

## **Appendix C**

### **Agency Correspondence and Permits**

**C1 NJDEP Coastal General Permit 24, Waterfront Development Permit  
and Water Quality Certificate**

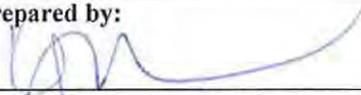


**STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF LAND USE REGULATION**

Mail Code 501-02A, P.O. Box 420, Trenton, New Jersey 08625-0420  
Telephone: (609) 777-0454 or Fax: (609) 777-3656  
www.state.nj.us/dep/landuse



# PERMIT

<p>In accordance with the laws and regulations of the State of New Jersey, the Department of Environmental Protection hereby grants this permit to perform the activities described below. This permit is revocable with due cause and is subject to the limitations, terms and conditions listed below and on the attached pages. For the purpose of this document, "permit" means "approval, certification, registration, authorization, waiver, etc." Violation of any term, condition or limitation of this permit is a violation of the implementing rules and may subject the permittee to enforcement action.</p>		<p>Approval Date: <b>9/13/2017</b></p>
		<p>Expiration Date: <b>9/13/2022</b></p>
<p><b>Permit Number(s):</b> 0609-10-0007.2 CZM170001 WFD170001</p>	<p><b>Type of Approval(s):</b> Coastal Wetland Permit 24 Waterfront Development Permit Water Quality Certificate</p>	<p><b>Enabling Statute(s):</b> N.J.S.A. 13:19-1 et seq. CAFRA N.J.S.A. 12:5-3 WFD N.J.S.A. 58:10A WPCA</p>
<p><b>Permittee:</b> The American Littoral Society c/o Tim Dillingham &amp; Aleksandr Modjeski 18 Hartshorne Drive, Ste 1 Highlands, NJ 07732</p>		<p><b>Site Location:</b> <u>Project Location:</u> Thompsons Beach Marsh, along Delaware Bay <u>Block:</u> 319; 320 <u>Lot:</u> 31; 14 <u>Municipality:</u> Maurice River Township <u>County:</u> Cumberland</p>
<p><b>Description of Authorized Activities:</b></p> <p>This permit authorizes:</p> <ul style="list-style-type: none"> <li>- Dredging up to approximately 6,800 linear feet (4.77 acres) of tidal creeks, both east and west of the public boat launch on Thompsons Beach Road (Eastern Creek and Western Creek).</li> <li>- Restoration of up to 3.75 acres of a mudflat sparsely vegetated with <i>Spartina alterniflora</i> (Eastern Area) through the elevation of the marsh platform through deposition of material dredged from the Eastern and Western creeks. Haybales and coir logs will be used during the sediment deposition process as per the approved plans referenced on the last page of this permit.</li> <li>- Restoration of up to 9.95 acres (Southern Area) of <i>Spartina alterniflora</i> low-marsh to promote the growth of high marsh vegetation. Up to eight (8) inches of dredged material from the Eastern and Western Creeks will be the source of the material. Haybales and coir logs will be used during the sediment deposition process as per the approved plans referenced on the last page of this permit.</li> </ul> <p>Prior to ANY construction or site preparation for the portion of the project located below the high tide line, the permittee must obtain a Department of the Army authorization. You are advised to contact the Philadelphia District at (215) 656-6728.</p> <p>This project is authorized under and in conditional compliance with the applicable Coastal Zone Management Rules (N.J.A.C. 7:7-1.1 et seq.), as amended on June 20, 2016, including a Water Quality Certificate provided that all conditions to follow are met.</p>		
<p><b>Prepared by:</b>  _____ <b>Katelyn A. Brennen, Environmental Specialist 1</b></p>		<p><b>Received and/or Recorded by County Clerk:</b></p>
<p>THIS PERMIT IS NOT EFFECTIVE AND NO CONSTRUCTION APPROVED BY THIS PERMIT, OR OTHER REGULATED ACTIVITY, MAY BE UNDERTAKEN UNTIL THE APPLICANT HAS SATISFIED ALL PRE-CONSTRUCTION CONDITIONS AS SET FORTH HEREIN.</p>		
<p align="center"><b>This permit is not valid unless authorizing signature appears on the last page.</b></p>		

**STANDARD CONDITIONS:**

1. The issuance of a permit shall in no way expose the State of New Jersey or the Department to liability for the sufficiency or correctness of the design of any construction or structure(s). Neither the State nor the Department shall, in any way, be liable for any loss of life or property that may occur by virtue of the activity or project conducted as authorized under a permit;
2. The issuance of a permit does not convey any property rights or any exclusive privilege;
3. The permittee shall obtain all applicable Federal, State, and local approvals prior to commencement of regulated activities authorized under a permit;
4. A permittee conducting an activity involving soil disturbance, the creation of drainage structures, or changes in natural contours shall obtain any required approvals from the Soil Conservation District having jurisdiction over the site;
5. The permittee shall take all reasonable steps to prevent, minimize, or correct any adverse impact on the environment resulting from activities conducted pursuant to the permit, or from noncompliance with the permit;
6. The permittee shall immediately inform the Department by telephone at (877) 927-6337 (Warn DEP Hotline) of any noncompliance that may endanger public health, safety, and welfare, or the environment. The permittee shall inform the Division of Land Use Regulation by telephone at (609) 292-0060 of any other noncompliance within two working days of the time the permittee becomes aware of the noncompliance, and in writing within five working days of the time the permittee becomes aware of the noncompliance. Such notice shall not, however, serve as a defense to enforcement action if the project is found to be in violation of this chapter. The written notice shall include:
  - i. A description of the noncompliance and its cause;
  - ii. The period of noncompliance, including exact dates and times;
  - iii. If the noncompliance has not been corrected, the anticipated length of time it is expected to continue; and
  - iv. The steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance;
7. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the authorized activity in order to maintain compliance with the conditions of the permit;
8. The issuance of a permit does not relinquish the State's tidelands ownership or claim to any portion of the subject property or adjacent properties;
9. The issuance of a permit does not relinquish public rights to access and use tidal waterways and their shores;
10. The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to:
  - i. Enter upon the permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of the permit;
  - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit; and

- iii. Inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under the permit. Failure to allow reasonable access under this paragraph shall be considered a violation of this chapter and subject the permittee to enforcement action under;
11. The permittee and its contractors and subcontractors shall comply with all conditions, site plans, and supporting documents approved by the permit;
12. All conditions, site plans, and supporting documents approved by a permit shall remain in full force and effect so long as the regulated activity or project, or any portion thereof, is in existence, unless the permit is modified;
13. For Coastal Permits the permittee shall record the permit, including all conditions listed therein, with the Office of the County Clerk (the Registrar of Deeds and Mortgages, if applicable) of each county in which the site is located. The permit shall be recorded within 30 calendar days of receipt by the permittee, unless the permit authorizes activities within two or more counties, in which case the permit shall be recorded within 90 calendar days of receipt. Upon completion of all recording, a copy of the recorded permit shall be forwarded to the Division of Land Use Regulation at the address set forth in the rules.
14. If any condition or permit is determined to be legally unenforceable, modifications and additional conditions may be imposed by the Department as necessary to protect public health, safety, and welfare, or the environment;
15. Any permit condition that does not establish a specific timeframe within which the condition must be satisfied (for example, prior to commencement of construction) shall be satisfied within six months of the effective date of the permit;
16. A copy of the permit and all approved site plans and supporting documents shall be maintained at the site at all times and made available to Department representatives or their designated agents immediately upon request;
17. A permit shall be transferred to another person only in accordance with the regulations;
18. A permit can be suspended or terminated by the Department for cause;
19. The submittal of a request to modify a permit by the permittee, or a notification of planned changes or anticipated noncompliance, does not stay any condition of a permit;
20. Where the permittee becomes aware that it failed to submit any relevant facts in an application, or submitted incorrect information in an application or in any report to the Department, it shall promptly submit such facts or information; and
21. The permittee shall submit written notification to the Bureau of Coastal and Land Use Compliance and Enforcement, 401 East State Street, 4th Floor, P.O. Box 420, Mail Code 401-04C, Trenton, NJ 08625, at least three working days prior to the commencement of regulated activities.
22. The permittee shall not cause or allow any unreasonable interference with the free flow of a regulated water by placing or dumping any materials, equipment, debris, or structures within or adjacent to the channel while the regulated activity is being undertaken. Upon completion of the regulated activity, the permittee shall remove and dispose of in a lawful manner, all excess

materials, debris, equipment, and silt fences and other temporary soil erosion and sediment control devices from all regulated areas.

23. The regulated activity shall not destroy, jeopardize, or adversely modify a present or documented habitat for threatened or endangered species, and shall not jeopardize the continued existence of any local population of a threatened or endangered species;

**SPECIAL CONDITIONS:**

1. Prior to construction, the permittee shall receive a Tidelands Instrument. Issuance of this permit in no way relinquishes, and shall not be construed as a relinquishment by the State of New Jersey of any Tidelands right, title ownership/interest in the subject property or in any land surrounding the same. This permit is authorized under, and in compliance with the Coastal Zone Management Rules (N.J.A.C. 7:7 et. Seq.), as amended, provided that all conditions to follow are met.
2. In order to protect sensitive habitat for the State threatened osprey, the permittee shall adhere to a seasonal restriction on the use of heavy construction equipment/machinery within 300 meters of any active osprey nest along the project limit of disturbance from April 1<sup>st</sup> through August 31<sup>st</sup> of each calendar year. The initiation and implementation of work which generates disturbance (e.g. sound levels, visual interruption) that is out of character with what currently exists at or surrounding the anticipated work area during the restricted time period required above may result in the permittee being in violation of the "take" clauses within State of New Jersey (Endangered and Nongame Species Conservation Act, N.J.S.A. 23:2A-1) and federal (Migratory Bird Treaty Act, 16 USC 703-712) statutes. The Department reserves the right to suspend all regulated activities on site if it is determined that the applicant has not taken proper precautions to ensure continuous compliance with this condition.
3. In order to protect possible habitat for hibernating Diamondback Terrapins within the Eastern and Western creeks, the permittee has developed a Diamondback Terrapin Dredging Protocol. Said protocol shall be implemented during dredging operations. Said file can be located in the New Jersey Environmental Management System (NJEMs) under the attachment file name "Diamondback Terrapin Dredging Protocol".
4. In order to protect migrating Red Knots, a Federally listed threatened species and a State listed endangered species, if construction occurs from May 1<sup>st</sup> through June 7<sup>th</sup> the permittee shall conduct Red Knot monitoring to determine if construction could impact these birds. The initiation and implementation of work which generates disturbance (e.g. sound levels, visual interruption) that is out of character with what currently exists at or surrounding the anticipated work area during the restricted time period required above may result in the permittee being in violation of the "take" clauses within State of New Jersey (Endangered and Nongame Species Conservation Act, N.J.S.A. 23:2A-1) and federal (Migratory Bird Treaty Act, 16 USC 703-712) statutes. The Department reserves the right to suspend all regulated activities on site if it is determined that the applicant has not taken proper precautions to ensure continuous compliance with this condition.
5. Should the permittee choose to dredge a smaller portion of the Eastern or Western creeks or restore a lesser area of wetlands, no modification to this permit is necessary provided the area remains within the approved footprint as depicted on the plans referenced on the last page of this permit.
6. The permittee shall provide monitoring results to the Department in accordance with the schedule identified in the permit application: "Thompsons Beach Marsh Restoration and Enhancement Project" Tab 5, Section E entitled "Monitoring Framework". Said file can be located in the New

Jersey Environmental Management System (NJEMs) under the attachment file name "Monitoring Framework".

7. All debris generated from the proposed project is to be disposed of at an approved disposal site.
8. All areas of temporary disturbance shall be restored to pre-existing condition and grade.
7. This authorization is valid for five years from the date of issuance. This authorization may be extended one time for five years, in accordance with the requirements at N.J.A.C. 7:7-3.7. All regulated activities being conducted pursuant to this authorization shall immediately cease on the date the authorization expires. If the authorization expires and the permittee intends to commence or continue the regulated activities, the permittee shall obtain a new authorization or permit under this chapter authorizing the regulated activities. The Department shall issue a new authorization only if the project is revised where necessary to comply with the requirements in effect when the application for the new authorization is declared complete for review.

**APPROVED PLANS:**

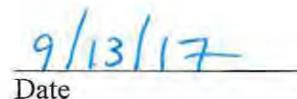
The approved project plans are referenced as: *Thompson Beach Restoration Project prepared by Frank Lenik, NJ Land Surveyor with the Stockton University Coastal Research Center. The plans consist of pages one (1) through nine (9), with page two (2) dated November 2, 2016 and all remaining pages dated as November 9, 2016. Additional project plans and material, entitled "Adaptive Management Plan" are located under Tab 5, Section F.*

In accordance with the applicable regulations, any person who is aggrieved by this decision or any of the conditions of this permit may request an adjudicatory hearing within 30 calendar days after public notice of the decision is published in the DEP Bulletin. This request must include a completed copy of the Adjudicatory Hearing Request form. The DEP Bulletin is available through the Department's website at <http://www.nj.gov/dep/bulletin> and the form is available through the Division's website at [http://www.nj.gov/dep/landuse/download/lur\\_024.pdf](http://www.nj.gov/dep/landuse/download/lur_024.pdf). In addition to requesting a hearing, a request may be filed with the Department's Office of Dispute Resolution to determine whether the matter is suitable for mediation. Information concerning the dispute resolution process is available at [www.nj.gov/dep/odr](http://www.nj.gov/dep/odr).

If you need clarification on any section of this permit or the conditions of this permit, please contact the Division of Land Use Regulation's Technical Support Call Center at (609) 777-0454.

Approved By:

  
 David B. Fanz, Manager  
 Land Use Management

  
 Date

Original sent to Agent to record

c: Permittee  
 NJDEP Bureau of Coastal and Land Use Enforcement, Toms River  
 Maurice Township Municipal Clerk  
 Maurice Township Municipal Construction Official

**C2 Coastal Zone Management Regulations Compliance Statement**



American Littoral Society

*Thompsons Beach Marsh Restoration and Enhancement Project*

March 2017

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**Coastal Zone Management Regulations  
Compliance Statement**



American Littoral Society  
Thompsons Beach Marsh Restoration and Enhancement  
**New Jersey Coastal Zone Management Regulations Compliance Statement**

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## Executive Summary

**Project Name:** Thompsons Beach Marsh Restoration and Enhancement

**Project Location:** The project is in Maurice River Township, Cumberland County, New Jersey. The project sites are located within the marsh at Thompsons Beach, approximate street address, 163 Thompsons Beach Rd. The project is within the boundaries of the Heislerville Wildlife Management Area and a PSEG Estuary Enhancement Program Area. All activities will take place on block 319, lot 31 and block 320, lot 14. *(See Project Plans in Appendix C)*

**Applicant:** American Littoral Society

**Address:** 18 Hartshorne Drive, Ste. 1  
Highlands, NJ 07732  
Attn: Aleksandr Modjeski

**Size of Project Area:** Eastern Site – Marsh Restoration, 3.75 acres; Southern Site - Habitat Enhancement, 9.95 acres; East and West creeks total dredge area 4.77 acres.

**Nature of Project:** The American Littoral Society is proposing to improve the resiliency and habitat value of the marsh at Thompsons Beach. This will be accomplished by dredging two existing creek channels and using this dredge sediment on two selected areas within the marsh. The Eastern project area will focus on raising the marsh elevation to a level that can support low marsh vegetation. This restoration site will receive dredge material hydraulically to raise the marsh platform to a target elevation range between 1.75' and 2.5' NAVD88. This sediment placement would bring the marsh platform to an elevation range more consistent with a functioning low marsh and will increase marsh resilience and restore biodiversity. The Southern project area will focus on using a small elevation change to develop specific high marsh habitat. This area will receive a thin layer application of a maximum thickness of 8" of dredge material, not to exceed 3.4 feet in elevation.

**Summary of Major Environmental Impacts Associated with the Proposed Project:** No, significant environmental impacts are anticipated as a result of this project. This project is in compliance with the applicable Coastal Zone Management Rules.



The following narrative discusses compliance with New Jersey's Coastal Zone Management (CZM) regulations at N.J.A.C. 7:7E. This Statement of Compliance to the Rules is intended to give a comprehensive understanding of the respective CZM policies. The list of CZM Rules presented herein is followed by a statement demonstrating compliance or applicability.

## **A. Location Rules - Special Areas**

### 1. 7:7E-3.2 Shellfish Habitat

*Shellfish habitat is defined as an estuarine bay or river bottom that has a history of production for hard clams (*Mercenaria mercenaria*), soft clams (*Mya arenaria*), eastern oysters (*Crassostrea virginica*), bay scallops (*Argopecten irradians*), or blue mussels (*Mytilus edulis*). Development which would result in the destruction, condemnation (downgrading of the shellfish growing water classification) or contamination of shellfish habitat is prohibited, unless the proposed development is a dock, pier, or boat mooring constructed in accordance with appropriate regulations.*

**There are no mapped shellfish areas inside the boundaries of the Maurice River Township (MRT) site (<http://www.state.nj.us/dep/gis/dep>). Our review of the PSEG project files and correspondence regarding previous restoration activities at the site showed that the Bureau of Shellfisheries was contacted and indicated that overall, the Maurice River Township (MRT) site restoration efforts probably would be beneficial to the shellfish resources of the Delaware Estuary in the long term (NJDEP 1996). As such, no direct or indirect impacts to shellfish beds will occur because of the proposed dredging.**

### 2. 7:7E-3.3 Surf Clam Areas

*Surf clam areas are coastal waters which can be demonstrated to support significant commercially harvestable quantities of surf clams (*Spisula solidissima*), or areas important for recruitment of surf clam stocks. This includes areas where fishing is prohibited for research sanctuary or conservation purposes by N.J.A.C. 7:25-12.1(d)4. Surf clams are a marine fish and therefore are also subject to the marine fish and fisheries rule, N.J.A.C. 7:7E-8.2. Development which would result in the destruction, condemnation, or contamination of surf clam areas is prohibited.*

**Surf clams do not occur in the tidal Delaware River (Gosner 1971). As such, this rule is not applicable to this request for authorization for dredging at the MRT Site.**

### 3. 7:7E-3.4 Prime Fishing Areas

*Prime fishing areas include tidal areas at a river's edge areas which have a demonstrable history of supporting a significant local intensity of recreational or commercial fishing activity. These areas include all coastal jetties, groins, public fishing piers or docks, and artificial reefs. Prime fishing areas also include features*



such as rock outcroppings, sand ridges or lumps, rough bottoms, aggregates such as cobblestones, coral, shell and tubeworms, slough areas and offshore areas. Prime fishing areas also include areas identified in "New Jersey's Recreational and Commercial Fishing Grounds of Raritan Bay, Sandy Hook Bay and Delaware Bay and The "hellfish Resources of Raritan Bay and Sandy Hook Bay Figley and McCloy (1988) and those areas identified on the map titled, "New Jersey's Recreational and Commercial Fishing Grounds. This map is available through the Coastal Management Program's website at [www.nj.us/dep/cmp](http://www.nj.us/dep/cmp). Standards relevant to prime fishing areas are as follows:

1. Permissible uses of prime fishing areas include recreational and commercial finfishing and shellfishing, as presently regulated by the Department's Division of Fish and Wildlife, such as diving and other water related recreational activities.
2. Prohibited uses include sand or gravel submarine mining which would alter existing bathymetry to a significant degree so as to reduce the high fishery productivity of these areas. Disposal of domestic or industrial wastes must meet applicable State and Federal effluent limitations and water quality standards.

**The goal of the restoration activities in the late 90's at the MRT site was to create additional fishery nursery areas; that is, the creation of additional and improved quality wetlands. These improved wetland areas have resulted in increased production of lower food chain fisheries and consequently, improved production of commercial and recreational fishery resources of the Delaware Estuary. (PSEG Monitoring reports 1999-2012)**

**The currently proposed marsh restoration and enhancement project includes dredging of the Western tidal channel of the Eastern tidal channel within the MRT Site (see attached plans). Sand or gravel submarine mining or any other activities that would significantly alter the bathymetry to a degree which would reduce the fishery production of the area are not proposed as part of this effort.**

#### 4.7E-3.5 Finfish Migratory Pathways

*Finfish migratory pathways are waterways (rivers, streams, creeks, bays and inlets) which can be determined to serve as passageways for diadromous fish to or from seasonal spawning areas, including juvenile anadromous fish which migrate in autumn and those listed by H.E. Zich (1977) "New Jersey Anadromous Fish Inventory" NJDEP Miscellaneous Report No. 41, and including those portions of the Hudson and Delaware Rivers within the coastal zone boundary. Species of concern include: alewife or river herring (*Alosa pseudoharengus*), blueback herring (*Alosa sapidissima*), American shad (*Alosa sapidissima*), striped bass (*Morone saxatilis*), Atlantic sturgeon (*Acipenser oxyrinchus*), Shortnose sturgeon (*Acipenser brevirostrum*) and American eel (*Anguilla rostrata*).*

*Development, such as dams, dikes, spillways, channelization, tide gates and intake pipes, which creates a physical barrier to the movement of fish along finfish migratory pathways is prohibited, unless acceptable mitigating measures such as fish ladders, erosion control, or oxygenation are used. Development which lowers*



*water quality to such an extent as to interfere with the movement of fish along finfish migratory pathways or to violate State and Delaware River Basin Commission water quality standards is prohibited.*

**The Delaware River serves as one of the main migratory pathways for anadromous fish in New Jersey. The Eastern and Western creeks have not been listed as confirmed or rare use by anadromous river herring. (*Locations of Anadromous American Shad and River Herring During Their Spawning Period in New Jersey's Freshwaters Including Known Migratory Impediments and Fish Ladders; NJDEP, 2005*) Since these species have not been identified in these waters, the proposed project will not have any adverse impacts on their habitat or migratory pathways.**

**In addition, Eastern and Western creeks lack the upstream connectivity to potential spawning habitat and terminate at a closed roadway located near the Maurice River Township boat ramp at the boundary of the project site. Habitat at their termination as well as towards the bay is not conducive for spawning.**

**Proposed dredging activities at the MRT site may temporarily affect the presence of such fish species if foraging because of noise or in-water disturbances; however, these disturbances will be minor and short-term in nature, and will not result in any permanent impacts or adverse effects to migratory finfish. Additionally, work will be performed from September through March, when river herring are not present.**

**An Essential Fish Habitat evaluation has been prepared and submitted to the U.S. Fish & Wildlife Service, USACE, and NMFS. This EFH is included in this submission as Appendix G.**

#### 5. 7:7E-3.6 Submerged Vegetation Habitat

*A Submerged vegetation special area consists of water areas supporting or documented as previously supporting rooted, submerged vascular plants such as widgeon grass (*Ruppia maritima*), sago pondweed (*Potamogeton pectinatus*), horned pondweed (*Zannichellia palustris*), and eelgrass (*Zostera marina*). In New Jersey, submerged vegetation is most prevalent in the shallow portions of the Navesink, Shrewsbury, Manasquan and Metedeconk Rivers, and in Barnegat, Manahawkin and Little Egg Harbor Bays. Other submerged vegetation species in lesser quantities include, but are not limited to, the following: water weed (*Elodea nuttalli*), *Eriocaulon parkeri*, *Liaeopsis chinensis*, *Naja flexilis*, *Nuphar variegatum*, *Potamogeton crispus*, *Potamogeton epihydrus*, *Potamogeton perfoliatus*, *Potamogeton pusillus*, *Scirpus subterminalis*, and *Vallisneria americana*. Detailed maps of the distribution of the above species for New Jersey, and a method for delineation, are available from DEP in the New Jersey Submerged Aquatic Vegetation Distribution Atlas (Final Report), February, 1980, conducted by Earth Satellite Corporation and also on "Eelgrass Inventory" maps prepared by the Division of Fish and Wildlife, Bureau of Shellfisheries, 1983. If the Department is presented with clear and convincing evidence that a part of its mapped habitat lacks the physical characteristics necessary for supporting or continuing to support the documented submerged vegetation species, such a site would be excluded from the habitat definition. Development in submerged vegetation habitat is prohibited except for the following:*



1. *Trenching for utility pipelines and submarine cables in the public interest, provided there is no practicable or feasible alternative alignment, the impact area is minimized and that, following pipeline or cable installation, the disturbed area is restored to its preconstruction contours and conditions.*
2. *New dredging of navigation channels maintained by the State or Federal government provided that there is no practicable or feasible alternative to avoid the vegetation;*
3. *Maintenance dredging as defined at N.J.A.C. 7:7E-4.6, of previously authorized, existing navigation channels maintained by the State or Federal government and associated disposal areas;*
4. *New and maintenance dredging as defined at N.J.A.C. 7:7E-4.6 and 4.7, of previously authorized operating marinas and any necessary access channels to the expanded portion of such marinas (this exception does not include the boat basin of the expanded portion of the marina) and existing launching facilities with 25 or more dockage, storage or trailer parking units and their associated access channels;*
5. *Maintenance dredging as defined at N.J.A.C. 7:7E-4.6, to regain access to existing private docks, piers, boat ramps and mooring piles not associated with marinas that were previously dredged to an authorized channel and/or mooring depth, width and length;*
6. *Construction of a single or no mmeri al dok or pier....*

**As with most tidal salt marshes in the Delaware Estuary, the Maurice River and its tributaries are typified by extremely high turbidity levels. This suspended sediment and detritus load is generally the source of sediments that marsh systems rely upon to regulate their elevation relative to mean sea level. While this load enables emergent wetland vegetation to respond to sea level changes and is an important pathway by which salt marsh primary production gets to the estuary at large, it also dramatically attenuates light penetration in a marsh creek's water column. The photic zone of salt marsh creeks is confined to the top few inches of the water column. Because submerged aquatic vegetation requires sunlight, Delaware Bay salt marshes do not support submerged aquatic vegetation (*Kenworthy and Haurert 1991*). In support of this conclusion, no SAV has ever been observed at the site during the twelve years of Estuary Enhancement Program restoration activities or biological monitoring, including scientific studies specifically designed to evaluate fish and benthic responses to long-term changes in vegetation and physical habitat (*e.g. Angradi et al 2001*). As such, this policy is not applicable.**

#### 6. 7:7E-3.7 Navigation Channels

*Navigation channels are tidal water areas including the Atlantic Ocean, inlets, bays, rivers and tidal guts with sufficient depth to provide safe navigation. Navigation channels include all areas between the top of the channel slopes on either side. These navigation channels are often marked with buoys or stakes. Major navigation channels are shown on NOAA/National Ocean Service Charts.*

*Standards relevant to navigation channels are as follows:*

1. *Development which would cause terrestrial soil and shoreline erosion and siltation in navigation channels shall utilize appropriate mitigation measures.*
2. *Development which would result in loss of navigability is prohibited.*



3. *Any construction which would extend into a navigation channel is prohibited.*
4. *The placement of structures within 50 feet of any authorized navigation channel is discouraged, unless it can be demonstrated that the proposed structure will not hinder navigation.*

**No development (e.g., structures or other physical features) is proposed in navigation channels as part of this application, and as such, no adverse impacts to navigation will occur because of the proposed activities. The current siltation of the tidal channels makes the public use of these channel nearly impossible. Although, navigation is not the focus of this marsh restoration and enhancement project, a byproduct of the dredging should be improved access to and from the boat ramp. Therefore, this project is in compliance with this rule.**

#### 7. 7:7E-3.8 Canals

*Canals are navigation channels for boat traffic through land areas that are created by cutting and dredging or other human construction technique sometimes enlarging existing natural surface water channels. The Cape May, Point Pleasant, and Delaware and Raritan Canals are the principal examples in the New Jersey Coastal zone. In canals presently used for navigation, any use that would interfere with existing or proposed canal boat traffic is prohibited. In the Delaware and Raritan Canal, and in the surrounding Review Zone established by the Delaware and Raritan Canal Commission, development must be consistent with the rules and regulations of the Review Zone of the Delaware and Raritan Canal State Park (N.J.A.C. 7:45).*

**No development (e.g., structures or other physical features) is proposed as part of this application, and as such, no adverse impacts to canals will occur because of the proposed activities.**

#### 8. 7:7E-3.9 Inlets

*Inlets are natural channels through barrier islands allowing movement of fresh and salt water between the ocean and the backbay system. Inlets naturally have delta fans of sediment seaward and landward, deposited by the ebb and flow of the tide. Development in inlets shall comply with the following:*

1. *Filling is prohibited; and*
2. *Submerged infrastructure is discouraged.*

**No development in inlets (e.g., filling or submerged infrastructure) is proposed as part of this application, and as such, no adverse impacts to inlets will occur because of the proposed activities.**

#### 9. 7:7E-3.10 Marina Moorings

*Marina moorings are areas of water that provide mooring, docking and boat maneuvering room as well as access to land and navigational channels for five or more recreational boats. Non-water dependent development*



*in a marina mooring area is prohibited. Any use that would detract from existing or proposed recreational boating use in marina mooring areas is discouraged.*

**No development that would detract from existing or proposed recreational boating use in marina mooring areas is proposed as part of this application, and as such, no adverse impacts to marina moorings will occur because of the proposed activities.**

#### 10. 7:7E-3.11 Ports

*Ports are water areas having, or lying immediately adjacent to, concentrations of shoreside marine terminals and transfer facilities for the movement of waterborne cargo (including fluids), and including facilities for loading, unloading and temporary storage. Port locations in New Jersey include, among others, Newark, Elizabeth, Bayonne, Jersey City, Weehawken, Hoboken, Woodbridge, Perth Amboy, Camden, Gloucester City, Paulsboro and Salem. Any use which would preempt or interfere with port uses of this water area is prohibited.*

**Proposed site location is not near any port. No adverse impacts to ports will occur because of the proposed activities.**

#### 11. 7:7E-3.12 Submerged Infrastructure Routes

*A submerged infrastructure route is the corridor in which a pipe or cable runs on or below a submerged land surface. Any activity which would increase the likelihood of infrastructure damage or breakage, or interfere with maintenance operations is prohibited.*

**No infrastructure exists at the location of the proposed dredging at the MRT Site. As such, no impacts to submerged infrastructure routes will occur because of the proposed activities.**

#### 12. 7:7E-3.13 Shipwreck and Artificial Reef Habitats

*The shipwreck and artificial reef habitats special area includes all permanently submerged or abandoned remains of vessels, and other structures including but not limited to, artificial reefs, anchors, quarry rocks or lost cargo, which serve as a special marine habitat or are fragile historic and cultural resource.*

**No shipwreck or artificial reef habitats exist at the MRT Site. As such, no impacts to shipwrecks or artificial reef habitats will occur because of the proposed project.**

#### 13. 7:7E-3.14 Wet Borrow Pits

*Wet borrow pits are scattered artificially created lakes that are the results of surface mining for coastal minerals extending below groundwater level to create a permanently flooded depression. This includes, but is not limited to, flooded sand, gravel and clay pits, and stone quarries. Where a wet borrow pit is also a wetland and/or*



*wetlands buffer, the Wetlands rule, N.J.A.C. 7:7E-3.27, and/or Wetlands Buffers rule, N.J.A.C. 7:7E-3.28, shall apply. All proposed dredging and filling activities shall comply with any applicable Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A). In addition, such activities must receive a Water Quality Certificate pursuant to N.J.S.A. 58:10A et seq. and Section 401 of the Federal Clean Water Act if a Federal permit is required for the activities.*

**The proposed marsh restoration and enhancement project involves dredging activities within Coastal Wetlands. No wet borrow pits are associated with the proposed project. As such, the proposed activities will not result in impacts to wet borrow pits.**

#### 14. 7:7E-3.15 Intertidal and Subtidal Shallows

*Intertidal and subtidal shallows mean all permanently or temporarily submerged areas from the spring high water line to a depth of four feet below mean low water. Development, filling, new dredging or other disturbance is discouraged but may be permitted in accordance with (c), (d), (e), and (f) below and with N.J.A.C. 7:7E-4.2 through 4.22.*

*(c) Maintenance dredging of intertidal and subtidal shallows is acceptable to maintain adequate water depths in accordance with N.J.A.C. 7:7E-4.6.*

*(d) New dredging in intertidal and subtidal shallows is discouraged.*

*(e) The installation of submerged infrastructure within intertidal and subtidal shallows is conditionally acceptable.*

*(f) The filling of intertidal and subtidal shallows for beach nourishment is conditionally acceptable provided it meets the requirements of the Filling rule at N.J.A.C. 7:7E-4.10(f) and the Coastal Engineering rule at N.J.A.C. 7:7E-7.11(d).*

**The referenced tidal channel at the MRT site originally was hydraulically dredged in 1996 and 1998 as part of PSEG's wetland restoration activities to restore tidal exchange to approximately 1,100 acres of previously-diked salt hay farm. Maintenance dredging of this channel subsequently was performed in 1999, and conditionally approved by Permit, through 2006. Since 1999, the accumulation of sediment in the upper portion of the channel system has increasingly prohibited the use of the constructed boat launch at this site. Although the focus of this project is marsh restoration and enhancement, a byproduct of the dredging should be improved access to and from the boat ramp.**

**The proposed marsh restoration and enhancement project involves the dredging of approximately 6,800 linear feet of tidal channel at the MRT Site. Approximately 20,000 cubic yards of material will be excavated via hydraulic dredge and placed at selected locations within a containment area within the adjacent marsh plain. This volume will be adjusted in accordance with the adaptive management plan (Appendix F). As stated above, dredging of intertidal and subtidal shallows is acceptable to maintain adequate water depths in accordance with N.J.A.C. 7:7E-4.6. As such, the proposed project is consistent with the Rule on Intertidal and Subtidal Shallows.**



### 15. 7:7E-3.16 Dunes

*A dune is a wind or wave deposited or man-made formation of sand (mound or ridge), that lies generally parallel to, and landward of, the beach and the foot of the most inland dune slope.*

*“Dune” includes the foredune, secondary or tertiary dune ridges and mounds, and all landward dune ridges and mounds, as well as man-made dunes, where they exist.*

**No dunes, as defined above, exist at the MRT Site. As such, the proposed activities will not result in impacts to dunes.**

### 16. 7:7E-3.17 Overwash Areas

*An overwash area is an area subject to accumulation of sediment, usually sand, that is deposited landward of the beach or dune by the rush of water over the crest of the beach berm, a dune or a structure. An overwash area may, through stabilization and vegetation, become a dune.*

**No overwash areas exist at the MRT Site. As such, no impacts to overwash areas will occur because of the proposed project.**

### 17. 7:7E-3.18 Coastal High Hazard Areas

*Coastal high hazard areas are flood prone areas subject to high velocity waters (V zones) as delineated on the Flood Insurance Rate Maps (FIRM) prepared by the Federal Emergency Management Agency (FEMA), and areas within 25 feet of oceanfront shore protection structures, which are subject to wave run-up and overtopping. The Coastal High Hazard Area extends from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The inland limit of the V zone is defined as the V zone boundary line as designated on the FIRM or the inland limit of the primary frontal dune, whichever is most landward. Residential development, including hotels and motels, is prohibited in coastal high hazard areas except for single family and duplex infill developments that meet the standards of N.J.A.C. 7:7E- 7.2(e). In general, commercial development is discouraged in coastal high hazard areas. Beach use related commercial development in coastal high hazard areas is conditionally acceptable within areas that are already densely developed. All permanent structures shall be set back a minimum of 25 feet from oceanfront shore protection structures, typically including bulkheads, revetments and seawalls and occasionally jetties and groins if constructed at inlets. This condition is applicable only to shore protection structures that are of sufficient height and strength to provide resistance to storm waves.*

**The MRT site is located in a coastal high hazard area. However, as a condition of the PSEG NJDPES permit, the MRT site was included within a Deed of Conservation Restriction which precludes development of any kind at the site, including residential development, commercial development,**



**and other permanent structures described in this Rule. This is a marsh restoration project and does not include the construction of any structures. Furthermore, the proposed marsh restoration and enhancement involves the dredging of 6,800 feet of existing tidal channel and the placement of the dredged material within a containment area within the adjacent marsh plain to promote growth of desirable, beneficial vegetative species. As such, no impacts to Coastal High Hazard Areas will occur because of the proposed activities.**

#### 18. 7:7E-3.19 Erosion Hazard Areas

*Erosion hazard areas are shoreline areas that are eroding and/or have a history of erosion, causing them to be highly susceptible to further erosion, and damage from storms. Development is prohibited in erosion hazard areas.*

**The proposed marsh restoration and enhancement project involves dredging within a 6,800-foot length of man-made tidal channel(s), and the placement of the dredged materials onto an unvegetated portion of the adjacent marsh plain. The result of the placement of the sediments within a containment area within the unvegetated marsh plain will be to raise the elevation to one that would promote the growth of desirable coastal wetland plant species. The growth of desirable species will reduce the potential for erosion and consequently for sediment runoff into adjacent open water areas.**

#### 19. 7:7E-3.20 Barrier Island Corridor

*Barrier island corridors are the interior portions of oceanfront barrier islands, spits and peninsulas. Along the New Jersey Coast, headlands are located between Monmouth Beach, Monmouth County and Pt. Pleasant Beach, Ocean County.*

**No barrier islands exist at the MRT site. As such, no impacts to barrier island corridors resulting from development activities will occur as part of the proposed activities.**

#### 20. 7:7E-3.21 Bay Islands

*Bay islands are islands or filled areas surrounded by tidal waters, wetlands, beaches or dunes, lying between the mainland and barrier island. Such islands may be connected to the mainland or barrier island by elevated or fill supported roads. Existing lagoon edges (N.J.A.C.7:7E-3.24) are not bay islands.*

**No bay islands exist within the MRT site. As such, no impacts to bay islands resulting from development activities will occur as part of the proposed activities.**



### 21. 7:7E-3.22 Beaches

*Beaches are gently sloping areas of sand or other unconsolidated material, found on all tidal shorelines, including ocean, bay and river shorelines that extend landward from the mean high water line to either:*

- 1. A man-made feature generally parallel to the ocean, inlet, or bay waters such as a retaining structure, seawall, bulkhead, road or boardwalk, except the sandy areas that extend fully under and landward of an elevated boardwalk are considered beach areas; or*
- 2. The seaward or bayward foot of dunes, whichever is closest to the bay, inlet or ocean waters. Development is prohibited on beaches, except for development that has no prudent or feasible alternative in an area other than a beach, and that will not cause significant adverse long-term impacts to the natural functioning of the beach and dune system, either individually or in combination with other existing or proposed structures, land disturbances or activities.*

**There are no beaches subject to dredging activities at the MRT Site. As such, this policy is not applicable.**

### 22. 7:7E-3.23 Filled Water's Edge

*Filled water's edge areas are existing filled areas lying between wetlands or water areas, and either the upland limit of fill, or the first paved public road or railroad landward of the adjacent water area, whichever is closer to the water. Some existing or former dredged material disposal sites and excavation fill areas are filled water's edge.*

**There are no filled waters edges subject to dredging activities at the MRT site. As such, the policy is not applicable.**

### 23. 7:7E-3.24 Existing Lagoon Edges

*Existing lagoon edges are defined as existing man-made land areas resulting from the dredging and filling of wetlands, bay bottom and other estuarine water areas for the purpose of creating waterfront lots along lagoons for residential and commercial development.*

**There are no existing lagoon edges subject to dredging activities at the MRT site. As such, this policy is not applicable.**

### 24. 7:7E-3.25 Flood Hazard Areas

*Flood hazard areas are areas subject to flooding from the flood hazard area design flood, as defined by the Department under the Flood Hazard Area Control Act rules at N.J.A.C. 7:13. Flood hazard areas include those areas mapped as such by the Department, areas defined or delineated as an A or a V zone by the Federal*



*Emergency Management Agency (FEMA), and any unmapped areas subject to flooding by the flood hazard area design flood. Flood hazard areas are subject to either tidal or fluvial flooding and the extent of flood hazard areas shall be determined or calculated in accordance with the procedures at N.J.A.C. 7:13-3. [Where flood hazard areas have been delineated by both the Department and FEMA, the Department delineations shall be used. Where flood hazard areas have not been delineated by the Department or FEMA, limits of the 100 year floodplain will be established by computation on a case-by-case basis. The seaward boundary shall be the mean high water line.*

*In a tidal flood hazard area below the mean high water line, this rule applies only to the development of habitable buildings and the construction of railroads, roadways, bridges and/or culverts. Dedication of flood hazard areas for purposes of public open space is encouraged.*

**The MRT site is in a Flood Hazard Area. However, the proposed activities, which involve dredging approximately 20,000 cubic yards of material and placement of said material onto two containment areas within the adjacent marsh plain, does not include the construction of any structures which would be adversely affected by potential flooding. Additionally, the areas proposed for restoration are deed restricted for conservation.**

**All dredging and placement of dredged materials will be performed in accordance with applicable state regulations, including those identified within this Rule. As such, no impacts to Flood Hazard Areas resulting from development activities will occur as part of the proposed dredging or placement of dredged materials.**

#### 25. 7:7E-3.26 Riparian Zones

*A riparian zone exists along every regulated water, except there is no riparian zone along the Atlantic Ocean nor along any manmade lagoon, stormwater management basin, or oceanfront barrier island, spit or peninsula. Regulated waters are defined in the Flood Hazard Area Control Act rules at N.J.A.C. 7:13-2.2. The riparian zone includes the land and vegetation within each regulated water described in (a) above, as well as the land and vegetation within a certain distance of each regulated water as described in (c) below. The portion of the riparian zone that lies outside of a regulated water is measured landward from the top of bank. Development in riparian zones shall conform with the requirements for a flood hazard area individual permit under the Flood Hazard Area Control Act rules at N.J.A.C. 7:13-9, 10 and 11 or, in the alternative as applicable, a flood hazard area permit-by-rule at N.J.A.C. 7:13-7 or a flood hazard area general permit at N.J.A.C. 7:13-8.*

**The proposed marsh restoration and enhancement includes dredging approximately 20,000 cubic yards from an existing tidal channel at the MRT site and the placement of this material within two containment areas within the adjacent marsh plain. Because of the placement of the dredge material onto the marsh plain, the elevation will be increased to allow for the growth of desirable marsh vegetation, and ultimately, increasing the vegetated riparian zone associated with the tidal channel.**



**No development or adverse impacts to riparian zones will result from the proposed activities. The proposed activities will result in a net benefit to the marsh plain and vegetated riparian zone within the MRT Site.**

#### 26. 7:7E-3.27 Wetlands

*Wetlands or wetland means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation. Development in wetlands defined under the Freshwater Wetlands Protection Act is prohibited unless the development is found to be acceptable under the Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A). Development of all kinds in all other wetlands is prohibited unless the Department can find that the proposed development requires water access or is water oriented as a central purpose of the basic function of the activity (this rule applies only to development proposed on or adjacent to waterways); has no prudent or feasible alternative on a non-wetland site; will result in minimum feasible alteration or impairment of natural tidal circulation (or natural circulation in the case of non-tidal wetlands); and will result in minimum feasible alteration or impairment of natural contour or the natural vegetation of the wetlands.*

**The proposed marsh restoration and enhancement includes the dredging of approximately 20,000 cubic yards from an existing tidal channel at the MRT site and the placement of this material into two containment areas within the adjacent marsh plain. As a result of the placement of dredge sediment onto the marsh plain, the elevation will be increased to allow for the growth of desirable marsh vegetation, and ultimately, increasing the area of vegetated tidal wetland at the MRT Site. No development or adverse impacts to wetlands will result from the proposed dredging activities. The proposed activities will result in a net benefit to the marsh plain and increase vegetated tidal wetland area within the MRT Site.**

**The post-project monitoring and adaptive management program will address key management issues of the restored sites in a timely manner based on a continual and systematic evaluation the results of monitoring.**

#### 27. 7:7E-3.28 Wetlands Buffers

*Wetlands buffer or transition area means an area of land adjacent to a wetland which minimizes adverse impacts on the wetlands or serves as an integral component of the wetlands ecosystem. Wider buffers than those noted below may be required to establish conformance with other Coastal Rules, including, but not limited to, 7:7E-3.38 and 3.39.*



**No development in wetland buffers is proposed as part of this application. All proposed activities will be within the existing tidal channel proposed for dredging and within the adjacent marsh plain area proposed for dredge placement. No wetland buffers will be subject to dredging activities as part of the proposed activities. As such, no wetland buffers will be impacted because of the proposed activities. It is anticipated that the placement of sediment containment components and sediment spreading equipment will be completed either within the restoration site boundaries, along existing roadways and/or via low impact machinery.**

#### 28. 7:7E-3.31 Coastal Bluffs

*A coastal bluff is a steep slope (greater than 15 percent) of consolidated (rock) or unconsolidated (sand, gravel) sediment which is adjacent to the shoreline or which is demonstrably associated with shoreline processes.*

**No coastal bluffs exist within the MRT Site. As such, this policy is not applicable.**

#### 29. 7:7E-3.32 Intermittent Stream Corridors

*Intermittent stream corridors are areas including and surrounding surface water drainage channels in which there is not a permanent flow of water and which contain an area or areas with a seasonal high water table equal to or less than one foot. The inland extent of these corridors is either the inland limit of soils with a seasonal high water table depth equal to, or less than one foot, or a disturbance of 25 feet measured from the top of the channel banks, whichever is greater. Uses that promote undisturbed growth of native vegetation and wildlife habitat value are encouraged.*

**No development (e.g., cutting, filling, damming, construction or detention basins, paving, or any related activities) within intermittent stream corridors is proposed as part of this application. As such, intermittent stream corridors will not be impacted because of the proposed activities.**

#### 30. 7:7E-3.33 Farmland Conservation Areas

*Farmland conservation areas are defined as any contiguous area of 20 acres or more (in single or multiple tracts of single or multiple ownership) with soils in the Capability Classes I, II and III or special soils for blueberries and cranberries as mapped by the United States Department of Agriculture, Soil Conservation Service, in National Cooperative Soil Surveys, which are actively farmed, or suitable for farming, unless it can be demonstrated by the applicant that new or continued use of the site for farming or farm dependent purposes is not economically feasible. Farming or farm-dependent purposes include nurseries, orchards, vegetable and fruit farming, raising grains and seed crops, silviculture (such as Christmas tree farming), floriculture (including greenhouses), dairying, grazing, livestock raising, and wholesale and retail marketing of crops, plants, animals and other related commodities.*



**Farmland conservation areas are not located within the area of the MRT project site. As such, no impacts to farmland conservation areas will occur due to the implementation of the proposed activities.**

### 31. 7:7E-3.34 Steep Slopes

*Steep slopes are land areas with slopes greater than 15 percent, which are not adjacent to the shoreline and therefore not coastal bluffs (see N.J.A.C. 7:7E-3.31). Steep slopes include natural swales and ravines, as well as manmade areas, such as those created through mining for sand, gravel, or fill, or road grading. Slopes of less than 15 percent are not considered to be steep slopes. Development on steep slopes is discouraged where wetlands, wetland buffers, intermittent stream corridors, threatened and endangered species habitats, riparian zones or water areas are located adjacent to or at the base of the slope and on steep slopes which are forested as defined at N.J.A.C. 7:7E-5.5(c).*

**Steep slopes are not present at the MRT project site. As such, no steep slopes will be impacted because of the proposed activities.**

### 32. 7:7E-3.35 Dry Borrow Pits

*Dry borrow pits are excavations for the purpose of extracting coastal minerals which have not extended below the groundwater level. This includes, but is not limited to, dry sand, gravel and clay pits, and stone quarries.*

**The proposed activities do not involve the use of dry borrow pits. As such, impacts to dry borrow pits will not occur because of the proposed activities.**

### 33. 7:7E-3.36 Historic and Archaeological Resources

*Historic and archaeological resources include objects, structures, shipwrecks, buildings, neighborhoods, districts, and man-made or man-modified features of the landscape and seascape, including historic and prehistoric archaeological sites, which either are on or are eligible for inclusion on the New Jersey or National Register of Historic Places. Development that detracts from, encroaches upon, damages, or destroys the value of historic and archaeological resources is discouraged. Development that incorporates historic and archaeological resources in sensitive adaptive reuse is encouraged.*

**Phase IA and Phase IB historical and archaeological surveys for the MRT site were conducted in support of the 1995 permit application by Louis Berger & Associates, Inc. The Historic Preservation Office (HPO) indicated that only one of the five identified archaeological sites at or near the MRT site**



**was within an area where there were anticipated project impacts. However, the HPO determined that this site was not eligible for listing in the National Register of Historic Places due to low information potential and prior disturbances from plowing and cultivation (NJDEP 1996). Furthermore, this location is not within the channel or adjacent marsh plain where dredging or the placement of dredged material will occur.**

**An assessment also was performed as to the eligibility of the MRT site itself to be potentially listed as a Historic Place. The conclusion of this assessment was that the Site was not eligible for listing, which also was confirmed by the HPO (NJDEP 1996).**

#### 34. 7:7E-3.37 Specimen Trees

*Specimen trees are the largest known individual trees of each species in New Jersey. The*

*Department's Division of Parks and Forestry maintains a list of these trees (see "New Jersey's Biggest Trees", published by the Department's Division of Parks and Forestry, Summer 1991 for a listing of specimen trees).*

**The proposed activities include salt marsh restoration and enhancement with dredging activities. No specimen trees will be impacted because of this effort.**

#### 35. 7:7E-3.38 Endangered or Threatened Wildlife or Plant Species Habitats

*Endangered or threatened wildlife or plant species habitats are areas known to be inhabited on a seasonal or permanent basis by or to be critical at any stage in the life cycle of any wildlife or plant identified as "endangered" or "threatened" species on official Federal or State lists of endangered or threatened species, or under active consideration for State or Federal listing. The definition of endangered or threatened wildlife or plant species habitats include a sufficient buffer area to ensure continued survival of the population of the species. Absence of such a buffer area does not preclude an area from being endangered or threatened wildlife or plant species habitat.*

*Development of endangered or threatened wildlife or plant species habitat is prohibited unless it can be demonstrated, through an Endangered or Threatened Wildlife or Plant Species Impact Assessment as described at N.J.A.C. 7:7E-3C.2, that endangered or threatened wildlife or plant species habitat would not directly or through secondary impacts on the relevant site or in the surrounding area be adversely affected.*

**As part of our partnership with the USFWS, they have prepared an Intra-Service Section 7 Biological Evaluation Form (Appendix H). The American Littoral Society (Society) is working collaboratively with**



**USFWS, and the Division of Fish & Wildlife to further develop a monitoring protocol and adaptive management measures for ongoing use at regional marsh restoration sites.**

**The project is specifically designed to restore and enhance habitat for bird species that utilize marsh habitat during different life cycle stages, as well as increase overall biodiversity within the marsh system by restoring healthy marsh elevations/vegetation. The proposed activities will not negatively alter nesting, perching, or foraging habitats for threatened or endangered bird species. The American Littoral Society, and its partner are stewards for these species, and as such, highly sensitive to their unique life cycles and habitat needs.**

**Our team will work with the NJDEP to schedule project implementation such that threatened or endangered species are not impacted by construction activities. In summary, the implementation of the proposed dredging activities is expected to result in the development of more beneficial habitats, including saltmarsh areas dominated by *Spartina alterniflora* and other desirable species, in addition to mudflat areas that are heavily utilized by birds, including shorebirds. Other threatened or endangered species (e.g. shortnose or Atlantic sturgeon, marine sea turtles, etc.) would not occur in the salt marsh environment, and would not be impacted by the proposed dredging activities.**

#### 36. 7:7E-3.39 Critical Wildlife Habitats

*Critical wildlife habitats are specific areas known to serve an essential role in maintaining wildlife, particularly in wintering, breeding, and migrating. These include:*

- 1. Rookeries for colonial nesting birds, such as herons, egrets, ibis, terns, gulls, and skimmers; stopovers for migratory birds, such as the Cape May Point region; and natural corridors for wildlife movement merit a special management approach through designation as a Special Area.*
- 2. Ecotones, or edges between two types of habitats, are a particularly valuable critical wildlife habitat. Many critical wildlife habitats, such as salt marsh waterfowl wintering areas, and muskrat habitats, are singled out as water or water's edge areas.*

**According to our pre-project surveys and over 10 years of monitoring by PSEG, there are no rookeries for colonial nesting birds, such as herons, egrets, ibis, terns, gulls, or skimmers currently occur within the MRT Site, and dredging will take place outside nesting season for the species.**

**No development that would adversely affect critical wildlife habitats, including ecotones, is proposed as part of this application. The proposed activities include dredging of approximately 6800 linear feet of tidal channel at the MRT Site and the placement of the dredged material into two selected areas of the marsh for habitat restoration and enhancement. Ultimately, the proposed activities will result in an increase of vegetated tidal wetland, thus improving habitats at the Site.**

#### 37. 7:7E-3.40 Public Open Space



*Public open space constitutes land areas owned or maintained by State, Federal, county and municipal agencies or private groups (such as conservation organizations and homeowner's associations) and used for or dedicated to conservation of natural resources, public recreation, visual or physical public access or, wildlife protection or management. Public open space also includes, but is not limited to, State Forests, State Parks, and State Fish and Wildlife Management Areas, lands held by the New Jersey Natural Lands Trust (N.J.S.A. 13:1B-15.119 et seq.), lands held by the New Jersey Water Supply Authority (N.J.S.A. 58:1B-1 et seq.) and designated Natural Areas (N.J.S.A. 13:1B-15.12a et seq.) within DEP-owned and managed lands. New or expanded public or private open space development is encouraged at locations compatible or supportive of adjacent and surrounding land uses. Development that adversely affects existing public open space is discouraged.*

**The MRT site where the proposed marsh restoration and enhancement project will occur is owned by PSEG & by the NJ Division of Fish & Wildlife; however, it is intended as a conservation area for wildlife protection and management and for use by the public for recreational activities. A Deed of Conservation Restriction conveyed to the State of New Jersey insures that these lands will be preserved in perpetuity. The MRT site also has existing public access amenities such as boat ramps observation platforms, and parking facilities. The accumulation of sediment in the upper portion of the channel system has increasingly prohibited the use of the constructed boat launch at this site. The proposed project does not intend to dredge for navigation purposes, however, the dredging proposed will effectively allow for continued use of the existing boat ramps at the MRT site. As such, the proposed activities will result in improved public access and eco-tourism at the site.**

#### 38. 7:7E-3.41 Special Hazard Areas

*Special hazard areas include areas with a known actual or potential hazard to public health, safety, and welfare, or to public or private property, such as the navigable air space around airports and seaplane landing areas, potential evacuation zones and areas where hazardous substances as defined at N.J.S.A. 58:10-23.11b-k are used or disposed, including adjacent areas and areas of hazardous material contamination.*

**The proposed project is not located within any Special Hazard Areas. As such, this rule is not applicable.**

#### 39. 7:7E-3.42 Excluded Federal Lands

*Excluded Federal lands are those lands, the use of which is, by law, subject solely to the discretion of or held in trust by the Federal Government, its officers or agents. These lands are excluded from the coastal zone as required by Section 304 of the Federal Coastal Zone Management Act. Federal actions on excluded Federal lands that affect any land or water use, or natural resource of the coastal zone shall be consistent with the Coastal Zone Management rules to the maximum extent practicable. The effects on the land or water use or natural resource may be direct, indirect, cumulative, secondary or reasonably foreseeable effects.*



**The proposed project is not located in any excluded federal lands. As such, this rule is not applicable.**

40. 7:7E-3.43 Special Urban Areas

*Special urban areas are those municipalities defined in urban aid legislation (N.J.S.A. 52:27D-178) qualified to receive State aid to enable them to maintain and upgrade municipal services and offset local property taxes.*

**The proposed project is not located within any Special Urban Areas. As such, this rule is not applicable.**

41. 7:7E-3.44 Pinelands National Reserve and Pinelands Protection Area

*The Pinelands National Reserve includes those lands and water areas defined in the National Parks and Recreation Act of 1978, Section 502 (P.L. 95-625), an approximately 1,000,000-acre area ranging from Monmouth County in the north, south to Cape May County and from Gloucester and Camden County on the west to the barrier islands of Island Beach State Park and Brigantine Island along the Atlantic Ocean on the east.*

**The proposed project is not located within the Pinelands National Reserve or Pinelands Protection Area. As such, this rule is not applicable.**

42. 7:7E-3.45 Hackensack Meadowlands District

*The "Hackensack Meadowlands District" is a 19,730 acre area of water, coastal wetlands and associated uplands designated for management by a State-level agency known as the New Jersey Meadowlands Commission, by the Hackensack Meadowlands Reclamation and Development Act of 1968 (N.J.S.A. 13:17-1 et seq.).*

**The proposed project is not located within the Hackensack Meadowlands. As such, this rule is not applicable.**

43. 7:7E-3.46 Wild and Scenic River Corridors

*Wild and scenic river corridors are all rivers designated into the National Wild and Scenic Rivers System and any rivers or segments thereof being studied for possible designation into that system pursuant to the National Wild and Scenic Rivers Act (16 U.S.C. 1271-1278). For rivers designated into the national system, the wild and scenic river corridor shall include the river and adjacent areas located within one-quarter mile from the mean high water line on each side of the river until a Federal River Management Plan has been adopted, after which time the wild and scenic corridor shall be the area defined in the adopted plan.*



**The proposed project is not located within any Wild and Scenic River Corridors. As such, this rule is not applicable.**

44. 7:7E-3.47 Geodetic Control Reference Marks

*Geodetic control reference marks are traverse stations and benchmarks established or used by the New Jersey Geodetic Control Survey pursuant to P.L. 1934, c.116.*

**The proposed project will not involve any disturbances to geodetic control reference marks.**

45. 7:7E-3.48 Hudson River Waterfront Area

*"The Hudson River Waterfront Area" extends from the George Washington Bridge in Fort Lee, Bergen County to the Bayonne Bridge in Bayonne, Hudson County, inclusive of all land within the municipalities of Bayonne, Jersey City, Hoboken, Weehawken, West New York, Guttenberg, North Bergen, Edgewater and Fort Lee subject to the Waterfront Development Law.*

**The proposed project is not located in the Hudson River Waterfront Area. As such, this rule is not applicable.**

46. 7:7E-3.49 Atlantic City

*Atlantic City is those lands within the municipal boundary of the City of Atlantic City. Development within Atlantic City must conform to the standards set forth in this rule.*

**The proposed project is not located in Atlantic City. As such, this rule is not applicable.**

47. 7:7E-3.50 Lands and Waters Subject to Public Trust Rights

*Lands and waters subject to public trust rights are tidal waterways and their shores, including both lands now or formerly below the mean high water line, and shores above the mean high water line. Tidal waterways and their shores are subject to the Public Trust Doctrine and are held in trust by the State for the benefit of all the people, allowing the public to fully enjoy these lands and waters for a variety of public uses. Development that adversely affects lands and waters subject to public trust rights is discouraged. Public access to lands and waters subject to public trust rights shall be provided in accordance with the public trust rights rule, N.J.A.C. 7:7E-8.11.*



**The MRT site where the proposed project will occur is owned by PSEG & by the NJ Division of Fish & Wildlife; however, it is intended as a conservation area for wildlife protection and management and for use by the public for recreational activities. A Deed of Restriction conveyed to the State of New Jersey insures that these lands will be preserved in perpetuity. The MRT site has existing public access amenities such as boat ramps observation platforms, and parking facilities.**

**The accumulation of sediment in the upper portion of the channel system has increasingly prohibited the use of the constructed boat launch at this site. The proposed project does not intend to dredge for navigation purposes, however, the dredging proposed will effectively allow for continued use of the existing boat ramps at the MRT site. As such, the proposed activities will result in improved public access and eco-tourism at the Site.**

**No development that would adversely affect lands and waters subject to public trust rights is proposed as part of this application.**

## **B. GENERAL WATER AREAS**

### 1. 7:7E-4.2 Aquaculture

*Aquaculture is the use of permanently inundated water areas, whether saline or fresh, for the purposes of growing and harvesting plants or animals in a way to promote more rapid growth, reduce predation, and increase harvest rate. Oyster farming in Delaware Bay is a form of aquaculture.*

**The proposed project does not involve aquaculture. As such, this rule is not applicable.**

### 2. 7:7E-4.3 Boat Ramps

*Boat ramps are inclined planes, extending from the land into a water body for the purpose of launching a boat into the water until the water depth is sufficient to allow the boat to float. Boat ramps are most frequently constructed of asphalt, concrete or crushed shell. Boat ramps are conditionally acceptable provided there is a demonstrated need that cannot be met by existing facilities; they cause minimal practicable disturbance to intertidal flats or subaqueous vegetation; boat ramps shall be constructed of environmentally acceptable material, such as concrete or oyster shells; and garbage cans are provided near the boat ramp.*

**The proposed project does not involve the construction or development of boat ramps. However, the dredging proposed as part of the marsh restoration and enhancement will effectively allow for continued use of the existing boat ramps at the MRT site.**



### 3. 7:7E-4.4 Docks and Piers for Cargo and Commercial Fisheries

Docks and piers for cargo and passenger movement and commercial fisheries are structures supported on pilings driven into the bottom substrate or floating on the water surface, used for loading and unloading passengers or cargo, including fluids, connected to or associated with, a single industrial or manufacturing facility or to commercial fishing facilities.

**The proposed project does not involve the construction or docks or piers for cargo and/or commercial fisheries. As such, this rule is not applicable.**

### 4. 7:7E-4.5 Recreational Docks and Piers

*Recreational and fishing docks and piers are structures supported on pilings driven into the bottom substrate, or floating on the water surface or cantilevered over the water, which are used for recreational fishing or for the mooring of boats or jet skis used for recreation or fishing, except for commercial fishing, and house boats.*

**The proposed project does not involve the construction or development of recreational docks or piers. As such, this rule is not applicable.**

### 5. 7:7E-4.6 Maintenance Dredging

*Maintenance dredging is the removal of accumulated sediment from previously authorized and legally dredged navigation and access channels, marinas, lagoons, canals or boat moorings for the purpose of maintaining a previously authorized water depth and width for safe navigation. Maintenance dredging is conditionally acceptable to the authorized depth, length and width within all General Water Areas to ensure that adequate water depth is available for safe navigation, provided:*

- 1. An acceptable dredged material placement site, with sufficient capacity will be used;*
- 2. Pre-dredging chemical and physical analysis of the dredged material and/or its elutriate may be required where the Department suspects contamination of sediments;*
- 3. Turbidity concentrations and other water quality parameters at, downstream, and upstream of the dredging site, and slurry or decant water overflows shall meet applicable State Surface Water Quality Standards at N.J.A.C. 7:9B;*
- 4. If predicted water quality parameters are likely to exceed State Surface Water Quality Standards, or if pre-dredging chemical analysis of dredged material or elutriate reveals significant contamination, the Department will work cooperatively with the applicant to fashion acceptable control measures and will impose seasonal restrictions;*
- 5. For mechanical dredges such as clamshell bucket, dragline, grab, or ladders, deploying silt curtains at the dredging site may be required, if feasible based on site conditions. Where the use of silt curtains is infeasible, dredging using closed watertight buckets or lateral digging buckets may be required;*



6. *For hydraulic dredges specific operational procedures designed to minimize water quality impacts, such as removal of cutter head, flushing of pipeline sections prior to disconnection, or limitations on depth of successive cuts may be required;*
7. *The Department may authorize dredging on a seasonally restricted basis only;*
8. *Propwash dredging, which is the movement of sediment by resuspending accumulated material by scouring the bottom with boat propellers or specially designed equipment with propellers, is prohibited.*

**The proposed marsh restoration and enhancement project involves dredging approximately 20,000 cubic yards of material, along an approximately 6800-foot length of tidal channel at the MRT site.**

**The material dredged from the tidal channels is proposed to be placed within the adjacent marsh plain. The locations were selected by the project team because the sites represented the most effective reuse of the dredged materials to further improve ecological conditions at the project site.**

**Sediment sampling and subsequent analysis within the 6,800-foot segment of the East and West channels was performed in accordance with a Sediment Sampling and Analysis Plan approved by the NJDEP. We submitted plans and supplemental information to NJDEP's ODST (Mr. Joel Pecchioli), and received approval of the sampling plan for the waterways and marsh. Subsequently, the sediment analysis was conducted and the results were accepted by ODST (an email acceptance is provided in Appendix J). An overview of the sampling that was performed and the results of the analytical testing performed in late 2016 is summarized below.**

**Marsh sediments were sampled on September 21 & 22, 2016 by the Stockton University Coastal Research Center (CRC) and were analyzed by ALS Environmental Laboratories. As part of that analysis grain size, percent moisture and total organic content (TOC) were determined. All of the samples taken in the creeks and eastern marsh placement area contained a gray to black organic silt consistent with lower energy creek environments and mud flats. The samples taken within the proposed southern marsh placement area contained saltmarsh with roots. An exception was sample PA-2 taken in the southern placement area in the southeast corner which contained an existing salt marsh component at the surface with a fine tan sand present 0.2 feet below the marsh surface. This anomaly may be due to the transport or storm overwash of sandy sediments from the nearby bay shoreline or through placement during previous restoration efforts by PSE&G in this region. The sediments that comprise the interior marsh substrate at these sites are predominantly fine-grained. All the samples taken within the eastern marsh placement and near tidal creek banks were <2% sand. This area represents the highest level of marsh degradation at the site these fine materials of the exposed marsh substrate are softer and more unconsolidated than the surrounding marsh. Samples taken in the southern interior marsh placement area were more variable but more consistent with salt marsh with two composited areas. Composite SA-1 samples were located closer to the road contained 37% sand, 4 of the 5 samples ranged from 5-18% sand with one anomaly PA-2 that contained 97% sand. Composite SA-2 samples located closer to the creek contained 6% sand with the five samples ranging from 3-15% sand.**



**ALS Environmental Laboratories evaluated the chemical and physical composition of the sediments samples to be dredged and placed on the project restoration areas. Those results indicated similar properties of the creek sediment to existing sediments in the adjacent marsh placement sites. The creek areas to be dredged are solely as a source of material for restoring the marsh and improving marsh hydrology, not for navigation. Both creeks are immediately adjacent to the site and the proposed dredge sediments are adequate for the intended restoration project. The sediments in both the western and eastern tidal creeks are heterogeneous and texture varies throughout the length of the channel. The upper reaches of both creeks consist of finer sediments (<10% sand) mostly silt with the percentage of fine sand increasing (30%-60%) towards the lower reach of the creeks. This restoration project has been designed to take advantage of the finer sediments in the upper reach of the creeks. Dredged channel material consisting predominantly of fine textured sediment will be used in a confined layer application of material over interior mudflats and very low marsh habitat to raise the existing elevation to a preferred target elevation. All dredged material placed on the marsh will act as a suitable medium for planted native material and will support the natural recolonization of native vegetation.**

#### 6. 7:7E-4.7 New Dredging

*New dredging is the removal of sediment that does not meet the definition of maintenance dredging at N.J.A.C. 7:7E-4.6.*

*New dredging is conditionally acceptable in all General Water Areas for boat moorings, navigation channels or anchorages provided:*

- 1. There is a demonstrated need that cannot be satisfied by existing facilities;*
- 2. The facilities served by the new dredging satisfy the location requirements for Special Water's Edge Areas;*
- 3. The adjacent water areas are currently used for recreational boating, commercial fishing or marine commerce;*
- 4. The dredge area causes no significant disturbance to Special Water or Water's Edge Areas;*
- 5. The adverse environmental impacts are minimized to the maximum extent feasible;*
- 6. The dredge area is reduced to the minimum practical;*
- 7. The maximum depth of the newly dredged area shall not exceed that of the connecting access or navigation channel necessary for vessel passage to the bay or ocean;*
- 8. Dredging will have no adverse impacts on groundwater resources;*
- 9. No dredging shall occur within 10 feet of any wetlands. The proposed slope from this 10-foot buffer to the nearest edge of the dredged area shall not exceed three vertical to one horizontal; and,*
- 10. Dredging shall be accomplished consistent with all of the conditions specified by the rule, as appropriate to the dredging method.*

**This project involves dredging man-made tidal channels previously created through PSEG's Estuary Enhancement Program and does not include dredging for boat moorings, navigation channels or anchorages. Regardless, dredging will adhere to the applicable conditions above.**



#### 7. 7:7E-4.8 Dredged Material Disposal

*Dredged material disposal is the discharge of sediments removed during dredging operations. Dredged material disposal is prohibited in tidal guts, man-made harbors, medium rivers, creeks and streams, and lakes, ponds and reservoirs. Dredged material disposal is discouraged in open bays, semi-enclosed and backbays where the water depth is less than six feet. Disposal of dredged materials in the ocean and bays deeper than six feet is conditionally acceptable provided that there is no feasible beneficial use or upland placement site available and it is in conformance with the USEPA and US Army Corps of Engineers Guidelines. Dredged material disposal in water areas shall conform to applicable State Surface Water Quality Standards at N.J.A.C. 7:9B. Overboard disposal (also known as aquatic, open water, side casting, subaqueous, or wet) of uncontaminated sediments into unconfined disposal sites in existing anoxic dredge holes, shall comply with standards detailed in this rule.*

**The proposed marsh restoration and enhancement project involves dredging approximately 20,000 cubic yards along a 6,800-foot length of tidal channel. The placement of the dredged material is proposed within 2 selected marsh areas as described in the body of this submittal. The two areas for placement for the dredged material were specifically selected, the Eastern project area was selected because the current marsh plain elevation sits below mean tide and does not currently support the growth of *Spartina spp.* or any other beneficial vegetation species, and the Southern project area was selected for habitat enhancement to create high marsh habitat due to the proximity of similar habitat. As described in the body of this submittal the Society proposes increasing the elevations of each site to support desirable marsh vegetation. Where applicable, we will comply with the standards detailed in this rule.**

#### 8. 7:7E-4.9 Solid Waste or Sludge Dumping

*The dumping of solid waste or sludge is the discharge of solid or semi-solid waste material from industrial or domestic sources or sewage treatment operations into a water area. The dumping of solid or semi-solid waste of any type in any General Water Area is prohibited.*

**The proposed project does not involve solid waste or sludge dumping. As such, this rule is not applicable.**



#### 9. 7:7E-4.10 Filling

*Filling is the deposition of material including, but not limited to, sand, soil, earth, and dredged material, into water areas for the purpose of raising water bottom elevations to create land areas. Filling is prohibited in lakes, ponds, reservoirs and open bay areas at greater than 18 feet as defined at N.J.A.C. 7:7E-4.1, unless the filling is consistent with the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et seq.) and Freshwater Wetlands Protection Act rules, N.J.A.C. 7:7A. Filling in a man-made lagoon as defined at N.J.A.C. 7:7E-1.8, is discouraged. Filling is discouraged in all other water areas. In cases where there is no alternative to filling, filling is conditionally acceptable provided the detailed requirements of this rule are met.*

**The proposed project involves dredging approximately 20,000 cubic yards along approximately 6,800-foot length of channels that were designed, engineered, authorized and constructed for ecological restoration and enhancement. The original project design and implementation was followed by twelve years of meaningful ecological monitoring that generated data supporting the value of the project, and increased the depth of knowledge for marsh restoration in our region. Continued dredging was defined and authorized as a necessary measure to maintain the project's ecological function and value.**

**The placement of the dredged material for this marsh restoration and enhancement project is proposed within two sections of the adjacent unvegetated marsh plain. The placement areas were specifically selected to create a high and low marsh mosaic that will support the growth of *Spartina* spp or any other beneficial vegetation species. The American Littoral Society proposes increasing the elevation of the Southern project area to a marsh plain elevation to 3.4' NAVD88. The elevation increases in this area will be achieved with a thin layer (8" or less) of dredged sediments, a technique with proven success in other regions, including our own Atlantic coastal marshes, and a technique authorized (and defined in) the 1996 NJDEP permit for this Estuary Enhancement Project. The Eastern restoration site has a target elevation range of 1.75' to 2.5' NAVD88. The Eastern project area will receive sediment hydraulically, with coir logs serving as the containment structure while the material dewateres.**

#### 10. 7:7E-4.11 Mooring

*A boat mooring is a temporary or permanently fixed or floating anchored facility in water body for the purpose of attaching a boat. Temporary or permanent boat mooring areas are conditionally acceptable provided there is a demonstrated need that cannot be satisfied by existing facilities; adverse environmental impacts are minimized to the maximum extent practicable; and the mooring area is adequately marked and is located so as not to hinder navigation.*

**The proposed project does not involve temporary or permanent boat moorings. As such, this rule is not applicable.**



#### 11. 7:7E-4.12 Sand and Gravel Mining

*Sand and gravel mining is the removal of sand or gravel from the water bottom substrate, usually by suction dredge, for the purpose of using the sand or gravel at another location. Sand and gravel mining is prohibited in lakes, ponds and reservoirs, man-made harbors and tidal guts as defined at N.J.A.C. 7:7E-4.1, unless the water body was created by the mining process, in which case the use is conditionally acceptable under the conditions set forth in this rule. Sand and gravel mining for the purposes of beach nourishment is also conditionally acceptable under the conditions set forth in this rule.*

**The proposed project does not include any sand or gravel mining. As such, this rule is not applicable**

#### 12. 7:7E-4.13 Bridges

*A bridge is any continuous structure spanning a water body, except for an overhead transmission line. Bridges are conditionally acceptable provided there is a demonstrated need that cannot be satisfied by existing facilities; pedestrian and bicycle use is provided for unless it is demonstrated to be inappropriate; and fishing catwalks and platforms are provided to the maximum extent practicable.*

**The proposed project does not involve construction or other activities associated with bridges. As such, this rule is not applicable.**

#### 13. 7:7E-4.14 Submerged Pipelines

*Submerged pipelines (pipelines) are underwater pipelines that transmit liquids or gas, including crude oil, natural gas, water, petroleum products, or sewerage.*

**The proposed project does not involve submerged pipelines. As such, this rule is not applicable.**

#### 14. 7:7E-4.15 Overhead Transmission Lines

*Overhead transmission lines are wires hung between supporting pylons for transmission from the site of origin to the site of consumption. Overhead transmission lines include electrical, telecommunication and cable television lines.*

**The proposed project does not include the development or construction of overhead transmission lines. As such, this rule is not applicable.**



#### 15. 7:7E-4.16 Dams and Impoundments

*Dams and impoundments are structures that obstruct natural water flow patterns for the purpose of forming a contained volume of water. Impoundments include dikes with sluice gates and other structures to control the flow of water. Except for medium rivers, creeks and stream as defined at N.J.A.C. 7:7E-4.1, the construction of dams and impoundments is prohibited. The construction of these structures is conditionally acceptable in medium rivers, creeks and streams as defined at N.J.A.C. 7:7E-4.1, provided the structures are essential for water supply purposes or for the creation of special wildlife habitats; adverse impacts are minimized; and the structures will not adversely affect navigation routes.*

**The proposed project does not include the construction or development of any dams or impoundments. As with the original construction of the channel and inlet systems at the MRT site, the American Littoral Society is proposing to hydraulically dredge accumulated silt from 6,800 linear feet of the Eastern and Western channels – as depicted in the project plans (Appendix C). The silt will be utilized for marsh restoration as described previously. The anticipated construction methodology for this effort includes the use of low impact machinery working to place the coir logs and provide adequate containment and erosion resistance/control during the time it takes for the dredged material to naturally consolidate and the area to become revegetated. The containment walls in the Eastern project area will be constructed of 24-inch coir logs, the logs will be cribbed-staked to hold them in place. The Southern project area will primarily utilize staked hay bales for containment with supplemental cribbed-staked coir logs around any adjacent tributary creeks. The Society plans to utilize the adaptive management plan in the implementation of this phase of the project. The containment berm will be at an elevation above mean higher high water to ensure appropriate containment of dredged material. Conceptual design of the containment berm is provided in the site plans.**

**Upon completion of the construction of the containment area, the channel will then be hydraulically dredged, as described above, and pumped through dredge pipe to the containment area. Material may be aerially sprayed or pumped in as a slurry, stopping as needed for settlement of the material and filling the restoration area and bringing the existing marsh plain to an appropriate elevation, suitable for the establishment and growth of desirable vegetative species.**

**Following the completion of dredging activities the area will be evaluated for sediment consolidation. Following the natural dewatering of the area and sediment consolidation, the Eastern project area containment berms may need to be lowered to an elevation near or below mean higher high water to ensure tidal exchange to the area to promote the revegetation by desirable species and to insure the containment area does not retain water or create mosquito breeding habitat. In the Southern project area, hay bales will be removed or dispersed depending on condition. Coir logs in both project areas will be left to biodegrade over time.**



#### 16. 7:7E-4.17 Outfalls and Intakes

*Outfalls and intakes are pipe openings that are located in water areas for the purpose of intake of water or discharge of effluent including sewage, stormwater, and industrial effluents. Outfalls and intakes are conditionally acceptable provided that the use associated with the intake or outfall meets applicable Coastal Zone Management rules.*

**The proposed marsh restoration and enhancement project includes the dredging of approximately 20,000 cubic yards of material and the placement of said material into two selected containment areas of the adjacent marsh plain. No discharge of sewage, stormwater, or industrial effluents is proposed as part of the dredging activities.**

#### 17. 7:7E-4.18 Realignment of Water Areas

*Realignment of water areas means the physical alteration or relocation of the surface configuration of any water area. This does not include the rebulkheading of a previously bulkheaded water area or the bulkheading at or above the spring high water line. Realignment of naturally occurring water areas is discouraged.*

**The proposed project does not involve the realignment of water areas. As such, this rule is not applicable.**

#### 18. 7:7E-4.19 Breakwaters

*Breakwaters, including, but not limited to, those constructed of concrete, rubble mound and timber, are structures designed to protect shoreline areas or boat moorings by intercepting waves and reducing the wave energy which would normally impact the adjacent shoreline areas or boat mooring areas.*

**The proposed project does not involve the construction of breakwaters. As such, this rule is not applicable.**

#### 19. 7:7E-4.20 Submerged Cables

*Submerged cables (cables) are underwater telecommunication cables, and shall include all associated structures in the water such as repeaters. Submerged cables, or portions thereof, which are not located in the Atlantic Ocean, shall not be sited within Special Areas, unless no prudent and feasible alternate route exists.*



**The proposed project does not involve the siting of submerged or other cables. As such, this rule is not applicable.**

#### 20. 7:7E-4.21 Artificial Reefs

*Artificial Reefs are man-made structures intended to simulate the characteristics and functions of natural reefs created by placing hard structures on the sea-floor for the purpose of enhancing fish habitat and/or fisheries.*

**The proposed project does not involve the construction of artificial reefs. As such, this rule is not applicable.**

#### 21. 7:7E-4.22 Miscellaneous uses

*Miscellaneous uses are uses of Water Areas not specifically defined in this section or addressed in the Use rules (N.J.A.C. 7:7E-7). Water dependent uses of Water Areas not identified in the Use rules will be analyzed on a case-by-case basis to ensure that adverse impacts are minimized. Non-water dependent uses are discouraged in all Water Areas.*

**The proposed project involves restoration and enhancement of a tidal marsh, utilizing approximately 20,000 cubic yards of dredged material from a 6800-foot length of tidal channel. The placement of the dredged material is proposed within two containment areas within the adjacent marsh. The areas of dredge material placement were specifically selected as areas in need of restoration, and elevation increases to support the growth beneficial vegetation species. The Society proposes increasing current elevations to a marsh plain elevation to support low marsh vegetation at the Eastern project area and high marsh vegetation at the Southern project area.**

**During the original restoration of this tidal marsh (late 90's), PSEG considered alternative methods of disposal of the dredged material. It was recommended by the Estuary Enhancement Program Advisory Committee (EEPAC), made up of scientists, regulators, and local representatives, that PSEG use the dredged material to create high marsh areas to provide increased ecological benefits. As part of the October 1996 Permit, the NJDEP concurred that the placement of these dredged sediments would indeed provide for increased benefits at the site. Dredged material placement within the adjacent marsh plain was subsequently authorized, with conditions. The American Littoral Society proposes to perform the dredging and placement of dredged materials in accordance with those conditions.**



## **C. REQUIREMENTS FOR IMPERVIOUS COVER AND VEGETATIVE COVER FOR GENERAL LAND AREAS AND CERTAIN SPECIAL AREAS**

### 1. 7:7E-5.1 Purpose and scope

*(a) This subchapter sets forth requirements for impervious cover and vegetative cover on sites in the upland waterfront development area, as defined at N.J.A.C. 7:7E-5.2, and in the CAFRA area, as defined at N.J.A.C. 7:7E-5.2. In addition:*

- 1. For a site in the upland waterfront development area, the applicable impervious cover limits and vegetative cover percentages are determined under N.J.A.C. 7:7E-5A, based on the site's growth rating, development potential, and environmental sensitivity; and*
- 2. For a site in the CAFRA area, the applicable impervious cover limits and vegetative cover percentages are determined under N.J.A.C. 7:7E-5B, based on the site's location in a coastal center; in a Coastal Planning Area; in a CAFRA center, CAFRA core, or CAFRA node; or on a military installation.*

**Not applicable.**

### 2. 7:7E-5.3 Impervious cover requirements that apply to sites in the upland waterfront development and CAFRA areas

*This section sets forth impervious cover requirements that apply to sites in the upland waterfront development and CAFRA areas. Impervious cover limits, specific to each of these areas, are found at N.J.A.C. 7:7E-5A and 5B. The impervious cover allowed on a site shall be placed on the net land area on the site, as determined at (d) below, and in addition, for an unforested site under N.J.A.C. 7:7E-5A.9(b)3 or N.J.A.C. 7:7E-5B.3(e) 2, the impervious cover shall be placed on the area covered by buildings and/or asphalt or pavement legally existing on the site at the time the application is submitted to the Department.*

**The proposed activities will allow for the growth of low-marsh species in currently unvegetated marsh at the Eastern project area and increase the availability of high-marsh habitat at the Southern project area. Furthermore, no development (e.g., creation of impervious cover) will occur because of the proposed activities. As such, this rule is not applicable.**

### 3. 7:7E-5.4 Vegetative cover requirements that apply to sites in the upland waterfront development and CAFRA areas

*This section sets forth vegetative cover requirements that apply to sites in the upland waterfront development and CAFRA areas.*



**The proposed project will not adversely alter the amount of vegetative cover at the MRT site. As previously discussed, the proposed activities will allow for the growth of desirable species marsh plain. Furthermore, no development (e.g., creation of impervious cover) will occur because of the proposed activities. As such, this rule is not applicable.**

#### **D. GENERAL LOCATION RULES**

##### **1. 7:7E-6.1 Rule on Location of Linear Development**

*A linear development, as defined at N.J.A.C. 7:7E-1.8, shall comply with the specific location rules to determine the most acceptable route, to the maximum extent practicable.*

**The proposed activity does not involve linear development. As such, this rule is not applicable.**

##### **2. 7:7E-6.2 Basic Location Rule**

*A location may be acceptable for development under N.J.A.C. 7:7E-3, 4, 5, 5A, 5B, and 6, but the Department may reject or conditionally approve the proposed development of the location as reasonably necessary to:*

- 1. Promote the public health, safety, and welfare;*
- 2. Protect public and private property, wildlife and marine fisheries; and*
- 3. Preserve, protect and enhance the natural environment.*

**The placement of dredge sediments within the marsh will provide for increased benefits at the project site including improved resiliency to storm events and enhanced habitat for wildlife.**

##### **3. 7:7E-6.3 Secondary Impacts**

*Secondary impacts are the effects of additional development likely to be constructed as a result of the approval of a particular proposal. Secondary impacts can also include traffic increases, increased recreational demand and any other offsite impacts generated by onsite activities which affect the site and surrounding region. Coastal development that induces further development shall demonstrate, to the maximum extent practicable, that the secondary impacts of the development will satisfy the Coastal Zone Management rules. The Department may restrict coastal development from connecting to an approved infrastructure in order to prevent adverse impacts to special areas and to protect and preserve coastal resources.*

**The placement of dredge sediments within the marsh will provide for increased benefits at the project site including improved resiliency to storm events and enhanced habitat for wildlife.**



## **E. USE RULES**

### 1. 7:7E-7.2 Housing Use Rules

*"Housing" includes single family detached houses, multi-family Units with apartments or town houses, high-rise buildings and mixed use developments. These rules set forth detailed standards for housing development within the Coastal Zone.*

**The proposed project does not include housing. As such, this rule is not applicable.**

### 2. 7:7E-7.3 Resort/Recreational Use

*Resort/recreation uses include the wide range of small and large developments attracted to and often dependent upon locations along the coast. These uses include hotels, motels, marinas, boating facilities, campgrounds, amusement piers, parks and recreational structures such as bathhouses, natural areas, open space for active and passive recreation, and linear paths for bicycling and jogging (see N.J.A.C. 7:7E-7.10 and N.J.A.C. 7:7E-5.5(d)). These rules provide the requirements for development projects involving resorts and/or recreations uses (e.g. amusement parks) within the Coastal Zone.*

**The proposed activities do not include the development of resort or recreational uses. As such, this rule is not applicable.**

### 3. 7:7E-7.3A Marina Development

*Marinas are any docks, piers, bulkheads, moorings, or similar structure or a collection of adjacent structures under singular or related ownership providing permanent or semi-permanent dockage to five or more vessels. This rule provides the requirements for the development of a marina within the Coastal Zone.*

**The proposed project does not include marina development. As such, this rule is not applicable.**

### 4. 7:7E-7.4 Energy facility use rule

*(a) Energy facilities include facilities, plants or operations for the production, conversion, exploration, development, distribution, extraction, processing, or storage of energy or fossil fuels. Energy facilities also include onshore support bases and marine terminals. Energy facilities do not include operations conducted by a retail dealer, such as a gas station, which is considered a commercial development.*

**The proposed project does not involve the development of energy facilities. As such, this rule is not applicable.**



#### 5. 7:7E-7.5 Transportation Use Rule

*New road construction must be consistent with the rule on location of linear development at N.J.A.C. 7:7E-6.1, and shall be limited to situations where:*

- i. A clear need exists, taking into account the alternatives of upgrading existing roads and of using public transportation to meet the need;*

**The proposed activities do not include transportation development. As such, this rule is not applicable.**

#### 6. 7:7E-7.6 Public Facility Use Rule

*Public facilities include a broad range of public works for production, transfer, transmission, and recovery of water, sewerage and other utilities. The presence of an adequate infrastructure makes possible future development and responds to the needs created by present development.*

**The proposed activities do not include the development of public facilities. As such, this rule is not applicable.**

#### 7. 7:7E-7.7 Industry Use Rule

*Industry uses are uses that involve industrial processing, manufacturing, storage or distribution activities. These uses include, but are not limited to, electric power production, food and food by-product processing, paper production, agri-chemical production, chemical processes, storage facilities, metallurgical processes, mining and excavation processes, and processes using mineral products. Industrial uses do not include petroleum refining which is considered an energy use and, therefore subject to the standards of N.J.A.C. 7:7E-7.4*

**The proposed activities do not include industrial development or related uses. As such, this rule is not applicable.**

#### 8. 7:7E-7.8 Mining Use Rule

*New or expanded mining operations on land, and directly related development, for the extraction and/or processing of construction sand, gravel, ilmenite, glauconite, and other minerals are conditionally acceptable, provided that the following conditions are met (mining is otherwise exempted from the General Land Areas rule, but shall comply with the Special Areas, and General Water Area rules).*

**The proposed activities do not include new or expanded mining operations. As such, this rule is not applicable.**



### 9. 7:7E-7.9 Port Use Rule

*Port uses are concentrations of shoreside marine terminals and transfer facilities for the movement of waterborne cargo (including fluids), and including facilities for loading, unloading and temporary storage.*

**The proposed activities do not include any port related development. As such, this rule is not applicable.**

### 10. 7:7E-7.10 Commercial Facility Use Rule

*Commercial uses include hotels and motels, retail trade and services, and convention centers. New, expanded or improved hotels and motels are conditionally acceptable provided that the development complies with all Location and Resource rules and with the rule for high-rise structures and is compatible in scale, site design, and architecture with surrounding development. Hotels, motels or restaurants may be water oriented if they take full advantage of a waterfront location.*

**The proposed activity does not include any commercial facilities. As such, this rule is not applicable.**

### 11. 7:7E-7.11 Coastal Engineering

*(a) Coastal engineering includes a variety of structural and non-structural measures to manage water areas and the shoreline for natural effects of erosion, storms, and sediment and sand movement. Beach nourishment, sand fences, pedestrian control on dunes, stabilization of dunes, dune restoration projects, dredged material disposal and the construction of retaining structures such as bulkheads, gabions, revetments and seawalls are all examples of coastal engineering.*

**Channels of the MRT site originally were hydraulically dredged in 1997 and 1998 as part of the wetland restoration activities to restore tidal exchange to approximately 1,100 acres of previously-diked salt hay farm. Maintenance dredging of this channel subsequently was performed in 1999.**

**As with the original construction of the channel and inlet systems, the American Littoral Society is proposing to hydraulically dredge accumulated silt from a 6800-foot segment of the Western and Eastern Channels. The dredge material will be pumped to containment areas located within the restored tidal marsh.**

**The construction methodology for this effort in the Eastern area includes the use of 24-inch cribbed coir logs to provide containment and erosion resistance/control while the dredge material naturally consolidates and the area becomes revegetated.**



**The construction methodology in the Southern project area includes the use of staked hay bales and 8” cribbed coir logs around adjacent tidal creeks to provide containment and erosion resistance/control while the dredge material naturally consolidates and the area becomes revegetated.**

**Construction monitoring during placement of dredged materials on site will be continuous during this operation to provide a rapid response in the event of any breaches in the containment structure.**

**Upon completion of the construction of the containment berm, the channel will then be hydraulically dredged and pumped through dredge pipe to the containment area. Sediments will be pumped in the containment area, filling the confined area and bringing the existing marsh plain to an appropriate elevation, suitable for the establishment and growth of desirable vegetative species.**

**Following the completion of dredging activities the area will be evaluated for sediment consolidation. Following the natural dewatering of the area and sediment consolidation, the coir logs may need to be lowered to an elevation near or below mean higher high water to ensure tidal exchange to the area and promote the revegetation by desirable species and to ensure the containment area does not retain water or create mosquito breeding habitat. The proposed project is consistent with this rule.**

#### 12. 7:7E-7.12 Dredged Material Placement on Land

*Dredged material placement is the disposal or beneficial use of sediments removed during dredging operations. Beneficial uses of dredged material include, but are not limited to, fill, topsoil, bricks and lightweight aggregate. This rule applies to the placement of dredged material landward of the spring high water line. The standards for dredged material disposal in Water Areas are found at N.J.A.C. 7:7E- 4.8.*

*Dredged material placement on land is conditionally acceptable provided that the use is protective of human health, groundwater quality, and surface water quality, and manages ecological risks. Testing of the dredged material may be required as needed to determine the acceptability of the placement of the material on a particular site. Dredged material disposal is prohibited on wetlands unless the disposal satisfies the criteria found at N.J.A.C. 7:7E-3.27. The use of dredged material of appropriate quality and particle size for purposes such as restoring landscape, enhancing farming areas, capping and remediating landfills and brownfields, beach protection, creating marshes, capping contaminated dredged material disposal areas, and making new wildlife habitats is encouraged. Effects associated with the transfer of the dredged materials from the dredging site to the disposal site shall be minimized to the maximum extent feasible. Dredged material disposal in wet and dry borrow pits is conditionally acceptable If pre-dredging sediment analysis indicates contamination, then special precautions shall be imposed including but not necessarily limited to increasing retention time of water in the disposal site or rehandling basin through weir and dike design modifications, use of coagulants, ground water monitoring, or measures to prevent biological uptake by colonizing plants. All potential releases of water from confined (diked) disposal sites and rehandling basins shall meet existing State Surface Water Quality Standards (N.J.A.C. 7:9B) and State Groundwater Quality Standards (N.J.A.C. 7:9).*



**The Society is proposing to hydraulically dredge accumulated silt from a 6,800-foot segment of the east and western channels. For the eastern site: The silt will be pumped to a containment area located within the restored tidal marsh. No placement of dredged materials landward of the spring high tide is proposed as part of this effort. The area of containment was selected as it is at a marsh plain elevation in the vicinity of mean tide and does not currently support the growth of *Spartina* spp or any other beneficial vegetation species.**

**The Society proposes increasing the elevation of the Southern site using thin layer sediment spray technique (also recently used on the Atlantic coast marshes). This process applies sediment in the form of silt slurry to the marsh surface by pumping dredge material through a specially-constructed pipeline and spray-nozzle system. As the dredge digs down several feet into the channel bottom, the material is drawn into a small diameter (8-inch) pipe that is partially submerged in the water, then transported through the pipe to the marsh several hundred feet away. The dredge material is then forced through a 4-inch high-pressure nozzle and sprayed in a long stream on to the marsh surface. The nozzle can be pivoted to direct the sediment to different locations. As the material is sprayed, the slurry, which is approximately 90% water and 10% sediment, flows along the surface and deposits in the low areas of the marsh.**

**The Sediment Sampling and subsequent analysis was conducted and subsequently accepted by NJDEP's ODST. The sediment analysis is on file with ODST and can be provided upon request, Appendix J contains email correspondence with ODST where they accepted the analysis.**

**Following the completion of dredging activities the area will be evaluated for sediment consolidation. Following the natural dewatering of the area and sediment consolidation, the coir logs may need to be lowered to ensure tidal exchange to the area to promote the revegetation by desirable species and to insure the containment area does not retain water or create mosquito breeding habitat. Hay bales on the southern site will be removed or dispersed depending on condition.**

#### 13. 7:7E-7.13 National Defense Facilities Use Rule

*A national defense facility is any building, group of buildings, marine terminal, or land area owned or operated by a defense agency (Army, Navy, Air Force, Marines, Coast Guard) and used for training, research, material support, or any other defense related use.*

**No National Defense Facilities are proposed as part of the dredging activities. As such, this rule is not applicable.**

#### 14. 7:7E-7.14 High Rise Structures

*High-rise structures are structures which are more than six stories or more than 60 feet in height as measured from existing preconstruction ground level.*



**No high-rise structures will be developed as part of the proposed activities. As such, this rule is not applicable.**

## **F. RESOURCE RULES**

### **1. 7:7E-8.2 Marine Fish and Fisheries**

*Marine fish are marine and estuarine animals other than marine mammals and birds. Marine fisheries means:*

- 1. One or more stocks of marine fish which can be treated as a unit for the purposes of conservation and management and which are identified on the basis of geographical, scientific, technical, recreational and economic characteristics; and*
- 2. The catching, taking or harvesting of marine fish.*

*Any activity that would adversely impact on the natural functioning of marine fish, including the reproductive, spawning and migratory patterns or species abundance or diversity of marine fish, is discouraged. In addition, any activity that would adversely impact any New Jersey based marine fisheries or access thereto is discouraged.*

*Estuarine wetlands provide habitat for many kinds of fish and shellfish, and make important contributions to the food webs of the coastal ecosystem. Healthy tidal wetlands that are linked to estuarine and coastal waters provide critical ecosystem support through direct contribution to food webs and by serving as highly favorable habitat for aquatic organisms. In particular:*

- Marsh creeks are used for feeding, breeding, and shelter by a variety of fish and invertebrates, and marshes are important habitat for both estuarine resident and continental shelf species (Talbot and Able, 1984; Rountree and Able, 1992; Shenker and Dean, 1979; Weinstein, 1979; Rozas and Hackney, 1984).*
- Consumer fish in marshes feed on abundant bottom-dwelling invertebrates (Boesch and Turner, 1984).*
- The movement of fish in and out of wetland areas is an important energy transfer linkages between marshes and estuarine and coastal waters (Weinstein and Walters, 1981; Conover and Ross, 1982; Currin et al., 1984; Cadigan and Fell, 1985; van Montfrans et al., 1991).*
- Large carnivorous fish (including such commercially and recreationally valuable species as weakfish (*Cynoscion regalis*), summer flounder (*Paralichthys dentatus*), striped bass (*Morone saltatrix*), and bluefish (*Pomatomus saltatrix*) use the estuary on a seasonal basis and derive substantial food resources from forage fish and shellfish associated with marshes (Pennock, 1988).*

**Since 1999, monitoring indicates the accumulation of sediment in the upper portion of the channel systems has resulted in the gradual filling of the existing tidal channels, minimizing the accessibility of the adjacent marsh plain to fish, shellfish and other aquatic invertebrates. In the case of the westerly channel, the build-up of sediment increasingly prohibits the use of the constructed boat launch at this**



**site. For both channels, without dredging the accumulation of sediment will continue, further reducing the ability of fish to access the marsh plain.**

**As a result of the proposed marsh restoration/enhancement and dredging activities, marsh vegetation will increase, as will overall access to the marsh plain by fish and other aquatic resources.**

## 2. 7:7E-8.4 Water Quality

*As required by Section 307(f) of the Federal Coastal Zone Management Act (P.L. 92-583), Federal, State and local water quality requirements established under the Clean Water Act (33 U.S.C., 1251) shall be the water resource standards of the coastal management program. These requirements include not only the minimum requirements imposed under the Clean Water Act but also the additional requirements adopted by states, localities, and interstate agencies pursuant to Section 510 of the Clean Water Act and such statutes as the New Jersey Water Pollution Control Act. In the Delaware River Basin, the requirements include the prevailing "Basin Regulations-Water Quality" adopted by the Delaware River Basin Commission as part of its Comprehensive Plan. In the waters under the jurisdiction of the Interstate Sanitation Commission in the New Jersey-New York metropolitan area, the requirements include the Interstate Sanitation Commission's Water Quality Regulations. Department rules related to water pollution control and applicable throughout the entire coastal zone include, for example, the Surface Water Quality Standards (N.J.A.C. 7:9-4), the rules concerning Wastewater Discharge Requirements (N.J.A.C. 7:9-5), the Ground-Water Quality Standards (N.J.A.C. 7:9-6), and the Regulations Concerning the New Jersey Pollutant Discharge Elimination System (N.J.A.C. 7:14A).*

*Coastal development which would violate the Federal Clean Water Act, or State laws, rules and regulations enacted or promulgated pursuant thereto, is prohibited. In accordance with N.J.A.C.7:15 concerning the Water Quality Management Planning and Implementation process, coastal development that is inconsistent with an approved Water Quality Management (208) Plan under the New Jersey Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq., is prohibited.*

**The proposed dredging activities at the MRT site may temporarily effect water quality within the immediate project area; however, these disturbances (turbidity) will be minor and short-term in nature, and will not result in any permanent impacts or adverse effects to water quality conditions.**

## 3. 7:7E-8.5 Surface water use

*Surface water is water in lakes, ponds, streams, rivers, bogs, wetlands, bays, and ocean that is visible on land. Coastal development shall demonstrate that the anticipated surface water demand of the facility will not exceed the capacity, including phased planned increases, of the local potable water supply system or reserve capacity, and that construction of the facility will not cause unacceptable surface water disturbances, such as drawdown, bottom scour, or alteration of flow patterns.*



**No unacceptable surface water disturbances, such as drawdown, bottom scour, or alteration of flow patterns will result as part of the proposed dredging activities.**

#### 4. 7:7E-8.6 Groundwater Use

*Groundwater is all water within the soil and subsurface strata that is not at the surface of the land. It includes water that is within the earth that supplies wells and springs. Coastal development shall demonstrate, to the maximum extent practicable, that the anticipated groundwater withdrawal demand of the development, alone and in conjunction with other groundwater diversions proposed or existing in the region, will not cause salinity intrusions into the groundwaters of the zone, will not degrade groundwater quality, will not significantly lower the water table or piezometric surface, or significantly decrease the base flow of adjacent water sources. Groundwater withdrawals shall not exceed the aquifer's safe yield. Coastal development shall also conform with all applicable Department and, in the Delaware River Basin, Delaware River Basin Commission requirements for groundwater withdrawal and water diversion rights.*

**Groundwater use is not proposed as part of the dredging or placement of dredged materials onto the adjacent marsh plain. As such, this rule is not applicable.**

#### 5. 7:7E-8.7 Stormwater Management

*If a project or activity meets the definition of "major development" at N.J.A.C. 7:8-1.2, then the project or activity shall comply with the Stormwater Management rules at N.J.A.C. 7:8.*

*"Major development" means any development that provides for ultimately disturbing one or more acres of land or increasing impervious surface by one-quarter acre or more. Disturbance for the purpose of this rule is the placement of impervious surface or exposure and/or movement of soil or bedrock or clearing, cutting, or removing of vegetation.*

**The project does not constitute "major development" at N.J.A.C. 7:8-1.2. As such, this rule is not applicable.**

#### 6. 7:7E-8.8 Vegetation

*Vegetation is the plant life or total plant cover that is found on a specific area, whether indigenous or introduced by humans. Coastal development shall preserve, to the maximum extent practicable, existing vegetation within a development site. Coastal development shall plant new vegetation, particularly appropriate coastal species native to New Jersey to the maximum extent practicable.*

**Implementation of the marsh restoration/enhancement and dredging activities described herein is consistent with the Vegetation Resource Rule. The proposed activities include the dredging of approximately 20,000 cubic yards of material from an existing tidal channel and the placement of said material onto the adjacent marsh plain. The intent of placing the dredged materials onto the marsh plain is to increase the existing elevations to be conducive for the growth of desirable marsh**



**vegetation. Additionally, we will monitor for regrowth and apply adaptive management where needed, at that time a post restoration planting plan may be implemented. As such, no long-term impacts to vegetation are expected as result of the proposed activities.**

#### 7. 7:7E-8.10 Air Quality

*The protection of air resources refers to the protection from air contaminants that injure human health, welfare or property, and the attainment and maintenance of State and Federal air quality goals and the prevention of degradation of current levels of air quality.*

**No development that would adversely affect air quality is proposed as part of this application. As such, no impacts to air quality will occur as part of the proposed activities.**

#### 8. 7:7E-8.11 Public Trust Rights

*Public trust rights to tidal waterways and their shores (public trust rights) established by the Public Trust Doctrine include public access which is the ability of the public to pass physically and visually to, from and along lands and waters subject to public trust rights as defined at N.J.A.C. 7:7E-3.50, and to use these lands and waters for activities such as swimming, sunbathing, fishing, surfing, sport diving, bird watching, walking and boating. Public trust rights also include the right to perpendicular and linear access. Public accessways and public access areas provide a means for the public to pass along and use lands and waters subject to public trust rights. Except as otherwise provided, development on or adjacent to all tidal waterways and their shores shall provide on-site, permanent, unobstructed public access to the tidal waterway and its shores at all times, including both visual and physical access. Specific requirements for sites located along the Arthur Kill, Kill Van Kull west of Bayonne Bridge, Newark Bay, Delaware River from the Trenton Makes Bridge to the CAFRA boundary, Elizabeth River, Hackensack River, Passaic River, Rahway River, Raritan River, Cohansey River in Bridgeton City, and Maurice River in Millville City are found at (e) below.*

*The permanent on-site public access required may be modified where development of a new or at an existing energy facility, industrial use, port use, airport, railroad, or military facility is proposed and the Department determines that perpendicular access and/or a linear area along the entire shore of the tidal waterway is not practicable based on the risk of injury from existing or proposed hazardous operations, or substantial existing and permanent obstructions, and no measures can be taken to avert these risks. If public access on site is not practicable, alternate public access of comparable use to the public shall be provided at a nearby off site location.*

**The MRT site where the proposed dredging and placement of dredged materials will occur is owned by PSEG and by the NJ Division of Fish and Wildlife; however, it is intended as a conservation area for wildlife protection and management and for use by the public for recreational activities. A Deed of Conservation Restriction conveyed to the State of New Jersey insures that these lands will be**



**preserved in perpetuity. The MRT site has existing public access amenities such as boat ramps observation platforms, and parking facilities.**

**Since 1999, the accumulation of sediment in the upper portion of the channel system has increasingly prohibited the use of the constructed boat launch at this site. An added benefit of the proposed project is the removal of much of this accumulated sediment and should improve access to and from the existing boat ramp. As such, the proposed activities should result in improved public access and eco-tourism at the site.**

**No development that would adversely affect public trust rights is proposed as part of this application.**

#### 9. 7:7E-8.12 Scenic Resources and Design

*Scenic resources include the views of the natural and/or built landscape. New coastal development that is visually compatible with its surroundings in terms of building and site design, and enhances scenic resources is encouraged. New coastal development that is not visually compatible with existing scenic resources in terms of large-scale elements of building and site design is discouraged.*

**No development is proposed as part of the regulated activities. No impacts to scenic resources will occur because of the proposed activities.**

#### 10. 7:7E-8.13 Buffers and Compatibility of Uses

*Buffers are natural or man-made areas, structures, or objects that serve to separate distinct uses or areas. Compatibility of uses is the ability for uses to exist together without aesthetic or functional conflicts. Development shall be compatible with adjacent land uses to the maximum extent practicable.*

**There will be no adverse impacts to buffers or adjacent land uses associated with the proposed project. As previously stated, the proposed project involves the dredging of approximately 20,000 cubic yards of material from a 6,800-foot length of tidal channel at the MRT site. The purpose of this activity is to restore low and high marsh areas and provide ecological benefits to the existing wetlands.**

#### 11. 7:7E-8.14 Traffic

*Traffic is the movement of vehicles, pedestrians or ships along a route. Coastal development shall be designed, located and operated in a manner to cause the least possible disturbance to traffic system.*

**No development is proposed as part of the dredging efforts. There will be no impacts to traffic because of the proposed activities.**



**12. 7:7E-8.21 Subsurface Sewage Disposal Systems**

*Subsurface sewage disposal system means a system for disposal of sanitary sewage into the ground which is designed and constructed to treat sanitary sewage in a manner that will retain most of the settleable solids in a septic tank and to discharge the liquid effluent to a disposal field.*

**The proposed activities do not include construction of subsurface sewage disposal systems. As such, this rule is not applicable.**

**13. 7:7E-8.22 Solid and Hazardous Waste**

*Solid waste means any garbage, refuse, sludge or other waste material, including solid, liquid, semi-solid or contained gaseous material. A material is a solid waste if it is "disposed of" by being discharged, deposited, injected, dumped, spilled, leaked or placed into or on any land or water so that such material or any constituent thereof may enter the environment or be emitted into the air or discharged into ground or surface waters.*

**No solid or hazardous wastes will be generated or otherwise associated with the proposed activities. As such, this rule is not applicable.**

## **C3 Essential Fish Habitat Assessment**



American Littoral Society

*Thompsons Beach Marsh Restoration and Enhancement Project*

March 2017

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**Essential Fish Habitat**



## Essential Fish Habitat Assessment Abbreviated Version

### Thompsons Beach/Maurice River Township Tidal Marsh Restoration, Maurice River, Cumberland County, New Jersey (Delaware Bay)

Submitted by  
American Littoral Society

**Proposed Action:** The American Littoral Society is proposing a suite of strategies for continued tidal marsh restoration at a PSEG-owned site near Thompsons Beach in Maurice River Township, Cumberland County, New Jersey (Figure 1) that will continue to aid the recovery of elevation deficits in the marsh due to decades of prior use as a salt hay farm. Restoration will involve the beneficial reuse of approximately 21, 290 cubic yards (cy) of dredge material originating within two creeks adjacent to the proposed restoration site. The restoration activities already carried out at the site by PSEG demonstrate the feasibility and success of adding sediment to marshes to gain elevation and improve the vigor and diversity of the tidal marsh plant community. We propose to build upon past restoration efforts and restore tidal marsh to elevations that will better keep pace with sea level rise and increase habitat availability for tidal marsh obligate wildlife using the following approaches:

1. Restore a 3.75-acre area of unvegetated mudflat on the east side of the Thompsons Beach boat landing (Eastern Area) using an earthen berm to confine and dewater dredge slurry with subsequent marsh planting (Figure 2).
2. Use thin-layer application of dredged sediment slurry on marshes that are at the higher end of the marsh elevational range across approximately 3.5 acres (Southern Area) in order expand high marsh vegetation at the site (Figure 2). This approach represents the range of strategies that must be pursued in an iterative process of marsh restoration in the Delaware Bay because marshes with a history of salt hay farming are in many cases feet, not inches, below elevations that will be resilient to ongoing sea level rise. This process includes first re-creating marsh from mudflats using dredge material and may include adding additional sediment at a later date to further increase marsh plain elevation. Once marshes are restored to adequate elevations to support a robust and diverse mosaic of tidal marsh plants, thin layer application can be used to fine-tune elevations to maximize habitat availability for rare and declining tidal marsh obligate species.

An estimated 22,103 cubic yards of material is available for dredging. The total volume needed to meet the placement estimates are 21,290 cubic yards. Detailed plans showing restoration location and proposed borrow areas are given in Attachment A. Borrow areas are located adjacent to the proposed restoration site with East and West Creeks.

Monitoring of the biological and physical response to marsh restoration will be performed by the American Littoral Society project team to include the Stockton University Coastal Resource Center and LJV and Associates.



Currently, a New Jersey state permit application has been submitted and is under regulatory review.

**Project Purpose:** Our proposed work will add to previous efforts to increase the area of salt marsh with high elevational capital that can better keep pace with sea level rise and increase habitat availability for tidal marsh obligate wildlife. The PSEG marsh restoration in the late 1990s achieved a functioning tidal marsh where there had previously been farms with no remaining natural marsh hydrology. The project dredged a network of tidal creeks into the marsh interior in order to bring tides and silt into the sediment-starved marsh. Salt hay farming over many decades had lowered the marsh platform to an elevation that could not support vegetation. For marsh areas that have not revegetated, we propose to build on the model PSEG has created by conducting maintenance dredging of creek channels and using this dredge material to raise the marsh plain elevation to a level that can support vegetation. In addition, we propose to use thin-layer application of material from maintenance dredging in order to improve the habitat quality of higher-elevation marsh areas for high marsh-specialist birds.

This restoration will also provide a foundation of lessons learned that could be the cornerstone of decision-making when designing other more extensive restorations in the Delaware Bay region. Thus the ostensible purpose moving forward will be to identify and select damaged marsh; develop planning necessary to estimate costs and obtain permits; identify local contractors; implement the restoration using two different methodologies (dredged fill and thin layer); and then monitor the success and/or impact. Overall this restoration will be used to develop cost-effective methods and a credible plan for larger tracts of marsh to achieve these restoration goals on a larger scale. The project is being conducted with the approval and support of the U.S. Fish and Wildlife Service, in partnership with the American Littoral Society.

Figure 1 – Site Location (Yellow Pin)

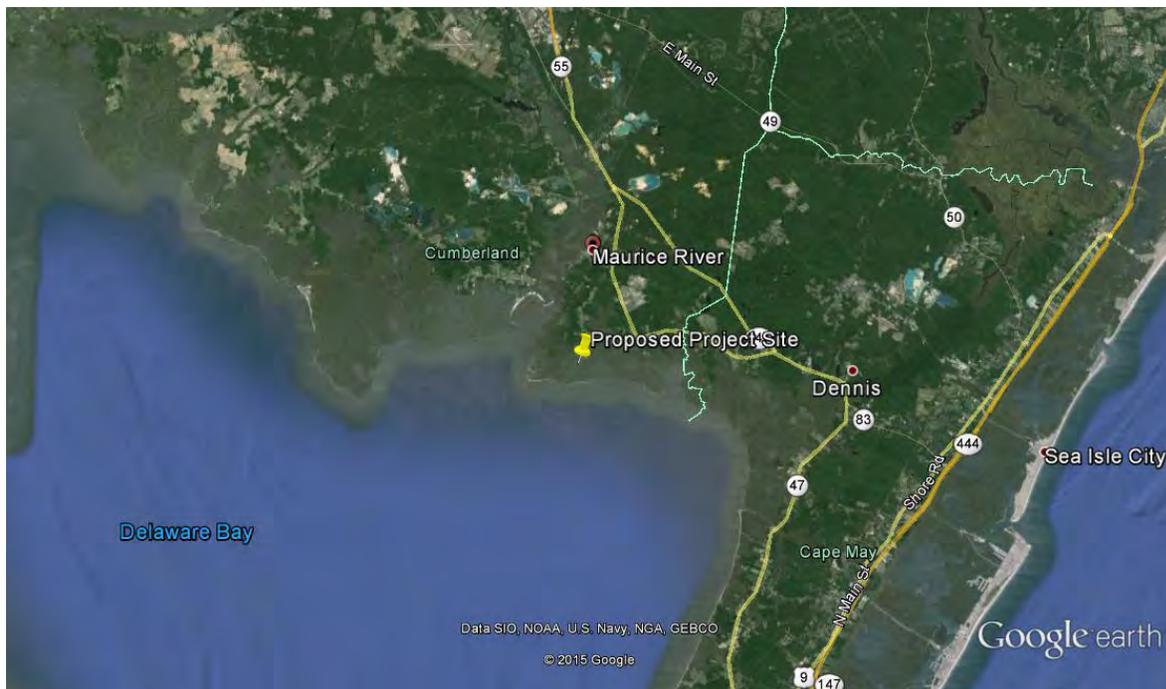




Figure 2 – Aerial View of Proposed Project Site and Approaches





**Essential Fish Habitat (EFH) Designation and Species Determination:** The National Marine Fisheries Service (NOAA Fisheries) has designated EFH for 17 federally managed species based on life stage (Table 1) within the open water areas within the 10 minute square (Table 2 and Figure 3) within the salinity zone of Delaware Bay affecting the following: Heislerville, New Jersey, and south of Riggins Ditch, Thompsons Beach, Delmont, New Jersey, Eldora, New Jersey, Moores Beach, Stipson Island, East Creek, West Creek, as well as waters within the Manamuskin River (NOAA/NERO, 2012).

Within the EFH designated 10-minute square as described above, a Habitat Area of Particular Concern (HAPC) for sandbar shark has also been identified. HAPCs either play important roles in the life history (e.g., spawning or pupping areas) of federally managed fish species or are especially vulnerable to degradation from fishing or other human activities. In many cases, HAPCs represent areas where detailed information is available on the structure and function within the larger EFH. The site is also located on the border of the mixing and seawater salinity zones (NOAA, 1985).

Table 1 – EFH Species Designated in the Proposed Marsh Restoration Project Borrow Areas

EFH Species	Eggs	Larvae	Juveniles	Adults
winter flounder ( <i>Pseudopleuronectes americanus</i> )	X	X	X	X
windowpane flounder ( <i>Scophthalmus aquosus</i> )	X	X	X	X
Atlantic sea herring ( <i>Clupea harengus</i> )			X	X
bluefish ( <i>Pomatomus saltatrix</i> )			X	X
Atlantic butterfish ( <i>Peprilus triacanthus</i> )		X	X	X
summer flounder ( <i>Paralichthys dentatus</i> )			X	X
scup ( <i>Stenotomus chrysops</i> ),			X	X
black sea bass ( <i>Centropristis striata</i> )			X	X
king mackerel ( <i>Scomberomorus cavalla</i> )	X	X	X	X
Spanish mackerel ( <i>Scomberomorus maculatus</i> )	X	X	X	X
cobia ( <i>Rachycentron canadum</i> )	X	X	X	X
sand tiger shark ( <i>Carcharias taurus</i> )		X		X
dusky shark ( <i>Carcharhinus obscurus</i> )		X		
sandbar shark ( <i>Charcharinus plumbeus</i> )		HAPC	HAPC	HAPC
clearnose skate ( <i>Raja eglanteria</i> )			X	X
little skate ( <i>Raja erinacea</i> )			X	X
winter skate ( <i>Leucoraja ocellata</i> )			X	X

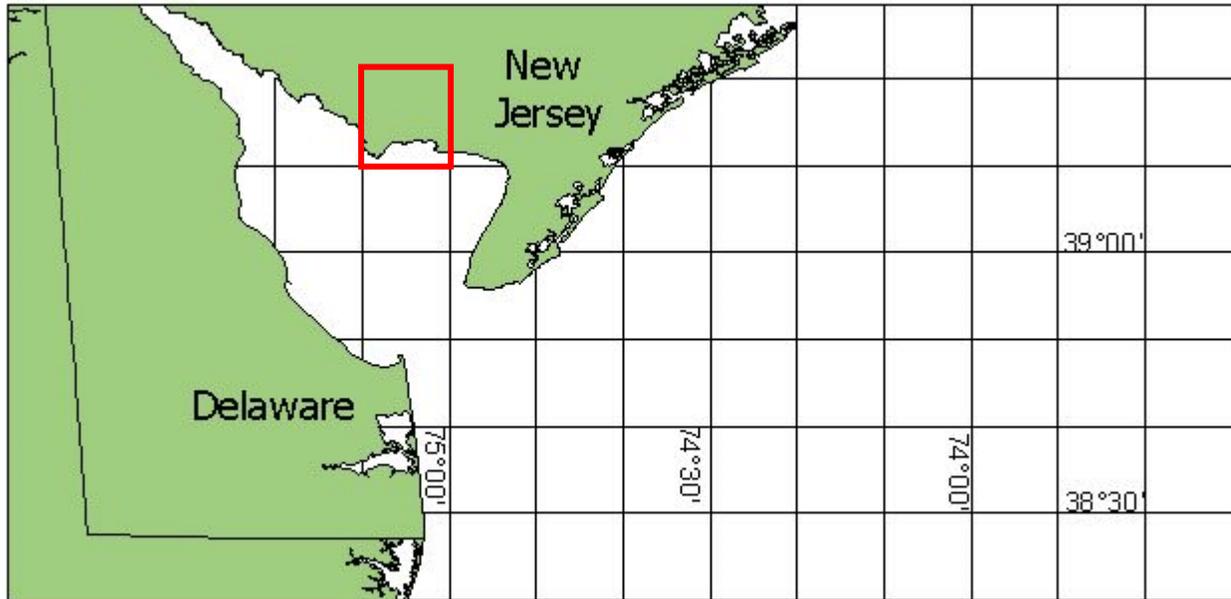
Table 2 – Coordinates of EFH Designation in which Proposed Project Site is located

Boundary	North	East	South	West
Coordinate	39° 20.0 N	74° 50.0 W	39° 10.0 N	75° 00.0 W

It should be noted that due to temperature rise associated with climate change, winter flounder EFH designation has been moved north to Absecon Inlet and is no longer located in Delaware Bay.



Figure 3 - EFH 10-minute square designation for Proposed Project Area



### Anadromous Species

Based on previous fish surveys (NJDEP, 2013) and literature review (NJDEP, 2005), the presence of three anadromous clupeid species within or near the project area does exist. The species identified are the blueback herring (*Alosa aestivalis*), alewife (*Alosa pseudoharengus*), and American Shad (*Alosa sapidissima*). Presence of these species within Delaware Bay is seasonal with primary herring runs during the months of March through late May (temperature dependent). The tributaries near the proposed project site have not been identified by NJDEP to have a confirmed and/or reported anadromous clupeid spawning run (Zich 1977, Byrne 1986, NJDEP, 2005). The potential presence of these species within the proposed project area can still exist but it the area lacks any potential preferred spawning habitat (Klauda et.al., 1991) as it is salt marsh with silt substrate. Yet, juveniles, young-of-year (YOY), and adults alike may utilize the shoreline on the Bay-side in open water for foraging and energy conservation during spring migration and fall emigration.

### Impacts/Mitigation

There is no recent fish data for the project area within the marsh or within East or West Creeks however data does exist for the inshore waters of Delaware Bay near the site. Substrate at the borrow sites is predominantly silt and depths range between 0 and 4 feet as shown in Attachment A (tide dependent). Data obtained from the New Jersey Division of Fish and Wildlife's Delaware Bay Finfish Trawl Survey performed from 1991-2008 during the months of April through October (NJDEP, 2013) in the open water of Delaware Bay along with other literature reviews indicated that various life stages of species listed in Table 1 do occur within the vicinity of the proposed project area on a seasonal basis. Species collected during the Delaware Bay Finfish Trawl Survey included red hake, winter flounder, windowpane flounder,



Atlantic sea herring, bluefish, Atlantic butterfish, summer flounder, scup, black sea bass, and clearnose skate. Additionally, alewife, blueback herring, and American shad were also collected. In addition, the National Oceanic and Atmospheric Administration's (NOAA) Estuarine Living Marine Resources (ELMR) project further identified the presence, distribution, relative abundance of the majority of species listed in Table 1 (National Ocean Service, 2012). However, individual species essential fish habitat descriptions for some species identified depths, temperatures, or substrates that are not present within the proposed project area and borrow sites. Therefore, for the purpose of this abbreviated EFH Assessment, potential presence of 10 of the 17 species by given life stage listed in Table 1 (except cobia, Spanish mackerel, king mackerel, winter flounder, sandbar shark, dusky shark, and sand tiger shark) will be considered to either transit or possibly forage within or near the proposed dredge borrow sites. The proposed borrow sites are not located in areas described as HAPC for sandbar shark impact and therefore impact to HAPC will be avoided. Rechisky and Wetherbee (2003), determined that neonate and juvenile sandbar sharks tracked on the New Jersey side of the Delaware Bay tended to spend more time in deeper, open water than that at the proposed project site and frequented bay shore channels (maximum depth to 10 meters) that ran parallel to shore. It was also identified that these life stages seldom ventured nearshore or into extremely shallow water. Adult sandbar sharks are present in the Bay from May through September and inhabit the deeper waters of Delaware Bay, but are not present in marsh creeks or tributaries. Much like the other larger, adult sharks in the Bay, they are more abundant in the deeper, middle section of the Bay outside of the project area.

Major habitat concerns for river herring are stream acidification, stream impediments and blockages, and land-use modifications that may alter stormwater runoff drainage patterns and increase erosion and sediment accretion (Klauda et. al, 1991). The proposed project sites and borrow areas are not in a place that that will block fish passage, alter stormwater drainage patterns, increase erosion or accretion and therefore, will not impact or impede anadromous fish movement. As state before, East and West Creeks have not been identified by NJDEP as designated waterbodies that support herring runs and spawning habitat does not exist within them.

Overall, impacts to EFH for the aforementioned species will be temporary and minimal. The majority of species listed by life stage may be present in the backbay tributaries or in the vicinity of the proposed borrow sites but have the ability and mobility to avoid the areas during operations.

## References

- Byrne, Donald. 1986. Anadromous Herring Run Restoration. Annual Report. New Jersey Division of Fish, Game, and Wildlife. Trenton, NJ.
- Klauda, RJ, Fischer, SA, Hall Jr, LW, Sullivan, JA. 1991. Alewife and blueback herring: *Alosa pseudoharengus* and *Alosa aestivalis*. Pages 10-1 to 10-29 in Funderburk, SL, Mihursky, JA, Jordan, SJ, Riley, D, editors. Habitat requirements for Chesapeake Bay living resources, second edition. Living Resources Subcommittee, Chesapeake Bay Program, Annapolis, MD.
- National Ocean Service. 2012. Estuarine Living Marine Resources Database. Accessed November 17, 2015 from the following website:  
[http://www8.nos.noaa.gov/biogeo\\_public/elmr.aspx](http://www8.nos.noaa.gov/biogeo_public/elmr.aspx).



- NJDEP. 2005. Locations of Anadromous American Shad and River Herring During Their Spawning Period in New Jersey's Freshwaters Including Known Migratory Impediments and Fish Ladders. Sicklerville, New Jersey.
- NJDEP. 2013. Studying the Delaware Bay - 2012 Report. Accessed 11/16/2015 from the following website: <http://www.state.nj.us/dep/fgw/artdelbaystudy13.htm>.
- NOAA. 1985. National Estuarine Inventory Data Atlas: Volume 1- Physical and Hydrologic Characteristics. Accessed 11/5/2015 from the following website: <http://www.greateratlantic.fisheries.noaa.gov/hcd/National%20Estuarine%20Inventory%20-%20NE%20Region1.pdf>.
- NOAA Fisheries/Northeast Regional Office (NERO). 2012. Accessed 10/3/2014 from the following website: <http://www.nero.noaa.gov/hcd/webintro.html>.
- Rechisky, Erin L. and Bradley M. Wetherbee. 2003. *Short-term movements of juvenile and neonate sandbar sharks, Carcharhinus plumbeus, on their nursery grounds in Delaware Bay*. Environmental Biology of Fishes 68: 113–128.
- Zich, H.E. 1977. The collection of existing information and field investigation of anadromous clupeid spawning in New Jersey. New Jersey Division of Fish, Game, and Shellfisheries Report No. 41M.

**C4 USFWS Intra-Service Section 7 Biological Evaluation Form**

**INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM**

**Project Name:** Thompsons Tidal Marsh Restoration  
**Originating Person:** Katie Conrad  
**Township:** Maurice River Township  
**Telephone Number:** 609-382-5261  
**County:** Cumberland  
**Date:** 8/8/16  
**Shape file at:** G:\user\Katie\Intra-Section\_7\Thompsons Marsh  
**Distance to nearest town:** 2 miles south of Maurice River township

**I. Region: 5**

**II. Service Activity (Program)**

U.S. Fish and Wildlife Service, Region 5, Ecological Services, New Jersey Field Office (NJFO), *Partners for Fish and Wildlife Program* proposes to assist the American Littoral Society (ALS) to use dredge material to increase marsh resilience to sea level rise and increase habitat diversity to benefit tidal marsh obligate birds.

**III. Pertinent Species and Habitat:**

**A. Listed species and/or their critical habitat within the action area:**

Northern long-eared bat

Red knot

**B. Proposed species and/or proposed critical habitat within the action area:**

N/A

**C. Candidate species within the action area:**

N/A

**D. Include species/habitat occurrences on a map.**

Red knot occurs along the entire length of the Delaware Bay in Cumberland County.

Northern long-eared bat occurs throughout the State.

#### **IV. Description of proposed action (attach additional pages as needed):**

##### **Project Purpose**

The purposes of the project are to:

1. Increase marsh resilience to sea level rise
2. Increase habitat diversity to benefit tidal marsh obligate birds
3. Reuse dredge material for restoration

##### **Proposed Action**

In partnership with the Service, the American Littoral Society is proposing to deposit dredge material in two areas (see attached plans) within Thompsons Marsh, Maurice River Township, Cumberland County, New Jersey in order to increase marsh resilience to sea level rise and increase habitat diversity to benefit tidal marsh obligate birds.

The site was part of a PSEG-led marsh restoration project in the late 1990s that achieved a functioning tidal marsh where there had previously been farms with no remaining natural marsh hydrology. The project site was previously a salt hay farm. The project dredged a network of tidal creeks into the marsh interior in order to bring tides and silt into the sediment-starved marsh. Salt hay farming over many decades had lowered the marsh platform to an elevation that could not support vegetation.

For marsh areas that have not revegetated, we propose to build on the model PSEG has created by conducting maintenance dredging of creek channels and using this dredge material to raise the marsh plain elevation to a level that can support vegetation. This will be accomplished through hydraulic/bucket-maintenance dredging with placement of the sediment in the "Eastern" section (area near parking lot). In addition, we propose to use thin-layer application of material from the proposed maintenance dredging in order to improve the habitat quality of higher-elevation marsh areas for high marsh-specialist birds ("Southern" section). These creeks need to be dredged to allow kayak access over a greater tidal range.

#### **VII. Determination of effects:**

##### **A. Explanation of effects of the action on species and critical habitats in items III. A, B, and C (attach additional pages as needed):**

**Northern long-eared bat:** there is no suitable habitat for northern long-eared bat in the project area. In addition, there is no tree removal associated with this project; therefore, no impacts to northern long-eared bat are anticipated.

**Red knot:** noise from construction could disturb migrating red knot if it takes place during the spring or fall migration seasons.

**B. Explanation of actions to be implemented to reduce adverse effects:**

Northern Long-eared Bat

There is no suitable habitat for northern long-eared bat in the project area. In addition, there is no tree removal associated with this project; therefore no impacts to northern long-eared bat are anticipated.

Red Knot

The construction will not take place on beach habitat, which is the primary feeding and roosting areas for red knot. There is similar habitat around the project area that can be utilized by this species if noise displaces this species from the project area. This level of disturbance is not expected to impact red knot rates of weight gain and should not cause an “injury” to individual birds. Therefore, the expected levels of disturbance will not result in incidental take and are insignificant under Section 7 of the ESA. If construction occurs from May 1 to June 7, red knot monitoring will take place to determine whether construction could potentially impact the birds during the spring migration. Details for the monitoring will be worked out at a later date if construction occurs during this time period.

VIII. Effect determination and response requested: [\* = optional]

A. Listed species/designated critical habitat:

Determination

Response requested

no effect/no adverse modification  
( Northern Long-eared Bat )

x  Concurrence

may affect, but is not likely to adversely  
affect species/adversely modify critical habitat  
(species: Red Knot )

x  Concurrence

may affect, and is likely to adversely  
affect species/adversely modify critical habitat  
(species: )

Formal Consultation

Katie Conrad  
Project Biologist (Requestor), New Jersey Field Office

8/8/2016  
Date

IX. Reviewing ESFO Evaluation:

A. Concurrence  ✓  Nonconcurrency

B. Formal consultation required

C. Conference required

D. Informal conference required

E. Remarks (attach additional pages as needed):

Wandy Wabke  
Endangered Species Biologist (Reviewer),  
New Jersey Field Office

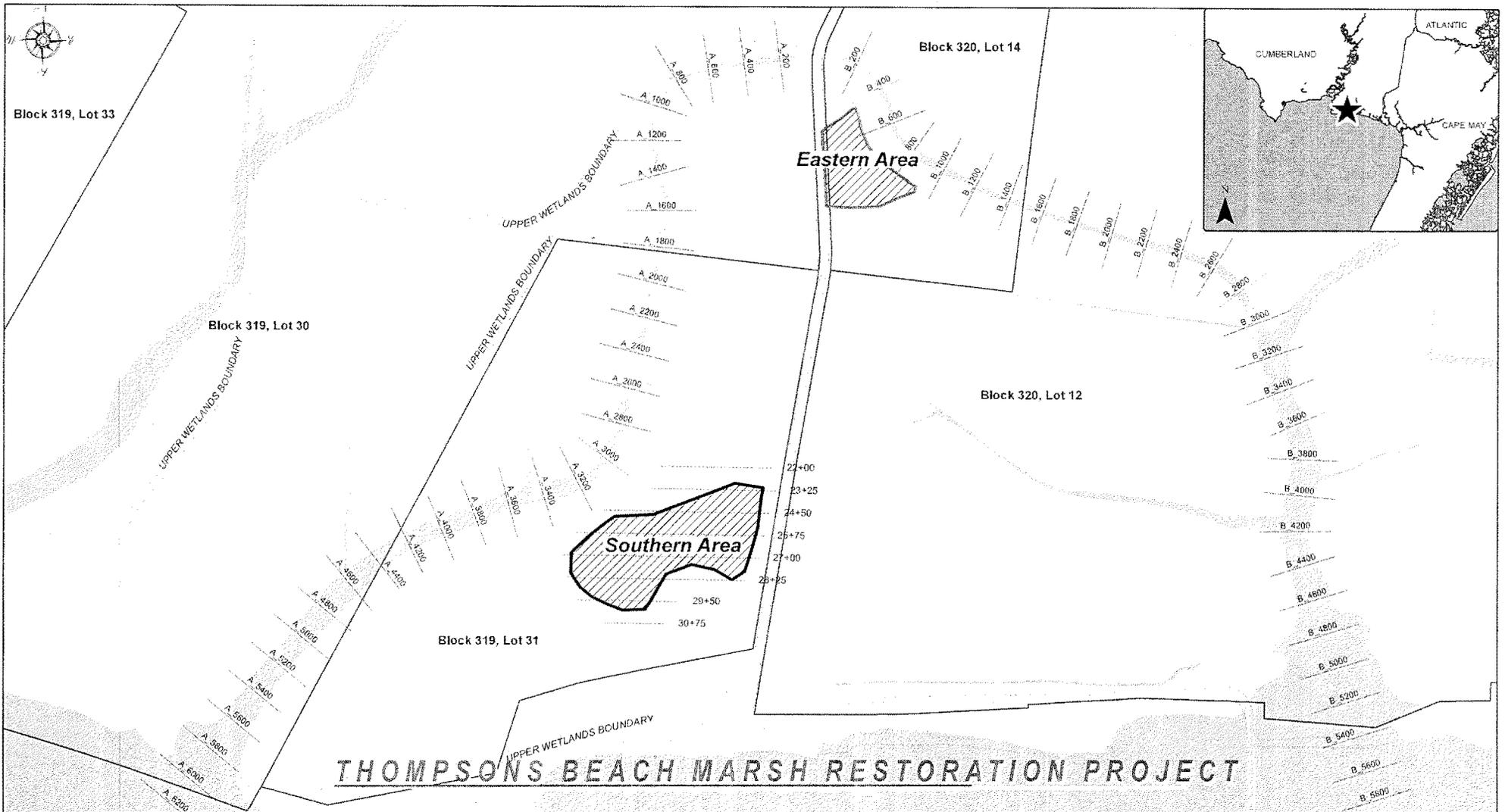
9-12-16  
Date

Supervisor, New Jersey Field Office Date

9/19/16

# Thompsons Tidal Marsh Restoration





# THOMPSONS BEACH MARSH RESTORATION PROJECT

**STOCKTON UNIVERSITY  
COASTAL RESEARCH CENTER**

Overview map of marsh restoration area at Thompsons Beach in Cumberland County, New Jersey.

Restoration area delineations provided by Dr. Joseph Smith.

Spring 2015 survey lines provided by the Coastal Research Center.

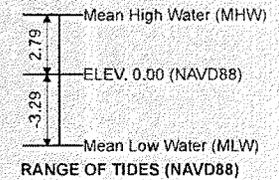
Conversion from NAVD88 to MLW and MHW were determined using V Datum, created by the NOAA.

Parcel and Upper Wetland Boundary delineations were provided by the New Jersey Geographic Information Network.

Available Material	yd <sup>3</sup>
East Creek	7,429
West Creek	14,674
<b>Total Available</b>	<b>22,103</b>

Needed Material	yd <sup>3</sup>
Eastern Placement Area	11,135
Southern Placement Area	9,160
<b>Total Needed</b>	<b>20,295</b>

0 250 500 1,000 Feet



**C5 NJDEP Special Use Permit Application**



NEW JERSEY DIVISION OF FISH AND WILDLIFE  
BUREAU OF LAND MANAGEMENT  
P.O. BOX 420 MAIL CODE 501-03  
TRENTON, NEW JERSEY 08625-0420



## APPLICATION FOR A SPECIAL USE PERMIT

NAME OF APPLICANT			
GROUP NAME	NUMBER OF PARTICIPANTS		
STREET ADDRESS			
CITY	STATE	ZIP CODE	
TELEPHONE NUMBER	EMAIL ADDRESS		

TYPE OF USE		
SPECIFIC USE – (LIST TYPE(S) OF EQUIPMENT AND/OR FACILITIES TO BE USED) (attach additional sheets if necessary)		
WILDLIFE MANAGEMENT AREA – (specify location/include maps)		
DATE PERMIT IS REQUESTED	FROM	TO

Permittee may be required to supply comprehensive general liability insurance as broad as the standard coverage form currently in use in the State of New Jersey which shall not be circumscribed by any endorsements limiting the breadth of coverage including coverage for product liability, protection and indemnity, Permittee owned or operated motor vehicles, broad form contractual liability and broad form liability damage endorsements against claims for bodily injury, death or property damage in any manner growing out of or connected with any activity on the Premises conducted by Permittee, its employees, volunteers, agents, contractors, subcontractors, consultants or any other person providing any service and performing any activity as part of Tenant's operations on the Premises. Limits of liability shall not be less than One Million (\$1,000,000.00) Dollars combined single limit per occurrence.

**The State of New Jersey, Department of Environmental Protection shall be named as an "Additional Insured."**

### ALCOHOLIC BEVERAGES

No person or persons shall consume or have in possession or control any intoxicating beverage or any beverage containing alcohol while on any land or water area under the control of the Division, except that organized groups may, with written permission or other authorization from the Division, possess or consume alcoholic beverages on designated Wildlife Management Areas.

### CAMPING, PICNICKING AND FIRES

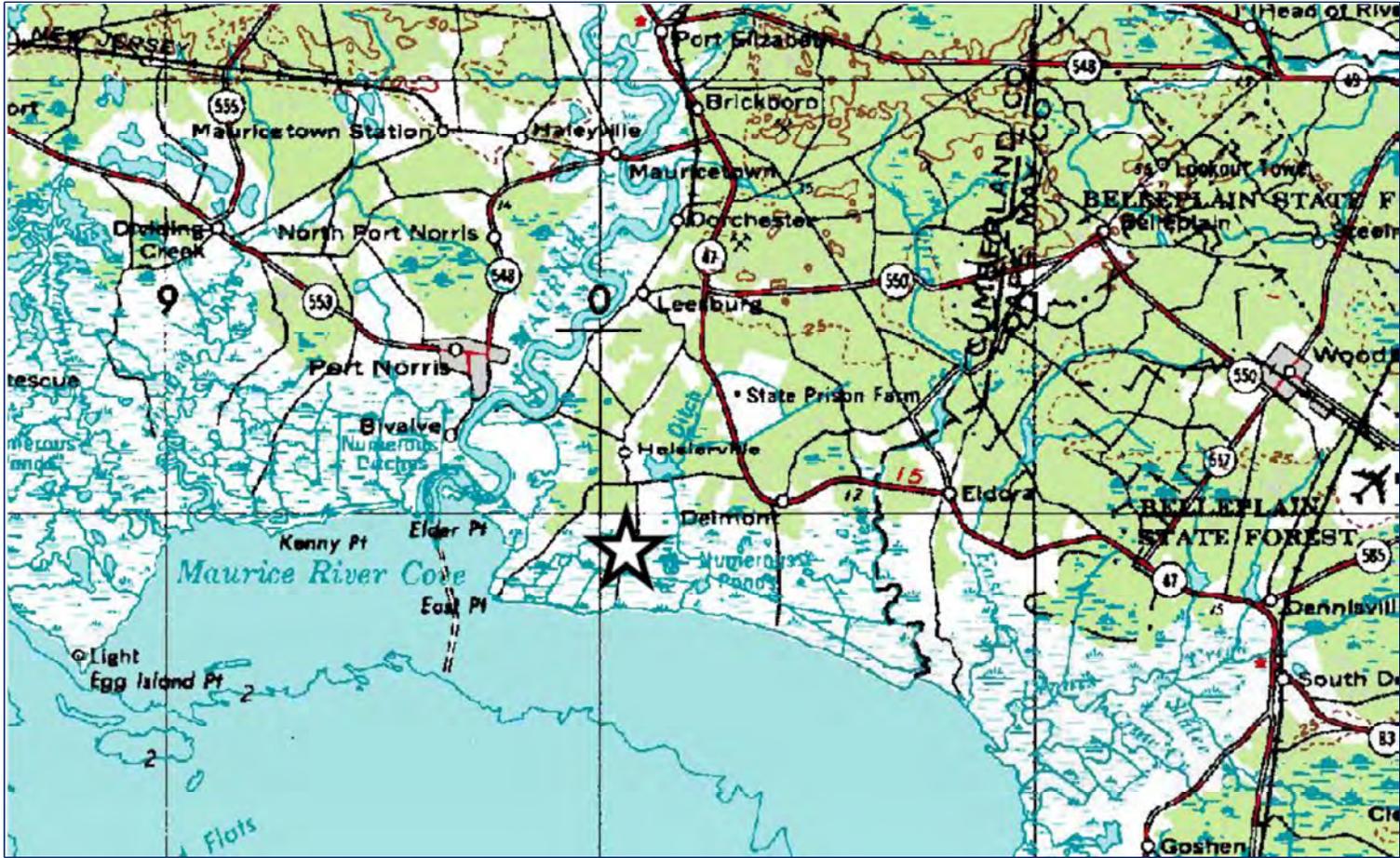
Camping or picnicking is prohibited on all Division controlled areas, including State Wildlife Management Areas. "Camping" means any temporary shelter such as a tent, trailer, recreation vehicle, sleeping bag, hut or other structure that a person or persons use as sleeping, resting, or living quarters. No person shall set or cause to be set, start, build or maintain any fire on State Wildlife Management Areas without written permission of the Division.

The Division may revoke any permit or other authorization issued hereunder for due cause or for violation of any provision set forth herein, whether or not prosecution is brought as provided in N.J.S.A. 23:7-9.

### PERMIT FEES

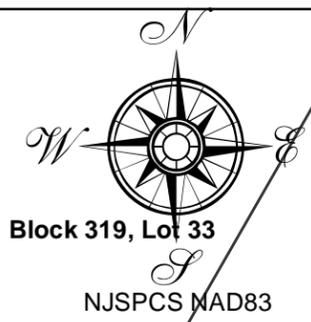
In Accordance with N.J.S.A. 13:1D-9 and N.J.S.A. 23:7-9, fees will be charged for the special use of Wildlife Management Areas through the issuance of Special Use Permits. Fee amounts are specific to activity type.

**Figure 1. General Location Map  
Maurice River Township Wetland Restoration Site  
Cumberland County, New Jersey**

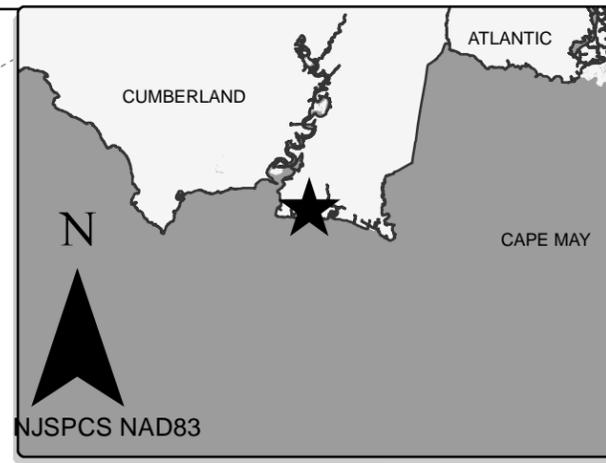


**Figure 1: General Location Map  
Maurice River Twp Marsh Restoration**

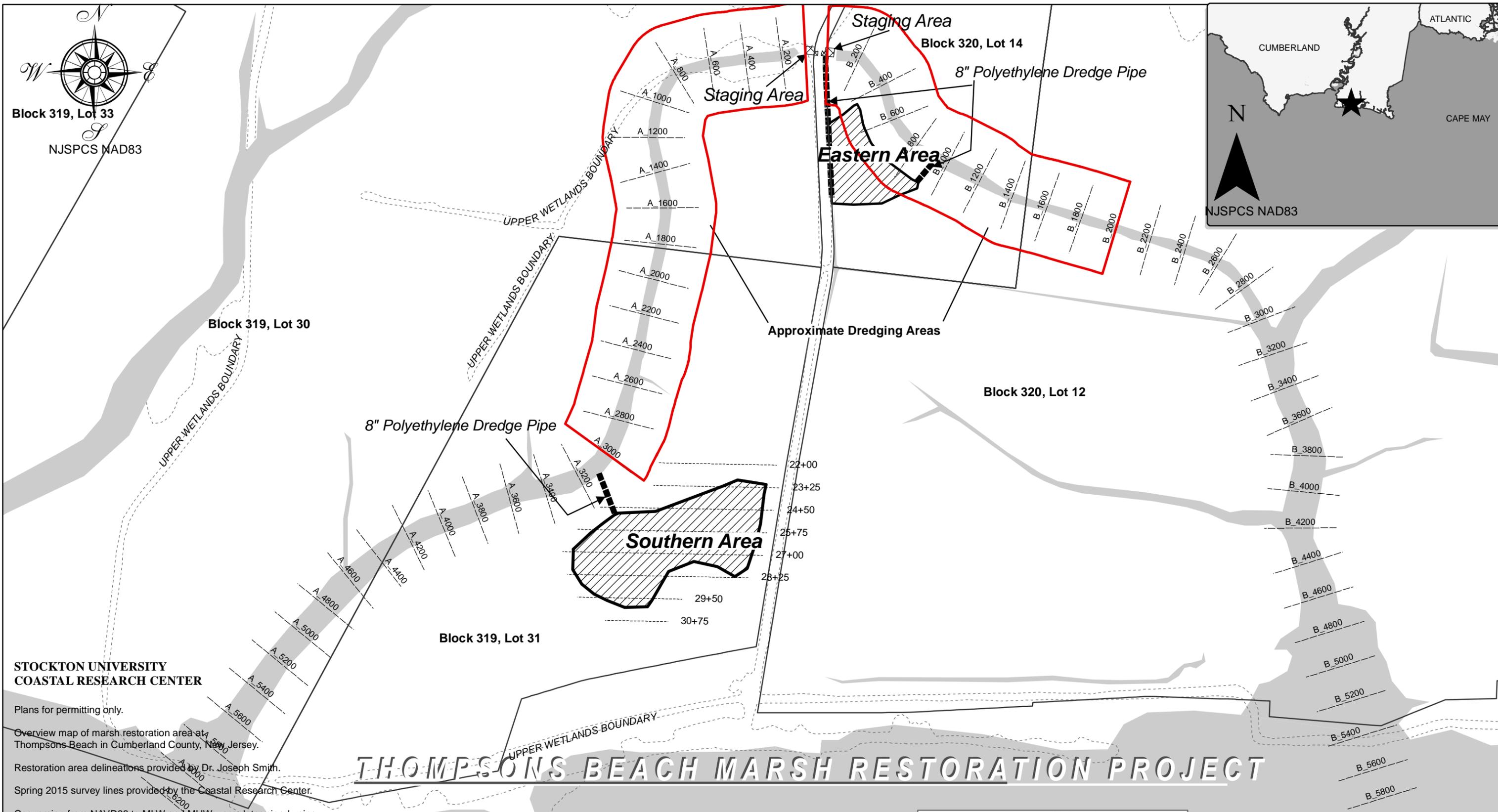
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Block 319, Lot 33  
NJSPCS MAD83



CUMBERLAND  
ATLANTIC  
CAPE MAY  
N  
NJSPCS NAD83



**STOCKTON UNIVERSITY  
COASTAL RESEARCH CENTER**

Plans for permitting only.  
Overview map of marsh restoration area at Thompsons Beach in Cumberland County, New Jersey.  
Restoration area delineations provided by Dr. Joseph Smith.  
Spring 2015 survey lines provided by the Coastal Research Center.

Conversion from NAVD88 to MLW and MHW were determined using V Datum, created by the NOAA.

Parcel and Upper Wetland Boundary delineations were provided by the New Jersey Geographic Information Network.

Elevation survey conducted by the Coastal Research Center. Survey lines and elevations were determined using RTK GPS. Map coordinates are in NJSP NAD83 US Survey feet.

Existing conditions were surveyed in July 2015 under the supervision of Frank Lenik.

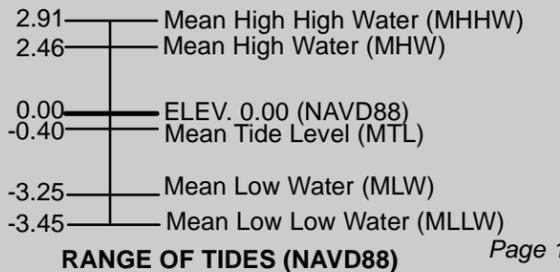
Proposed mitigation and soil protection designed by Dr. Stewart Farrell, PhD and Dr. Joseph Smith, PhD.

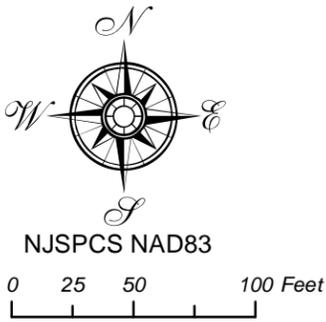
**THOMPSONS BEACH MARSH RESTORATION PROJECT**

Dredge Volumes	yd <sup>3</sup>
East Creek	6,567
West Creek	13,635
<b>Total Available</b>	<b>20,202</b>
*With anticipated 25% sediment bulk factor	

Material Volumes	yd <sup>3</sup>
Eastern Placement Area	11,135
Southern Placement Area	9,160
<b>Total Needed</b>	<b>20,295</b>

Stockton University Coastal Research Center 30 Wilson Ave., Port Republic, NJ 08241	
Drawn by: Marcus Gruver	Sheet 1 of 9
Checked By: Steven Hafner	Frank Lenik NJ Land Surveyor GS362555
Scale: 1" = 500 feet	Date:
Date: 11/09/2016	





**STOCKTON UNIVERSITY  
COASTAL RESEARCH CENTER**

Plans for permitting only.

Restoration area delineations provided by Dr. Joseph Smith.

Spring 2015 survey lines and elevation points provided by the Coastal Research Center. Volume calculations were determined by using a Geographic Information System to compare Digital Elevation Models of the Spring 2015 survey by the CRC and of the proposed fill elevations.

Parcel delineations were provided by the New Jersey Geographic Information Network.

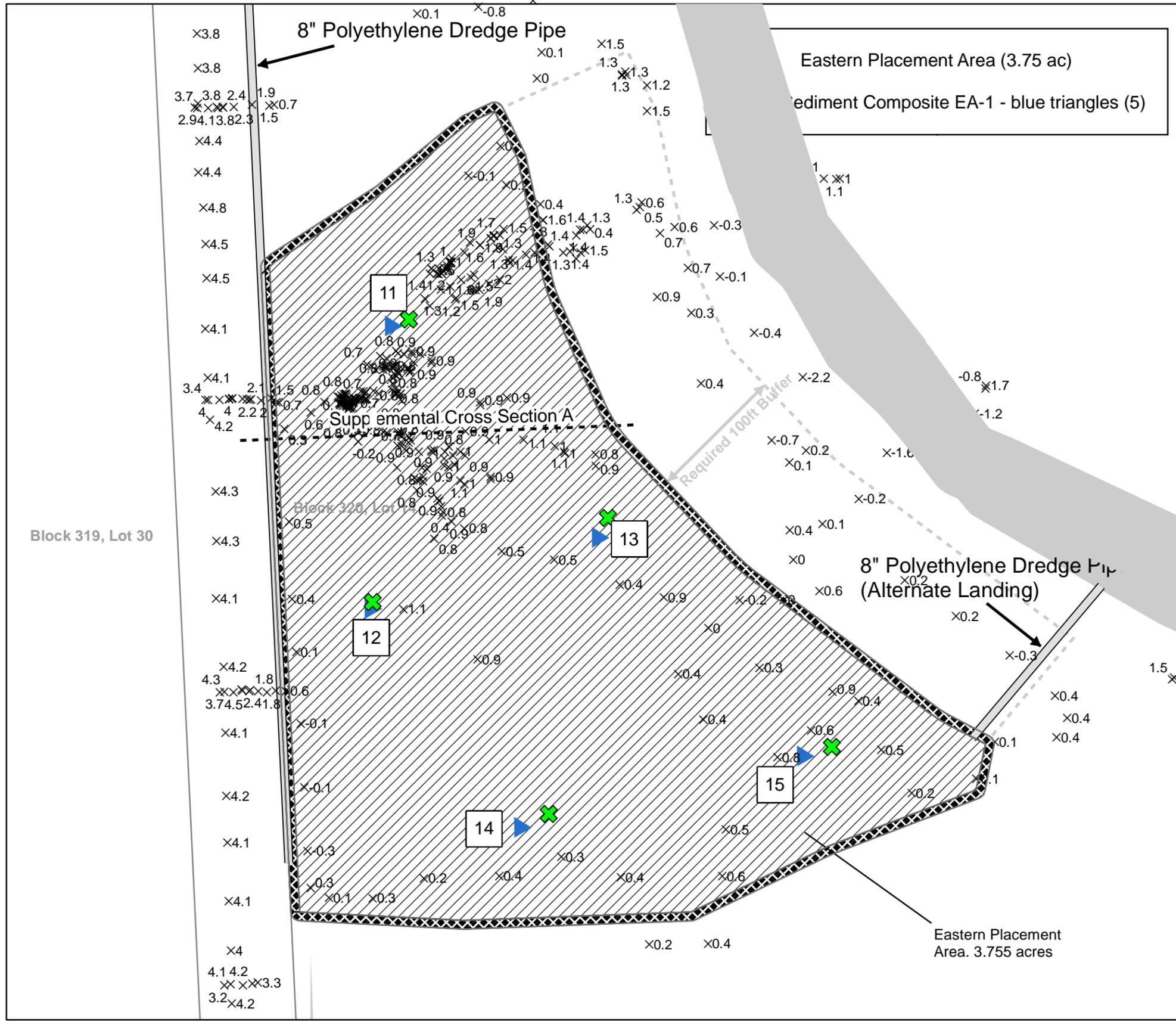
Conversion from NAVD88 to MLW and MHW were determined using V Datum, created by the NOAA.

Core samples were collected September 20, 21 and 22, 2016. Core samples were collected using a piston core.

<b>PA11</b>	352426.219	134538.960
<b>PA12</b>	352401.285	134345.323
<b>PA13</b>	352563.106	134402.965
<b>PA14</b>	352522.322	134199.884
<b>PA15</b>	352717.163	134245.910

Stockton University  
Coastal Research Center  
30 Wilson Ave., Port Republic, NJ 08241

Drawn by: Marcus Gruver	Sheet 2 of 9
Checked By: Steven Hafner	Frank Lenik NJ Land Surveyor GS362555
Scale: 1 inch = 75 feet	Date:
Date: 11/02/2016	



This map shows the Eastern Area. This is a mudflat area to be raised to max elevation of 2.5 feet with dredge slurry.

An estimated 11,135 cubic yards of material are needed to reach target range elevation, 1.75-2.5 NAVD88. Sediment dredged from the Eastern Creek will only be utilized as needed in the Eastern Placement Area to raise existing elevations to specified target range.

Coir Logs will be located along the perimeter of the placement area. (Barrier features on map are not to scale.)

Note: Discharge Pipe will access containment at several points along the road. Discharge pipe will be moved as needed within the containment area using a low impact vehicle to evenly distribute sediment to achieve the targeted elevation range.

Elevation survey conducted by the Coastal Research Center. Survey lines and elevations were determined using RTK GPS. Map coordinates are in NJSP NAD83 US Survey feet. Existing conditions were surveyed in July 2015 under the supervision of Frank Lenik.

Proposed mitigation and soil protection designed by Dr. Stewart Farrell, PhD and Dr. Joseph Smith, PhD.

**Legend**

- Actual Core Locations
- Proposed Core Locations
- Coir Logs
- Placement Area

**Eastern Area**



**STOCKTON UNIVERSITY  
COASTAL RESEARCH CENTER**

Plans for permitting only.

Restoration area delineations provided by Dr. Joseph Smith.

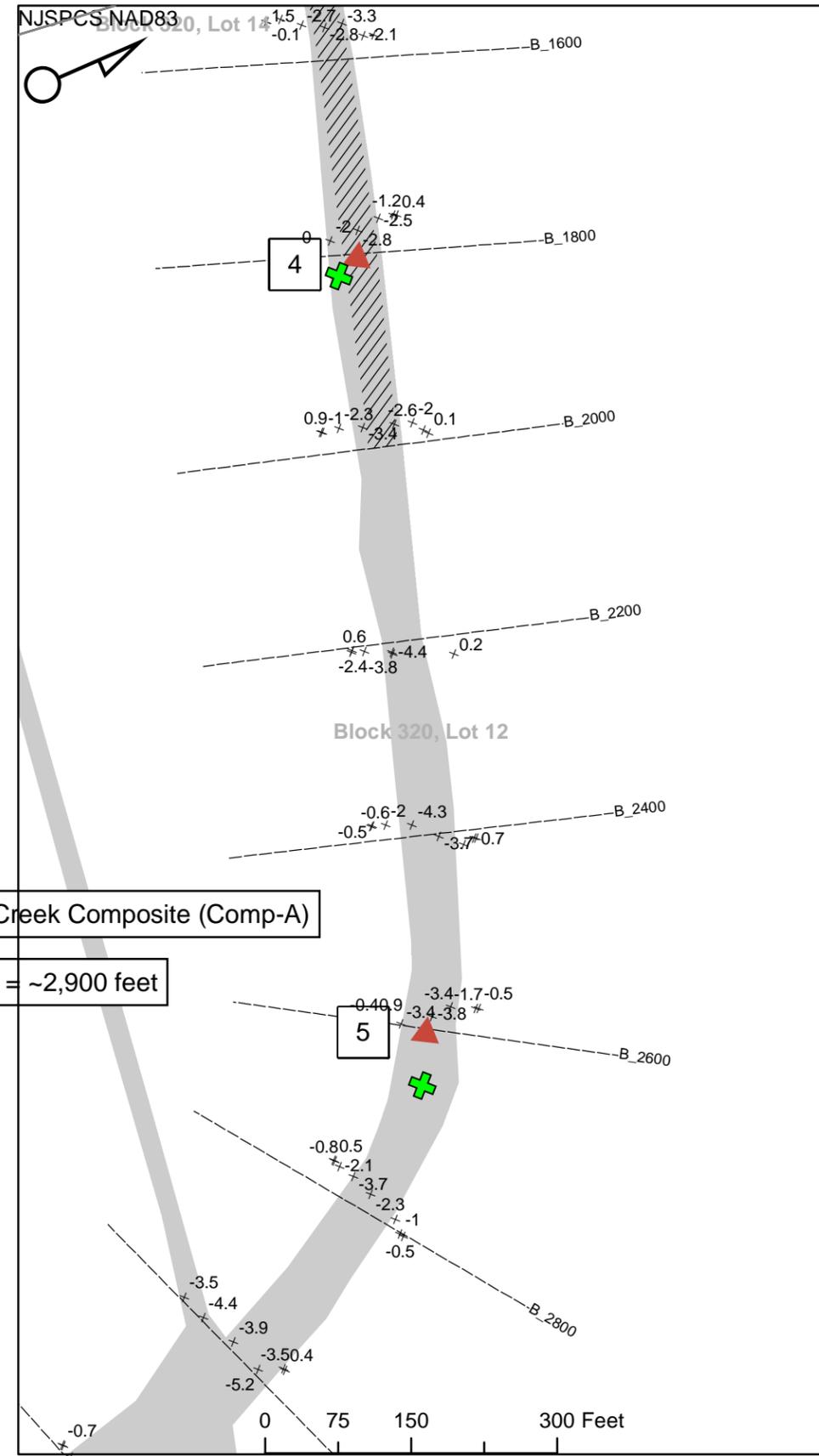
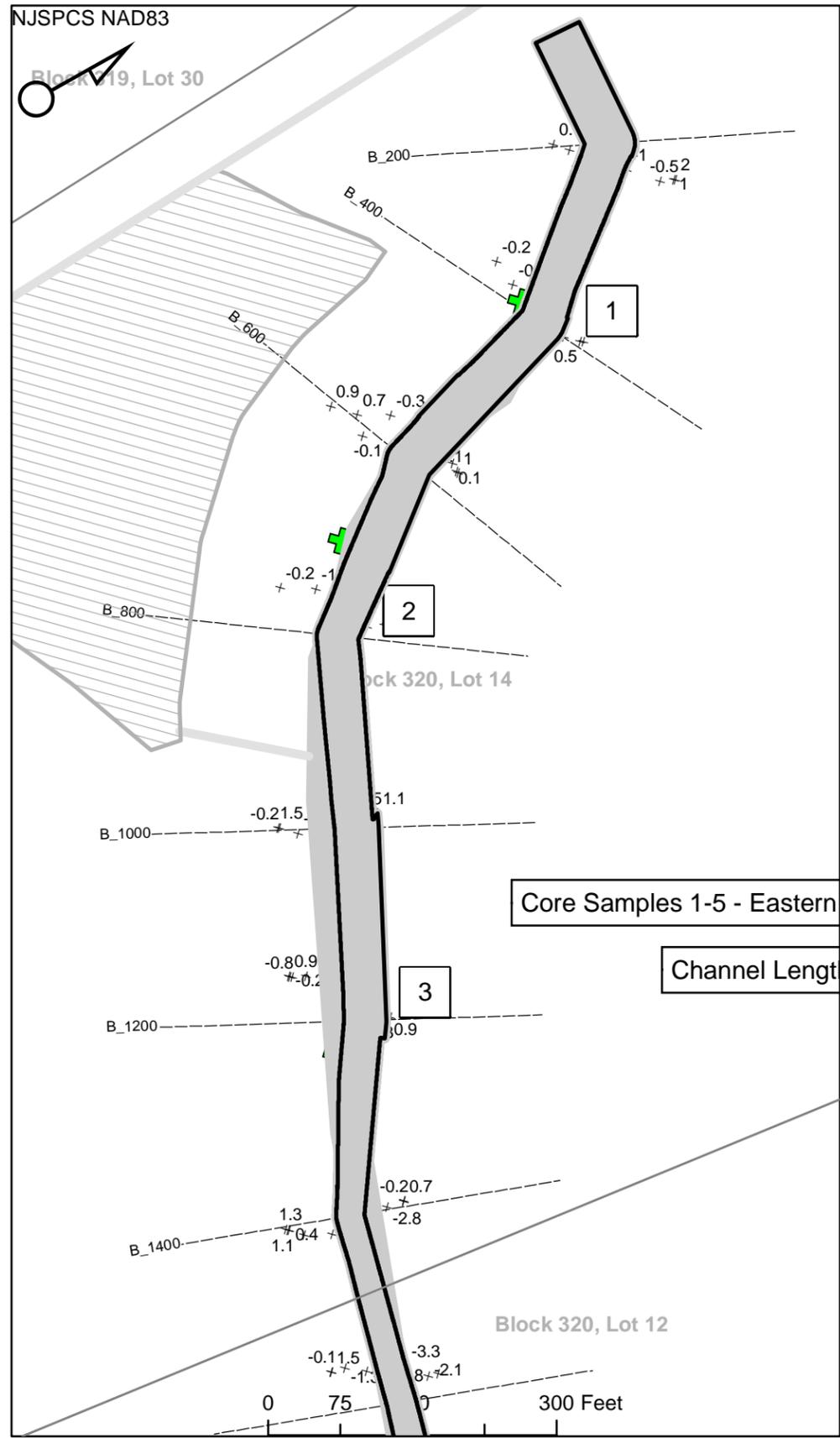
Spring 2015 survey lines and elevation points provided by the Coastal Research Center. Volume calculations were determined by using a Geographic Information System to compare Digital Elevation Models of the Spring 2015 survey by the CRC and of the proposed fill elevations.

Parcel delineations were provided by the New Jersey Geographic Information Network.

Conversion from NAVD88 to MLW and MHW were determined using V Datum, created by the NOAA.

Core samples were collected September 20, 21 and 22, 2016. Core samples were collected using a piston core.


Stockton University Coastal Research Center 30 Wilson Ave., Port Republic, NJ 08241	
Drawn by: Marcus Gruver	Sheet 4 of 9
Checked By: Steven Hafner	Frank Lenik NJ Land Surveyor GS362555
Scale: 1 inch = 160 feet	Date: 11/09/2016
Date: 11/09/2016	Date:



This map shows the Eastern Creek tidal channel way. The dredge cut design shown, and the estimated volume calculations are based on an approximate 50ft wide cut with 4:1 sloped sides. Each side has a beginning elevation of -0.5ft and a maximum ending elevation at approximately -5.5ft NAVD88. A 10ft wide middle section at elevation -5.5ft NAVD88 completes the 50ft wide maximum hopper cut. The dark shaded areas show the location of available material that are within the cut design.

The Eastern Creek has an estimated 6,567 cubic yards, of a total of 20,202 cubic yards of material available for dredging. The length of the Eastern Creek to be dredged is approximately 3,000 feet. The total volume needed to meet the placement estimates are 20,295 cubic yards.

Sediment dredged from the Eastern Creek will only be utilized as needed in the Eastern Placement Area to raise existing elevations to specified target range.

Elevation survey conducted by the Coastal Research Center. Survey lines and elevations were determined using RTK GPS. Map coordinates are in NJSP NAD83 US Survey feet. Existing conditions were surveyed in July 2015 under the supervision of Frank Lenik.

Proposed mitigation and soil protection designed by Dr. Stewart Farrell, PhD and Dr. Joseph Smith, PhD.

**Legend**

- Actual Core Locations
- Proposed Core Locations
- GPS Elevation Points
- Available Material

## Eastern Creek Tidal Channel



**STOCKTON UNIVERSITY  
COASTAL RESEARCH CENTER**

Plans for permitting only.

Restoration area delineations provided by Dr. Joseph Smith.

Spring 2015 survey lines and elevation points provided by the Coastal Research Center. Volume calculations were determined by using a Geographic Information System to compare Digital Elevation Models of the Spring 2015 survey by the CRC and of the proposed fill elevations.

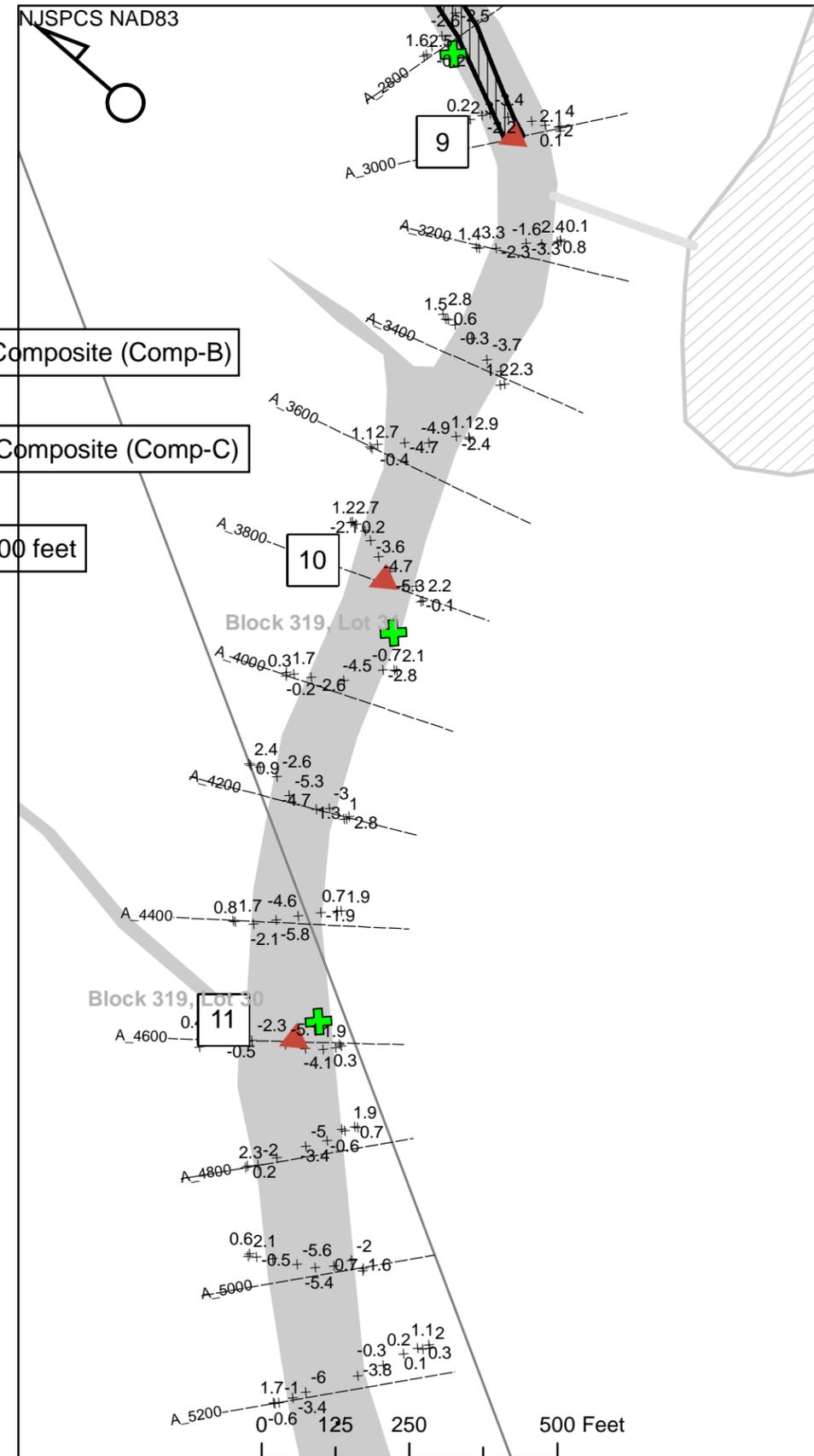
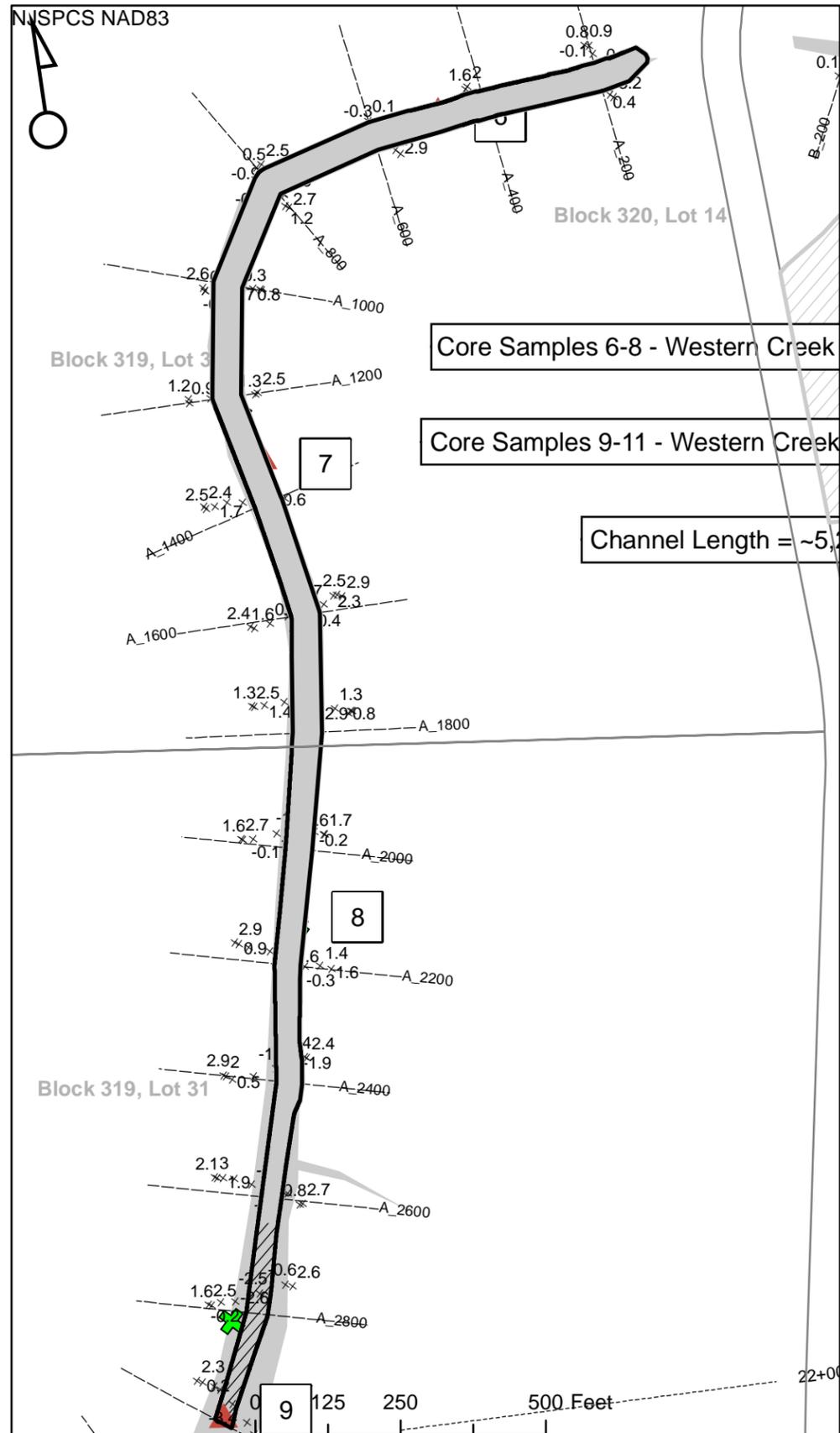
Parcel delineations were provided by the New Jersey Geographic Information Network.

Conversion from NAVD88 to MLW and MHW were determined using V Datum, created by the NOAA.

Core samples were collected September 20, 21 and 22, 2016. Core samples were collected using a piston core.

Core ID	Easting	Northing
BZ6	351753.942	134915.366
BZ7	351369.555	134458.902
BZ8	351336.491	133585.028
BZ9	351127.624	132928.706
BZ10	350321.879	132365.799
BZ11	349742.022	132032.761

Stockton University Coastal Research Center 30 Wilson Ave., Port Republic, NJ 08241	
Drawn by: Marcus Gruver	Sheet 5 of 9
Checked By: Steven Hafner	Frank Lenik NJ Land Surveyor GS362555
Scale: 1 inch = 264 feet	Date:
Date: 11/09/2016	



Core Samples 6-8 - Western Creek Composite (Comp-B)

Core Samples 9-11 - Western Creek Composite (Comp-C)

Channel Length = ~5,200 feet

This map shows the Western Creek tidal channel way. The dredge cut design shown, and the estimated volume calculations are based on an approximate 50ft wide cut with 4:1 sloped sides. Each side has a beginning elevation of -0.5ft and a maximum ending elevation at approximately -5.5ft NAVD88. A 10ft wide middle section at elevation -5.5ft completes the 50ft wide maximum hopper cut. The dark shaded areas show the location of available material that are within the cut design.

The Western Creek has an estimated 13,635 cubic yards, of a total of 20,202 cubic yards of material available for dredging. The total volume needed to meet the placement estimates are 20,295 cubic yards.

Sediment dredged from the Western Creek will only be utilized as needed in the placement areas to raise existing elevations to specified target range. Sediment dredged from the lower part of the Western Creek is to be utilized in the Southern Placement Area as needed to raise existing elevations to specified target range. Sediment dredged from the upper part of the Western Creek is to be utilized in the Eastern Placement Area as needed to raise existing elevations to specified target range.

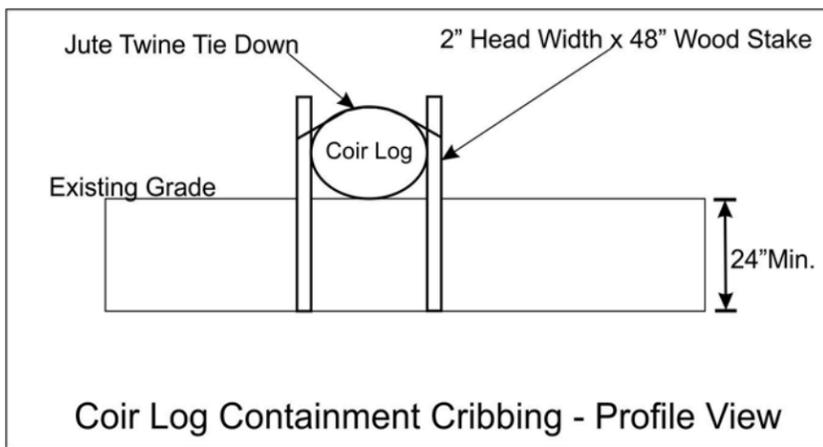
Elevation survey conducted by the Coastal Research Center. Survey lines and elevations were determined using RTK GPS. Map coordinates are in NJSP NAD83 US Survey feet. Existing conditions were surveyed in July 2015 under the supervision of Frank Lenik.

Proposed mitigation and soil protection designed by Dr. Stewart Farrell, PhD and Dr. Joseph Smith, PhD.

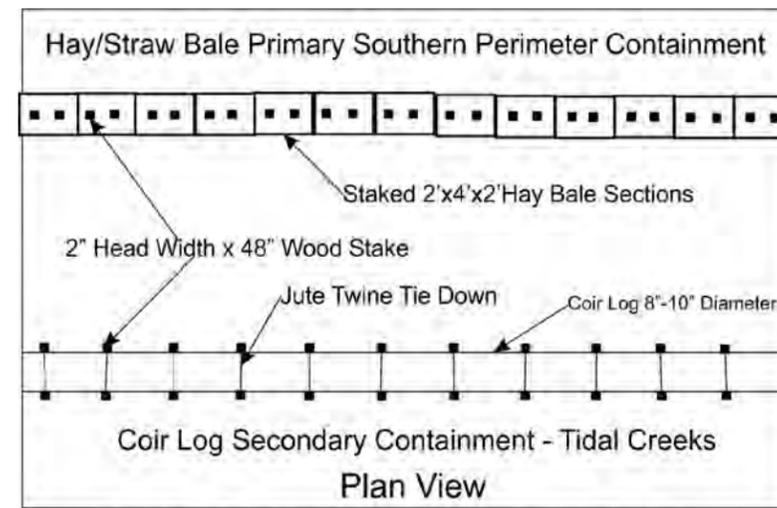
**Legend**

- Actual Core Locations
- Proposed Core Locations
- GPS Elevation Points
- Available Material

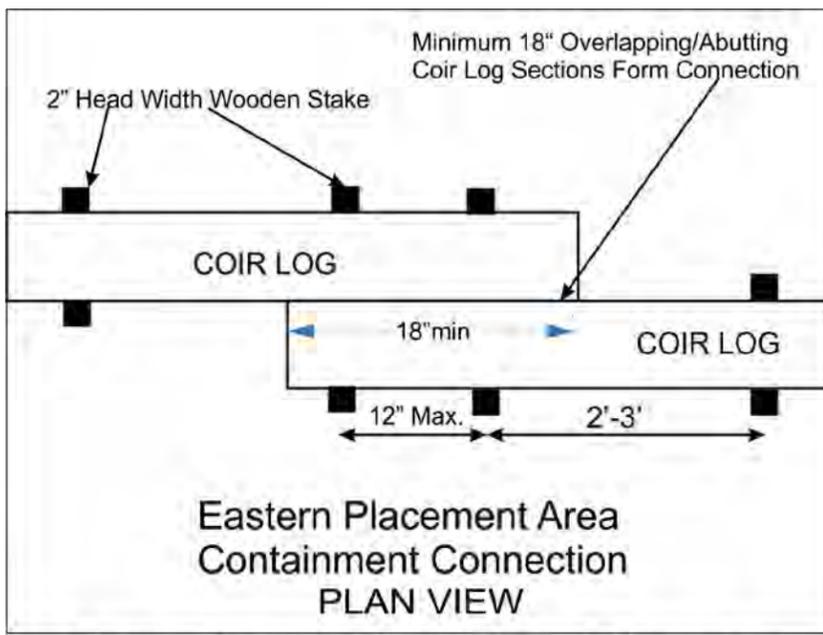
**Western Creek Tidal Channel**



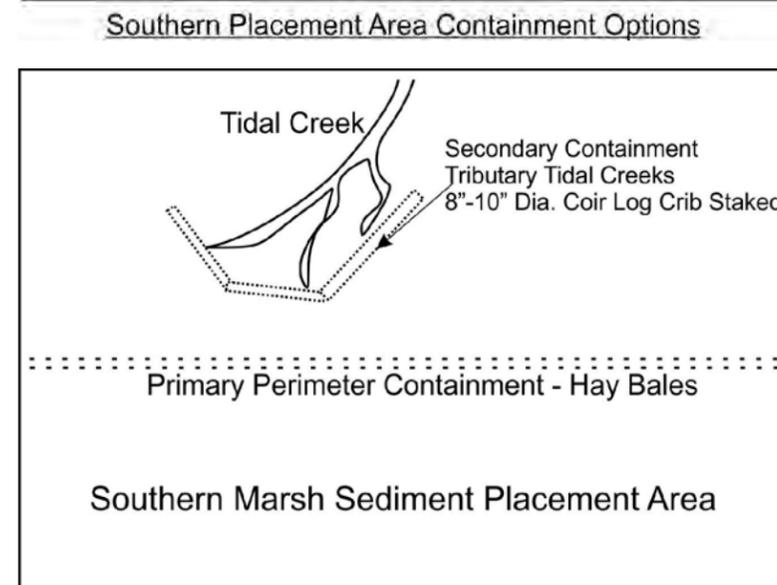
- Notes:
- 1) Crib All Coir Logs Using Wood Stakes to Stabilize
  - 2) 2"x2"x48" Wooden Stakes Recommended
  - 3) Notch Stakes Near Top for Twine
  - 4) Pound Stakes Tightly Next to Coir Logs, Leave Approximately 4" of Stake Above Log Surface
  - 5) Secure Twine in Notch, Tightly Knot Twine
  - 6) Pound Stake Approximately flush with Log Surface to Tighten Twine Tie Down



- Notes:
- 1) Southern Area Install Primary Containment Along Downslope Perimeter
  - 2) Install 2'x4'x2' Hay/Straw Bales Along Perimeter
  - 3) Tightly Abut Adjacent Bales End to End
  - 4) Face Binding Wire or Twine Out to Slow Decay
  - 5) Stake Each Bale in Two Points on Center
  - 6) 2"x2"x48" Wooden Stakes Recommended
  - 7) Angle First Stake Toward the Previously Laid Bale to Force Bales Together
  - 8) Chink any Small Gaps with Straw
  - 9) Sprinkle Loose Hay Over Immediate Area Up Flow
  - 10) Inspect Barrier After Rainfall or Flooding, Repair as Needed



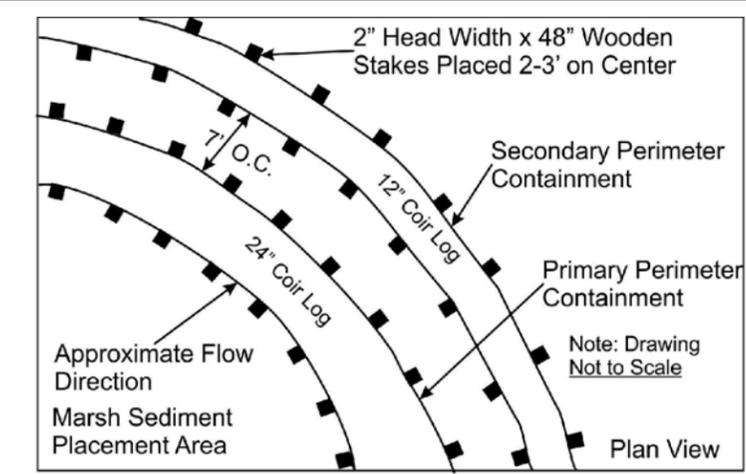
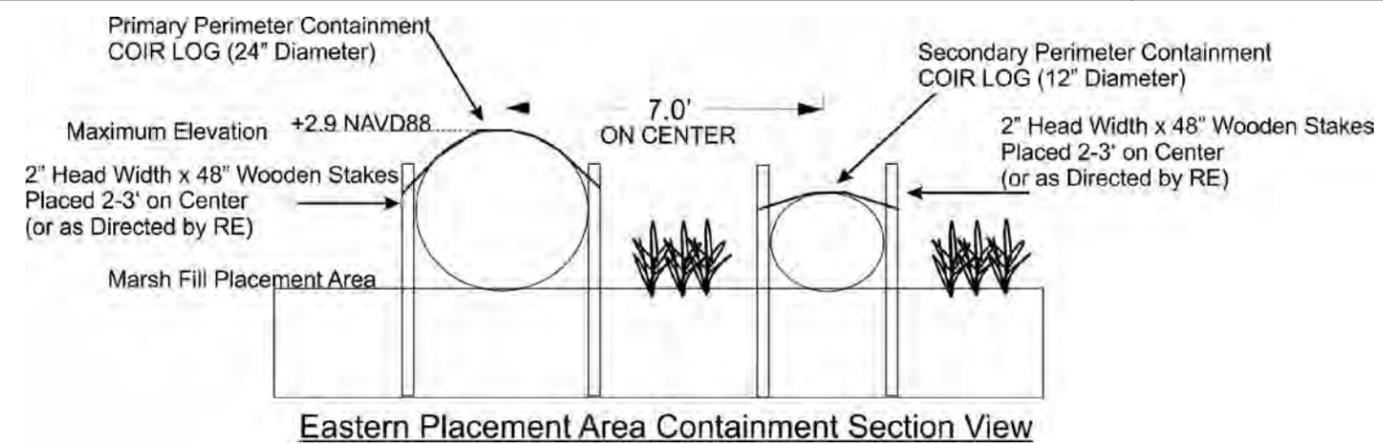
- Notes:
- 1) Crib All Coir Log Using Wood Stakes
  - 2) 2"x2"x48" Wooden Stakes Recommended
  - 3) Min. 18" Overlap of Coir Log at Connection
  - 4) Max. 12" Crib Spacing at Connection Overlap
  - 5) Recommended Crib Spacing 3' for 12" Coir Log
  - 6) Recommended Crib Spacing 2' for 24" Coir Log
  - 7) Primary Containment 24" Coir Log
  - 8) Secondary Containment 12" Coir Log
  - 9) Biodegradable Twine for Cribbing Tie Downs
  - 10) Notch Stake Near Top for Twine Tightly Knot



- Notes:
- 1) Secondary Containment Silt Barrier
  - 2) Use Coir Log at Adjacent Tributary Tidal Creeks
  - 3) Place Log Along Upper Bank of Tidal Creek
  - 4) Install 8"-10" Coir Log Cribbed Staked to Stabilize
- Note: Drawings Not to Scale

Eastern Placement Area Primary & Secondary Connection/Attachment Detail

Southern Placement Area Primary & Secondary Containment



Note: Drawings Not to Scale

Eastern Placement Area Primary & Secondary Containment

Plans for permitting only.  
Existing conditions were surveyed in July 2015 under the supervision of Frank Lenik.  
Proposed mitigation and soil protection designed by Dr. Stewart Farrell, PhD and Dr. Joseph Smith, PhD.

# THOMPSONS BEACH MARSH RESTORATION PROJECT

## **6 NOAA Essential Fish Habitat and HAPC Mapping Results**

## Query Results

Map Scale = 1:1,155,581

Degrees, Minutes, Seconds: Latitude = 39°11'24" N, Longitude = 74°59'42" E

Decimal Degrees: Latitude = 39.19, Longitude = -75.00

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

## EFH

Show	Link	Data Caveats	Species/Management Unit	Life stage(s) Found at Location	Management Council	FMP
			Bluefin Tuna	Juvenile	Secretarial	HMS
			Smooth Dogfish	ALL	Secretarial	HMS
			Sandbar Shark	ALL	Secretarial	HMS
			Clearnose Skate	Adult ALL	New England	Skate
			Winter Skate	Adult ALL	New England	Skate
			Little Skate	Adult ALL Juvenile	New England	Skate
			Window Pane Flounder	Eggs Larvae Juvenile Adult ALL	New England	Multispecies
			Winter Flounder	Larvae Eggs Juvenile Adult ALL	New England	Multispecies
			Red Hake	Adult ALL	New England	Multispecies
			Black Sea Bass	ALL Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
			Longfin Inshore Squid	Eggs ALL	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
			Bluefish	Adult Juvenile ALL	Mid-Atlantic	Bluefish
			Atlantic Butterfish	Larvae Adult Juvenile ALL	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11

Show	Link	Data Caveats	Species/Management Unit	Life stage(s) Found at Location	Management Council	FMP
			Atlantic Herring	Adult Juvenile ALL Juvenile	New England	Atlantic Herring
			Scup	Juvenile Adult ALL	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
			Summer Flounder	Juvenile Adult ALL	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass

#### HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

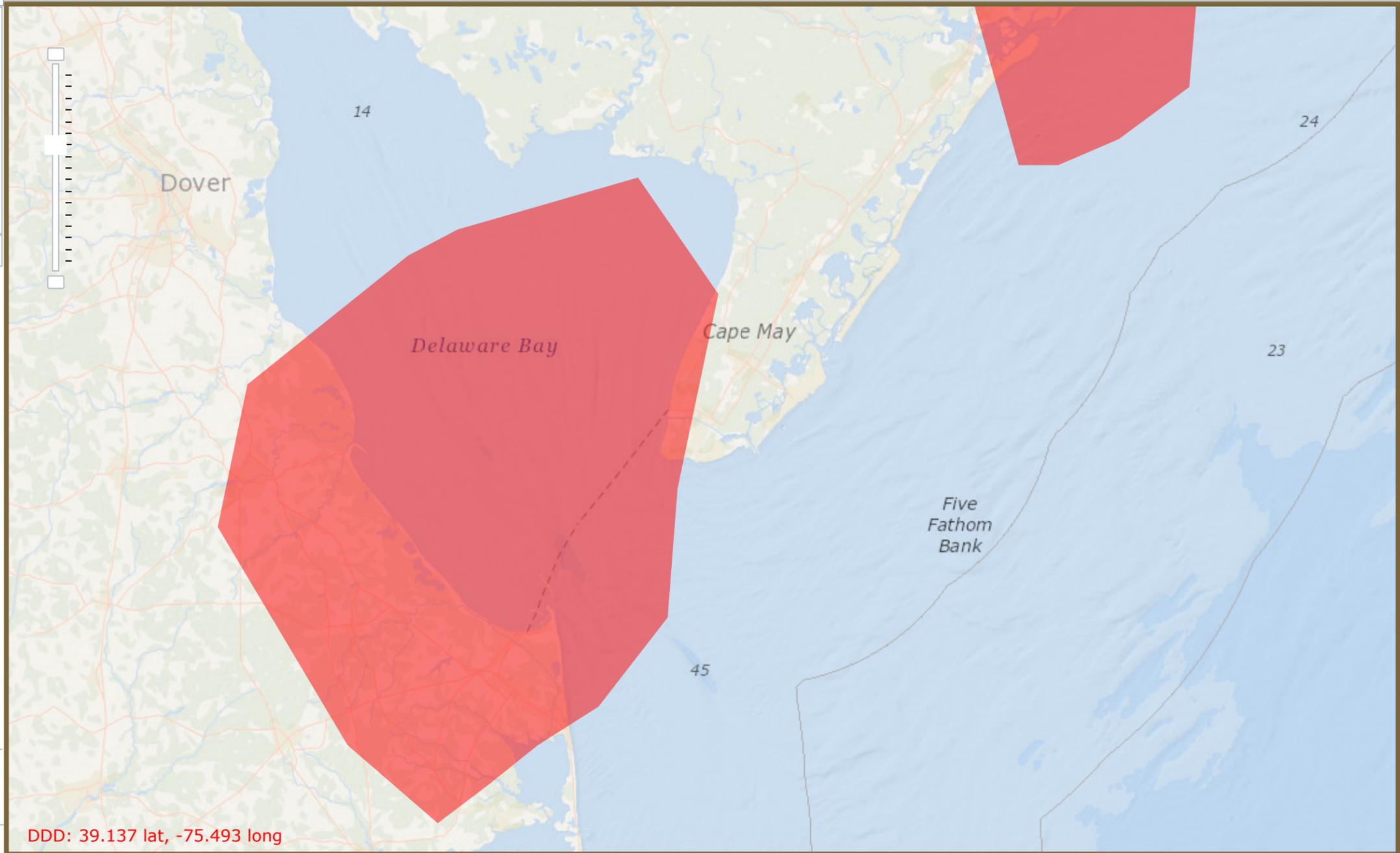
#### EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.



Essential Fish Habitat  
EFH View Tool

Zoom:



DDD: 39.137 lat, -75.493 long

**C7 Natural and Historic Resources Land Management Policy Activity Review Form**



American Littoral Society

*Thompsons Beach Marsh Restoration and Enhancement Project*

March 2017

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# **Natural & Historic Resources Land Management Policy Activity Review Form (ARF)**

Natural & Historic Resources Land Management Policy  
**Activity Review Form (ARF)**

**Reminder:** All procedural information can be downloaded from the NHR Land Management Policy website accessed via **DEPNet**.

**THIS FORM IS TO BE USED FOR THE SUBMISSION OF A PROPOSED ACTIVITY FOR REVIEW UNDER THE NHR LAND MANAGEMENT (LM) POLICY.**

**Note:** Every activity to be conducted on State lands administered by DPF or DFW is to be submitted for review UNLESS the Land Manager determines that:

- (1) Pursuant to the procedures in Appendix III, Part A, the activity is not subject to review; or
- (2) Pursuant to the additional screening procedures in Appendix III, Part B, given the location of the project site, there is no reviewing program to which the activity should be submitted.

**Review of a proposed project under the LM Policy does not substitute or relieve responsibility for submitting the project for any other required reviews or for obtaining any required permits or approvals.**

**Step 1: Complete the following in the copy of this form that you have saved:**

<b>Land Manager</b>	Name: Jason Hearon	Title: Regional Superintendent
	E-Mail Address: jason.hearon@dep.nj.gov	Phone: (856) 785 - 0730
Program: SPS <input type="checkbox"/> SFS <input type="checkbox"/> SFFS <input type="checkbox"/> ONLM <input type="checkbox"/> BLM <input checked="" type="checkbox"/> ENSP <input type="checkbox"/> GA <input type="checkbox"/> Other <input type="checkbox"/> ( <i>specify</i> ) _____		
<b>Proposed Project</b>	State Land where the activity is to occur (primary): Heislerville Wildlife Management Area	
	Other State Lands ( <i>if any</i> ) included in <u>this</u> project submission: 1. _____ 2. _____ 3. _____ 4. _____	
	Project Name: ( <i>4 words or less</i> ) <u>Thompson's Marsh Restoration</u> _____ ( <i>Examples: "Yellow Trail Maintenance," "Greenbriar Enduro," "Oswego Lake Herbicide Treatment"</i> )	
	Will any portion of proposed activity occur on a State designated Natural Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unsure <b>Natural Area Name:</b>	
	Is this project being submitted as a <b>5 Year Plan</b> ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, please follow review guidelines in Appendices I and IV for 5-year submittals. Once all reviews are completed forward all materials to your Division Director (DD) for final approval. You are required to wait for DD approval before proceeding with activity.</i>	
Project Start Date( <i>mo./day/yr.</i> ): 08 15 2016 Project End Date( <i>mo./day/yr.</i> ): 06 31 2017  <i>(Note: If exact dates are unknown, you <u>must</u> still provide a reasonable estimate of project start &amp; end dates (day, month, year); this period should generally not exceed one year unless the submission is a five-year plan.)</i>		
<b>PROJECT DESCRIPTION GUIDE</b>	On the following page, describe in detail all aspects of the project. Please read Appendix I ( <i>Guide to Exempt Activities</i> ) in its entirety; it will assist you in identifying some of the project details that are of concern to the reviewing programs.	
	<p><u>Some examples of details to include:</u></p> <ul style="list-style-type: none"> <li>Is this a new activity or a recurring activity related to maintenance, stewardship, agricultural practices, etc?</li> <li>Is this activity occurring in new or an established location or is the footprint of the activity being expanded or modified?</li> <li>Will there be major ground disturbance or minor soil disturbance? Any vegetation or tree removal? Describe the type, level, and location of these disturbances and equipment/tools to be used.</li> <li>Will there be direct impacts to vegetation, trees, or wildlife habitat <u>outside</u> the main project site? (e.g., resulting from the widening of roads/trails leading to site, creation of a staging area for the project, etc.)</li> <li>If this is a recurring activity provide detailed history and time line of activity for each site (e.g., conducted annually; within last 3, 5, 8 years; between March 15th &amp; Nov. 15th, etc).</li> </ul>	

<b>PROJECT DETAILS</b>	<i>(type in the gray area below and if you need more space, continue typing and text will spill over to another page.) <b>To advance to the next section select the "tab" key .</b></i>
<b>Description: See Attached</b>	

**Step 2: Provide site information and maps:**

<b>Site</b>	Number of sites submitted in this review: <i>Note: each site must be carefully located &amp; drawn as a point, line, or polygon on the accompanying map(s).</i>	<input checked="" type="checkbox"/> Only one (1) site submitted <input type="checkbox"/> More than one: _____ (give number)
-------------	--	--

Maps must be submitted with an ARF. Provide information below on the maps you are submitting. (Find instructions for creating maps via the "Mapping" link on the "NHR Land Management Policy" website, available under the "Programs & Units" tab on the homepage of DEPNet, the Department's intranet.)

<b>Maps</b>	<b>Type of Map(s) To Be Submitted:</b>	<b>Details on Map Submittal:</b>
	<input checked="" type="checkbox"/> Option 1 (GIS Shapefile) →	(Check one)
<input type="checkbox"/> Option 2 (GPS File) →		<input type="checkbox"/> "GPS Data Collection Form" attached
<input checked="" type="checkbox"/> Option 3 (Electronic Map Files) →		Locator Map(s): (number submitted) <u>1</u> Detailed Site Map(s): (number submitted) <u>2</u>
<input type="checkbox"/> Option 4 (Maps on Paper) →		Locator Map(s): (number submitted) _____ Detailed Site Map(s): (number submitted) _____

**Step 3: Identify Reviewing Programs:**

<b>Reviewing Programs</b>	<b>A</b>	<b>Indicate whether or not all or part of the project area was highlighted on the CD Screening Tool. Please fill in this section completely, otherwise the ARF will be considered incomplete and returned.</b>				
		<b>ENSP</b>	<b>ONLM</b>	<b>HPO</b>	<b>SFS</b>	<b>SFFS</b>
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	<b>B</b>	<b>HPO criteria:</b> Activity may impact building(s) > 50 years old <input type="checkbox"/> Activity involves ground disturbance <input type="checkbox"/>				
	<b>C</b>	<b>Indicate which reviewing program should be sent this activity for review. Please fill in this section otherwise, the ARF will be considered incomplete and returned.</b>				
	<b>ENSP</b>	<b>ONLM</b>	<b>HPO</b>	<b>SFS</b>	<b>SFFS</b>	
	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

**Step 4: Provide submittal information:**

ARFs must be submitted electronically as email attachments.

<b>Submittal</b>	This ARF is being submitted electronically on DATE: <u>8/4/16</u>	
	(Check one)	<input checked="" type="checkbox"/> All accompanying map(s)/information are being submitted <u>electronically</u> . <input type="checkbox"/> Maps or other accompanying information are being submitted <u>on paper</u> .

**Step 5: Submit ARF:**

Follow these steps to submit your ARF:

- i. Save the entries you have made on this ARF and close the file.
- ii. Open a new email and in the "Mail to:" dialogue box that opens:
  - On the "To:" line, enter the address of the LM Review Coordinator ([gail.kenny@dep.state.nj.us](mailto:gail.kenny@dep.state.nj.us))
  - On the "Subject:" line, enter "LM Submittal".
- iii. Attach the Word file containing your ARF to this email, as follows:
  - From the toolbar in the "Mail to:" dialogue box select the "Attach" button 
  - In the "Attach File" box that appears, navigate to the directory location where you have saved the ARF as a Word document
  - Highlight the Word file and then click the "OK" button. The ARF file will appear as a Word icon at the bottom of the "Mail to:" dialogue box.
- iv. If you are submitting your map information electronically, similarly attach your map file(s); if you are submitting your map information on paper, do so in accordance with the instructions in the Detailed Guidance for "Option 4: Submit Maps on Paper" found via the "Mapping" link on the "NHR Land Management Policy" website, available under the "Programs & Units" tab on the homepage of DEPNet, the Department's intranet.
- v. Also, if applicable, attach any other electronic files with supplementary information or forms to be submitted with the ARF.
- vi. Then press the "Send" button on the toolbar on in the "Mail to:" dialogue box to submit your ARF.

**Note: Do NOT submit any information by fax; faxes are not sufficiently legible.**

**This section reserved for use by LM Review Coordinator:**

Upon receipt of a LM submittal the LM Review Coordinator will:

- i. Assess the submittal for completeness and adequacy; and return if incomplete or inadequate;
- ii. Verify any shapefiles submitted; or convert any maps submitted in another format to shapefiles;
- iii. Assign a Project ID# to the submittal and rename project files incorporating the ID# (Example: 10-020arf.doc);
- iv. Enter the project in the Interim Registry; and upload ARF, shapefiles, and any supplementary information provided electronically with LM submittal to Document Library;
- v. Determine if the activity qualifies for any program-specific review exemptions;
- vi. Initiate case-by-case project review by forwarding the renamed ARF and associated files to appropriate

<b>Review Initiation</b>	Date(s) LM submittal received from Land Manager:	8/4/16 <input checked="" type="checkbox"/> Incomplete <input type="checkbox"/> Complete 8/5/16 <input type="checkbox"/> Incomplete <input checked="" type="checkbox"/> Complete _____ <input type="checkbox"/> Incomplete <input type="checkbox"/> Complete
	<input checked="" type="checkbox"/> Project ID# generated and added to project file names: #16-059	
	Program-specific review exemption(s) per Appendix VI: Case-by-case reviewing programs: ENSP <input checked="" type="checkbox"/> ONLM <input type="checkbox"/> HPO <input type="checkbox"/> SFS <input type="checkbox"/> SFFS <input type="checkbox"/> Comments: lower site does not need to be reviewed - state does not own property, only conservation easement	
	Date LM submittal forwarded electronically for case-by-case review: 8/5/16 Additional paper materials forwarded to reviewing programs: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Additional Comments:	

**This section for use by Reviewers:**

A reviewer will document his/her review in the ARF forwarded by the LM Review Coordinator, as follows:

- i. Open the ARF file (it will be one of the attachments to the forwarded "LM submittal" email and will be named as follows: [project ID#] + [arf.doc] *(Example: 10-005arf.doc)*.
- ii. Save a copy of the ARF, naming the file in which you save your copy as follows: [project ID#] + [your program acronym] *(Examples: 10-005 ENSP.doc, 09-173 ONLM.doc)*.
- iii. After completing your review of the ARF and its associated files, document your review by filling in the table below in your saved copy of the ARF and, if applicable, providing comments. Then re-save your file to save your entries.
- iv. Open a new email and in the "Mail to:" dialogue box that opens:
  - On the "To:" line, enter the email address of the Land Manager who submitted the ARF
  - On the Copy line ("CC:"), enter the address of the LM Review Coordinator: [gail.kenny@dep.state.nj.us](mailto:gail.kenny@dep.state.nj.us)
  - On the "Subject:" line, enter "LM Review".
- v. Attach the ARF containing your review.
- vi. If you are providing comments separately, other than any provided in the Comment Section below, either: - include them as another attachment to the email; or
  - inform the Land Manager in the email ("Message:") how you are transmitting the comments.
- vii. Send the email; this will complete your review.

<b>Review Documentation</b>	<b>Reviewing Program:</b> ENSP <input checked="" type="checkbox"/> ONLM <input type="checkbox"/> HPO <input type="checkbox"/> SFS <input type="checkbox"/> SFFS <input type="checkbox"/> Other <input type="checkbox"/> <i>(specify)</i> _____	
	<b>Reviewer's Name:</b> Clark <span style="float: right;"><b>Review Date:</b> 8/8/2016</span>	
	<i>(Check One)</i>	<input type="checkbox"/> This review pertains to the <u>entire</u> geographic extent of submitted project. <input type="checkbox"/> This review pertains to only a <u>portion</u> of the geographic extent of submitted project; remaining project area to be reviewed by other staff in this reviewing program.
	<input checked="" type="checkbox"/> <b>Detailed Review Conducted</b>	<b>Results:</b> Does proposed activity have potential for adverse impact on resources? <span style="float: right;"><input type="checkbox"/> No <input checked="" type="checkbox"/> Yes</span>  <i>If a reviewer finds that a proposed activity may have adverse impacts ("yes" checked above), on the next page the reviewer MUST provide comments to the Land Manager; otherwise reviewer comments are optional.</i>
<input type="checkbox"/> <b>No Detailed Review Conducted</b>	<input type="checkbox"/> No review conducted because project qualifies for program-specific review exemption per Appendix VI; explanation provided in comment section below.  <b>or</b> <input type="checkbox"/> No review conducted; explanation provided in comment section below.	

<b>Comments provided?</b>	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes →	<i>If "yes" check one:</i> <input checked="" type="checkbox"/> Provided below <input type="checkbox"/> Provided separately as e-mail attachment <input type="checkbox"/> Provided separately on paper
<p><b>Reserved for reviewer's comments:</b></p> <p><b>We have no objection to the proposal to raise mudflat elevation on the 3.75 ac. piece close to the eastern boat ramp access to Thompson's Beach marsh. However, the proposal provides no consideration of the value of the existing mudflat to migrating shorebirds. Mig shorebirds generally do not use vegetated salt marsh for roosting or foraging, and prefer the openness of unvegetated mudflats. The proposal states that "mudflats are not a limited resource in the bay," and thus, presumably, this project would have no negative effects. While open mudflats ARE a valuable resource for migrating shorebirds, we agree that the project area (the 3.75 ac parcel) is small enough as to have no appreciable negative impact, and that a more elevated salt marsh has a higher long-term value.</b></p> <p><b>A TIMING RESTRICTION on dredging and fill placement is required for work within 1,000 feet of an osprey nest. There are two osprey nests within that distance of the maintenance dredging location, which will prohibit dredging during the April 1 through August 31 time period. On the chance that either of those osprey nests are occupied by nesting bald eagles (a condition which needs to be determined by March 1 of any year), the timing restriction would be adjusted accordingly.</b></p>		

**C8 USFWS Sponsor Letter**



American Littoral Society

*Thompsons Beach Marsh Restoration and Enhancement Project*

March 2017

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## USFWS Sponsor Letter



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE



New Jersey Field Office  
Ecological Services  
927 North Main Street, Building D  
Pleasantville, New Jersey 08232  
Tel: 609/646 9310  
Fax: 609/646 0352  
<http://www.fws.gov/northeast/njfieldoffice/>

JAN 21 2016

Sam Reynolds, Application Section 11, Chief  
Philadelphia District  
U.S. Army Corps of Engineers  
100 Penn Square East  
Philadelphia, Pennsylvania 19107-3390

### **Re: Creating Resilient Habitats and Communities on Delaware Bay- Thompsons Tidal Marsh Restoration Project**

Dear Chief Reynolds: <sup>SAM</sup>

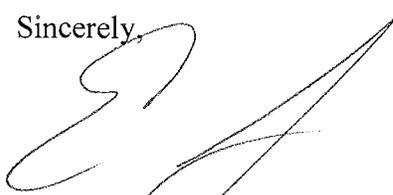
The U.S. Fish and Wildlife Service (Service) has a Landowner Agreement (Agreement) with the American Littoral Society (ALS) to construct the National Fish and Wildlife Foundation (NFWF)-funded Creating Resilient Habitats and Communities on Delaware Bay- Thompsons Marsh Restoration Project. This project is located in Thompsons Marsh, which is east of the Heislerville Wildlife Management Area and west of Riggins Ditch, in Maurice River Township, Cumberland County, New Jersey. The Service is helping ALS with this project because it will restore tidal marsh habitat to benefit migratory birds such as saltmarsh sparrow (*Ammodramus caudacutus*) and American black duck (*Anas rubripes*).

The Service is not funding this project and has requested that the U.S. Army Corps of Engineers (Corps) be the lead federal agency. The Service will work with the Corps as a Cooperating Agency regarding environmental compliance for this project. Below is a list of the tasks and the agency that will take the lead in completion.

<b>Task</b>	<b>Action</b>	<b>Lead</b>
Endangered Species Act- Service	Endangered Species Consultation	Service
Endangered Species Act- National Marine Fisheries Service	Marine Endangered Species Consultation	Corps
National Historic Preservation Act, Section 106	Consultation with the SHPO and Federally Recognized Tribes	Corps
Essential Fish Habitat	Consultation with NOAA	ALS
Individual Permit	Process permit application	Corps
State Permits	Consultation with the State	ALS
National Environmental Policy Act	Prepare Environmental Assessment	Corps

If you have any further questions or need additional information regarding this project, please contact myself or Katie Conrad of my staff at (609) 382-5261.

Sincerely,



Eric Schradling  
Field Supervisor

**C9 NJDEP Section 106 SHPO Consultation Email**

**From:** Fanz, Dave  
**To:** [Jennifer Wallace](#)  
**Cc:** [Brennen, Katelyn](#); [Lynn Dwyer](#); [West-Rosenthal, Jesse](#); [Alek Modjeski](#)  
**Subject:** SHPO for 43429 ALS Creating a Resilient Delaware Bay Shoreline in Cape May and Cumberland Counties (NJ)  
**Date:** Monday, January 29, 2018 1:25:50 PM

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Jennifer,

On September 13, 2017 the Department issued an Individual Waterfront Development permit and a Coastal General permit #24 to the American Littoral society to authorize activities associated with a wetland restoration project located at Thompsons Beach in Cumberland County New Jersey . In accordance with New Jersey Coastal Zone Management Rules, N.J.A.C. 7:7-9.34, the Department is required to make a finding that the permitted activity does not detract from, encroach upon, damage or destroy the value of any historic and archaeological resources. To make that finding the Division coordinates with the New Jersey Historic Preservation Office. In May of 2017 a complete permit application was forwarded to that office for review and comment. The results of that coordination can be found in the June 12, 2017 correspondence between Jesse West-Rosenthal (SHPO) and Katelyn Brennen (below). If you have any additional questions regarding this e-mail or that coordination please contact me at 609-280-9438.

Regards,

David B. Fanz, Manager  
Office of Policy Implementation  
Department of Environmental Protection  
[Dave.fanz@dep.nj.gov](mailto:Dave.fanz@dep.nj.gov)  
(609) 777-0241

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**From:** West-Rosenthal, Jesse  
**Sent:** Monday, June 12, 2017 10:21 AM  
**To:** Brennen, Katelyn <[Katelyn.Brennen@dep.nj.gov](mailto:Katelyn.Brennen@dep.nj.gov)>  
**Subject:** Thompsons Beach Marsh Restoration and Enhancement; DLUR file #0609-10-0007.2; HPO Project #15-1114-3

HPO- F2017-079  
HPO Project # 15-1114-3

Cumberland County, Maurice River Township  
Thompsons Beach Marsh Restoration and Enhancement Project  
American Littoral Society

Hi Katelyn,

Thank you for providing the Historic Preservation Office (HPO) with the opportunity to review and

comment on the potential for the above-referenced project to affect historic and archaeological resources. Based upon the documentation submitted, there are no buildings, structures, sites, objects, or historic districts on or adjacent to the project location that are listed on, or that have been identified as eligible for listing on the New Jersey or National Registers of Historic Places. Although the project setting is sensitive for archaeological resources, based upon a review of information on file at the HPO, the project only has a low potential for archaeological remains. Consequently, the HPO does not recommend further consideration prior to permit issuance. However, if additional archaeological remains are discovered during project implementation, further consultation with the HPO will be necessary

Thank you again for providing the opportunity to review this project.

If you have any questions, please feel free to contact me at 609-984-6019. If additional consultation with the HPO is needed for this undertaking, please reference the HPO project number 15-1114 in any future calls, emails, submissions or written correspondence to help expedite your review and response.

Sincerely,  
Jesse

-----

**Jesse West-Rosenthal, M.A. | Senior Historic Preservation Specialist**

Historic Preservation Office | New Jersey Department of Environmental Protection  
501 E. State Street | Mail Code 501-04B | PO Box 420 | Trenton, New Jersey 08625-0420  
P: 609-984-6019 | F: (609) 984-0578 | Website: <http://www.nj.gov/dep/hpo>

NJ HPO's cultural resources GIS data is available via [NJ Geoweb](#) or direct download at NJ DEP's [Statewide Digital Data Downloads](#)

\*\* PLEASE NOTE: The HPO does not currently accept consultation requests for regulatory review via e-mail, at this time. All consultation requests must be submitted in hard copy via mail. \*\*



**C10 USACE Section 404/Section 10 Permit (Unsigned)**

## DEPARTMENT OF THE ARMY PERMIT

### PERMITTEE AND PERMIT NUMBER:

American littoral Society Thompsons Beach Marsh Restoration project  
CENAP-OP-R-2017-00042

### ISSUING OFFICE:

Department of the Army  
U.S. Army Corps of Engineers, Philadelphia District  
Wanamaker Building - 100 Penn Square East  
Philadelphia, Pennsylvania 19107-3390

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

### PROJECT DESCRIPTION:

The applicant proposes to perform habitat restoration within Thompson's Beach Marsh. This will be accomplished by dredging two existing creek channels and using the dredge sediment on a selected area within the marsh. Dredge material will only be used as needed for marsh restoration. The location that is receiving sediment has been labeled "The Eastern Project Site," which is 3.75 acres in size. The site has an average elevation of 0.70', the applicant proposes to raise the marsh plain to a target elevation range of 1.75' to 2.5' to restore a functioning low-marsh. An estimated 11,135 cubic yards of material are needed to reach the desired elevation. Coir logs will be placed along the perimeter of the placement area to contain sediments/runoff while the material dewater. The project objective for this area is a fully vegetated marsh platform that will increase marsh resiliency to sea level rise. Sediment for the proposed marsh elevation increase will come from man-made channels. The two creeks proposed to be dredged are identified as "West Creek" and "East Creek." West Creek and East Creek each are 10' wide channel that will be dredged to a maximum depth of -5.5 feet below mean low water. Approximately 13,635 cubic yards will be dredged from West Creek, and 6,657 cubic yards will be dredged from East Creek. Although the amount of material proposed

to be dredged is greater than the amount needed for placement, dredging will stop once the desired amount of material is gathered for the project. As more material is needed in the future dredging will continue.

All work is to be completed in accordance with the attached plan(s).

#### PROJECT LOCATION:

The habitat restoration site and dredging are both located at Block 319, Lot 31 and Block 320, Lot 14, in Maurice River Township, Cumberland County, New Jersey. Dredging is not in a navigable channel.

#### PERMIT CONDITIONS:

##### General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2023. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. All work performed in association with the above noted project shall be conducted in accordance with the project plans prepared by Marcus Gruver; dated 1/08/2018, unrevised, entitled: "Thompsons Beach Marsh Restoration Project," Page 1 through 8 of 8.
2. Construction activities shall not result in the disturbance or alteration of greater than 16.33 acres of waters of the United States.
3. Any deviation in construction methodology or project design from that shown on the above noted drawings must be approved by this office, in writing, prior to performance of the work. All modifications to the above noted project plans shall be approved, in writing, by this office. No work shall be performed prior to written approval of this office.
4. This office shall be notified at least 10 days prior to the commencement of authorized work by completing and signing the attached *Notification/ Certification of Work Commencement Form*. This office shall also be notified within 10 days of the completion of the authorized work by completing and signing the attached *Notification/Certification of Work Completion/Compliance Form*. All notifications required by this condition shall be in writing and shall be transmitted to this office by registered mail. Oral notifications are not acceptable. Similar notification is required each time maintenance work is to be done under the terms of this Corps of Engineers permit.
5. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration. (This special condition is applicable to Corps of Engineers permits that provide authorization under Section 10 of the Rivers and Harbors Act of 1899.)
6. The permittee shall maintain adequate surveillance of the dredging and dredge sediment application operations to ensure that the amount of dredged material being placed on the restoration site meets the design criteria specified on the approved project plan noted in Special Condition 1.
7. The permittee is responsible for ensuring that the contractor(s) executing the activity(s) authorized by this permit has knowledge of the terms and conditions of the authorization and that a copy of the permit document and plans referenced therein are at the project site throughout the period the work is underway.
8. The mechanical equipment used to execute the project at the restoration site shall be operated in such a way as to minimize turbidity that could degrade water quality and adversely affect aquatic plant and animal life.

9. Within 60 days of the date of the permit, the permittee shall hold a meeting with the National Marine Fisheries Service, EPA and the Corps to discuss further development of a long term Monitoring and Adaptive Management Plan. National Marine Fisheries Service, EPA and the Corps shall be invited to all future planning meetings and site inspections concerning the development of a long term Monitoring and Adaptive Management Plan. The Monitoring and Adaptive Management Plant shall include at a minimum the following:

- Description of all activities proposed as part of this project including detailed construction plans, planting plans, and sediment control measures.
- Description of all means of adaptive management that will be used in specific instances (i.e. native vegetation does not grow back, sediment cannot be contained as proposed, construction plans do not work out the way proposed).
- How often data will be collected at the habitat restoration sites, and the timeframe for when monitoring reports will be generated and submitted to the Corps and the Federal resource agencies for review and comment.
- A protocol for how the short and long term monitoring information will be used by the permittee in determining the need for future maintenance of the habitat restoration sites, including additional dredge sediment placement for the Eastern Project Area.

10. Upon completion of the development of the long term Monitoring and Adaptive Management Plan, the document shall be submitted to this office for coordination with the National Marine Services and EPA for final review and written approval by this office.

11. All engineering plans involved with this adaptive phased approach of sediment placing shall be sent to this office for approval by the Corps. No work shall commence until plans are approved.

#### FURTHER INFORMATION:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- Section 404 of the Clean Water Act (33 U.S.C. 1344).
- Section 103 of the Marine Protection, Research and Sanctuaries Act.

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

- b. This permit does not grant any property rights or exclusive privileges.
  - c. This permit does not authorize any injury to the property or rights of others.
  - d. This permit does not authorize interference with any existing or proposed Federal projects.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
  - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
  - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
  - d. Design or construction deficiencies associated with the permitted work.
  - e. Damage claims associated with any future modification, suspension, or revocation of this permit.
4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
- a. You fail to comply with the terms and conditions of this permit.
  - b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).
  - c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with

such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

  
\_\_\_\_\_  
(PERMITTEE)

1/23/18  
\_\_\_\_\_  
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

February 2, 2018  
(DATE)

  
\_\_\_\_\_  
Edward E. Bonner  
Chief, Regulatory Branch

for: Kristen N. Dahle  
Lieutenant Colonel, Corps of Engineers  
District Commander

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

\_\_\_\_\_  
(TRANSFEREE)

\_\_\_\_\_  
(DATE)

**C11 NMFS Essential Fish Habitat Consultation Letter**



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
GREATER ATLANTIC REGIONAL FISHERIES OFFICE  
55 Great Republic Drive  
Gloucester, MA 01930-2276

Edward Bonner, Chief  
Regulatory Branch  
Philadelphia District  
U.S Corps of Engineers  
Wanamaker Building, 100 Penn Square East  
Philadelphia, Pennsylvania 19107-3391

**FEB 1 - 2018**

RE: CENAP-OP-R-2017-00042, American Littoral Society  
Maurice River Township, Cumberland County, NJ

Dear Mr. Bonner:

This letter follows up on our December 12, 2017, meeting with your staff and the American Littoral Society (ALS) to discuss our concerns with their proposal to dredge portions of East and West Creeks and to place the dredged material on existing wetlands and mudflats within the Thompson's Beach Marsh site for the purposes of habitat restoration. It also confirms our support of the special conditions included in the draft Initial Proffered Department of the Army Permit issued to ALS on Jan 11, 2018. These conditions reflect the results of our coordination with your staff following the December meeting. We appreciate the efforts that your staff and ALS has made to address our concerns.

In our letter dated, October 4, 2017, we recommended that the permit for this project be denied due to the impacts to our resources, the lack of information to demonstrate that the wetlands on the site were degraded, and the site's current compliance with its management plan and the success criteria developed for the site as part of PSE&G's Estuary Enhancement Program.

Based upon the additional information provided by ALS and the discussions at our meeting, we do not object to the issuance of a permit for the placement of material at the Eastern Project Site provided that the applicant develop a long-term monitoring and adaptive management plan for review by us and approval by your office prior to beginning construction at the site. From the information provided, it does not appear that the natural accretion of sediments in this area will be able to keep pace with sea level rise over time. As a result, the eastern area, which is currently approximately 43% vegetated with *Spartina alterniflora*, may benefit from some increased elevation to prevent the future loss of marsh vegetation. As discussed at the meeting, we recommend that ALS contact Corps and New Jersey Office of Maritime Resources staff currently working on thin layer placement projects to discuss constructability issues and difficulties that may arise when using coir logs for containment.

We remain concerned about the placement of dredged material onto the Southern Project Site. This area is approximately 9.95 acres in size and is currently 100% *Spartina alterniflora* low



marsh. ALS proposes to place approximately eight inches of material in this area to promote the growth of high marsh species such as *Spartina patens*, *Distichlis spicata*, and *Juncus gerardii* and to reduce the cover of *Spartina alterniflora* to 40 %. As stated in our previous letter, there is no evidence that this portion of the Thompson's Beach Marsh site is degraded. We continue to be concerned that increasing the elevations in this location could create conditions favorable to invasion by *Phragmites australis*, which is difficult to eradicate and would reduce the ecological value of any high marsh created. We also remain unconvinced of ALS's contention that the conversion of low marsh to high marsh will improve fish habitat. As a result, we continue to recommend that this portion of the proposed project not be authorized as part of any permit issued for this project.

### **Magnuson Stevens Fisheries Management and Conservation Act (MSA)**

As stated in our previous letter, the Delaware Bay and its tributaries have been designated as essential fish habitat (EFH) for a number of federally managed species including bluefish, summer flounder, windowpane and others. The placement of dredged material into wetlands and mudflats on the project site will have an adverse effect on EFH through the loss of forage and refuge habitat for federally managed species, as well as impacts to prey species and their habitat. Some of these impacts will be temporary, occurring during construction. Others will result from the permanent conversion of one aquatic habitat type to another. While we recognize the importance of wetlands to fish, mudflats are also a valuable aquatic habitat.

Although the EFH assessment provided with the Public Notice did not evaluate fully the impacts of the proposed project on federally managed species and their EFH, the additional materials provided in response to our letter and at the meeting with the applicant are sufficient for us to evaluate the effects and issue conservation recommendations. In this instance, ALS has provided convincing arguments that in the Eastern Project Site the habitat conversion of mudflat to low marsh will not result in a significant impact to EFH in the long-term.

### **EFH Conservation Recommendation**

Pursuant to Section 305 (b) (4) (A) of the MSA, we recommend the following:

1. Authorization be granted only for work on the Eastern Project Site; and
2. ALS be required to develop a monitoring and adaptive management plan for our review and your approval prior to initiating construction on the site.

Please note that Section 305 (b)(4)(B) of the MSA requires you to provide us with a detailed written response to these EFH conservation recommendations, including the measures adopted by you for avoiding, mitigating, or offsetting the impact of the project on EFH. In the case of a response that is inconsistent with our recommendations, Section 305 (b) (4) (B) of the MSA also indicates that you must explain your reasons for not following the recommendations. Included in such reasoning would be the scientific justification for any disagreements with us over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate or offset such effect pursuant to 50 CFR 600.920 (k).

Please also note that a distinct and further EFH consultation must be reinitiated pursuant to 50 CRF 600.920 (j) if new information becomes available, or if the project is revised in such a manner that affects the basis for the above EFH conservation recommendations. This includes any future proposed modifications to the permit to authorize work in the Southern Project Site.

We look forward to continued coordination with your staff and the ALS as the monitoring and maintenance plan is developed. If you have any questions or need additional information on this matter, please do not hesitate to contact Karen Greene at [karen.greene@noaa.gov](mailto:karen.greene@noaa.gov) or (732) 872-3023.

Sincerely,



Louis A. Chiarella  
Assistant Regional Administrator  
Habitat Conservation Division

cc: PRD – P. Johnsen  
FWS – E. Schrading  
EPA – Region II, D. Montella  
MAFMC – C. Moore  
NEFMC – T. Nies  
ASMFC-L. Havel

**C12 USACE Section 106 Tribal Consultation Email**

**From:** [Minnichbach Nicole C CIV USARMY CENAP \(US\)](#)  
**To:** [Arnold Printup \(arnold.printup@smt.nsn.gov\)](#); [Bonney Hartley](#); [Dee Gardner](#); [Jay Toth@snl.org](#); [Jesse Bergovin](#); [Kimberly Penrod](#); [Temple University Archaeology](#)  
**Subject:** Project Review Request - 2017-00042 Thompsons Beach Thin Cast sediment for marsh stabilization (UNCLASSIFIED)  
**Date:** Wednesday, January 24, 2018 9:49:00 AM  
**Attachments:** [2017-00042 IR.docx](#)  
[Public Notice 2017-0042-86.pdf](#)

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CLASSIFICATION: UNCLASSIFIED

Good Morning,

I am requesting your review of the attached information and your concurrence that No Historic Properties would be affected by the proposed thin cast of dredged material sediments into a depleted portion of a tidal wetland in order to stabilize the marsh platform. The site is located at Thompsons Beach, New Jersey

I have reviewed the information, and have determined that the proposed permit action will have No Effect to historic properties eligible for or listed on the NRHP. I believe that the area was previously scoured due to water action and erosion, and that the placement of sediment would serve to protect any cultural resource deposits that may remain within this area.

Please review the attached information and let me know if you have any questions or comments.

Greatly appreciated

Respectfully,

Nicole Cooper Minnichbach  
Cultural Resource Specialist and Tribal Liaison (CRSTL)  
US Army Corps of Engineers Philadelphia District  
(O) 215-656-6556  
(M) 215-834-1065

CLASSIFICATION: UNCLASSIFIED

**REGULATORY BRANCH  
INTERNAL CULTURAL RESOURCE PERMIT ACTION REVIEW**

**Your review of the proposed project plans is requested in order to ascertain a no affect/will affect decision in relation to USACE concerns. Please provide written or e-mailed comments, and any special conditions that would be needed if a permit is issued, to the PM by the comments-due date. Negative replies requested.**

<b>APPLICATION NUMBER</b>	<b>Project Manager (PM)</b>	<b>DATE SENT TO INTERNAL REVIEW</b>	<b>COMMENTS DUE BY (5 WORKING DAYS):</b>
CENAP-OP-R-2017-00042	<b>Genevieve Rybicki</b>	9/20/17	9/27/17

**APPLICANT:** Tim Dillingham  
American Littoral Society  
18 Hartshorne Drive, Suite 1  
Highlands, New Jersey, 07732

**AGENT:** N/A

**PROJECT LOCATION:** Decimal Latitude: **39.197052** Longitude: **-74.99363**

**PERMIT TYPE:** Individual

**PROJECT DESCRIPTION:** The applicant, using Department of the Interior, and National Fish and Wildlife Foundation funds, proposes to perform habitat restoration within Thompson's Beach Marsh. This will be accomplished by dredging two existing creek channels and using the dredge sediment on two selected areas within the marsh: "The Eastern Project Site" at 3.75 acres, and "The Southern Project Site" at 9.95 acres. The total area of impact will be no greater than 18.50 acres including the area to be dredged.

The Eastern Project Site is 3.75 acres in size and primarily a mudflat, though 43% is vegetated with disassociated clumps of *Spartina alterniflora*. The site has an average elevation of 0.70', which is below the elevation at which *Spartina alterniflora* forms a continuous marsh with a stable marsh platform. The applicant proposes to raise the marsh plain to a target elevation range of 1.75' to 2.5' to restore a functioning low-marsh. An estimated 11,135 cubic yards of material are needed to reach the desired elevation. Coir logs will be placed along the perimeter of the placement area to contain sediments/runoff while the material dewater. The project objective for this area is a fully vegetated marsh platform that will increase marsh resiliency to sea level rise.

The Southern Project Site is 9.95 acres of low-marsh. The applicant proposes to use up to 8" of material to promote the growth of high marsh vegetation and improve the habitat availability for high marsh bird species. The applicant's objective is to maintain a functioning marsh, with an appropriate mix of marsh elevations for the continued success of resident marsh birds and migratory birds. An estimated 9,160 cubic yards of material are needed to apply the 8" of sediment using a thin layer application. The project objective for this area is to maximize resiliency of the salt marsh to sea level rise and increase habitat diversity to benefit tidal marsh obligate birds.

Sediment for the proposed marsh elevation increase will come from man-made channels constructed in the late 1990's. The channels were originally created to bring tides and silt into the sediment starved marsh. Portions of these creeks have since silted-in making them unnavigable during low tides. An estimated 20,295 cubic yards of dredge sediment would be needed for the proposed project. The two creeks proposed to be dredged are identified as "West Creek" and "East Creek." West Creek and East Creek each are 10' wide channel that will be

dredged to a maximum depth of -5.5 feet below mean low water. Approximately 13,635 cubic yards will be dredged from West Creek, and 6,657 cubic yards will be dredged from East Creek.

**PERMIT AREA (narrative description in support of attached permit area figure):**Project area includes portions of the Thompson’s Beach Marsh complex that will have dredge material placed on it.

Such activity would not occur **but for** the authorization of the work/structures within the waters of the US.

1. Such activity must be **integrally related** to the work/structures within the waters of the US, or conversely the structures must be **essential to the completeness** of the overall project.
2. Such activity must be directly associated (**first order impact**) with the work or structures.

<b>FOR CRS/Tribal Liaison:</b>		<b>Ms. Nikki Minnichbach</b>		<b>Date Reviewed:</b>		<b>11-30-2017</b>							
<b>1. Known Properties:</b>							<b>In the permit area</b>						
			<b>In the immediate vicinity/similar topographic.</b>										
<b>2. Recommended Action:</b>		<b>No Action</b>		<input checked="" type="checkbox"/>		<b>Survey/Assessment</b>		<input type="checkbox"/>		<b>Avoidance</b>		<input type="checkbox"/>	
<b>3. SHPO Coordination:</b>		<b>YES</b>		<input type="checkbox"/>		<b>NO</b>		<input checked="" type="checkbox"/> <b>The project has no potential to cause effects and coordination with the SHPO is not required.</b>					
<b>USACE TRIBAL CONSULTATION:</b>													
<input type="checkbox"/> <b>NO</b> – Based on Tribal review preferences derived through consultation, formal government to government consultation is not required due to: <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> the limited scope of project</li> <li>2. <input type="checkbox"/> no potential to affect to archaeological resource</li> <li>3. <input type="checkbox"/> not located in culturally sensitive area</li> </ol>													
<input checked="" type="checkbox"/> <b>YES</b> – Based on Tribal review preferences derived through consultation, formal government to government consultation is required due to: <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> the scope of the project</li> <li>2. <input type="checkbox"/> potential to affect to archaeological resources</li> <li>3. <input type="checkbox"/> location in culturally sensitive area</li> </ol>													

**FOR THE RECORD OR PUBLIC NOTICE STATEMENT:**

The USACE Cultural Resource Specialist has determined that:

- A  The permit area has been so extensively modified that little likelihood exists for the proposed project to impact a historic property.
- B  The proposed work and/or structures are of such limited nature and scope that little likelihood exists for the proposed project to impact a historic property.
- C  The permit area was created in modern times and has had no human habitation: therefore, little likelihood exists for the proposed project to impact a historic property.
- D  The permit area is likely to yield resources eligible for inclusion in the National Register of Historic Places (NRHP). An investigation for the presence of potentially eligible historic properties is required.
- E  A historic properties investigation has been conducted within the permit area. No sites determined eligible for or listed on the NRHP are within the permit area.
- F  A historic properties investigation has been conducted within the permit area. Historic properties eligible for or listed on the NRHP are within the permit area, but will not be affected by the proposed action. A determination of **"No Effect"** will be coordinated with the SHPO and Tribes.
- G  A historic properties investigation has been conducted within the permit area. Historic properties eligible for or listed on the NRHP are within the permit area, but will not adversely be affected by the proposed action. A determination of **"No Adverse Effect"** will be coordinated with the SHPO and Tribes.
- H  A historic properties investigation has been conducted within the permit area. Historic properties eligible for or listed on the NRHP are within the permit area and will be adversely affected by the proposed action. Further investigations and coordination with the SHPO and Tribes is required to avoid, minimize or mitigate the **"Adverse Effect"** to the historic property.
- I  The permit area is composed of low-lying wetlands with no existing or previously existing stable landforms conducive to human occupation. Therefore, the permit area has a very low potential for yielding resources potentially eligible for the NRHP.
- J  Reserved for specific initial determination statements that do not fit into above categories (see statement below).

**USACE INITIAL DETERMINATION: The dredging would take place within two previously dredged channels, and the placement of dredged material would only serve to protect historic properties if they exist within these areas.**

**SECTION 106 CONSULTATION SECTION**

**RESERVED FOR SHPO OPINION: Please check appropriate selection and provide comments below**

- Pennsylvania       New Jersey       Delaware       New York
- Concur
- Not Concur

**Comment:**

**RESERVED FOR TRIBAL REVIEW AND COMMENT: Please check appropriate selection and provide comments below**

- Delaware Nation
- Delaware Tribe
- Eastern Shawnee
- Oneida Nation
- Saint Regis Mohawk
- Seneca Nation of Indians
- Shawnee Tribe
- Stockbridge-Munsee Community of Mohicans
- Tonawanda Band of Seneca of New York
- Tuscarora Nation

**Comment:**

**RESERVED FOR OTHER CONSULTING PARTY:**

- PARTY NAME
- Concur
- Not Concur

**Comment:**



**US Army Corps  
of Engineers.**  
Philadelphia District

Wanamaker Building  
100 Penn Square East  
Philadelphia, PA 19107-3390  
ATTN: CENAP-OP-R

# Public Notice

Public Notice No.  
CENAP-OP-R-2017-00042

Date  
SEP 07 2017

Application No. File No.

In Reply Refer to:  
REGULATORY BRANCH

This District has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344).

The purpose of this notice is to solicit comments and recommendations from the public concerning issuance of a Department of the Army permit for the work described below.

APPLICANT: Tim Dillingham  
American Littoral Society  
18 Hartshorne Drive, Suite 1  
Highlands, New Jersey, 07732

AGENT: N/A

WATERWAY: UNT to Delaware Bay

LOCATION: The habitat restoration site and dredging are both located at Block 319, Lot 31 and Block 320, Lot 14, in Maurice River Township, Cumberland County, New Jersey. Dredging is not in a navigable channel.

ACTIVITY: The applicant, using Department of the Interior, and National Fish and Wildlife Foundation funds, proposes to perform habitat restoration within Thompson's Beach Marsh. This will be accomplished by dredging two existing creek channels and using the dredge sediment on two selected areas within the marsh: "The Eastern Project Site" at 3.75 acres, and "The Southern Project Site" at 9.95 acres. The total area of impact will be no greater than 18.50 acres including the area to be dredged.

The Eastern Project Site is 3.75 acres in size and primarily a mudflat, though 43% is vegetated with disassociated clumps of *Spartina alterniflora*. The site has an average elevation of 0.70', which is below the elevation at which *Spartina alterniflora* forms a continuous marsh with a stable marsh platform. The applicant proposes to raise the marsh plain to a target elevation range of 1.75' to 2.5' to restore a functioning low-marsh. An estimated 11,135 cubic yards of material are needed to reach the desired elevation. Coir logs will be placed along the perimeter of the placement area to contain sediments/runoff while the material dewater. The project objective for this area is a fully vegetated marsh platform that will increase marsh resiliency to sea level rise.

The Southern Project Site is 9.95 acres of low-marsh. The applicant proposes to use up to 8" of material to promote the growth of high marsh vegetation and improve the habitat availability for high marsh bird species. The applicant's objective is to maintain a functioning marsh, with an appropriate mix of marsh elevations for the continued success of resident marsh birds and migratory birds. An estimated 9,160 cubic yards of material are needed to apply the 8" of sediment using a thin layer application. The project objective for this area is to maximize resiliency of the salt marsh to sea level rise and increase habitat diversity to benefit tidal marsh obligate birds.

Sediment for the proposed marsh elevation increase will come from man-made channels constructed in the late 1990's. The channels were originally created to bring tides and silt into the sediment starved marsh. Portions of these creeks have since silted-in making them un navigable during low tides. An estimated 20,295 cubic yards of dredge sediment would be needed for the proposed project. The two creeks proposed to be dredged are identified as "West Creek" and "East Creek." West Creek and East Creek each are 10' wide channel that will be dredged to a maximum depth of -5.5 feet below mean low water. Approximately 13,635 cubic yards will be dredged from West Creek, and 6,657 cubic yards will be dredged from East Creek.

**PURPOSE:** The applicants stated purpose of the project is to improve the resiliency and habitat value of the marsh at Thompson's Beach.

A preliminary review of this application indicates that the proposed work would not affect listed species or their critical habitat pursuant to Section 7 of the Endangered Species Act as amended. As the evaluation of this application continues, additional information may become available which could modify this preliminary determination.

The decision whether to issue a permit will be based on an evaluation of the activity's probable impact including its cumulative impacts on the public interest. The decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the work must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the work will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs and welfare of the people. A Department of the Army permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Comments on the proposed work should be submitted, in writing, within 30 days to the District Engineer, U.S. Army Corps of Engineers, Philadelphia District, Wanamaker Building, 100 Penn Square East, Philadelphia, Pennsylvania 19107-3390.

Review of the National Register of Historic Places indicates that no registered properties or properties listed as eligible for inclusion therein are located within the permit area of the work.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act 1996 (Public Law 104-267), requires all Federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH). A preliminary assessment of the species listed in the "Guide to Essential Fish Habitat Designations in the Northeastern United States, Volume IV: New Jersey and Delaware", dated March 1999, indicated that the project may have an adverse effect on EFH and the species of concern.

Analysis of the Effects: The office will be coordinating with the National Marine Fisheries Service to ensure that any action taken by this office will not have a substantial effect on EFH, or the species of concern.

Compensatory mitigation according to Federal regulation 33 CFR 325.1(d)(7), applicants wishing to discharge dredge and fill material into waters of the U.S. must include a statement on how they have avoided and minimized impacts as well as how they intend to compensate for unavoidable impacts. The applicant has avoided/minimized impacts to the aquatic environment by incorporating engineering/construction procedures into the process that will substantially reduce impacts to aquatic resources. Additionally, the applicant states that the underlying intent of this project is to enhance the marsh at this site using clean material taken from an adjacent man made creeks. The thin layer placement of material is one of the techniques that will be used to enhance marsh functions by raising the elevation of the marsh platform and increasing the marsh's resiliency, however, wetlands will not be converted to uplands through this technique. Different portions of the marsh will respond differently to sediment enrichment and such responses may change from year to year. By having the applicant commit to an adaptive management approach, the techniques to manage the vegetation community can be tailored to the specific area during that particular season. Based on the project's restorative objective to increase the functions and values of the marsh, no compensatory mitigation is required for this project.

In accordance with Section 307(c) of the Coastal Zone Management Act of 1972, applicants for Federal Licenses or Permits to conduct an activity affecting land or water uses in a State's coastal zone must provide certification that the activity complies with the State's Coastal Zone Management Program. The applicant has stated that the proposed activity complies with and will be conducted in a manner that is consistent with the approved State Coastal Zone Management (CZM) Program. No permit will be issued until the State has concurred with the applicant's certification or has waived its right to do so. Comments concerning the impact of the proposed and/or existing activity on the State's coastal zone should be sent to this office, with a copy to the State's Office of Coastal Zone Management.

In accordance with Section 401 of the Clean Water Act, a Water Quality Certificate is necessary from the State government in which the work is located. Any comments concerning

the work described above which relate to Water Quality considerations should be sent to this office with a copy to the State.

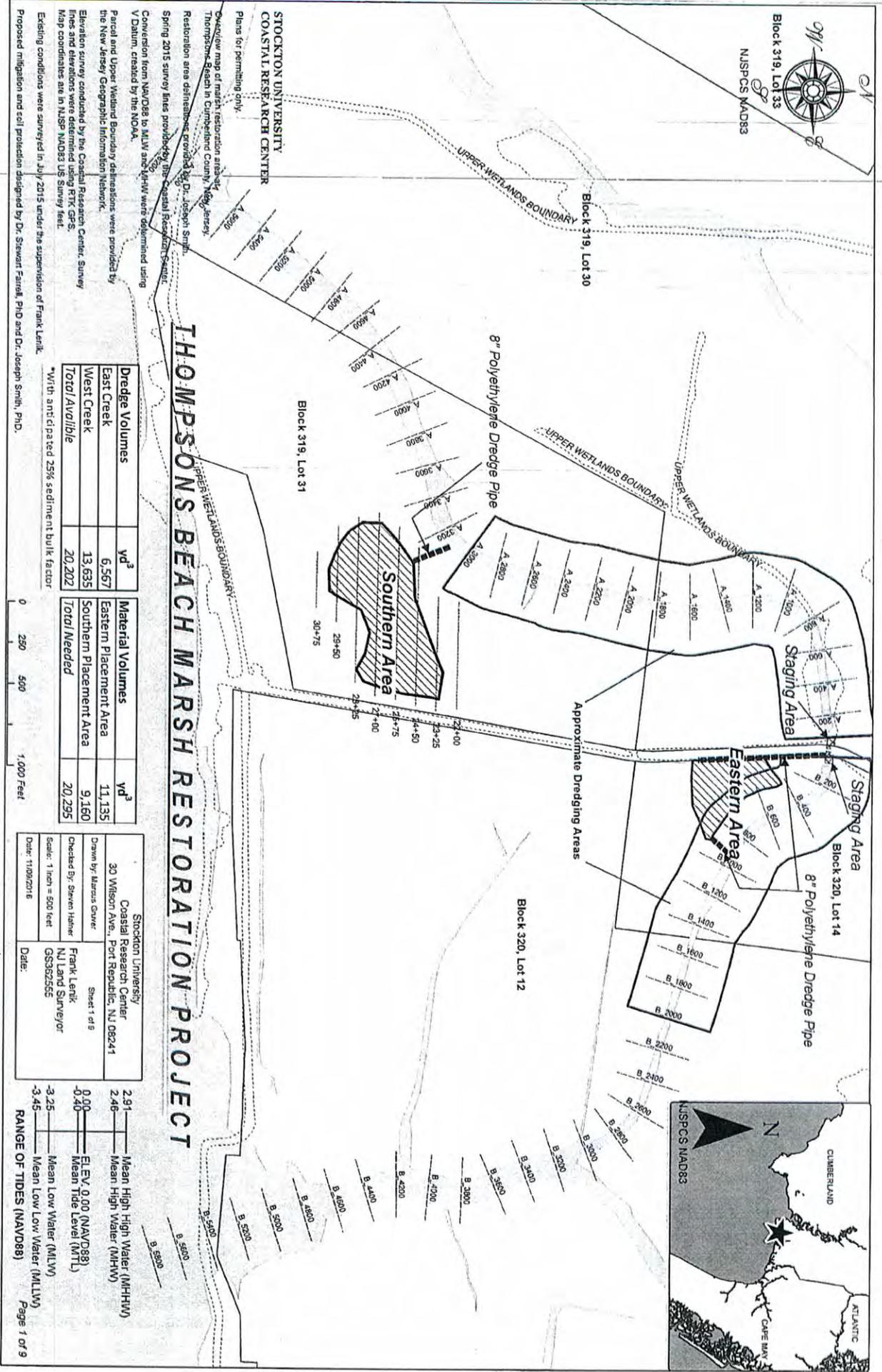
The evaluation of the impact of the work described above on the public interest will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act.

Any person may request, in writing, to the District Engineer, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for a public hearing shall state in writing, with particularity, the reasons for holding a public hearing.

Additional information concerning this permit application may be obtained by calling Genevieve Rybicki at (215) 656-8597, via email at [Genevieve.T.Rybicki@usace.army.mil](mailto:Genevieve.T.Rybicki@usace.army.mil), or writing this office at the above address.



Edward E. Bonner  
Chief, Regulatory Branch



STOCKTON UNIVERSITY  
 COASTAL RESEARCH CENTER  
 Plans for permitting only

Question map of marsh restoration areas in Thompsons Beach in Cumberland County, New Jersey. Restoration area delineations created by Dr. Joseph Smith, Spring 2015 survey lines provided by the Coastal Research Center, Stockton University.

Conversion from NAVD88 to MLLW and MHHW were determined using V Datum, created by the NOAA.

Parcel and Upper Wetland Boundary delineations were provided by the New Jersey Geographic Information Network.

Elevation survey conducted by the Coastal Research Center, Survey lines and elevations were collected using RTK GPS. Map coordinates are in NAD83 US Survey feet.

Existing conditions were surveyed in July 2015 under the supervision of Frank Lentik.

Proposed mitigation and soil protection designed by Dr. Stewart Farnak, PhD and Dr. Joseph Smith, PhD.

Dredge Volumes	yd <sup>3</sup>
East Creek	6,567
West Creek	13,635
<b>Total/Availible</b>	<b>20,202</b>

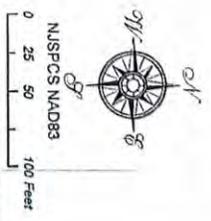
Material Volumes	yd <sup>3</sup>
Eastern Placement Area	11,135
Southern Placement Area	9,160
<b>Total Needed</b>	<b>20,295</b>

\*With anticipated 25% sediment bulk factor

Stockton University Coastal Research Center 30 Wilson Ave., Port Republic, NJ 08241	
Drawn by: Marcus Cove	Sheet 1 of 9
Checked by: Shawn Heiler	Frank Lentik NJ Land Surveyor
Date: 11/08/2016	Date:

2.91	Mean High High Water (MHHW)
2.46	Mean High Water (MHW)
0.00	EL. EV. 0.00 (NAVD88)
-0.40	Mean Tide Level (MTL)
-3.25	Mean Low Water (MLW)
-3.45	Mean Low Low Water (MLLW)

RANGE OF TIDES (NAVD88) Page 1 of 9



**STOCKTON UNIVERSITY  
COASTAL RESEARCH CENTER**

Plans for permitting only.

Restoration area delineations provided by Dr. Joseph Smith.

Spring 2015 survey lines and elevation points provided by the Coastal Research Center. Volume calculations were determined by using a Geographic Information System to compare Digital Elevation Models of the Spring 2015 survey by the CRC and of the proposed fill elevations.

Parcel delineations were provided by the New Jersey Geographic Information Network.

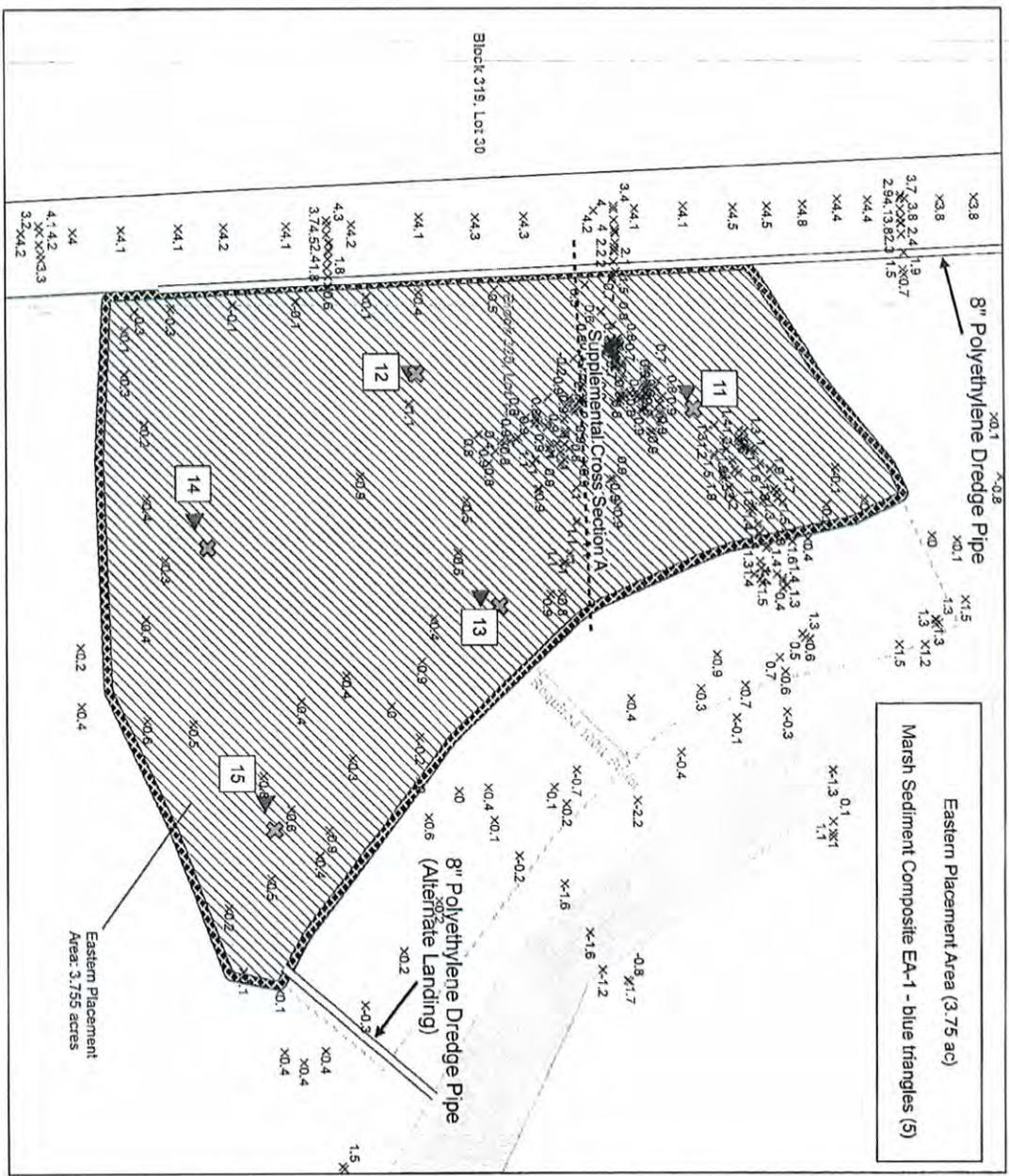
Conversion from NAVD88 to MLLW and MHW were determined using V Datum, created by the NOAA.

Core samples were collected September 20, 21 and 22, 2016. Core samples were collected using a piston core.

Core ID	Eastings	Northing
PA11	352426.219	134538.960
PA12	352401.285	134445.323
PA13	352563.106	134402.965
PA14	352522.322	134199.894
PA15	352717.163	134245.910

Stockton University  
Coastal Research Center  
30 Wilson Ave., Port Republic, NJ 08241

Drawn by: *Frank Lenik*  
Checked by: *James Heller*  
Scale: 1 inch = 75 feet  
Date: 11/02/2016



**THOMPSONS BEACH MARSH RESTORATION PROJECT**

**Eastern Area**



This map shows the Eastern Area. This is a mudflat area to be raised to max elevation of 2.5 feet with dredge slurry. An estimated 11,135 cubic yards of material are needed to reach target range elevation, 1.75-2.5 NAVD88. Sediment dredged from the Eastern Creek will only be utilized as needed in the Eastern Placement Area, to raise existing elevations to specified target range.

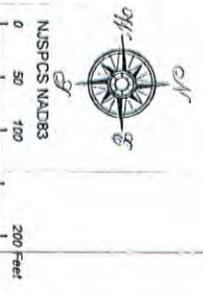
Coir Logs will be located along the perimeter of the placement area. (Barrier features on map are not to scale.)

Note: Discharge Pipe will access containment at several points along the road. Discharge pipe will be moved as needed within the containment area using a low impact vehicle to evenly distribute sediment to achieve the targeted elevation range.

Elevation survey conducted by the Coastal Research Center. Survey lines and elevations were determined using RTK GPS. Map coordinates are in NAD83 US Survey feet. Existing conditions were surveyed in July 2015 under the supervision of Frank Lenik.

Proposed mitigation and soil protection designed by Dr. Stewart Farrell, PhD and Dr. Joseph Smith, PhD.

- Legend**
- Actual Core Locations
  - Proposed Core Locations
  - Coir Logs
  - Placement Area



STOCKTON UNIVERSITY  
 COASTAL RESEARCH CENTER  
 Plans for permitting only.  
 Restoration area delineations provided by  
 Dr. Joseph Smith.

Spring 2015 survey lines and elevation points provided by the Coastal Research Center. Volume calculations were determined by using a Geographic Information System to compare Digital Elevation Models of the Spring 2015 survey by the CRC and of the proposed fill elevations.

Parcel delineations were provided by the New Jersey Geographic Information Network.

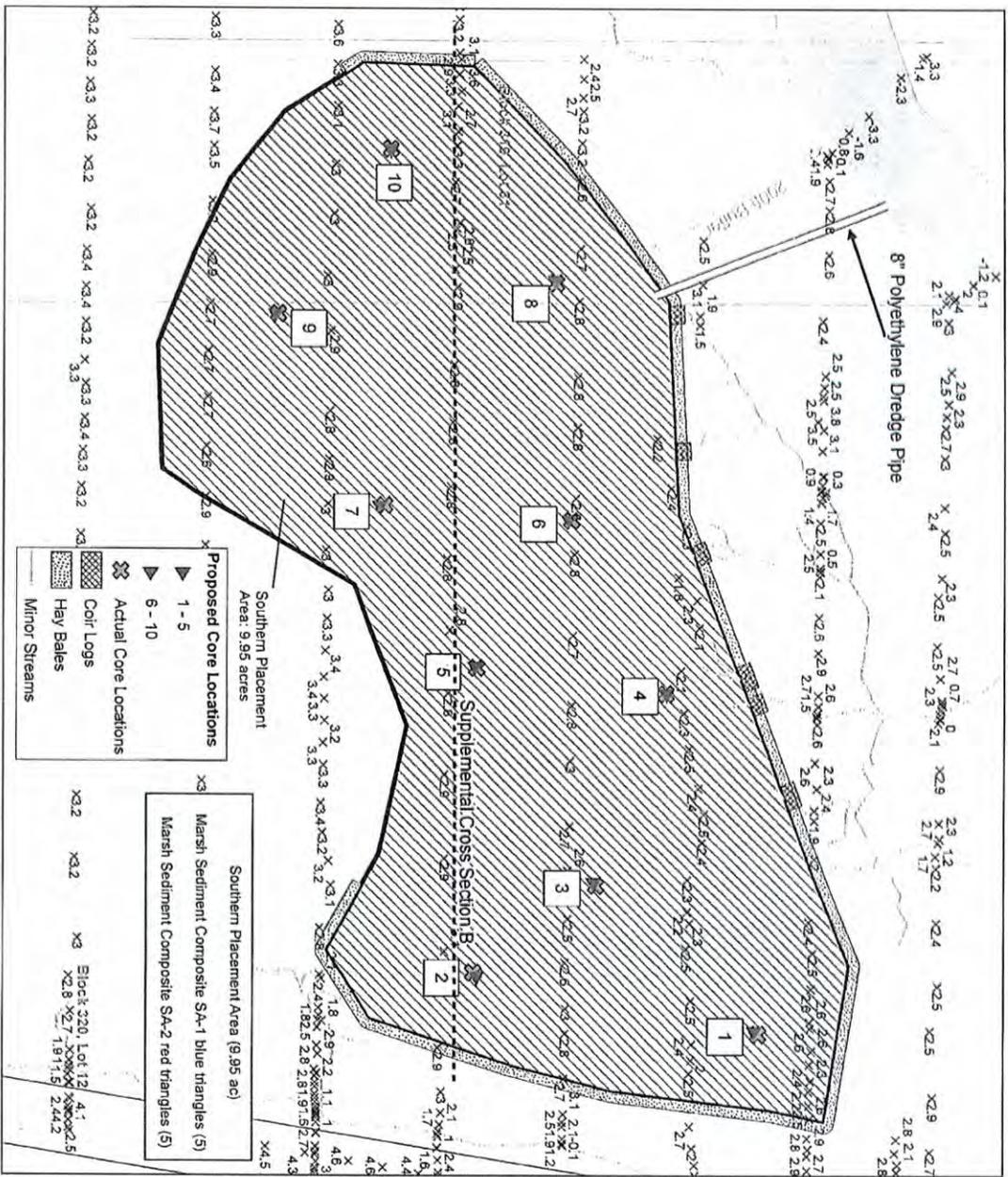
Conversion from NAVD88 to MLW and MHW were determined using V Datum, created by the NOAA.

Core samples were collected September 20, 21 and 22, 2016. Core samples were collected using a piston core.

Core ID	Easting	Nothing
PA1	351891.892	132513.492
PA2	351829.668	132724.573
PA3	351742.129	132348.498
PA4	351548.610	132419.304
PA5	351522.674	132227.658
PA6	351375.515	132322.479
PA7	351359.984	132133.559
PA8	351135.984	132307.404
PA9	351167.271	132025.547
PA10	351000.434	132139.785

Stockton University  
 Coastal Research Center  
 30 Wilton Ave., Port Republic, NJ 08241

Drawn by: Melissa Driver  
 Checked by: Frank Lenik  
 1 inch = 100 feet  
 Date: 11/20/2015



**Southern Area**  
**THOMPSONS BEACH MARSH RESTORATION PROJECT**

This map shows the Southern Area. This area shall receive a thin layer application of a maximum thickness of 8" of dredge material, not to exceed 3.4 feet NAVD88. Placement will be in the shaded areas, which are determined to be the most deficient.

An estimated 9,150 cubic yards of material are needed to apply the 3" to 8" thin layer, not exceeding a maximum 3.4 feet NAVD88 elevation, in the placement area.

Sediment dredged from the lower Western Creek will only be utilized as needed in the Southern Placement Area to raise existing elevations to specified target range of 3ft to 3.4ft.

Based on slope analysis, hay bales will be placed in designated areas as a silt barrier. Cor logs will also be added to areas where streams are running out of the placement area. (Barrier features on map are not to scale.)

Discharge pipe will be moved as needed within the containment area using a low impact vehicle to evenly distribute sediment to achieve the targeted elevation range.

Elevation survey conducted by the Coastal Research Center. Survey lines and elevations were determined using RTK GPS. Map coordinates are in NAD83 US Survey feet. Existing conditions were surveyed in July 2015 under the supervision of Frank Lenik.

Proposed mitigation and soil protection designed by Dr. Stewart Farrell, PhD and Dr. Joseph Smith, PhD.



STOCKTON UNIVERSITY  
COASTAL RESEARCH CENTER

Plans for permitting only.  
Restoration area delineations provided by Dr. Joseph Smith.

Spring 2015 survey lines and elevation points provided by the Coastal Research Center. Volume calculations were determined by using a Geographic Information System to compare Digital Elevation Models of the Spring 2015 survey by the CRC and of the proposed fill elevations.

Parcel delineations were provided by the New Jersey Geographic Information Network.

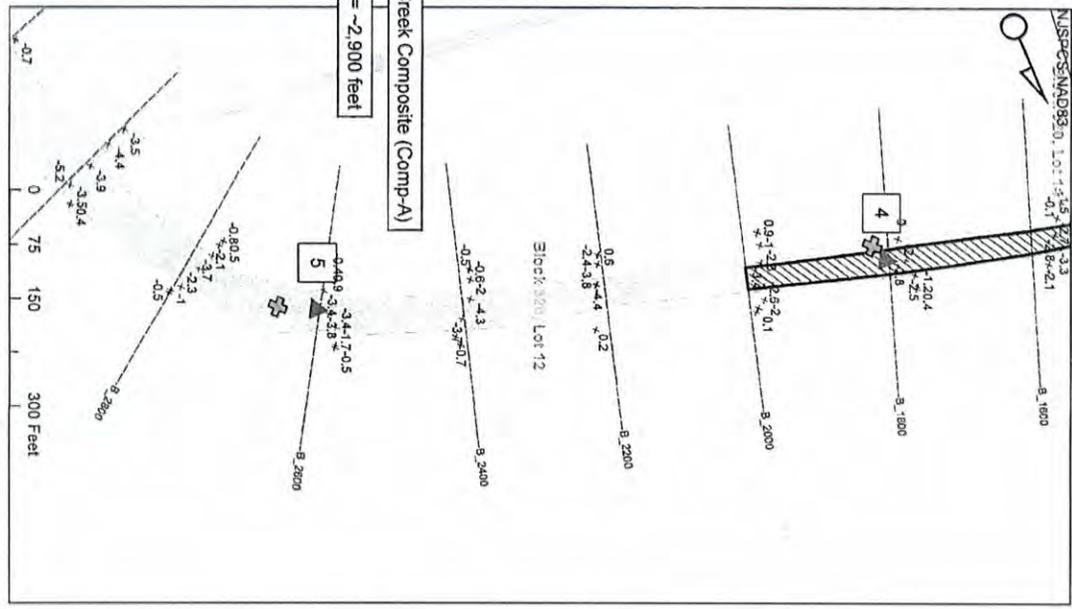
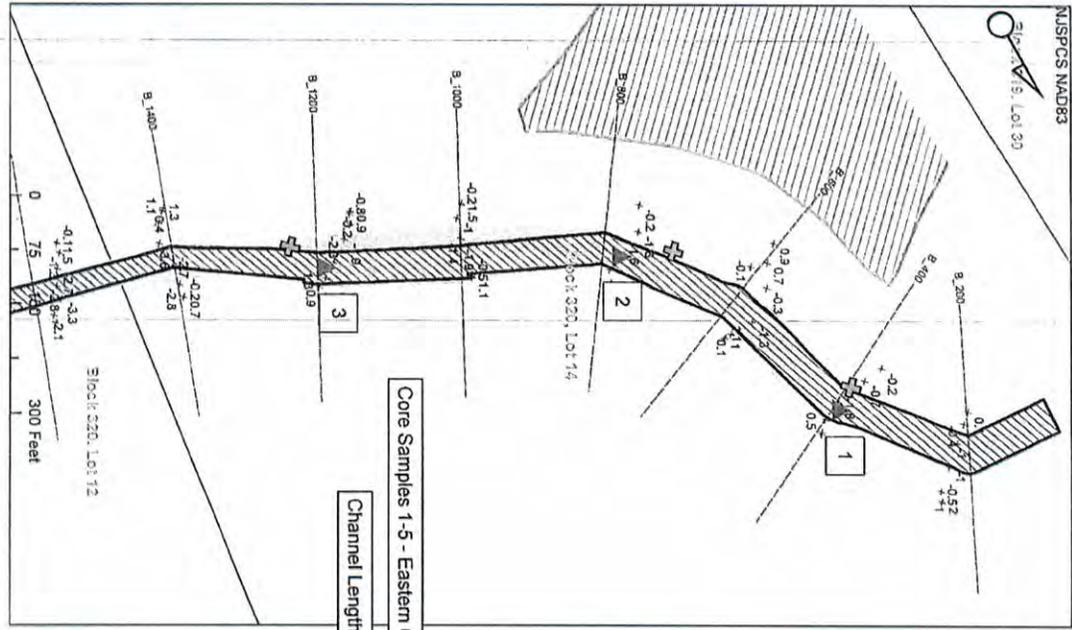
Conversion from NAVD88 to MLW and MHW were determined using V Datum, created by the NOAA.

Core samples were collected September 20, 21 and 22, 2016. Core samples were collected using a piston core.

Core ID	Easting	Northing
BZ1	352599.946	134779.802
BZ2	352724.369	134495.502
BZ3	353187.676	134228.948
BZ4	353739.003	134027.335
BZ5	354533.664	133773.486

Stockton University  
Coastal Research Center  
30 Wilson Ave., Port Republic, NJ 08241

Drawn by: Marcus Crowder  
Checked by: Dawn Hillier  
Scale: 1 inch = 100 feet  
Date: 11/03/2016



# Eastern Creek Tidal Channel

## THOMPSONS BEACH MARSH RESTORATION PROJECT

This map shows the Eastern Creek tidal channel way. The dredge cut design shown, and the estimated volume calculations are based on an approximate 50ft wide cut with 4:1 sloped sides. Each side has a beginning elevation of -0.5ft and a maximum ending elevation at approximately -5.5ft NAVD88. A 10ft wide middle section at elevation -5.5ft NAVD88 completes the 50ft wide maximum hopper cut. The dark shaded areas show the location of available material that are within the cut design.

The Eastern Creek has an estimated 6,567 cubic yards, of a total of 20,202 cubic yards of material available for dredging. The length of the Eastern Creek to be dredged is approximately 3,000 feet. The total volume needed to meet the placement estimates are 20,295 cubic yards.

Sediment dredged from the Eastern Creek will only be utilized as needed in the Eastern Placement Area to raise existing elevations to specified target range.

Elevation survey conducted by the Coastal Research Center. Survey lines and elevations were determined using RTK GPS. Map coordinates are in NUSP NAD83 US Survey feet. Existing conditions were surveyed in July 2015 under the supervision of Frank Lenik.

Proposed mitigation and soil protection designed by Dr. Stewart Farrell, PhD and Dr. Joseph Smith, PhD.

- Legend**
- ✱ Actual Core Locations
  - ▼ Proposed Core Locations
  - × GPS Elevation Points
  - ▨ Available Material



**STOCKTON UNIVERSITY  
COASTAL RESEARCH CENTER**

Restoration area delineations provided by Dr. Joseph Smith.

Spring 2015 survey lines and elevation points provided by the Coastal Research Center. Volume calculations were determined by using a Geographic Information System to compare Digital Elevation Models of the Spring 2015 survey by the CRC and of the proposed fill elevations.

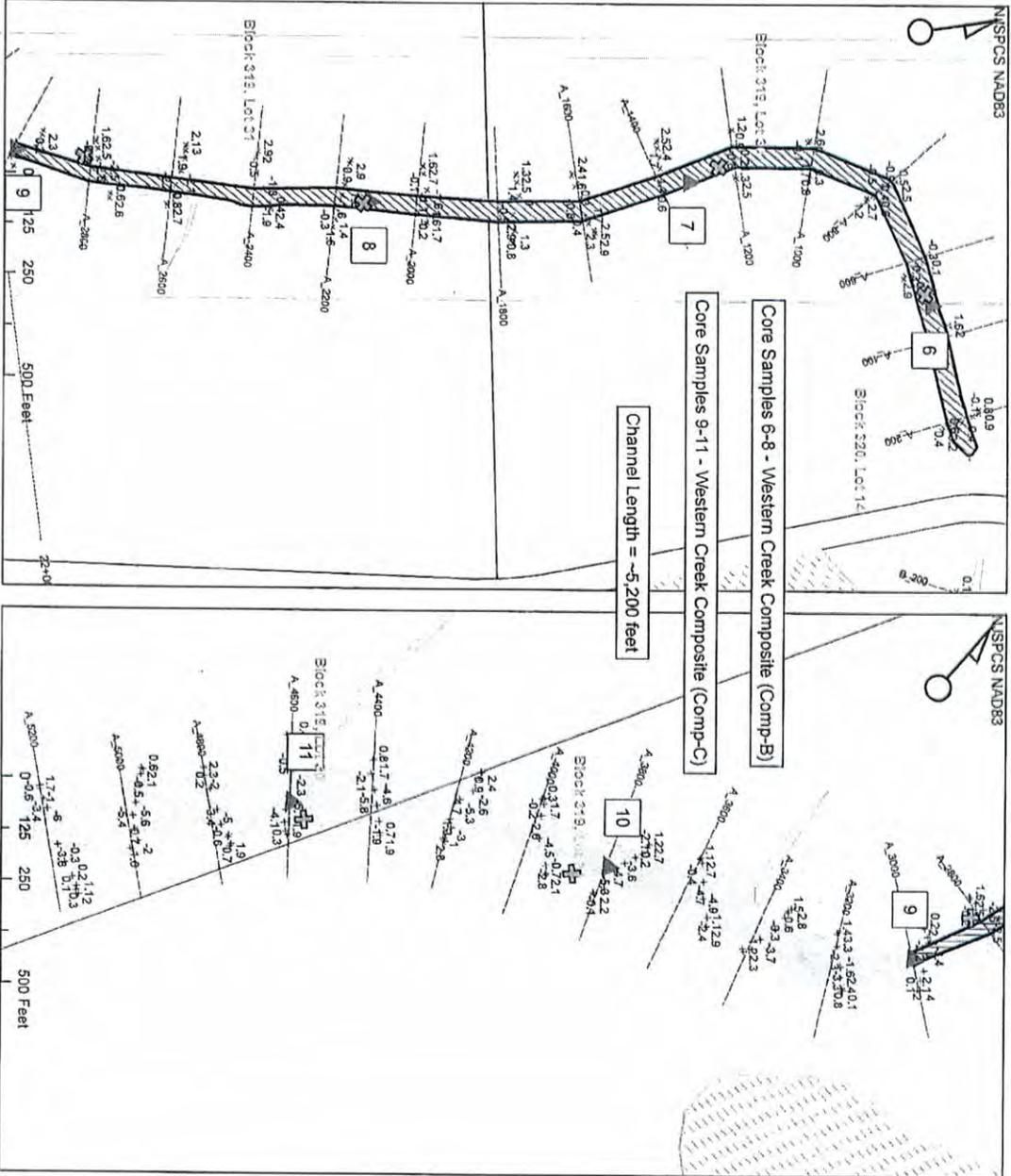
Parcel delineations were provided by the New Jersey Geographic Information Network.

Conversion from NAD83 to NAVD and MHW were determined using V Datum, created by the NOAA.

Core samples were collected September 20, 21 and 22, 2015. Core samples were collected using a piston core.

Core ID	Easting	Northing
B26	351753.942	134615.366
B27	351369.555	134458.902
B28	351336.491	133585.028
B29	351127.624	132928.705
B210	350321.879	132365.799
B211	349742.022	132032.761

Stockton University Coastal Research Center 30 Wilson Ave., Port Republic, NJ 08241		Sheet 6 of 6
Drawn by: Alexis Greiner	Checked by: Steven Bellini	Scale: 1 inch = 200 feet
	Frank Lenk NJ Land Surveyor GS232535	Date: 11/02/2016



## Western Creek Tidal Channel

# THOMPSONS BEACH MARSH RESTORATION PROJECT

This map shows the Western Creek tidal channel way. The dredge cut design shown, and the estimated volume calculations are based on an approximate 50ft wide cut with 4:1 sloped sides. Each side has a beginning elevation of -0.5ft and a maximum ending elevation at approximately -5.5ft NAD83. A 10ft wide middle section at elevation -8.5ft completes the 50ft wide maximum hopper cut. The dark shaded areas show the location of available material that are within the cut design.

The Western Creek has an estimated 13,635 cubic yards, of a total of 20,202 cubic yards of material available for dredging. The total volume needed to meet the placement estimates are 20,295 cubic yards.

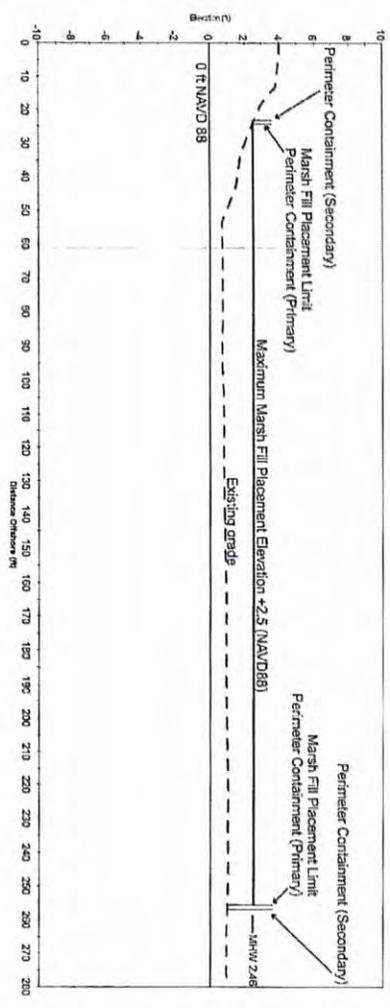
Sediment dredged from the Western Creek will only be utilized as needed in the placement areas to raise existing elevations to specified target range. Sediment dredged from the lower part of the Western Creek is to be utilized in the Southern Placement Area as needed to raise existing elevations to specified target range. Sediment dredged from the upper part of the Western Creek is to be utilized in the Eastern Placement Area as needed to raise existing elevations to specified target range.

Elevation survey conducted by the Coastal Research Center, Survey lines and elevations were determined using RTK GPS. Map coordinates are in NJSP NAD83 US Survey feet. Existing conditions were surveyed in July 2015 under the supervision of Frank Lenk.

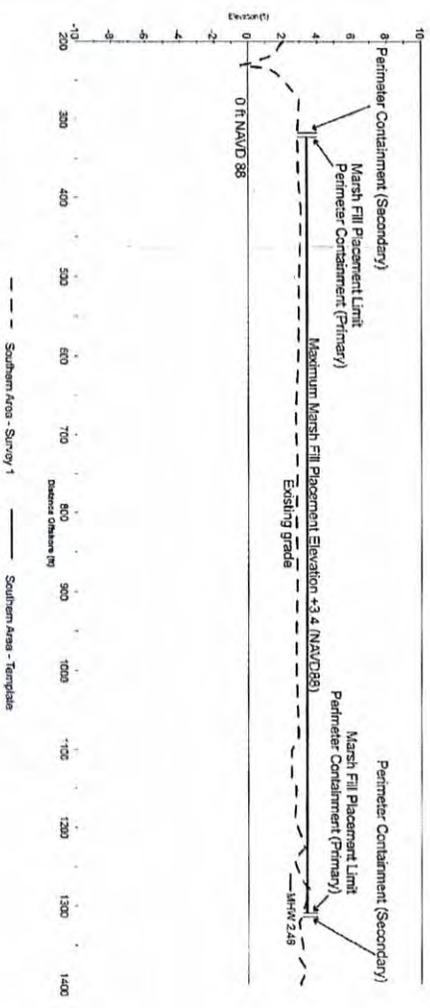
Proposed mitigation and soil protection designed by Dr. Stewart Farrell, PHD and Dr. Joseph Smith, PhD.

- Legend**
- ☒ Actual Core Locations
  - ▼ Proposed Core Locations
  - \* GPS Elevation Points
  - ▨ Available Material

Thompsons Marsh - Eastern Area - Section A  
 Typical Marsh Fill Placement Area Cross Sections  
 Total Fill Volume: 13,183 cu.yd/ft.



Thompsons Marsh - Southern Area - Section B  
 Typical Marsh Fill Placement Area Cross Sections  
 Total Fill Volume: 19,095 cu.yd/ft.



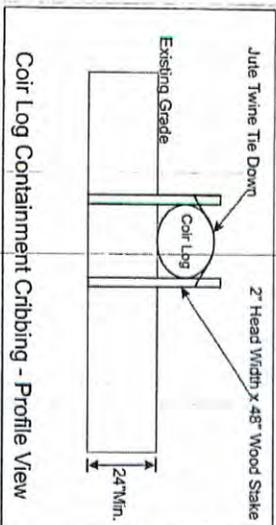
Plans for permitting only.

Existing conditions were surveyed in July 2015 under the supervision of Frank Lenik.

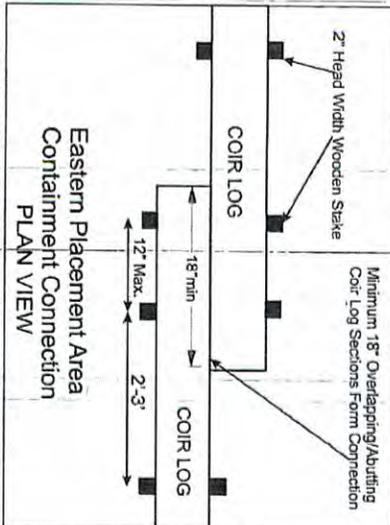
Proposed mitigation and soil protection designed by Dr. Stewart Farrell, PhD and Dr. Joseph Smith, PhD.

# THOMPSONS BEACH MARSH RESTORATION PROJECT

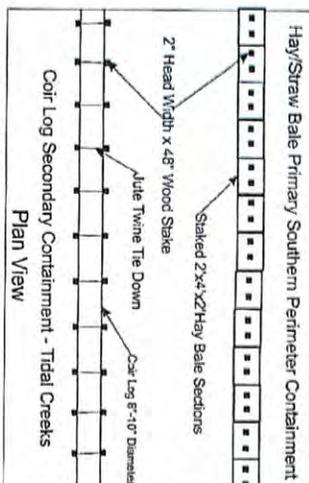
Stockton University Coastal Research Center 30 Wilson Ave., Port Republic, NJ 08241		Sheet 6 of 9	
Drawn by: Brad Smith	Checked By: Steven Palmer	Frank Lenik NJ Land Surveyor GSS62555	Date:
Date: 11/09/2016	Date:	Date:	Date:



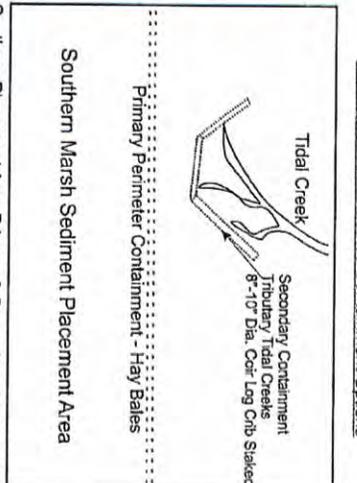
- Notes:
- 1) Crib All Coir Logs Using Wood Stakes to Stabilize
  - 2) 2"x2"x48" Wooden Stakes Recommended
  - 3) Notch Stakes Near Top for Twine
  - 4) Pound Stakes Tightly Next to Coir Logs. Leave Approximately 4" of Stake Above Log Surface
  - 5) Secure Twine in Notch, Tightly Knot Twine
  - 6) Pound Stake Approximately flush with Log Surface to Tighten Twine Tie Down



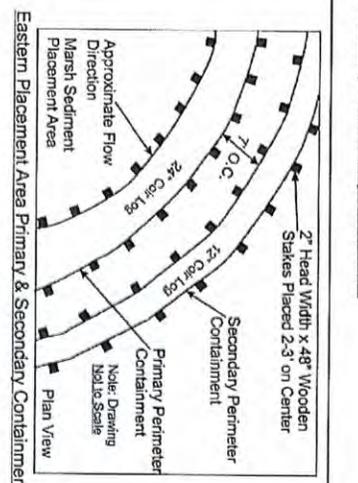
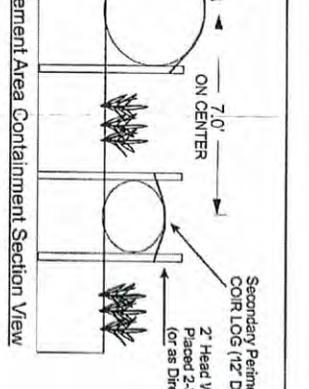
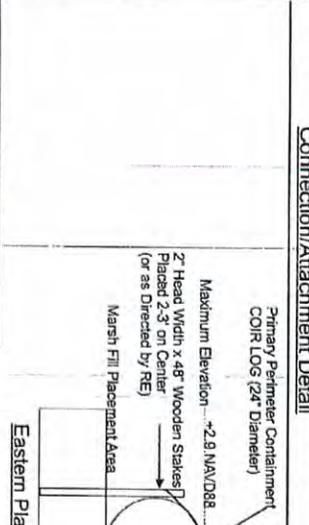
- Notes:
- 1) Crib All Coir Log Using Wood Stakes
  - 2) 2"x2"x48" Wooden Stakes Recommended
  - 3) Min. 18" Overlap of Coir Log at Connection
  - 4) Max. 12" Crib Spacing at Connection Overlap
  - 5) Recommended Crib Spacing 3' for 12" Coir Log
  - 6) Recommended Crib Spacing 2' for 24" Coir Log
  - 7) Primary Containment 24" Coir Log
  - 8) Secondary Containment 12" Coir Log
  - 9) Biodegradable Twine for Cribbing Tightly Knot
  - 10) Notch Stake Near Top for Twine Tightly Knot



- Notes:
- 1) Southern Area Install Primary Containment Along Downslope Perimeter
  - 2) Install 2'x4'x2' Hay/Straw Bales Along Perimeter
  - 3) Tightly Abut Adjacent Bales End to End
  - 4) Face Binding Wire or Twine Out to Slow Decay
  - 5) Stake Each Bale in Two Points on Center
  - 6) 2"x2"x48" Wooden Stakes Recommended
  - 7) Angle First Stake Toward the Previously Laid Bale to Force Bales Together
  - 8) Crank any Small Gaps with Straw
  - 9) Sprinkle Loose Hay Over Immediate Area Up Flow
  - 10) Inspect Barrier After Rainfall or Flooding. Repair as Needed



- Notes:
- 1) Secondary Containment Silt Barrier
  - 2) Use Coir Log at Adjacent Tributary Tidal Creeks
  - 3) Place Log Along Upper Bank of Tidal Creek
  - 4) Install 8'-10" Coir Log Cribbed Staked to Stabilize
- Note: Drawings Not to Scale



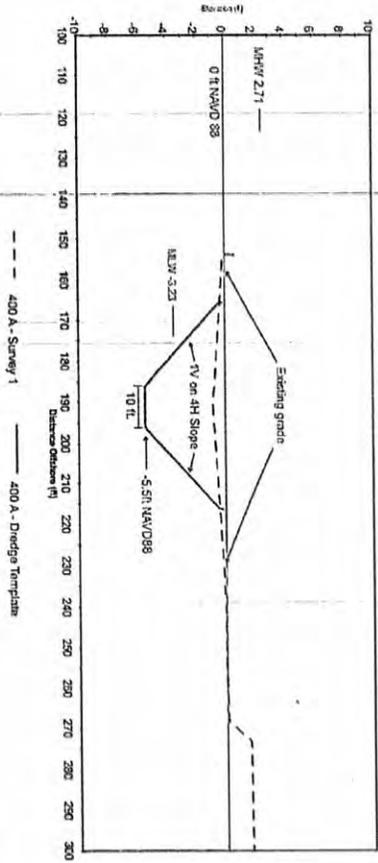
Note: Drawings Not to Scale

Stockton University Coastal Research Center 30 Wilson Ave., Port Republic, NJ 08241		Sheet 7 of 9	
Drawn by: Brad Smith	Checked by: Steven Heiler	Scale: Not to Scale	Date: 11/02/2016
Frank Lenik NJ Land Surveyor GS392555		Date:	

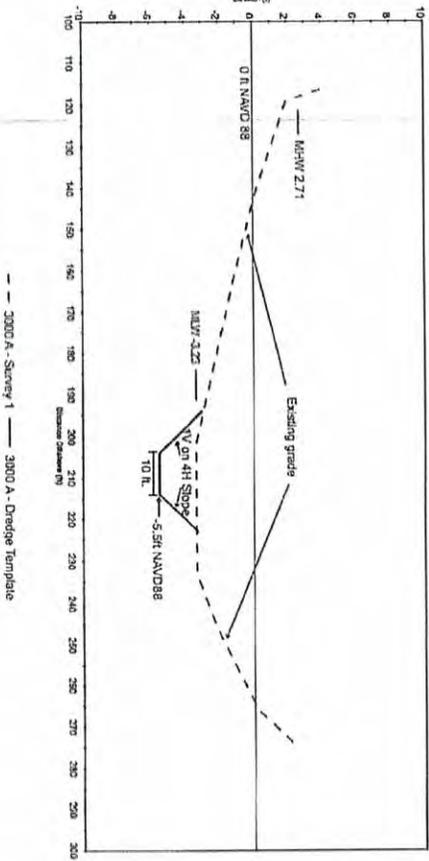
Plans for permitting only.  
Existing conditions were surveyed in July, 2015 under the supervision of Frank Lenik.  
Proposed mitigation and soil protection designed by Dr. Stewart Farrell, PhD and Dr. Joseph Smith, PhD.

# THOMPSONS BEACH MARSH RESTORATION PROJECT

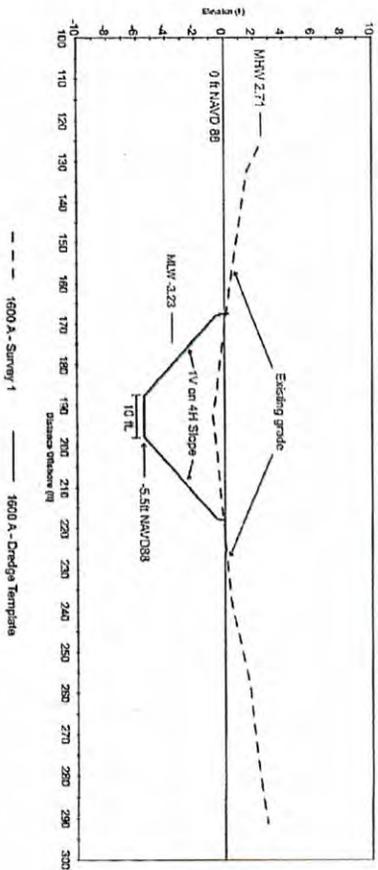
Thompsons Creek A  
 Typical Line: 4+00 A  
 Proposed Maintenance Dredge Cut  
 Total Dredge Volume: 5,257 cu.yd/ft.



Thompsons Creek A  
 Typical Line 30+00 A  
 Proposed Maintenance Dredge Cut  
 Total Dredge Volume: 1,201 cu.yd/ft.



Thompsons Creek A  
 Typical Line: 16+00 A  
 Proposed Maintenance Dredge Cut  
 Total Dredge Volume: 5,737 cu.yd/ft.

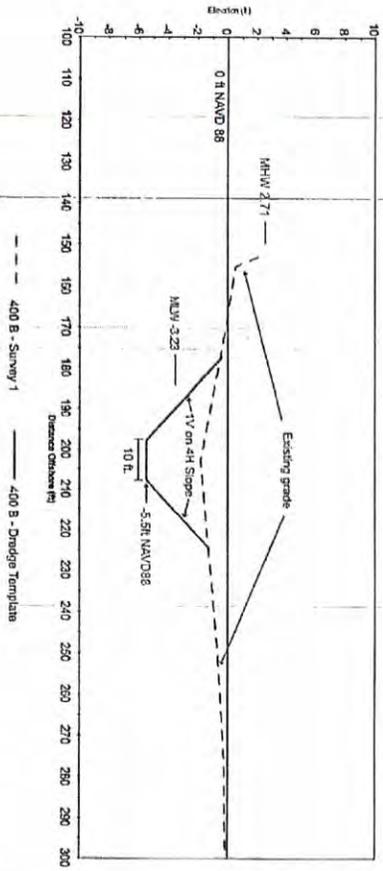


Stockton University/ Coastal Research Center 30 Wilson Ave., Port Republic, NJ 08241		Sheet 8 of 9	
Drawn by: Brad Smith	Checked By: Steven Holmer	Scale: As Shown	Date: 11/09/2016
Frank Lenik	NJ Land Surveyor		
	GS3932955		

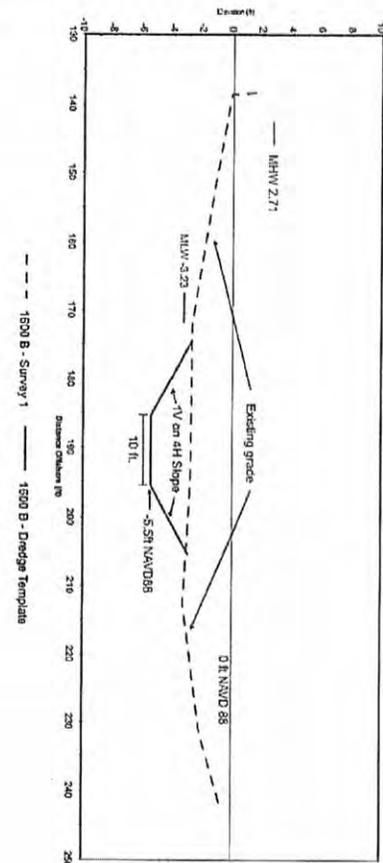
Plans for permitting only.  
 Existing conditions were surveyed in July 2015 under the supervision of Frank Lenik.  
 Proposed mitigation and soil protection designed by Dr. Stewart Farrell, PhD and Dr. Joseph Smith, PhD.

# THOMPSONS BEACH MARSH RESTORATION PROJECT

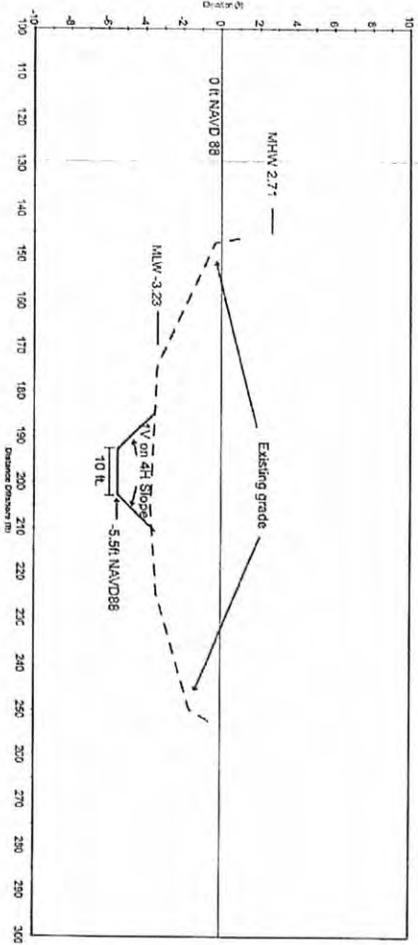
Thompsons Creek B  
 Typical Line: 4+90 B  
 Proposed Maintenance Dredge Cut  
 Total Dredge Volume: 4,003 cu.yd/ft.



Thompsons Creek B  
 Typical Line 20+90 B  
 Proposed Maintenance Dredge Cut  
 Total Dredge Volume: 1,173 cu.yd/ft.



Thompsons Creek B  
 Typical Line: 19+00 B  
 Proposed Maintenance Dredge Cut  
 Total Dredge Volume: 2,025 cu.yd/ft.



Stockton University Coastal Research Center 30 Wilson Ave., Port Republic, NJ 08241		Sheet 9 of 9	
Drawn by: Brad Smith	Checked By: Steven Hahn	Scale: As Shown	Date: 11/09/2016
		Frank Lenik NJ Land Surveyor GS362555	

Plans for permit:  
 Existing conditions were surveyed in July 2015 under the supervision of Frank Lenik.  
 Proposed mitigation and soil protection designed by Dr. Stewart Farrell, PhD and Dr. Joseph Smith, PhD.

# THOMPSONS BEACH MARSH RESTORATION PROJECT

**C13 Stockbridge-Munsee Mohican Section 106 Tribal Consultation Email**

**From:** [Bonney Hartley](#)  
**To:** [Minnichbach, Nicole C CIV USARMY CENAP \(US\)](#)  
**Subject:** [EXTERNAL] RE: Project Review Request - 2017-00042 Thompsons Beach Thin Cast sediment for marsh stabilization (UNCLASSIFIED)  
**Date:** Wednesday, January 24, 2018 10:54:09 AM

---

Hi Nikki,  
This project is not in our area of interest in New Jersey so we have no comment.  
Thank you,  
Bonney

Bonney Hartley  
Tribal Historic Preservation Officer  
Stockbridge-Munsee Mohican Tribal Historic Preservation  
Extension office  
65 1st Street  
Troy, NY 12180  
(518) 244-3164  
[Bonney.Hartley@mohican-nsn.gov](mailto:Bonney.Hartley@mohican-nsn.gov)  
Blocked[www.mohican-nsn.gov](http://www.mohican-nsn.gov)

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

**From:** Minnichbach, Nicole C CIV USARMY CENAP (US) [<mailto:Nicole.C.Minnichbach@usace.army.mil>]  
**Sent:** Wednesday, January 24, 2018 9:51 AM  
**To:** Arnold Printup ([arnold.printup@srmt-nsn.gov](mailto:arnold.printup@srmt-nsn.gov)) <[arnold.printup@srmt-nsn.gov](mailto:arnold.printup@srmt-nsn.gov)>; Bonney Hartley <[Bonney.Hartley@mohican-nsn.gov](mailto:Bonney.Hartley@mohican-nsn.gov)>; Dee Gardner <[dgardner@estoo.net](mailto:dgardner@estoo.net)>; jay.toth@sni.org; Bergevin, Jesse <[jbergevin@oneida-nation.org](mailto:jbergevin@oneida-nation.org)>; kpenrod <[kpenrod@delawarenation.com](mailto:kpenrod@delawarenation.com)>; Temple University Archaeology <[temple@delawaretribe.org](mailto:temple@delawaretribe.org)>  
**Subject:** Project Review Request - 2017-00042 Thompsons Beach Thin Cast sediment for marsh stabilization (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good Morning,

I am requesting your review of the attached information and your concurrence that No Historic Properties would be affected by the proposed thin cast of dredged material sediments into a depleted portion of a tidal wetland in order to stabilize the marsh platform. The site is located at Thompsons Beach, New Jersey

I have reviewed the information, and have determined that the proposed permit action will have No Effect to historic properties eligible for or listed on the NRHP. I believe that the area was previously scoured due to water action and erosion, and that the placement of sediment would serve to protect any cultural resource deposits that may remain within this area.

Please review the attached information and let me know if you have any questions or comments.

Greatly appreciated

Respectfully,

Nicole Cooper Minnichbach  
Cultural Resource Specialist and Tribal Liaison (CRSTL) US Army Corps of Engineers Philadelphia District  
(O) 215-656-6556

(M) 215-834-1065

CLASSIFICATION: UNCLASSIFIED

**C14 Seneca Nation Section 106 Tribal Consultation Email**

**From:** [Jay Toth](#)  
**To:** [Minnichbach, Nicole C CIV USARMY CENAP \(US\)](#)  
**Subject:** [EXTERNAL] RE: Resend - Request for Review - Thompsons Beach Marsh Restoration (UNCLASSIFIED)  
**Date:** Wednesday, January 24, 2018 10:33:32 AM

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SNI-THPO has no issue with the proposed restoration project.

FYI- when sending attachments, please keep them under 1m.

thanks  
JAY toth, MA, MS

Seneca Nation  
Tribal Archeologist  
90 OHI:YO WAY  
Salamanca, NY 14779

(716)-945-1790  
Ext. 3582

Blocked <https://sni.org/>

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

From: Minnichbach, Nicole C CIV USARMY CENAP (US) [<mailto:Nicole.C.Minnichbach@usace.army.mil>]  
Sent: Wednesday, January 24, 2018 10:07 AM  
To: Jay Toth; kpenrod  
Subject: Resend - Request for Review - Thompsons Beach Marsh Restoration (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good morning,

I just tried to send you an email with several attachments, and they seem to have been too large to send. So I made the files smaller and am resending.

I am requesting your review of the attached information and your concurrence that No Historic Properties would be affected by the proposed thin cast of dredged material sediments into a depleted portion of a tidal wetland in order to stabilize the marsh platform. The site is located at Thompsons Beach, New Jersey

I have reviewed the information, and have determined that the proposed permit action will have No Effect to historic properties eligible for or listed on the NRHP. I believe that the area was previously scoured due to water action and erosion, and that the placement of sediment would serve to protect any cultural resource deposits that may remain within this area.

Please review the attached information and let me know if you have any questions or comments.

Greatly appreciated

Respectfully,

Nicole Cooper Minnichbach  
Cultural Resource Specialist and Tribal Liaison (CRSTL) US Army Corps of Engineers Philadelphia District  
(O) 215-656-6556

(M) 215-834-1065

CLASSIFICATION: UNCLASSIFIED

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