF or by the Town of Nantucket ("TON") as co-Applicants, or others, are attached as Exhibits E through EE:[1]

i) Letter from Milone & MacBroom, Inc. ("Milone & MacBroom"), the Commission's peer reviewer for the revetment project (described below) and the TON's engineering consultant for the geotube project (described below), to the Commission dated October 25, 2013 (including plans) (Exhibit E);

ii) Letter from Milone & MacBroom to the Commission dated November 1, 2013 (including memorandum from Epsilon Associates, Inc. ("Epsilon"), SBPF's environmental engineering consultant) (Exhibit F);

iii) Letter from Milone & MacBroom to the Commission dated November 5, 2013 (including revised plans) (Exhibit G);

iv) Letter from Milone & MacBroom to the Commission dated November 12, 2013 (Exhibit H);

v) Letter from Northern Baxter Road Homeowners to the Commission dated November 12, 2013 (Exhibit I);

vi) Letter from Milone & MacBroom to the Commission dated November 19, 2013 (Exhibit J);

vii) November 26, 2013 SBPF Emergency Certification Request to the Commission (Exhibit K);[2]

viii) Memorandum from Epsilon dated November 25, 2013 (Exhibit L);

ix) Memorandum from Dr. Michael Bruno, Dean of the School of Engineering and Science at Stevens Institute of Technology, dated November 25, 2013 (Exhibit M);

x) November 27, 2013 Denial of Emergency Certification (Exhibit N);

xi) November 29, 2013 SBPF Emergency Certification Request to DEP (Exhibit O);

xii) Minutes of December 4, 2013 Commission meeting (Exhibit P);

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[1] For DEP's convenience, SBPF has provided an electronic copy of this letter and its attachments as .pdf files on the enclosed disk.

[2] All documents enclosed with the November 26, 2013 SBPF Emergency Certification Request to the Commission were also enclosed with the November 29, 2013 SBPF Emergency Certification Request to DEP. For the convenience of DEP, the documents have not been submitted twice in this matter, but are all enclosed with Exhibit O.

xiii) Memorandum from Ocean and Coastal Consultants, dated December 6, 2013 (Exhibit Q);

xiv) Cover letter from DEP dated December 10, 2013 accompanying approval of Emergency Certification Request (Exhibit R);

xv) December 17, 2013 joint Emergency Certification Request of SBPF and TON (Exhibit S);[3]

xvi) December 18, 2013 Emergency Certification approval from the Commission (Exhibit T);

xvii) Letter from SBPF to the Commission dated March 14, 2014 (Exhibit U);

xviii) Letter from SBPF and TON to the Commission dated March 28, 2014 (Exhibit V);

xix) Minutes of April 2, 2014 Commission hearing (Exhibit W);

xx) Amended NOI (Exhibit X);

xxi) Updated As-built Plan, "Record Drawing – Emergency Installation of Sand Filled Geotubes," prepared by Blackwell & Associates (stamped date 4/25/14) (Exhibit Y);

xxii) SBPF Responses to Questions from Nantucket Conservation Commission and the Public Asked at Public Hearings on March 19 and April 2, 2014 dated April 25, 2014 (Exhibit Z);

xxiii) Letter from Epsilon to the Commission attaching updated returns plans dated April 28, 2014 (Exhibit AA);

xxiv) Letter from SBPF to the Commission dated May 9, 2014 (Exhibit BB);

xxv) Minutes of May 14, 2014 Commission hearing (Exhibit CC);

xxvi) Minutes of May 21, 2014 Commission meeting (Exhibit DD);

xxvii) Minutes of June 3, 2014 Commission meeting (Exhibit EE).

Copies of this letter and all attached exhibits are being sent simultaneously by Certified Mail to the Commission.

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[3] For the convenience of DEP, the December 10, 2013 DEP Emergency Certification (Exhibit R) and the November 29, 2013 SBPF Emergency Certification Request to DEP (Exhibit O) have not been duplicated in Exhibit S, although they were enclosed with the December 17, 2013 Joint Emergency Certification Request of SBPF and TON.

I. PROJECT BACKGROUND

The coastal bank at the east end of Nantucket Island, known as Sconset Bluff, has experienced ongoing erosion resulting in continued decrease in the setback distance between the top of Sconset Bluff and the numerous pre-1978 homes and public infrastructure on Baxter Road located at the top of the bluff. During the winter storms of 2012-2013, significant retreat of the Sconset Bluff occurred, leaving the top of the bank as close as 30 to 40 feet to the edge of Baxter Road in several areas and only 60 to 70 feet in many others. Pre-1978 homes[4] are as close as 8 to 24 feet from the top of the bank.[5] As a result of the eroding bluff, Baxter Road and the homes and public infrastructure on it are in danger. Another storm season similar to 2012-2013, or indeed a single significant storm, could render Baxter Road impassable, breach the public water supply, and leave the residences at the north end of Baxter Road landlocked. The failure of Baxter Road also would leave the TON unable to provide fire protection or safe drinking water to the impacted residents and would cut off access to the Sankaty Head Lighthouse. During a period of approximately 20 years, SBPF has worked closely with environmental and engineering experts, as well as the local community, to develop and propose various protective measures, including stabilization at the toe of the slope, in order to avoid the complete erosion of Sconset Bluff and the potentially disastrous circumstances.

A. *The Original Notices of Intent*

In July 2013, SBPF submitted a separate Notice of Intent for a coastal engineering structure consisting of approximately 4,000 linear feet of rock revetment and other features (the "Revetment NOI"). However, as the 2013-2014 storm season approached, SBPF suspended consideration of the Revetment NOI and, on or about October 23, 2013, jointly filed, with the TON, the October 2013 NOI for a coastal engineering structure consisting of four tiers of geotubes and other features along approximately 1,500 linear feet of a highly endangered area of Sconset Bluff between the property located at 85 and 107A Baxter Road.

As noted by Milone & MacBroom, the goal of the project proposed in the October 2013 NOI was to prevent storm damage to buildings constructed prior to August 10, 1978 (as well as protecting the infrastructure supporting those buildings) on Baxter Road from Bayberry Lane north to the Sankaty Head Lighthouse property.[6] The proposed work was limited to "those areas where Baxter Road appears in imminent danger of failure . . . Specifically, these areas are 85 to 107A Baxter Road."[7] The geotube containers proposed in the October 2013 NOI were to be made from a woven polypropylene geotextile material, manufactured in a sand color, and woven in a rip-resistant weave pattern for maximum resistance to mechanical damage. The proposed

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[4] See Exhibit O (Figure 11 of November 29 SBPF Emergency Certification Request to DEP); Exhibit Z (Table 1 of SBPF Responses to Questions).

[5] Exhibit L (Memorandum from Epsilon dated November 25, 2013); Exhibit Y (Updated As-Built Plan).

[6] Exhibit E at 2 (October 25 letter from Milone & MacBroom to Commission).

[7] Id.

system consisted of four tiers of tubes, each with a 45-foot circumference (approximately 19 feet wide and 6.5 feet tall). The bottom tier of tubes was to be buried in the beach to elevation 0.0 MLW and the top tube was to be set at elevation 26.0 MLW to account for a 100-year storm. The tubes were to be 100 or 200 feet long, with returns set at a 45-degree angle constructed with 50-foot long tubes. Following construction of the tubes, sand cover was to be provided, and ongoing nourishment performed to protect the tubes and mitigate for loss of the bank as a sediment source. Sand fill was to be secured from on-island sources of compatible sand, which was to be the same sand used in similar projects and had previously been tested for compatibility. The TON agreed to work with property owners to reduce runoff that discharges over the top of the slope and to provide a low berm along the easterly side of the roadway to direct water toward Baxter Road. In addition to redirecting runoff, biodegradable jute netting was to be placed on the bank face to protect the exposed soil. Netting was to be placed in the fall of 2013 immediately upon receipt of approval to proceed. Native plantings (e.g. beach grass and woodier species) were to be added to the slope in spring 2014 to further reduce erosion.

The October 2013 NOI specifically proposed an initial five-year lifespan intended to provide a minimum but adequate level of protection for the intermediate term while monitoring occurred to determine the appropriate long term solution.[8] The October 2013 NOI also addressed matters of sand nourishment and delivery, construction methodology, monitoring and maintenance, failure criteria and removal procedures, and analysis of alternative projects.[9]

The Commission held five public hearings to consider the October 2013 NOI, on October 30, 2013, November 6, 2013, November 13, 2013, November 20, 2013, and December 4, 2013. SBPF was represented at the hearings by Steven Cohen of Reade, Gullicksen, Hanley, Gifford & Cohen, LLP and the TON was represented by Kara Buzanoski, the Director of Public Works. During the public hearing process, substantial scientific evidence was submitted to the Commission, including:

- November 1, 2013 letter from Milone & MacBroom to the Commission, including a memorandum from Epsilon regarding retreat and nourishment calculations (Exhibit F);
- November 5, 2013 letter from Milone & MacBroom to the Commission, including revised plans (Exhibit G);
- November 12, 2013 letter from Milone & MacBroom to the Commission, addressing sand nourishment rates and monitoring and replacement protocols (Exhibit H); and

[8] This was later reduced to a proposed three-year lifespan (with the possibility of three 1-year extensions). See Exhibit Z at 4.

[9] See Exhibit E (October 25 letter from Milone & MacBroom to the Commission).

- November 19, 2013 letter from Milone & MacBroom to the Commission, addressing mitigation of flanking of the geotube ends and costs for removing the geotubes (Exhibit J).

In addition, the Northern Baxter Road Homeowners submitted a November 12, 2013 letter to the Commission in support of the October 2013 NOI, stating that "[g]eotubes have been proven effective throughout the east coast of the US, including post Super Storm Sandy" and that "[f]ailure to approve this project will likely result in the collapse of Baxter Road, which will be at a significant cost to Nantucketers, and will only increase over time."[10] By the conclusion of the November 20, 2013 public hearing, the Commission had yet to take any action on the October 2013 NOI.

B. *The SBPF Emergency Certification Request*

On November 26, 2013, with the 2013-2014 winter storm season rapidly approaching and the Commission having taken no action to approve the October 2013 NOI, SBPF filed an Emergency Certification request for the same four tier geotube system, and related work, but only at the most endangered 900 linear feet of the bluff (the "SBPF Emergency Certification Request").[11] The SBPF Emergency Certification Request was proposed for 91-105 Baxter Road, based on the emergency criteria set forth in the memo from Epsilon Associates dated November 25, 2013.[12] The SBPF Emergency Certification Request was denied locally by the Commission on November 27, 2013.[13] On November 29, 2013, SBPF appealed the denial of the SBPF Emergency Certification Request to DEP on the grounds that:

1) There can be no doubt that there is an emergency;

2) There can be no doubt that the public health and safety is at risk and the Emergency Project is needed to protect it;

3) The Emergency Project is the minimum necessary to abate the emergency; and

4) SBPF is an appropriate applicant for emergency certification.[14]

DEP approved the SBPF Emergency Certification Request on appeal on December 10, 2013, because it "deems the allowed work necessary to abate the present threat to public safety

[10] Exhibit I.

[11] Exhibit K.

[12] Exhibit L.

[13] Exhibit N (November 27, 2013 Denial of Emergency Certification) (received only after SBPF filed its appeal with DEP).

[14] Exhibit O (November 29, 2013 SBPF Request for DEP Review of Commission's Denial of Emergency Certification Request).

from storm damage to buildings, Baxter Road and water infrastructure."[15] As a part of its Special Conditions, DEP laid out a sand mitigation schedule at a rate of 22 cubic yards per linear foot (just over 1.5 times the 14.3 cubic yards per linear foot that is the actual average bank retreat rate) that included annual monitoring and nourishment requirements and stated that the sand mitigation addressed any difference between the four tier geotube structure and a hybrid geotube/jute system. DEP's Emergency Certification also required SBPF to file a Notice of Intent seeking an Order of Conditions regarding nourishment and mitigation within thirty days of the Emergency Certification.

C. *TON Emergency Certification Request*

While the SBPF Emergency Certification Request was pending, the TON filed a separate Emergency Certification request for a hybrid geotube/jute system, which was approved by the Commission on December 4, 2013, despite its denial of the SBPF Emergency Certification Request just eight days prior.[16]

D. *Joint SBPF/TON Emergency Certification Request*

In order to reconcile the conflicting emergency certifications, SBPF and the TON jointly filed an Emergency Certification Request on December 17, 2013 ("Joint Emergency Certification Request").[17] The Joint Emergency Certification Request sought approval, on an emergency basis, for the four tier geotube project as described in the SBPF Emergency Certification Request, as amended by any conditions set forth in the Emergency Certification issued by DEP. The Joint Emergency Certification Request specifically noted that:

1) the Commission's concern that the "public agency" test (which appears in both § 136-5 of the Nantucket Town Code and 310 CMR § 10.06) had not been met is moot because DEP identifies itself as the agency satisfying that test in its Emergency Certification and the TON has joined in the Joint Emergency Certification Request;

2) the Commission's approval of the TON Emergency Certification Request and DEP's approval of the SBPF Emergency Certification Request both established that the public health and safety are at risk in the project area;

3) DEP had, in its approval of the SBPF Emergency Certification Request, expressly concluded that the work proposed in the SBPF Emergency Certification Request was not more extensive than necessary to abate the emergency; and

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[15] Exhibit R at 2 (December 10, 2013 DEP Approval of SBPF Emergency Certification Request).

[16] Exhibit P at 6-7 (Minutes of December 4, 2013 Commission Meeting).

[17] Exhibit S (December 17, 2013 Joint Emergency Certification Request).

4) the jute required to construct the project approved in the TON Emergency Certification Request could not be available on site for at least 8 weeks.

The Joint Emergency Certification Request also included a memorandum from Ocean and Coastal Consultants regarding its coastal analysis to determine appropriate design conditions and proposed geometry for the emergency stabilization project.[18] Based on these facts, SBPF and the TON jointly requested that the Commission approve the Joint Emergency Certification Request for the installation of four tiers of geotubes. Ultimately, the Commission certified the emergency on December 18, 2013, allowing for three tiers of geotubes (not the four tiers requested) along approximately 900 linear feet (the "December 18 Emergency Certification"). In issuing the December 18 Emergency Certification, the Commission found that:

1) the proximity of Baxter Road to the eroding coastal bank constituted imminent danger and was an emergency;

2) the failure of the public way and damage of the public utilities posed a risk to public health and safety; and

3) the project as designed was necessary to abate the emergency situation.[19]

The Commission also adopted DEP's Special Conditions from its approval of the SBPF Emergency Certification Request. The emergency work was performed pursuant to the December 18 Emergency Certification and three tiers of geotubes were installed at a cost to SBPF of approximately $3 million in private funds.

E. ***Notice of Intent for the emergency work***

Both DEP's Special Condition No. 4 to the December 18 Emergency Certification and Nantucket Wetlands Bylaw § 136-5 require the filing of a Notice of Intent following the commencement of an emergency project. DEP's Special Condition No. 4 (adopted by the Commission in its approval of the Joint Emergency Certification Request) stated that the purpose of the Notice of Intent would be to (i) install and maintain the geotubes and (ii) incorporate mitigation (beach nourishment) into the proposed project design. To meet this requirement, on March 14, 2014, SBPF submitted additional materials designating the October 2013 NOI for 1,500 feet of four tiers of geotubes as the required Notice of Intent as a way to seek an Order of Conditions for the geotube system, as-built and with proposed alterations.[20] The information in the March 14, 2014 submission addressed key elements of the Notice of Intent being proposed and reviewed, as follows:

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[18] Exhibit Q.

[19] Exhibit T (December 18, 2013 Emergency Certification).

[20] Exhibit U (March 14, 2014 SBPF Submittal to the Commission).

1) The geotubes, as-built and as proposed, including the construction process, system location, system length, system height, tube materials, tube plugs, and new returns;

2) Drainage and storm mitigation, as installed and as proposed;

3) Bluff protection through re-vegetation and soil retention netting; and

4) Sand Contributions, as-built and as proposed, including sand volumes (for construction and sacrificial template), schedule of future contributions/maintenance, and bluff face augmentation.

The Commission held four additional public hearings in the spring of 2014 to consider the October 2013 NOI (as-built and with proposed alterations) on March 19, 2014, April 2, 2014, April 30, 2014 and May 14, 2014. SBPF again was represented at the hearings by Steven Cohen of Reade, Gullicksen, Hanley, Gifford & Cohen, LLP and the TON was again represented by Kara Buzanoski, the Director of Public Works. Between the first and second such public hearing, on March 28, 2014, SBPF and the TON sent a letter to the Commission which, while not modifying the October 2013 NOI, indicated that if an Order of Conditions were issued for the existing three tier geotube structure (with "appropriate conditions"), SBPF and the TON would not appeal and would suspend any consideration of an expanded system, geotube, or revetment while they monitored the performance of what was already built and provided for maintenance and substantial sand mitigation at the level proposed by the Commission and DEP.[21] Based on reactions from the Commission members at the April 2, 2014 hearing, the Commission had appeared to reach a consensus to approve the three tier geotube system, as had been installed under the December 18 Emergency Certification, with the returns and plantings, provided that the Order of Conditions included monitoring, mitigation, and conditions addressing removal requirements and funding.[22]

Following the April 2, 2014, hearing, SBPF spent more than a month supplying information the Commission requested, answering questions, agreeing to additional mitigation and monitoring, and adding failure criteria to account for Commission concerns. On April 25, 2014, SBPF amended the NOI to reflect guidance that had been received from DEP that the project should not be treated as a "limited project," and in that amendment reduced the length of the project from 1,500 feet to 900 feet, while maintaining the remainder of the project as described in the October 2013 NOI, including the four tiers of geotubes.[23] SBPF never amended the NOI to install any fewer than four tiers of geotubes, although, as noted above, it had indicated that it would not appeal an otherwise acceptable Order of Conditions that permitted the three tier geotube project that had already been installed under the Joint Emergency Certification.

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[21] Exhibit V (March 28, 2014 Letter from SBPF and the TON to the Commission).

[22] Exhibit W at 2 (Minutes of April 2, 2014 Commission hearing) (Commissioner Oktay states that she likes the idea of restricting the project to the size it is now with monitoring).

[23] Exhibit X (April 25, 2014 Amended NOI).

SBPF also made the following submissions to the Commission in support of the October 2013 NOI, as amended:

- April 25, 2014 SBPF Responses to Questions from Nantucket Conservation Commission and the Public Asked at Public Hearings on March 19 and April 2, 2014 ("SBPF Responses to Questions") (Exhibit Z);

- April 28, 2014 letter from Epsilon to the Commission attaching plan and isometric views of the returns in a design responsive to the Commission's requests ("April 28th Epsilon Letter") (Exhibit AA) ("the enclosed plans provide the design information for the Commission to issue an Order for 3-tiers of geotubes, as-built, with geotextile, jute or coir returns, to-be-built");

- May 9, 2014 letter from SBPF to the Commission ("May 9th SBPF Letter") (Exhibit BB) ("information has been provided that would provide for the Commission to issue an Order that permits a 3-tier geotube system, as-built, with associated returns, plantings, monitoring, maintenance, mitigation, and plantings, as submitted . . . Applicant believes that the information currently filed with the Commission in this matter . . . is responsive to all of the concerns raised by the Commission").

When the Commission had no further questions, SBPF formally requested that the hearing be closed at the conclusion of the May 14, 2014 hearing.[24] The Commission voted unanimously to close the hearing on the October 2013 NOI and a special meeting date for discussion of the Order of Conditions was set for May 21, 2014.

F. *Issuance of Order of Conditions*

The Commission held three public meetings to discuss the Order of Conditions related to the October 2013 NOI, on May 21, 2014, May 29, 2014, and June 3, 2014. During the course of these public meetings, it became clear that the majority of the members of the Commission did not intend to issue an Order of Conditions permitting the already-installed three tier geotube system, subject to the conditions concerning monitoring, mitigation, and removal that had been discussed during the four 2014 public hearings on the October 2013 NOI. Instead, at the conclusion of the June 3, 2014 public meeting, the Commission voted 4-2 to issue an Order of Conditions "denying" the October 2013 NOI, despite clear evidence that the already-installed three tier geotube system offers the most environmentally sensitive and feasible protection for the pre-1978 homes and public infrastructure on Baxter Road and despite previous findings made by the Commission and DEP that the homes and infrastructure were in imminent danger if not

[24] Exhibit CC (Minutes of May 14, 2014 Commission hearing).

protected.[25] The Commission issued its written Denial on June 3, 2014.[26] As discussed below, the Denial is inconsistent with and violates the requirements of the WPA.

II. PROJECT DESCRIPTION

The project is the same project as set forth and described in the Joint Emergency Certification Request submitted to the Commission by SBPF and the TON on December 17, 2013, with minor changes as explained below.

- The October 2013 NOI seeks approval for a four tier geotube project including ongoing maintenance of the as-built three tiers of geotubes approved under the December 18, 2013 Emergency Certification from the Commission,[27] and the addition of a top (fourth) tier of geotubes as approved by the DEP Emergency Certification approval dated December 10, 2013.[28] As shown on the As-Built or Record Drawing,[29] the existing three tiers of geotubes have a 45-foot circumference and are approximately 19 feet wide, approximately 7 feet tall, and 100-200 feet long. The bottom tier is buried in the beach to elevation 0.0 MLW and the current third tier extends to approximately elevation +20-21 MLW. A scour apron and four-foot-diameter anchor tube are included, extending five feet seaward of the lowest geotube at elevation 0.0 MLW. The geotubes overlap by approximately 7.5 feet. The three tiers of geotubes have been installed at the toe of the bank parallel to Baxter Road from 87-105 Baxter Road, with only the narrowest portion of 105 Baxter Road included, for a length of approximately 852 feet.[30] The fourth tier of geotubes will have the same dimensions as the existing three tiers of geotubes (i.e., 45-foot circumference, approximate 19 foot width, approximate 7 foot height, and approximate 7.5 foot overlap with the underlying geotube).[31] The height of the top (fourth) tier of geotubes will be approximately +26 MLW.[32]

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[25] See Exhibit Z (SBPF Responses to Questions); Exhibit AA (April 28th Epsilon Letter); (Exhibit BB) May 9th SBPF Letter).

[26] Exhibit C (Denial); Exhibit EE (Minutes of June 3, 2014 Commission meeting).

[27] Exhibit T.

[28] Exhibit R.

[29] Exhibit Y.

[30] While the project length in the October 2013 NOI, as amended, was 900 feet, the length was reduced to 852 feet during construction to avoid excavation of a clay protrusion of the bank at the north end of the project.

[31] The proposed design is shown on "Plan View and Typical Cross-Section of Temporary Slope Stabilization," which is attached to Exhibit U (March 14, 2014 SBPF Submittal).

[32] The engineering basis for this design is set forth in the memo from Ocean and Coastal Consultants included as Exhibit Q.

- The October 2013 NOI seeks approval to construct return tubes on the ends of the geotube project to minimize flanking. The returns will consist of shorter and smaller (15-foot circumference) geotextile, coir, or jute tubes installed at a 45-degree angle between the seaward face of the geotubes and the face of the unprotected bluff.[33] The bottom of the returns will be installed to a depth of +3 to +4 MLW due to the need to avoid shoring and general constructability considerations. With the returns included, the total project length is just under 900 feet.

- The October 2013 NOI seeks approval to vegetate the bluff directly above the geotubes; first with American beachgrass, followed by woody vegetation.[34] The minor addition of sand to the bluff face is proposed to prepare a smooth planting bed for the vegetation.[35]

The project also includes a considerable monitoring and mitigation program, and includes failure criteria and provisions for removal if certain triggers are met.

- SBPF has committed to a sand mitigation volume of 22 cubic yards per linear foot, a volume that is approximately 1.5 times the calculated average annual volume eroded from the bank of 14.3 cubic yards per linear foot.[36] Further, 22 cubic yards/linear foot is the minimum volume that will be made available to the littoral system; if more than this erodes and the specified replenishment trigger is met (i.e., if half the vertical height of the lowest geotube is exposed), additional sand will be added.[37] The sand will be delivered according to the schedule set forth in Exhibit Z at 14-16 (SBPF Responses to Questions).

- SBPF has committed to an extensive shoreline monitoring system. Surveys will be conducted each spring (typically in March or April) and each fall (typically in September or October). The spring survey will extend from the toe of the bank or dune to the -5 Mean Low Water (MLW) contour; the fall survey will include offshore bathymetry, as they have for the past several years, and will extend from the toe of the bank or dune to a distance of approximately 2,000 to 3,000 feet offshore or -25ft to -35 ft MLW92, whichever is less. Surveys will be conducted

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[33] The proposed design is shown on "Plan View and Typical Cross-Section of Temporary Slope Stabilization" and "Typical Geotube End Returns with Proposed 4th Geotube," attached to Exhibit U (March 14, 2014 SBPF Submittal).

[34] Exhibit Z at 2 (SBPF Responses to Questions).

[35] Exhibit U at 5 (March 14, 2014 SBPF Submittal).

[36] Exhibit Z at 14-16 (SBPF Responses to Questions); Exhibit F (Epsilon Associates November 1, 2013 memo at 2).

[37] Exhibit Z at 14-16 (SBPF Responses to Questions); Exhibit H at 2 (November 12, 2014 letter from Milone & MacBroom).

along established and new transects.[38] As part of the bi-annual surveys, the top of the coastal bank will also be monitored at those profile locations within the project area and within 300 feet of its ends.

- SBPF has committed to perform post-storm reports following all significant storms.[39] These reports will include photo-documentation of the condition of the geotube and nourishment sand within the project area; an estimate of the volume of sand lost from the sand template; estimated volume of proposed replenishment (if any); identification of the location of any exposed geotextile; identification of any repair required to the geotextile; and visual observation of the ends of the tubes to determine if flanking is occurring.

- SBPF has committed to perform an annual analysis of results, where results of the monitoring will be compiled into an annual report in the spring of each year.

- SBPF indicated willingness to perform annual underwater video monitoring of cobble bottom and habitat at selected transects.[40]

- SBPF has developed Failure Criteria to indicate "failure" if SBPF does not adequately maintain, monitor, and mitigate the geotubes within the stipulated timeframes or within a reasonable cure period if there is delay outside the control of SBPF due to weather or otherwise. SBPF proposed additional Failure Criteria linked to (i) the height and width of the beach in front of the geotubes and (ii) the results of underwater video monitoring.[41]

- SBPF has already funded an escrow account, in connection with the Commission Emergency Certification, to fund removal if required. SBPF has also provided a procedure and cost estimate for project removal,[42] and SBPF has demonstrated that the project is readily removable.

III. GROUNDS FOR APPEAL

The Commission issued an Order of Conditions in the form of denial on June 3, 2014. In its Denial, the Commission made a number of conclusory findings that the Applicant had not met its burden of proof to demonstrate compliance with various performance standards of the WPA Regulations. The purported findings do not contain factual analysis and provide no other basis for the Commission's purported conclusion that the Applicant has not met its burden of proof for

[38] For transect locations, see Figures 2-3 attached to Exhibit Z (SBPF Responses to Questions).

[39] Exhibit Z at 13 (SBPF Responses to Questions).

[40] Exhibit BB (May 9, 2014 SBPF Letter).

[41] Exhibit Z at 2-3 (SBPF Responses to Questions); Exhibit BB (May 9, 2014 SBPF Letter).

[42] Exhibit J (November 19, 2013 Milone & MacBroom letter).

any particular performance standard. The findings are also inconsistent with nearly all other erosion permits issued by the Commission regarding the same performance standards.

While the Denial does not provide enough detail for SBPF to meaningfully address specific factual issues that may have been the basis for the Denial, SBPF in fact, as shown below, can and has shown compliance with each of the applicable performance standards. The Commission's blanket denial, irrespective of the fact that the Applicant has demonstrated compliance with all applicable performance standards, is inconsistent with the WPA Regulations found at 310 C.M.R. § 10.00, and does not contribute to the protection of the interests identified in G.L. c. 131, § 40.

A. Implications of Emergency Certifications

The Commission's findings in the Denial directly contradict previous findings made by both DEP and the Commission in their respective Emergency Certifications. In its December 10, 2013 Emergency Certification, DEP found that:

1) 310 CMR 10.30 (3), which provides that a coastal engineering structure shall be permitted to protect homes constructed prior to 1978 from storm damage, applies to the homes identified in the Project area;

2) The design of the coastal engineering structure proposed in the SBPF Emergency Certification Request does not go farther than necessary to protect these homes and public infrastructure serving the homes;

3) An emergency condition exists from 87-105 Baxter Road and SBPF and TON are encouraged to coordinate efforts to abate the emergency; and

4) Required that SBPF promptly file an NOI under the WPA for installation and maintenance of the proposed geotubes, as well as for ongoing beach nourishment as mitigation. The Emergency Certification sets out a mitigation and nourishment plan that will remain in effect pending the issuance of a final Order of Conditions.[43]

In its December 18, 2013 Emergency Certification, the Commission determined as follows:

1) The Commission finds that the proximity of the road to the eroding Coastal Bank is in imminent danger and is an emergency;

2) The Commission finds that the failure of the public way and damage of the public utilities to be a risk to public health and safety; and

[43] Exhibit R.

3) The Commission finds that the project as designed is necessary to abate the emergency situation.[44]

Both the DEP Emergency Certification and the Commission's Emergency Certification recognize the dangers to the buildings (and supporting infrastructure) in the project area. DEP's Emergency Certification explicitly states that 310 CMR 10.30 (3) applies to the project and that the proposed geotubes do not go farther than necessary to protect both the homes on Baxter Road and the infrastructure (i.e. the road) serving those homes. The Commission's Emergency Certification explicitly states that the road is in imminent danger, that failure of the road would be a risk to public health and safety, and that the project as designed is necessary to abate that emergency.

Reading these two Emergency Certifications together, it is clear that the three tier geotube project that has already been installed is necessary to prevent imminent danger to the buildings on Baxter Road, as well as to protect public health and safety. Furthermore, it is clear that DEP understands 310 CMR 10.30 (3) to allow for the protection of not only the homes on Baxter Road, but the infrastructure that supports those homes, as its Emergency Certification concludes "that the design of the coastal structure proposed in the Request does not go farther than necessary to protect these homes and essential public infrastructure serving the homes." [45] However, with its Denial, the Commission has determined that SBPF may not protect the homes on Baxter Road, nor their supporting infrastructure, despite DEP's express conclusion that such protection is necessary and permitted under 310 CMR 10.30(3) (and despite the fact that the Commission has no authority to override or ignore 310 CMR 10.30(3)).

The Denial is not only inconsistent with DEP's regulations, but with the Commission's Emergency Certification authorizing three tiers of geotubes.[46] Despite the March 28, 2014 letter from SBPF stating that it would not appeal an Order of Conditions approving the already-installed three tier project, the Commission issued an Order of Conditions denying the project in its entirety, on the basis that there were no conditions the Commission could order that would make the project approvable. It is inconceivable how a three tier geotube project that was approved on an emergency basis in December 2013 cannot, six months later, be conditioned in any way to meet wetland protection regulations, especially considering the design, substantial mitigation and monitoring, short term applied for, removal escrow, and the fact that an emergency is not abated without something in place that would survive a large storm or even a moderate and sustained storm.

Both DEP's and the Commission's Emergency Certifications also contemplate the Notice of Intent process that serves as the basis for this appeal. Pursuant to both Emergency Certifications and Nantucket Wetlands Bylaw § 136-5, SBPF promptly designated the October

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[44] Exhibit T.

[45] Exhibit R at 1 (DEP Emergency Certification).

[46] Exhibit T (December 18, 2013 Commission Emergency Certification).

2013 NOI (as-built and with proposed alterations), following installation of the three tiers of geotubes under the Emergency Certification, as the Notice of Intent going forward for maintenance and mitigation purposes. Based on the language of DEP's Notice of Intent requirement, the Notice of Intent process was meant to address the appropriate maintenance and mitigation procedures moving forward for the geotubes that had already been installed under the Emergency Certification. In fact, this was the consensus reached by the Commission itself during the public hearings on the October 2013 NOI, specifically during the April 2, 2014 hearing. However, when the Order of Conditions was ultimately issued on June 3, 2014, it did not include conditions for mitigation and maintenance moving forward, but rather served as a blanket denial of the project on the basis that the Applicant had failed to meet its burden to show compliance with nearly all of the applicable performance standards, without any factual support for such a finding. Based on the prior recognition, by both the Commission and DEP, of the importance of the three tiers of geotubes to the stability of the homes on Baxter Road, it is inconsistent for the Commission to reverse course and deny the project entirely, rather than issuing an Order of Conditions establishing responsibility for maintenance and mitigation. Such a denial, without any basis in law or fact, is inconsistent with the WPA Regulations and does not serve to protect any of the interests identified in the WPA.

B. Performance Standards

For the convenience of DEP, reproduced below are each of the Commission's relevant findings followed by the explanation as to how the Applicant complies with each relevant performance standard and why each operative finding is inconsistent with the WPA Regulations and does not contribute to the protection of the interests identified in the WPA.

Land Under the Ocean (310 CMR 10.25)

1. *"The Commission finds that land under the ocean is determined to be significant to the protection of marine fisheries, protection of wildlife habitat, storm damage prevention and flood control."* Denial Finding #4.

2. *"The Commission finds that the applicant has not met the burden of proof to demonstrate compliance with 310 CMR 10.25 (5) that projects not included in 310 CMR 10.25 (3) or 10.25 (4) which affect nearshore areas of land under the ocean shall not cause adverse effects by altering the bottom topography so as to increase storm damage or erosion of coastal beaches, coastal banks, coastal dunes, or salt marshes."* Denial Finding #8.

3. *"The Commission finds that the applicant has not met the burden of proof to demonstrate compliance with 310 CMR 10.25 (6) that projects not included in 310 CMR 10.25 (3) which affect land under the ocean shall if water-dependent be designed and constructed, using best available measures, so as to minimize adverse effects . . . ."* Denial Finding #9.

It should be noted that the project, as-built and proposed, is located entirely above the Mean Low Water line (indeed, it is above even the High Tide Line) and is therefore located outside (landward) of Land Under the Ocean. The only component of the project that may impact Land Under the Ocean is the mitigation sand, which is placed above the High Tide Line but which may migrate into Land Under the Ocean due to wave action.

The Commission's findings related to the performance standards governing Land Under the Ocean, found at 310 CMR 10.25, directly contradict the evidence presented by SBPF's engineer and do not protect marine fisheries, wildlife habitat, storm damage prevention, or flood control. Since the project is above the high tide line, only the mitigation sand enters the ocean. The testimony of Dr. Michael Bruno, Dean of the School of Engineering and Science at Stevens Institute of Technology, submitted as part of the SBPF Emergency Certification Request,[47] stated that the annual supply of sand mitigation proposed was equal to the historic average annual bank contribution of sand to the littoral process, thereby ensuring that the project would have no adverse effects.[48] Furthermore, DEP already has determined, in its December 10, 2013 Emergency Certification,[49] that annual sand mitigation at a rate of 22 cubic yards per linear foot, combined with ongoing monitoring, constitutes sufficient mitigation.

This mitigation volume of 22 cubic yards per linear foot is equal to approximately 1.5 times the average annual volume contributed by the coastal bank (determined to be 14.3 cubic yards per linear foot),[50] and goes beyond the typical requirement of providing a mitigation volume equal to the average annual volume contributed by the coastal bank. The volume of 22 cubic yards per linear foot was supported by both DEP and the Commission. The Applicant has also committed to extensive nearshore and offshore shoreline monitoring.[51]

The sand used for mitigation is obtained from on-island pits. This sand has been previously determined to be compatible with both the coastal bank and beach in previous filings made by SBPF. Sieve analyses of samples from the bank and the on-island pit, along with overfill calculations, were used to demonstrate compatibility. This same sand source is used routinely in projects along Baxter Road, especially for filling jute or coir "terraces" at the toe of the bluff. There is no evidence that the routine use of this sand source is causing an adverse effect to Land Under the Ocean or any of the protected interests related thereto.

In its May 9, 2014 submittal, SBPF indicated a willingness to perform underwater video monitoring of cobble bottom and habitat at selected transects to further demonstrate the lack of

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[47] Exhibit M.

[48] Subsequent to Dr. Bruno's comments, the sand mitigation volume was increased to 1.5 times the average annual bank contribution volume, or 22 cubic yards per linear foot, per the recommendations from DEP and the Commission.

[49] Exhibit R.

[50] Exhibit F at 2 (Epsilon Associates November 1, 2013 memo).

[51] Exhibit Z at 12 (SBPF Responses to Questions).

adverse impacts to Land Under the Ocean. SBPF also indicated it would accept a determination of significant negative impacts from the underwater video monitoring as a Failure Criteria of the project.[52]

In addition to the evidence that the project will have no adverse effects on the bottom topography and has been designed and constructed so as to minimize adverse effects in general, evidence which DEP cited in its December 10, 2013 Emergency Certification, the Commission's findings fail to recognize that SBPF has assumed the burden of removal should the project fail and the performance standards not be met.[53] Not only has SBPF met its burden to show the project satisfies the performance standards governing Land Under the Ocean, but it has affirmatively assumed the burden of removal should the project fail to meet performance standards in the future. SBPF also has established and funded an escrow fund with the TON to cover the costs of removal, if required.

Contrary to the Commission's broad and conclusory findings that SBPF has failed to meet its burden of proof to demonstrate compliance with 310 CMR 10.25, SBPF has presented substantial evidence, both before the Commission and in this Request, to show that, with proper mitigation and monitoring, the project will not have any adverse effects on the bottom topography and has been designed and constructed so as to minimize adverse effects in general. SBPF has satisfied the applicable performance standards in 310 CMR 10.25 and the Commission's contrary finding is inconsistent with 310 CMR 10.25 and cannot be said to contribute to the interests protected under the WPA.

Coastal Beach (310 CMR 10.27)

1. *"The Commission finds that coastal beach is determined to be significant to storm damage prevention, flood control and protection of wildlife habitat."* Denial Finding #5.

2. *"The Commission finds that the applicant has not met the burden of proof to demonstrate compliance with 310 CMR 10.27 (3) that any project on a coastal beach, except any project permitted under 310 CMR 10.30 (3)(a), shall not have an adverse effect by increasing erosion, decreasing the volume or changing the form of any such coastal beach or an adjacent or downdrift coastal beach."* Denial Finding #10.

The project complies with 310 CMR 10.27 (3) because it is permitted under 310 CMR 10.30 (3) and therefore is exempt from the requirements of 310 CMR 10.27 (3). Please see below for further discussion of the Project's compliance with 310 CMR 10.30 (3).

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[52] Exhibit BB.

[53] Exhibit Z at 2 (SBPF Responses to Questions); Exhibit E at 8-9 (October 25, 2013 letter from Milone & MacBroom to the Commission).

Coastal Bank (310 CMR 10.30)

1. *"The Commission finds that the coastal bank is determined to be significant to storm damage prevention and flood control because it supplies sediment to the coastal beach."* Denial Finding #6.

2. *"The Commission finds that the coastal bank is determined to be significant to storm damage prevention and flood control because it is a vertical buffer to storm waters."* Denial Finding #7.

3. *"The Commission finds that the applicant has not met the burden of proof to demonstrate compliance with 310 CMR 10.30 (3) that no new bulkhead, revetment, seawall, groin or other coastal engineering structure shall be permitted on such a coastal bank except that such a coastal engineering structure shall be permitted when required to prevent storm damage to buildings constructed prior to the effective date of 310 CMR 10.21 through 10.37 (August 10, 1978), including reconstructions of such buildings subsequent to the effective date of 310 CMR 10.21 through 10.37, provided that the following requirements are met:*

    a. *A coastal engineering structure or a modification thereto shall be designed and constructed so as to minimize, using best available measures, adverse effects on adjacent or nearby coastal beaches due to changes in wave action, and*

    b. *The applicant demonstrates that no method of protecting the building other than the proposed coastal engineering structure is feasible.*

    c. *Protective planting designed to reduce erosion may be permitted.* Denial Finding #11.

The project complies with 310 CMR 10.30(3) because it is necessary to prevent storm damage to buildings constructed prior to August 10, 1978, including reconstructions of such buildings. The buildings requiring protection are on both the seaward and landward sides of Baxter Road; the lots on the landward side of Baxter Road are also threatened by loss of access to their homes due to the loss or closure of Baxter Road. All homes within the Project area meet the requirement for pre-1978 protection.[54] This determination already was made by DEP, in its December 10, 2013 Emergency Certification,[55] stating, "[i]n reviewing the extensive information in the Request and the Certification that documented the threat presented by storm-related erosion, the Department also applied the criterion at 310 CMR 10.30 (3) which provides that a coastal engineering structure 'shall be permitted' to protect homes constructed prior to 1978 from storm damage. This regulation creates an exception to the general rule that precludes the

[54] Exhibit Z at 2 of Epsilon Associates memo (submitted with SBPF Responses to Questions).

[55] Exhibit R.

installation of hard armoring of coastal banks. Based on the facts presented in the Request, this exception applies to the homes identified in the area subject to the determination of an emergency." There can be no question that the project is required to prevent storm damage to buildings constructed prior to August 10, 1978.

Although also not mentioned specifically in the Denial, the Commission expressed the opinion, during the hearings, that 310 CMR 10.30 (3) only protects buildings constructed prior to August 10, 1978 and does not protect infrastructure (i.e. the road).[56] However, DEP and the Commission have both previously determined that protection of the infrastructure is a means of protecting the buildings protected under 310 CMR 10.30 (3). In its December 10, 2013 Emergency Certification, DEP concluded "that the design of the coastal structure proposed in the Request does not go farther than necessary to protect these homes and essential public infrastructure serving the homes. In making this determination, the Department considered the specific facts presented by the proponents including, without limitation, the proximity of the homes and infrastructure to the edge of the coastal bank, the ability of the four Geotubes to withstand a significant storm event and the threat posed by successive storm events."[57] Moreover, the Commission itself, in its December 18, 2013 Emergency Certification made the following findings:

1. The Commission finds that the proximity of the road to the eroding Coastal Bank is in imminent danger and is an emergency.

2. The Commission finds that the failure of the public way and damage of the public utilities to be a risk to public health and safety.[58]

Having considered the danger posed to the buildings and essential public infrastructure in its emergency certification, the Commission may not now reverse course and claim that the infrastructure supporting the buildings on Baxter Road is not protected by 310 CMR 10.30 (3). By doing so, the Commission acts in a manner that is inconsistent with 310 CMR 10.30 (3) and that does not contribute to the interests protected under the WPA.

a. 310 CMR 10.30(3)(a)

The project meets the additional requirements of 310 CMR 10.30 (3). Subsection (a) requires that the project be designed, using best available measures, so as to minimize adverse effects on adjacent or nearby coastal beaches due to changes in wave action. "Best Available Measure" is defined in 310 CMR 10.04 as ". . . the most up-to-date technology or the best designs, measures or engineering practices that have been developed and that are commercially available." To meet this standard, SBPF evaluated alternative slopes and geotube configurations

[56] Exhibit CC (Minutes of May 14, 2014 Commission meeting).

[57] Exhibit R.

[58] Exhibit T.

in an attempt to minimize changes in wave action that might have adverse effects on beaches in the Project area. The sloped, bermed design of the geotubes will minimize wave reflection. The end returns have been proposed on a 45-degree angle to minimize flanking and focusing of wave energy onto adjacent, unprotected areas of the bank.[59] Regarding sand mitigation, the state standard of best available measure for sand mitigation is to provide to the littoral system, on an annual basis, the average amount of sand that would have been provided by the eroding bank absent the project. Specifically, SBPF calculated that the average annual contribution from the coastal bank is 14.3 cubic yards of sand per linear foot of coastal bank within the project area.[60] At the urging of DEP and the Commission, the SBPF subsequently accepted a mitigation requirement of 22 cubic yards/linear foot, a volume which is equal to approximately 1.5 times the average amount of sand that would have eroded from the bank naturally. Further, 22 cubic yards/linear foot is the minimum volume that will be made available to the littoral system; if more than this erodes and the specified replenishment trigger is met (i.e., if half the vertical height of the lowest geotube is exposed), additional sand will be added.[61] Therefore, the mitigation volume is specifically designed to exceed the best available measures to minimize adverse effects on adjacent or nearby coastal beaches.

Given the substantial mitigation volume in excess of the typical state standard of best available measure, there is no reasonable basis for anticipating adverse impacts to downdrift beaches. Specifically, as stated in the November 1, 2013 submission from Milone & MacBroom to the Commission:

> The nourishment sand is intended to provide a sufficient quantity of material to the beach and backshore areas and to make that material available to the natural shoreline processes at the site. The intent is to place on the face of the geotube system a minimum quantity of sand equivalent to the average amount of in-situ material that is annually eroded from the bluff [later increased to 1.5 times the average amount] and thus mitigate for changes in the coastal regime updrift and downdrift of the project site. . . This will provide the opportunity for natural processes to mobilize and distribute the artificially introduced sand within the littoral zone and to transport it to adjacent beaches or offshore areas. The replenishment protocol is also designed to be adaptive, so that if more sand is eroded than the planned nourishment amount of 14.3 CY/LF [later increased to 22 CY/LF] a volume of additional sand will be placed at the site . . . Following this adaptive approach, there is no reason to expect adverse impacts to downdrift beaches.[62]

The availability of the mitigation sand to the littoral system has been demonstrated.[63] The analysis in the referenced submission concludes that the sand template is expected to be available

[59] Exhibit F (Epsilon Memorandum submitted with November 1, 2013 Milone & MacBroom letter at 3).

[60] Id. at 2.

[61] Exhibit H at 2 (November 12, 2013 letter from Milone & MacBroom).

[62] Exhibit F at 2 (November 1, 2013 Milone & MacBroom letter).

[63] Exhibit Z at 14 (SBPF Responses to Questions).

to the littoral system, and may even be contributed more readily during storms than the adjacent unprotected sections of the coastal bank.

Beyond the implementation of best available measures, SBPF also proposes significant monitoring and maintenance requirements that provide further protection for adjacent or nearby coastal beaches.[64] In conjunction with the nourishment plan described above, this monitoring plan is designed to minimize adverse effects on adjacent and nearby beaches and continually gather information to ensure that the performance standard is satisfied. The Commission has no basis for its finding that SBPF has failed to meet its burden of proof in this regard and therefore its finding is inconsistent with 310 CMR 10.30(3) and does not contribute to the protection of the interests protected under the WPA.

b. 310 CMR 10.30(3)(b)

SBPF has also satisfied 310 CMR 10.30 (3)(b), as it has demonstrated that no method of protecting the building other than the proposed coastal engineering structure is feasible. While the Commission's findings did not specify any particular acceptable alternative approach, discussion at the public hearings suggests that the Commission's preferred alternative is a system of biodegradable and porous coir or jute bags.[65] While a coir/jute system may be appropriate in some situations, it is not sufficient as an alternative here. Both coir and jute systems were considered as alternatives and rejected by the design team, as discussed in the November 1, 2013 letter from Milone & MacBroom to the Commission:

> It is our understanding that both jute and coir fiber logs have been used in select locations of Sconset Beach in the past. In 2004, coir mats were installed on portions of the slope at Sconset, and in 2005 coir bags were placed in front of the matting as a means of toe protection. Ultimately, the use of coir fiber was abandoned because the material degraded, resulting in debris distribution along the beach.
>
> In evaluating coir fiber geotextile matting for this application, this alternative was rejected by the design team for its lack of durability. While of similar durability than jute fiber, coir is naturally biodegradable and is considered by manufacturers of the material to last up to three years. This material has practical application in riverine or low-velocity environments to provide stability while vegetation is established. As observed in past applications along Sconset, it is not a material well suited to withstanding wave impacts associated with the Atlantic Ocean. Therefore, this material was not considered for this application.[66]

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[64] Id. at 12.

[65] Exhibit DD (Minutes of May 21, 2014 Commission meeting).

[66] Exhibit F at 4.

In the same November 1, 2013 letter, Milone & MacBroom further described failure of jute tubes and the significant resulting loss of coastal bank in a location just south of the project area at 79 Baxter Road, again concluding that jute bags were not an adequate alternative:

> The property owner at 79 Baxter Road has indicated that [jute] tubes have been replaced completely one to three times each year...since they were installed. In the winter of 2012-2013, successive storms prevented reconstruction of failed jute logs, and approximately 30 feet of the bank at the north end of the property was lost, suggesting that jute is not an adequate material to withstand the extreme forces and successive storms that occur at the project site...During the 2012-2013 season, Lot 79 lost more material than neighboring properties, even with the jute logs contributing sand. Based on this, it is our opinion that while the jute logs contribute sand during storm events that contribution does not necessarily translate into the required protection of the property on which they are installed.[67]

SBPF provided an engineering analysis by Ocean and Coastal Consultants of jute/coir tubes in its March 14, 2014 submission that also concluded that jute/coir bags were not an acceptable alternative:

> [I]t is expected that the jute bags will be torn open under wave overtopping pressures of the 100-year storm event....[I]t is not advisable that jute/coir be used as substitution for proper geotextile tubes (geotubes).[68]

SBPF again addressed the assessment of biodegradable materials (jute/coir) for third or four tier of protection in its April 25, 2014 Responses to Questions as follows:

> As stated in our October 25, 2013 and November 1, 2013 submissions, coir and jute are not recommended because they lack durability to withstand storm conditions experienced regularly at the site and are likely to require frequent replacement, and because this location has little or no ability to absorb additional bank loss. The degradation of the terraces would result in continued bank failure and ongoing maintenance. As stated in our March 13, 2014 submission, it is expected that jute bags would be torn open by storm wave forces and may need to be replaced as often as 1-3 times per year. Frequent replacement of jute/coir products results in additional truck traffic and added costs. The 4th row of jute/coir is unlikely to withstand the required loading and shear stresses caused by a bulldozer and/or excavator used when spreading the annual mitigation sand volume and when covering areas expected to be exposed by wave action. The use of jute/coir for the 3rd tier of protection is even more certain to fail because it is subject to greater

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[67] Id. at 5.

[68] Exhibit U (March 13, 2014 Ocean and Coastal Consultants memorandum included with SBPF March 14, 2014 submittal).

exposure during storms resulting in system failure and causing serious difficulties in sand delivery. These materials are therefore not considered a feasible option.[69]

Although the Commission purports to make a finding that SBPF has not demonstrated that no method of protecting the building other than the proposed coastal engineering structure is feasible, the testimony in the record demonstrates that the Commission's chosen alternative (coir/jute) would not stand up to a large storm (either of high intensity or lasting for several days), leaving the bluff vulnerable to massive failures and loss of the structures and infrastructures at precisely the time that protection is most needed.[70]

4. *The Commission finds that the applicant has not met the burden of proof to demonstrate compliance with 310 CMR 10.30 (4) that any project on a coastal bank or within 100 feet landward of the top of a coastal bank, other than a structure permitted by 310 CMR 10.30 (3), shall not have an adverse effect due to wave action on the movement of sediment from the coastal bank to coastal beaches or land subject to tidal action.* Denial Finding #12.

The project complies with 310 CMR 10.30 (4) because it is permitted under 310 CMR 10.30 (3) and therefore is exempt from the requirements of 310 CMR 10.30 (4). Please see above for further discussion of the project's compliance with 310 CMR 10.30 (3).

5. *The Commission finds that the applicant has not met the burden of proof to demonstrate compliance with 310 CMR 10.30 (6) that any project on such a coastal bank or within 100 feet landward of the top of such coastal bank shall have no adverse effects on the stability of the coastal bank.* Denial Finding #13.

The project has been designed to maintain the stability of the coastal bank, as it will reduce or eliminate wave-inducing scarping at the toe, which has been the principal cause of erosion of the coastal bank.[71] The geotubes have been designed to protect the base of the bluff; the project's engineering basis of design is set forth in the memo from Ocean and Coastal Consultants dated December 6, 2013.[72] Construction of the proposed fourth tier geotube or returns will not require excavation into the bluff[73] but will instead increase bluff stability. Additionally, the proposed vegetation on the upper bank will address erosion of the upper bank

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[69] Exhibit Z at 4.

[70] Exhibit F at 4 (November 1, 2013 letter from Milone & MacBroom); Exhibit E at 3 (October 25, 2013 letter from Milone & MacBroom); Exhibit U (March 13, 2014 Ocean and Coastal Consultants memorandum with SBPF March 14, 2014 submittal).

[71] Exhibit Z (Epsilon Memorandum at 4, submitted with SBPF Responses to Questions).

[72] Exhibit Q.

[73] Exhibit Z at 10 (SBPF Responses to Questions).

due to stormwater runoff and slumping.[74] The use of such vegetation has been specifically recommended to increase slope stability by Haley & Aldrich, a geotechnical engineering firm:

> We recommend a planting program of beach grass and native shrubs be implemented, which will restore the slope to its "native state" and increase face stability and reduce erosion of the slope above the geotubes due to rain events.[75]

6. *The Commission finds that the applicant has not met the burden of proof to demonstrate compliance with 310 CMR 10.30 (7) that bulkheads, revetments, seawalls, groins or other coastal engineering structures may be permitted on such a coastal bank except when such bank is significant to storm damage prevention or flood control because it supplies sediment to coastal beaches, coastal dunes and barrier beaches.* Denial Finding #14.

The Project is designed to stabilize the existing bank face in accordance with 310 CMR 10.30 (3) and mitigation will be provided as described above. In its December 10, 2013 Emergency Certification, DEP clearly indicated that 310 CMR 10.30 (3) and 310 CMR 10.30 (7) are read together, as 310 CMR 10.30 (3) states that a coastal engineering structure "shall be permitted" to protect pre-1978 homes from storm damage. In previously permitting the Project in its Emergency Certification, DEP has already recognized that by complying with 310 CMR 10.30 (3), SBPF is also in compliance with 310 CMR 10.30 (7).

IV. CONCLUSION

Commission member Michael Glowacki, who voted against the Denial, as summarized in the minutes of the June 3, 2014 meeting, characterized the majority's Denial as proceeding from a preference for an unidentified alternative and the assertion that adverse impacts could not be conditioned:

> We know the substitute materials [for the inchoate preferred alternative] will fail to do the job they are designed to do from prior experience. It seems this commission is saying that it wants that alternative at the expense of stabilizing the bank. The DEP states it is all about mitigation. The applicant has made a series of adjustments to the original project. This proposal is for three years or less if at such time the commission finds it is having an adverse impact. In his opinion, this is an over-reach of the commission that could result in wrest of control when appeals are done that could result in the commission losing any say over adverse impact.[76]

Further insight as to the Commission's reason for the Denial may be gleaned from the comment of the Commission Chairman, Ernie Steinauer that "he would normally feel bad about

[74] Exhibit U at 2 (March 14, 2014 SBPF Submittal).

[75] Exhibit U (Haley & Aldrich memorandum submitted with March 14, 2014 SBPF submittal).

[76] Exhibit EE at 2 (Minutes of June 3, 2014 Commission meeting).

someone building something then being told to take it out except that we told the applicant the commission would deny it [that is, the subject of this NOI], and they built it [that is, the Emergency Project, **which the Commission certified**] anyway."[77] It is revealing that Chairman Steinauer's rationale for denial on the record references a past statement promising denial and does not speak to any specific performance standard that the project fails to satisfy.

As shown above, the Applicant can and has shown compliance with each of the applicable performance standards under the WPA. The Commission's Denial is inconsistent with the WPA Regulations and does not contribute to the protection of the interests identified in the WPA. Therefore, the Applicant asks that DEP issue a Superseding Order of Conditions permitting the work in the October 2013 NOI, as amended.

Respectfully submitted,

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Enclosures
cc: Mr. Phillip Weinberg, Regional Director DEP SERO (by enclosed disk)
Mr. David Johnston, Deputy Regional Director DEP SERO (by enclosed disk)
Mr. James Mahala, Coastal Engineering DEP SERO (by enclosed disk)
Ms. Elizabeth Kouloheras, Wetlands Section Chief DEP SERO (by enclosed disk)
Nantucket Conservation Commission (by certified mail)
Siasconset Bay Preservation Fund, Inc. (by electronic mail)
Mr. Steven Cohen, Esq. (by electronic mail)
Ms. Maria Hartnett (by electronic mail)
Mr. Marshall D. Senterfitt, Esq.
Mr. David M. Zucker, Esq.

[77] Id.