

PROGRAMMATIC AGREEMENT
AMONG
THE U. S. ARMY CORPS OF ENGINEERS, NEWYORK DISTRICT,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
THE NEW YORK STATE OFFICE OF PARKS, RECREATION, AND HISTORIC
PRESERVATION,
THE NATIONAL PARK SERVICE,
SUFFOLK COUNTY,
AND
THE SHINNECOCK INDIAN NATION
REGARDING
THE FIRE ISLAND INLET TO MORICHES INLET,
FIRE ISLAND STABILIZATION PROJECT

WHEREAS, the U. S. Army Corps of Engineers, New York District (District), is undertaking a stabilization plan for coastal storm risk management along the south shore of Long Island from Fire Island Inlet to Moriches Inlet, Suffolk County, New York (Appendix A; Undertaking); and

WHEREAS, the Area of Potential Effect (APE) for the Project is defined as the beach, near shore and off-shore borrow areas and consists of dune and berm construction, as well as real estate acquisitions and relocations (Appendix A); and

WHEREAS, the District has been conducting remote sensing and cultural resources surveys within the APE, including Borrow Areas 2C and 5B, and the New York State Historic Preservation Office (NYSHPO) has been provided all survey reports for review (Appendix B); and

WHEREAS, the Fire Island Light Station National Historic District is located within the APE; in addition a number of properties that have been determined to be eligible or potentially eligible for the National Register of Historic Places (NRHP) area also located within the APE. They include ten houses in the communities of Corneille Estates, Ocean Bay Park, Seaview, Cherry Grove and Fire Island Pines; the former Point O' Woods Life Saving Station, and the community of Point O' Woods (JMA 1998); thirteen historic period sites consisting of the archaeological remains of life saving stations, refuse middens, a farm boundary and the remains of the recreational facilities (Site A103-05-000605 Robert Moses State Park) and residences (Gray and Pape 2005); and

WHEREAS, there are areas within the APE that were not included in the original near-shore/tidal zone survey or borrow area survey, which may have resources that are eligible for the National Register that may be impacted by the Undertaking and the structures to be acquired for demolition or relocated will need to be assessed to determine if any are eligible or listed on the National Register; and

WHEREAS, the District shall implement the provisions of this PA as funding for the

Undertaking is appropriated in future years; and

WHEREAS, the District has consulted with the New York State Historic Preservation Office (NYSHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

WHEREAS, the District has invited the Advisory Council on Historic Preservation (Council), the National Park Service and the Shinnecock Indian Nation, have been invited to participate in this Programmatic Agreement (PA); and

WHEREAS, the District provided for public review of this PA through public outreach through the local community; and

NOW, THEREFORE, the New York District, and the NYSHPO agree that the Undertaking shall be administered in accordance with the following stipulations to satisfy the New York District's Section 106 responsibility for this undertaking. The adverse effect caused as a result of this project will be mitigated through the following stipulations:

STIPULATIONS

The New York District shall ensure that the following measures are carried out:

I. NEAR SHORE/TIDAL ZONE – IDENTIFICATION OF TARGETS

- A. The District shall conduct a remote sensing survey of all areas with the APE that were not previously surveyed in which sand will be placed and for which the limit of fill will extend into the near shore area.
- B. The District shall evaluate the targets identified by this remote sensing survey as potential resources to determine if they are cultural resources. If determined to be cultural resources, an assessment of the integrity of the sites and their historic significance, in accordance with the eligibility criteria of the National Register of Historic Places, will be conducted. Following that evaluation a determination will be made regarding the effect the Undertaking will have on any items determine to be eligible for the National Register and the need for further work.
- C. The District shall also re-survey the areas including the four potentially significant anomalies identified in 2003 to determine if any of these anomalies represent a historic property and if a historic property, will be adversely affected by the Undertaking. Following that evaluation a determination will be made as to the need for further work.
- D. The District will coordinate these investigations of the near shore/tidal zone with the NYSHPO, the National Park Service, the Shinnecock Indian Nation, and other interested parties.

II. BORROW AREA INVESTIGATIONS

- A. A remote sensing (magnetometer and side scan sonar survey) of Borrow Area 4C will be conducted to identify any potential cultural resources.
- B. If a cultural resource(s) is identified, the District will designate a buffer zone around each potential resource, as determined by the nature of the anomaly/return. Buffer zone(s) shall be clearly delineated on construction plans. No construction activities, including the removal of sand, anchoring, etc., that could potentially impact the wrecks will occur within the designated buffer zones.
- C. Should new borrow areas, in addition to the ones already identified (2C, 4C and 5B) be required the proposed locations shall be surveyed for historic resources employing the appropriate level of survey and shall be coordinated with the NYSHPO and other interested parties.

III. REAL ESTATE ACQUISITIONS AND RELOCATIONS

- A. The District will identify the properties to be acquired and/or relocated and determine if these properties are eligible for the National Register.
- B. If a property is determined to be eligible for the National Register; the District will consult with the NYSHPO, the National Park Service and other interested parties to develop a treatment plan.
- C. If any additional properties are added to be acquired and/or relocated, the District will determine if these properties are eligible for the National Register and consult with the NYSHPO, the National Park Service and other interested parties to develop a treatment plan.
 - 1. Identification and Evaluation: Qualified staff shall determine, in consultation with the SHPO and Participating Tribes if the APE contains historic properties, including archaeological sites or properties of religious or cultural significance, that are listed in or potentially eligible for the National Register. This may include the review of preliminary documentation collected by the District in coordination with the SHPO.
 - a. Archaeological Properties, The District may consult with the SHPO to determine the level of effort and methodology necessary to identify and define the limits of archaeological properties. For historic properties of religious and cultural significance to Participating Tribe(s), the District shall consult with the Tribe(s) to identify geographic areas where properties may be affected by an Undertaking in order so that the District may determine the necessary level of effort required to avoid or protect any such properties.

- b. National Historic Landmarks: When the District determines an Undertaking has the potential to affect an NHL, the District shall notify the Secretary through the NHL Program Manager in the NPS Northeast Regional Office in addition to the SHPO and Participating Tribe(s).
 - c. Determinations of Eligibility: The District shall review or determine National Register eligibility based on identification and evaluation efforts, and consult with SHPO and Participating Tribe(s) regarding these determinations. Should the SHPO or Participating Tribe(s) disagree with the determination of eligibility, the District may elect to either continue consultation, treat the property as eligible for the National Register, or to obtain a determination of eligibility from the Keeper of the National Register in accordance with 36 CFR § 63.2(d)-(e) and 36 CFR § 800.4(c)(2).
 - d. Findings of No Historic Properties Affected: The District shall make a finding of "no historic properties affected" if no historic properties are present in the APE; the Undertaking is designed to avoid historic properties, including archaeological sites or properties of religious or cultural significance to Participating Tribe(s); or the Undertaking does not affect the character defining features of a historic property.
 - i. The District shall notify the SHPO, Participating Tribes(s), and any other consulting parties of this finding and provide supporting documentation in accordance with 36 CFR § 800.11(d) and applicable documentation standards. Unless the SHPO or Participating Tribe(s) objects to the finding pursuant to the appropriate timeframe outlined in Stipulation I.E.2 or I.E.3, Timeframes, the District shall complete the Section 106 review.
 - ii. If the SHPO or Participating Tribe(s) objects to a finding of "no historic properties affected", the District may elect to consult with the objecting party to resolve the disagreement. If the objection is resolved, the District may proceed with the action in accordance with the resolution. The District also may elect to reconsider effects on the historic property by applying the criteria of adverse effect pursuant to Stipulation II.D.4, Application of the Criteria of Adverse Effect. If the District is unable to resolve the disagreement, it will forward the finding and supporting documentation to the ACHP and request that the ACHP review the District's finding in accordance with 36 CFR § 800.4(d)(1)(iv)(A) through 36 CFR § 800.4(d)(1)(iv)(C). The District will consider the ACHP's recommendation in making its final determination.
2. Application of the Criteria of Adverse Effect: If the District finds an Undertaking may affect identified historic properties in the APE, including properties of religious or cultural significance to Participating Tribe(s), or if a

consulting party objects to the finding of "no historic properties affected," the District will apply the criteria of adverse effect to historic properties within the APE(s), taking into account the views of the consulting parties and public concerning effects in accordance with 36 CFR § 800.5(a).

- a. If the District determines that an Undertaking does not meet the adverse effect criteria or, for a standing structure, that the Undertaking meets the Standards, the District shall propose a finding of "no adverse effect" in accordance with 36 CFR § 800.5(b).

IV. PUBLIC INVOLVEMENT AND OUTREACH

- A. The District shall inform the public of the existence of this PA and the District's plan for meeting the stipulations of the PA. Copies of this agreement and relevant documentation prepared pursuant to the terms of this PA shall be made available for public inspection. Information regarding the specific locations of terrestrial and submerged archaeological sites, including potential wreck areas, will be withheld in accordance with the Freedom of Information Act and National Register Bulletin No. 29, if it appears that this information could jeopardize archaeological sites. Any comments received from the public related to this PA shall be taken into account by the District.
- B. Public Objections. The District shall review and resolve in a timely manner any substantive public objections. Public objections shall be considered timely when they are provided within the review periods specified in Section VIII (A) of this PA.

The District shall consult with the NYSHPO, and as appropriate, the Council, to resolve objections. Study actions which are not the subject of the objection may proceed while consultation regarding the objection is conducted.

- C. The District shall develop, in coordination with the NYSHPO, the National Park Service, and other interested parties, publically accessible information about the cultural resources and historic properties investigations for the Undertaking in the form of brief publication(s), exhibit(s), or website.

V. UNANTICIPATED DISCOVERY

- A. If previously unidentified and unanticipated properties are discovered during the Undertaking, the District shall cease all work in the vicinity of the discovery until it can be evaluated in accordance with 36 CFR Part 800.13 "Post Review Discoveries". If the property is determined to be eligible, the District shall consult with the NYSHPO, and others as necessary, to develop a treatment plan.
- B. The District shall implement the treatment plan once approved by the NYSHPO.

VI. HUMAN REMAINS

If any human remains and/or grave-associated artifacts are encountered during any of the investigations, including data recovery, the District follow the NYSHPO Human Remains Discovery Protocol (2008 Appendix C) and, as appropriate, develop a treatment plan for human remains that is responsive to the Council's Policy Statement on Human Remains" (September 27, 1988), the Native American Graves Protection and Repatriation Act (PL 101-601) and, US Army Corps of Engineers, Policy Guidance Letter No. 57 (1998) Indian Sovereignty and Government-to-Government Relations with Indian Tribes.

VII. PROFESSIONAL QUALIFICATIONS

The District shall ensure that qualified professionals meeting the National Park Service professional qualifications for the appropriate discipline [National Park Service Professional Qualification Standards, Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44738-39)] are used to complete all identification and evaluation plans related to this undertaking, to include remote sensing surveys, underwater investigations, historic structure inventory and documentation.

VIII. ADMINISTRATIVE TERMS A.

REVIEW PERIODS

1. The District shall ensure that all draft and final reports resulting from action pursuant to this PA will be provided to the NYSHPO, Council, National Park Service, the Shinnecock Indian Nation, and, upon request, to other interested parties.
2. The NYSHPO, Council, the Shinnecock Indian Nation, and any other interested party shall have 30 calendar days to review and/or object to determinations, evaluations, plans, reports and other documents submitted to them by the District.
3. Any comments and/or objections resulting from a review of any District determination, evaluations, plans, reports and other documents, must be provided in writing to the District.
4. If comments, objections, etc., are not received within 30 calendar days, the District will assume concurrence with the subject determination, evaluation, plan, report or other document submitted.

B. DISPUTE RESOLUTION

1. The District and the signatories shall attempt to resolve any disagreement arising from implementation of this PA. If there is a determination that the disagreement cannot be resolved, the District shall request the Council's recommendations or request the comments of the Council in accordance with 36 CFR Part 800.7(c).

2. Any Council recommendations or comments provided in response will be considered in accordance with 36 CFR Part 800.7(c), with reference only to the subject of the dispute. The District shall respond to Council recommendations or comments indicating how the District shall respond to Council recommendations or comments indicating how the District has taken the Council's recommendations or comments into account and complied with the Council's recommendations or comments prior to proceeding with the Undertaking activities that are the subject to dispute. Responsibility to carry out all other actions under this PA that are not the subject of the dispute will remain unchanged.
3. If the ACHP does not provide its advice regarding the dispute within the thirty (30) calendar day time period, the New York District may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the New York District shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.

C. TERMINATION

Any signatory to this PA may terminate it by providing 30 calendar days notice to the signatories, provided that the signatories will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, the District will comply with 36 CFR 800.4 through 800.6 with regard to individual undertakings covered by this Agreement.

D. SUNSET CLAUSE

This PA will continue in full force and effect until the construction of the Undertaking is complete and all terms of this PA are met, unless the Undertaking is terminated or authorization is rescinded or a period of five years from execution of the PA has passed, as which time the agreement may be extended as written provided all signatories concur.

E. AMENDMENT

This PA may be amended upon agreement in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the Council.

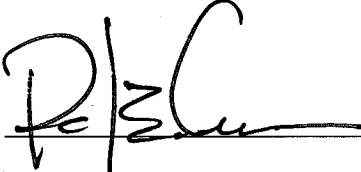
F. ANTI-DEFICIENCY ACT

All requirements set forth in this PA requiring expenditure of funds by the District are expressly subject to the availability of appropriations and the requirements of the Anti-Deficiency Act (31 U.S.C. 1341). No obligation undertaken by the District under the terms of this PA shall require or be

interpreted to require a commitment cannot perform any obligation set forth in this PA because of unavailability of funds that obligation must be renegotiated among the District and the signatories as necessary.

PROGRAMMATIC AGREEMENT
THE FIRE ISLAND INLET TO MORICHES INLET, FIRE
ISLAND STABILIZATION PROJECT

U.S. ARMY CORPS OF ENGINEERS

By:  Date: 25 Aug 2014

Paul Owen, P.E.
Colonel, Corps of Engineers
Commanding

PROGRAMMATIC AGREEMENT
THE FIRE ISLAND INLET TO MORICHES INLET, FIRE
ISLAND STABILIZATION PROJECT

NEW YORK STATE HISTORIC PRESERVATION OFFICE

By: Rustie P. Pappant Date: 8/25/14



DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

December 20, 1999

REPLY TO
ATTENTION OF

Environmental Analysis Branch
Environmental Assessment Section

Cynthia Blakemore
Historic Preservation Program Analyst
Historic Preservation Field Services Bureau
New York State Office of Parks, Recreation and
Historic Preservation
Peebles Island
P.O. Box 189
Waterford, New York 12188-0189

RE: CORPS
Storm Damage Protection/Fire Island Inlet
Moriches Inlet
Islip/Brookhaven, Suffolk County
96 PR1724

Dear Ms. Blakemore,

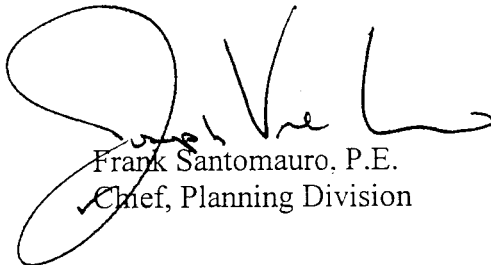
As you are aware the U.S. Army Corps of Engineers, New York District (New York District), is currently undertaking a number of studies to identify potentially significant cultural resources within the above referenced project area to determine if the proposed project would have an effect on any identified resources. As part of these studies, the New York District has conducted a remote sensing survey of the near shore sand placement area. Enclosed is a copy of the draft report entitled "Remote Sensing Survey, Tidal Zone and Near Shore Project Area, Atlantic Coast of Long Island, Fire Island Inlet to Moriches Inlet, Fire Island, Suffolk County, New York, Interim Project" (Enclosure 1).

The survey consisted of a near-shore survey utilizing a side scan sonar and magnetometer and a low-water survey using a magnetometer to identify targets and anomalies that may represent potentially significant submerged cultural resources. The total survey effort identified 78 anomalies within the entire project area. The analysis of the data suggests that 52 anomalies are non-significant and require no further work. The remaining 26 anomalies fit the criteria for potentially significant submerged cultural resources. Of these anomalies, four have a side scan signature associated with a magnetic anomaly indicating a portion of the target lies above the sea bed. It is not anticipated that covering the potentially significant resources with sand will constitute an adverse effect. Potentially harmful activities associated with beach fill operations, such as anchoring, anchor dragging or dredging, will not occur in locations where potentially significant resources have been identified and no further work is recommended. If, however, project

plans change to include any activities that may disturb these resources, then additional work, including underwater investigations, may be required.

Please review and provide comments on the enclosed draft report in accordance with Section 106 of the National Historic Preservation Act and 36 CFR 800.4. Please note this report contains sensitive information regarding the location of potentially significant cultural resources that should not be released to the public. Two versions of the final remote sensing report, one with locational data and one without, will be provided to your office once all comments are received and incorporated into the report. If you have any questions or require additional information, please call Nancy Brighton, Project Archaeologist, at (212) 264-2198. Thank you for your assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Frank Santomauro", written over the printed name and title.

Frank Santomauro, P.E.
Chief, Planning Division

Enclosure

cf. Mark Peckham, New York State Office of Parks, Recreation and Historic
Preservation
Larry Murphy, Submerged Cultural Resources Unit, National Park Service
Steve Pendry, Northeast, Cultural Resources Center, National Park Service
Constantine Dillon, Fire Island National Seashore, National Park Service



DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

December 20, 1999

REPLY TO
ATTENTION OF

Environmental Analysis Branch
Environmental Assessment Section

Constantine J. Dillon
Superintendent
Fire Island National Seashore
National Park Service
120 Laurel Street
Patchogue, New York 11772-3596

RE: Remote Sensing Survey
Tidal Zone and Near Shore Area
Fire Island, Suffolk County
New York

Dear Superintendent Dillon,

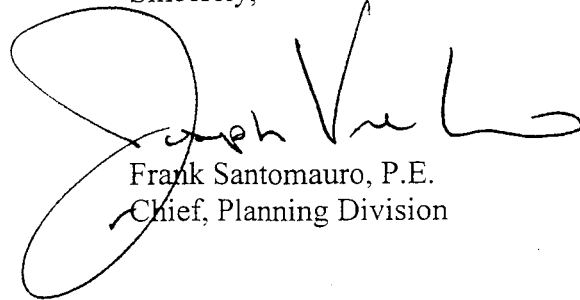
As you are aware the U.S. Army Corps of Engineers, New York District (New York District) has recently completed a remote sensing survey along twelve miles of the Fire Island coastline, including a portion of the Fire Island National Seashore. The remote sensing survey consisted of a survey of the near shore area using a side scan sonar and magnetometer and a low water survey using a magnetometer. Enclosed is a copy of the report entitled "Remote Sensing Survey, Tidal Zone and Near Shore Project Area, Atlantic Coast of Long Island, Fire Island Inlet to Moriches Inlet, Fire Island, Suffolk County, New York, Interim Project" (Enclosure 1). The comments assembled by my staff are provided for your review (Enclosure 2).

The total survey effort identified 78 anomalies within the entire project area. The analysis of the data suggested that 52 anomalies are non-significant and require no further work. The remaining 26 anomalies fit the criteria for potentially significant submerged cultural resources. Of these anomalies, four have a side scan signature associated with a magnetic anomaly indicating a portion of the target lies above the sea bed. It is not anticipated that covering the potentially significant resources with sand will constitute an adverse effect. Potentially harmful activities associated with beach fill operations, such as anchoring, anchor dragging or dredging, will not occur in locations where potentially significant resources have been identified and no further work is recommended. If, however, project plans change to include any activities that may disturb these resources, then additional work, such as an underwater investigation, may be required.

Please review and provide comments on the enclosed report by January 31, 2000. Please note this report contains sensitive information regarding the location of potentially significant cultural resources, which should not be released to the public. Two versions of the final remote sensing report, one with locational data, and one without, will be

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Enclosures

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 Steve Pendry, Northeast Cultural Resources Center, National Park Service
 Mark Peckham, New York State Office of Parks, Recreation and Historic
 Preservation
 Cynthia Blakemore, New York State Office of Parks, Recreation and Historic
 Preservation



DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

December 20, 1999

REPLY TO
ATTENTION OF

Environmental Analysis Branch
Environmental Assessment Section

Larry Murphy
Submerged Cultural Resources Unit
National Park Service
P.O. Box 728
Santa Fe, New Mexico 87504-0728

RE: Remote Sensing Survey
Tidal Zone and Near Shore Area
Fire Island, Suffolk County
New York

Dear Mr. Murphy,

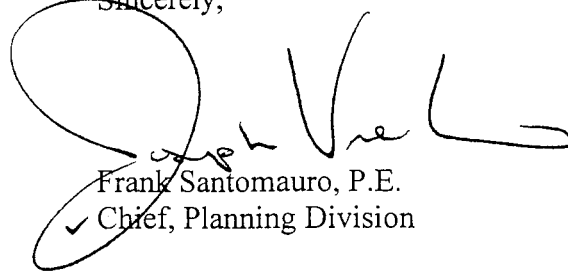
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Frank Santomauro, P.E.
✓ Chief, Planning Division

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Cynthia Blakemore, New York State Office of Parks, Recreation and Historic
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Steve Pendry, Northeast Cultural Resources Center, National Park Service
Constantine Dillon, Fire Island National Seashore, National Park Service



DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

December 20, 1999

REPLY TO
ATTENTION OF

Environmental Analysis Branch
Environmental Assessment Section

Steve Pendry
Archaeology Branch
Northeast Cultural Resources Center
National Park Service
400 Foot of John Street
Lowell, Massachusetts 01852

RE: Remote Sensing Survey
Tidal Zone and Near Shore Area
Fire Island, Suffolk County
New York

Dear Mr. Pendry,

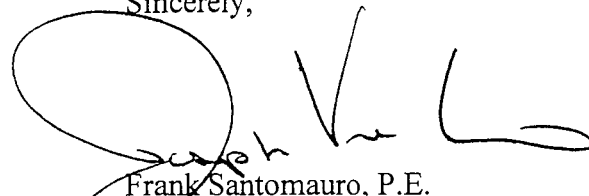
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Cynthia Blakemore, New York State Office of Parks, Recreation and Historic
Preservation
Larry Murphy, Submerged Cultural Resources Unit, National Park Service
Constantine Dillon, Fire Island National Seashore, National Park Service



Bernadette Castro
Commissioner

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189

518-237-8643

March 23, 2000

Frank Santomauro, P.E.
Chief, Planning Division
U.S. Army Corps of Engineers
New York District
Jacob K. Javits Federal Building
New York, New York 10278-0090

Dear Mr. Santomauro:

Re: CORPS
Storm Damage Protection/Fire Island
Inlet-Moriches Inlet
Brookhaven/Islip, Suffolk County
96PR1724

The State Historic Preservation Office (SHPO) has reviewed the information submitted for this project. Our review has been in accordance with Section 106 of the National Historic Preservation Act and relevant implementing regulations.

The SHPO has reviewed the Remote Sensing Survey prepared for the project. While we do not have concerns with the filling over the anomalies which are entirely beneath the sea bed, we are concerned with placing fill on the four having a side scan signature. We recommend diver verification of the four anomalies (#2, 13, 63, and 78) so we can determine whether filling is appropriate for these potentially significant resources.

If you have any questions, please contact Cynthia Blakemore at (518) 237-8643, extension 3288.

Sincerely,

Ruth L. Pierpont
Director

RLP:bsd



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE
Fire Island National Seashore
120 Laurel Street
Patchogue, New York 11772

February 10, 2000

L7617 (FIIS)

Mr. Frank Santomauro
Chief, Planning Division
Department of the Army
New York District, Corps of Engineers
Jacob K. Javits Federal Building
New York, NY 10278-0090

Dear Mr. Santomauro:

Thank you for the opportunity to review the U.S. Army Corps of Engineers' draft report, Remote-Sensing Survey, Tidal Zone and Near-Shore Project Area, Atlantic Coast of Long Island, Fire Island Inlet to Moriches Inlet, Fire Island, Suffolk County, New York Interim Project. We found the study to be adequate but had a number of concerns that are outlined below.

- Longman*

(+1)

■ The remote sensing study is adequate, but the model used, 50 gammas in an area of 80 feet (Pearson 1991), is an untested model. One effect of this is that anomalies that do not appear on more than one lane have been eliminated. Please justify the use of this model. *How can we justify?*
- #2*

■ Site formation processes have been ignored in the remote sensing survey. Pieces of wrecks, such as hull fragments, are not captured by the survey methods. While in many cases these may not be National Register eligible, but, those located within NPS boundaries may be significant to Fire Island National Seashore (FIIS). This needs to be clarified in the report.
- #3*

■ Of the four anomalies congruent with sidescan sonar targets and tentatively identified as shipwrecks, those located within NPS boundaries should be evaluated by a diver for significance. We disagree that burial under sand constitutes

burial is done

a no-adverse effect. Rather, the effect of burial is presently unknown and the response of submerged organic structures to compaction under sand requires further study. Burial also impedes access to and identification of these potentially significant anomalies. An effort should be made to identify them before they are either buried or impacted by dredging, anchoring, or other beach fill activities.

W. 3M
4 The report should include a section addressing "accidental discoveries" and the appropriate protocol.

push
DW
-WV
5 Several years ago, FIIS' dive team used an underwater video to document remnants of a wooden shipwreck in the surf zone in the vicinity of Watch Hill. The NPS regional archeologist also documented this shipwreck, which is buried in the beach and dune but extends south into the ocean. This documentation may be difficult to locate at the present time, but should be part of the survey report. If there is an interest in pursuing this further, please contact FIIS Environmental Compliance Specialist Danette Woo at (631) 289-1711.

6 After a major northeaster (c. 1988?) a wooden copper plated hull was exposed on the beach west of Watch Hill. Eventually the hull was buried again by natural dynamics. The park has photo-documentation of the hull in its archives. Shouldn't this information be part of the report? For more information, please contact FIIS Curator Steve Czarniecki at (631) 395-9693.

7 This draft report deals entirely with shipwrecks and refers to the McCormick study on page 12 paragraph 2 with regards to archeological expectations. Nonetheless, page 64 paragraph 2 of the same study also states that the shoreline of Fire Island extended 100 miles SE of present shoreline 18,000 years ago. Therefore, there continues to be a possibility of "resources" other than cultural that could be transported via sand transfer to the beach or disturbed by other support activities taking place offshore. These issues should be documented in the report.

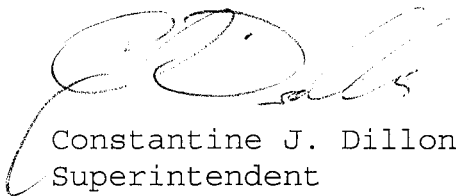
8 On page 39, a no-work zone is designated from Sunken Forest to Cherry Grove. The only NPS restriction was the beach area in front of Sailors Haven. This was so designated for reasons of endangered species habitat protection. This should not have precluded use of other survey techniques to survey this small area of beach. And should not have precluded other beach

areas to be surveyed. It is not clear to us why this stretch was omitted from the survey.

- Ocean Beach is not mapped consistently with the other communities, as the maps do not reflect the houses at Ocean Beach even though anomalies 31 and 32 indicate the Ocean Beach groins.

If you have any questions, please feel free to contact Danette Woo, Environmental Compliance Specialist at (631) 289-1711 or danette_woo@nps.gov.

Sincerely,



Constantine J. Dillon
Superintendent



DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

REPLY TO
ATTENTION OF

April 27, 2006

Environmental Assessment Branch

Ruth L. Pierpont, Director
Historic Preservation Field Services Bureau
New York State Office of Parks, Recreation and Historic Preservation
Peebles Island - P.O. Box 189
Waterford, New York 12188-0189

Re: CORPS
Fire Island to Montauk Point (FIMP) Reformulation Project
Historic Structures Study (03PR04748)
Suffolk County, New York

Dear Ms. Pierpont:

The U.S. Army Corps of Engineers, New York District is pleased to furnish you with the final report, *The Built Environment along Long Island's South Shore – Historic Structure Study* and a set of DVDs containing the various data sets referenced in the report.

I would also like to thank Dr. Virginia Bartos for her efforts in working with our Project Archaeologist, Dr. Christopher Ricciardi, throughout this process. Together, they had to wrestle with a complex situation that went beyond the more traditional ways of completing a project such as this.

The Corps is now moving forward with the overall project. As per the recommendations of the coordinated efforts between our offices (see attached MFR from the more recent meeting), we will now begin the process of outlining a Memorandum of Agreement for the next phase of the overall Fire Island to Montauk Point (FIMP) Reformulation Project.

If you have any questions please do not hesitate to contact our Project Archaeologist, Dr. Christopher Ricciardi at (917) 790-8630 or christopher.g.ricciardi@usace.army.mil(.)

Thank you.

Sincerely,

Leonard Houston
Chief, Environmental Analysis Branch

Enclosures



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

2 June 2005

Environmental Analysis Branch

Ms. Ruth L. Pierpont, Director –
Bureau of Field Services
NYS Office of Parks, Recreation & Historic Preservation
Peebles Island – P. O. Box 189
Waterford, New York 12188-0189

Re: CORPS
Fire Island to Montauk Point (FIMP) Reformulation Project
Historic Structures Study (03PR04748)
Suffolk County, New York

Dear Ms. Pierpont:

This letter is with regard to comments the U.S. Army Corps of Engineers – New York District (Corps) received from your staff in a letter dated January 25, 2005. The letter, a response to the Draft Report, *The Built Environment Along Long Island's South Shore – Historic Structure Study*, was signed by Ms. Virginia Bartos, and included sections by Mr. Douglas Mackey and Mr. Mark Peckham.

On Friday, May 20, 2005, Dr. Christopher Ricciardi, the Project Archaeologist, met with Mr. Douglas Mackey and Dr. Virginia Bartos to discuss the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP)'s response to the draft report and the letter from earlier this year.

I am pleased to hear that the meeting between our staff members went well, as outlined in the attached Memorandum for the Record (MFR) to this letter. The continued coordination between our two agencies will be key to advancing specifically the Fire Island to Montauk Point (FIMP) Project, as well as all of the Corps ongoing Projects.

As discussed in the MFR, the Corps will work on specific sections of the draft report to include your staff's issues and concerns. Dr. Bartos now has a greater appreciation for all of the coordination between the Corps and Mr. Warren during the two years prior to the draft arriving for review.

If you have any questions please do not hesitate to contact our Project Archaeologist, Dr. Christopher Ricciardi at (917) 790-8630 or christopher.g.ricciardi@usace.army.mil.

Thank you very much for your understanding.

Sincerely,

A handwritten signature in cursive script, appearing to read "L. Houston", is written over the typed name.

Leonard Houston, Chief
Environmental Analysis Branch

cc: Dr. Virginia Bartos
Mr. Douglas Mackey
Mr. Mark Peckham

MEMORANDUM FOR THE RECORD

SUBJECT: Report on meeting between Virginia Bartos from the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) and the U.S. Army Corps of Engineers, New York District on Friday, 20 May 2005.

1. On Friday, May 20, 2005, Christopher Ricciardi, Ph.D., Project Archaeologist, met with Virginia Bartos, Ph.D., at the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) to discuss the Fire Island to Montauk Point (FIMP) Reformulation Project and the draft Historic Structures Survey Report, previously submitted to the NYSOPRHP for comments/review.
2. Dr. Ricciardi began by providing Dr. Bartos with information relating to the previous coordination efforts between the two agencies. This information helped Dr. Bartos to gain a better understanding of the level of effort that went into the planning phase of the Historic Structures Survey Project.
3. Dr. Ricciardi provided an overall view of the FIMP Project (see Appendix A for listing of previously submitted/completed reports) as well as the specific Historic Structures Survey. He detailed where the Project is and is going. He provided Dr. Bartos with the five (5) DVDs that constituted the "technical" sections of the Historic Structures Survey Report including the maps, recording forms, images, etc.
4. Dr. Ricciardi then discussed the specifics of the Historic Structure Survey. He outlined how the report was never intended to serve, as a comprehensive Cultural Resource Report and that terrestrial and underwater archaeology were not considered for this phase of the report. Those phases have been and will continue to be undertaken as separate components and reports as the overall FIMP Project progresses.
5. Dr. Ricciardi agreed with Dr. Bartos on some of the specific issues she raised with draft report including that of the references to Hefner's work, the need for a stronger linkage between the Project on Long Island and the references to the author of the Delaware Project and the general historical background to some specific details on structure's title and identification. He would also insure that the previous history, relating to the coordination efforts, be included in the report as well.
6. Dr. Bartos discussed the issue of "50 Years". According to Section 106 Guidelines, any structure that is of 50 years or older must be evaluated. Dr. Bartos, understanding, that a majority of the structures within the project area fall into this category, stated that both organizations should work together to developed guidelines/a specific time period for dealing with structures that are post 1950. Both agencies will work together to develop a Memorandum of Agreement/Understanding (MOA/U) on this specific issue.

7. Both Dr. Ricciardi and Bartos were happy to have clear up the issues raised in Dr. Bartos' letter from the end of January 2005. Both agreed that the report will be updated and completed in the fashion that it was intended as, an introductory study to the overall Project area. Both agreed that the best way to complete this portion of the Section 106 process for the Project will be through a MOA/Us between the two agencies. Perhaps an over-arching MOA/U can be developed to deal with the issue of the date of structures, as referenced in Issue 6, as well as the overall Cultural Resource process for the rest of the project?

8. Dr. Ricciardi thanked Dr. Bartos for her understanding of the FIMP situation as well as her comments. Dr. Bartos was happy to have restored the open lines of communication as well. Both agreed to keep the lines of communication open.

Christopher Ricciardi, Ph.D., Project Archaeologist
Environmental Analysis Branch

Appendix 1: FIMP Cultural Resource Reports

COMPLETED:

Barber, Russell J., Michael E. Roberts and C.C. Lamberg-Karlovsky.

- 1980 A Survey of Archaeological and Historical Resources, Fire Island Beach Erosion and Hurricane Protection Project, Westhampton Beach, New York. Report on file with the U.S. Army Corps of Engineers - New York District. New York, New York.

Greeley-Polhemus Group, Incorporated and Dolan Research, Incorporated.

- 1997a Interim Report #2: Cultural Resource Study - Fire Island to Montauk Point, Suffolk County, New York Reformulation Study: Phase 1 Archaeological Survey. Report on file with the U.S. Army Corps of Engineers - New York District. New York, New York.
- 1997b Remote Sensing Survey: Cultural Resource Study - Fire Island to Montauk Point, Suffolk County, New York Reformulation Study: Reach 2: Interim Project West of Shinnecock Inlet. Report on file with the U.S. Army Corps of Engineers - New York District. New York, New York.
- 1998 Research on Shipwrecks in the Near Shore Area - Fire Island to Montauk Point, Long Island, Suffolk County, New York – Reach 1: Interim Project - Fire Island to Moriches Inlet. Report on file with the U.S. Army Corps of Engineers - New York District. New York, New York.

John Milner and Associates.

- 2000 Cultural Resource Baseline Study - Fire Island Inlet to Montauk Point, Suffolk County, New York - Reformulation Study Report on file with the U.S. Army Corps of Engineers - New York District. New York, New York.

Panamerican Consultants, Inc.

- 2003 Remote Sensing Survey, Tidal Zone and Near Shore Project Area, Atlantic Coast of Long Island, Fire Island Inlet to Moriches Inlet, Fire Island, Suffolk County, New York – Interim Project. Report on file with the U.S. Army Corps of Engineers - New York District. New York, New York.

Reiss, Warren, WCH Industries, Inc. and Boston Affiliates, Inc.

- 1994 Atlantic Coast of Long Island, Fire Island to Montauk Point – Westhampton Beach Interim Protection – Plan Remote Sensing Survey of Two Borrow Areas. Report on file with the U.S. Army Corps of Engineers - New York District. New York, New York.

Tidewater Atlantic Research, Incorporated.

- 2001 Remote Sensing Archaeological Survey of Borrow Areas 2A, 2B, 2C, 3A, 4A, 4B, 5A, 5B, 6A, 7A, and 8A - Atlantic Coast of Long Island, Fire Island Inlet to Moriches Inlet, Suffolk County, New York - Reformulation Study. Report on file with the U.S. Army Corps of Engineers - New York District. New York, New York.

Vetter, John F. and Bert Salwen.

- 1974 Report on an Archaeological Reconnaissance of Fire Island, Suffolk County, New York. Report on file with the U.S. Army Corps of Engineers - New York District. New York, New York.

IN PROGRESS:

URS Corporation.

- 2004 The Built Environment along Long Island's South Shore: Historic Resource Study Report on file with the U.S. Army Corps of Engineers - New York District. New York, New York.
DRAFT only.



New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189

518-237-8643

January 24, 2005

Dr. Christopher Ricciardi
Project Archaeologist
U.S. Army Corps of Engineers
New York District
Planning Division - Environmental Analysis Branch
26 Federal Plaza - Room 2151
New York, New York 10278-0090

RE: FIMP HSR (03PR04748)

Dear Chris:

First of all, let me thank you for forwarding a copy of the *Fire Island to Montauk Point (FIMP) Reformulation Project* report. The area and resources included within the study area are overwhelming at best and URS should be congratulated for submitting a coherent report. I've shared the report with Field Services Bureau (FSB) archeologist Douglas Mackey and with Mark Peckham, the FSB National Register and Survey Unit Supervisor, who also handles historic maritime properties. This letter includes their responses, along with my observations regarding the historic resource study for Long Island's south shore.

My immediate response to the report is that the State Historic Preservation Office (SHPO) is left out of any decision making process. I suspect (as does my supervisor) that the consultant failed to realize that the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) has a larger role than just a caretaker of historic sites. There are two distinct bureaus within OPRHP, one being the FSB that functions as the SHPO and the other being the Bureau of Historic Sites (BHS) that oversees parks and state owned historic resources. Whenever OPRHP is mentioned in the report, it seems that consultation is an option rather than a requirement. In order to comply with Section 106, the SHPO must review any federal undertaking for potential effects to historic resources. In his letter of 17 March 2003, Jim Warren of the FSB anticipated such confusion and recommended that the term SHPO be used rather than OPRHP, advice that was ignored. The role of the SHPO in the decision-making process should be at the beginning of any undertaking and I suggest that a box be added to the chart on page 8.1 between the first and second boxes that states "Consult with SHPO on project scope/potential effects."

In the section on interagency cooperation, the SHPO should again be added to the list of agencies. The consultants mention developing a programmatic agreement to streamline the evaluation process. The FSB has done this in the past with various types of undertakings (wind farms, cell towers, etc.) and it only seems logical to do the same with the FIMP, given the vast area and large number of identified

and potential resources. Mark Peckham indicated that the SHPO is unable to comment on the districts and properties in the report due to the lack of necessary information (photographs, adequate maps, addresses of properties). The property typology in the report fails to indicate which resources if any meet eligibility criteria, making it unusable for our purposes. More definitive data will be required for our review and we can certainly come to some agreement about when and what information is required as FIMP projects are planned by the Army Corps of Engineers. We can certainly streamline the review process and further refine the eligibility criteria. (From some of the sample photos supplied, it is clear that the consultants have a more liberal application of National Register eligibility criteria than the SHPO.) From a cultural resource perspective, the SHPO can certainly help refine or re-define the area of potential effect (APE).

With the general comments out of the way, it is time to turn attention to specifics:

Archeology

Overall, the report has little to say about archeology. URS stated that that this was on purpose, but then included statements about areas where no archeology would be found. FSB archeologist Douglas Mackey offers the following comments:

- The Section describing prehistoric contexts is extremely short and addresses the various stages of prehistoric cultures that have occupied the area and attempts to discuss the different types of sites that may be associated with each. The discussion jumps from a very quick introduction to the Paleo-Indian period and how Long Island may have originally been populated to the major language and cultural groups encountered at the time of European settlement. It almost appears as if the authors believe that the seventeenth century Native American occupants were directly related to the Paleo-Indians that first occupied the area. While this is one theory, there is a 10,000-12,000 year interval of dynamic cultural adaptation and change which is glossed over with no discussion.
- On pages 5.1-5.3 several previous studies are discussed which conclude that large portions of the study area have no potential for archeological resources due to natural and manmade disturbances. Recent studies contradict this information by reporting that a number of sites have been identified in these areas since the initial evaluation was conducted, and it is likely that our knowledge of the geological factors involved has increased since 1980. Therefore it is recommended that this review be updated and that information gathered over the last twenty-five years be included in a re-evaluation of the area's potential.
- On a related topic, although several previous reports have developed models indicating that archaeological sites are unlikely in portions of the project, it is not clear if these models have ever been tested. Given the potential extent of the current project, it will be prudent to test any models proposed to determine if they are valid. Failure to test such far reaching models could potentially result in the failure to identify numerous archaeological sites if the model is wrong.

Maritime Resources

These sections were reviewed by the FSB's Mark Peckham who stated that the report is quite correct in pointing to a large number of marine accidents. Although the report indicated that at least four are

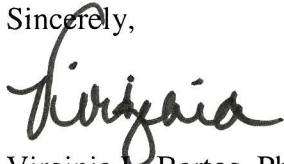
eligible, it is highly likely that the number should be much higher. There is extensive literature on the subject, including a report commissioned by the Corps in 1997 by Greeley, Polhemus & Dolan. In addition to submerged sites, there is the potential of encountering historic shipwrecks and sites buried beneath shifting beaches and dunes.

Property Types (reviewed by Virginia Bartos)

- Many of the URS definitions are too simplistic for Long Island resources. With European occupation from as early as ±1640, there is more variety in the property types than they indicate. For example, in the discussion of late-nineteenth century property types, the report states that the Queen Anne style dominates the landscape. This period had a rich diversity of styles and the photograph identified on page 4.1 is of a Colonial Revival style house, not Queen Anne.
- The report makes generalizations about suburban development based on a Delaware study that begs the question if the same holds true for Long Island.
- The report should give a little more emphasis to commercial property types since the area became part of the late-nineteenth century vacation industry that developed more as part of a trend, and less about tuberculosis that was much more of an issue in Staten Island (Seaview Hospital). With the current return of heritage tourism, it is important to examine the modern vacation industry along with the serious development pressures many of the communities in the study area are facing.
- The list on page 5.3 should be expanded to include a more current list of properties recently added to the National Register of Historic Places. Historic resource studies done by Robert Hefner are missing from the bibliography. These are useful documents that mostly cover the Town of East Hampton and its surroundings.

I presume that this report is part of a proactive approach that the Corps is developing for the Long Island south shore. The real value of the document is that it is a good beginning point for consultants who may be involved with historic resource evaluation as part of future projects since it includes a brief historic overview and a handy encapsulation of the National Register Criteria. The consultants correctly recommend that the Corp work with other agencies, especially when it comes to streamlining the review process. The SHPO looks forward to working with the Corp on this and with any other historic property related issues that are part of the FIMP. If you have any questions about this letter, please contact me at (518) 237-8634 Ext. 3256 or at virginia.bartos@oprhp.state.ny.us.

Sincerely,



Virginia L. Bartos, Ph.D.

Historic Preservation Program Analyst

FIRE ISLAND INLET TO MORICHES INLET FIRE ISLAND STABILIZATION PROJECT

I. Beach Fill Selected Plan

The proposed project is comprised of several design templates identified as “berm only – Robert Moses State Park,” “small – Smith Point County Park,” and “medium – Fire Island Communities”.

A. “BERM ONLY” – Robert Moses State Park: The “berm only” design template includes a berm width of 90 ft at elevation +9.5 NGVD, and no dune behind the berm (no vegetation is proposed for this design template). It also includes a foreshore slope of 12 horizontal (H) on 1 vertical (V) from +9.5 to +2 ft NGVD, or mean high water (MHW), equating to an additional 115 ft of beach above MHW. This template is proposed in areas where eroded berm conditions have been observed, but where existing dune elevation and width are sufficient to reduce the risk of overwashing and breaching. Areas that meet these criteria include Robert Moses State Park, western Smith Point County Park and the TWA Memorial Beach.

B. “SMALL” – Smith Point County Park: The “small” template is intended to reduce the risk of breaching. It is proposed for areas with limited oceanfront structures. The “small” fill template includes a berm width of 90 ft, at elevation +9.5 ft NGVD and a vegetated dune with a crest width of 25 ft at an elevation of +13 ft NGVD. It also includes a foreshore slope of 12H:1V from +9.5 to +2 ft NGVD, equating to an additional 115 ft of beach above MHW. It is proposed for areas with limited oceanfront structures, including Smith Point County Park that also includes ESA offset areas (Pattersquash Island Overwash, Smith Point Breach Overwash, New Made Island Overwash – 2 locations, and the Great Gunn Area.

Fire Island Lighthouse Beach (modified “small” design template): The dune and beach design template the NPS Fire Island Lighthouse Beach would include a “straight” dune alignment (unvegetated). The proposed 3,800 ft length of dune would be constructed at +13 NGVD and have side slopes of 1V:10H, and a 25 ft crest width.

C. “MEDIUM” – Fire Island Communities: The “medium” design template is proposed for areas that have the greatest potential for damages to oceanfront structures which includes the 17 communities on FIIS (including Kismet to Lonelyville, Town Beach to Corneille Estates, Ocean Beach to Seaview, Ocean Bay Park to Point O’ Woods, Cherry Grove, Fire Island Pines, Water Island, and Davis Park). The medium design template includes a berm width of 90 ft at an elevation at +9.5 ft NGVD, and a vegetated dune with a crest width of 25 ft at an elevation of +15 ft NGVD. It also includes a dune slope of 1V:5H and a foreshore slope of 12H:1V.

West of Robbins Rest (modified “medium” design template): In the area between Atlantique and Robbins Rest, approximately 900 ft of the proposed dune northward to the existing vegetation will be re-aligned in an effort to conserve partial overwash habitat that formed in this area due to Hurricane Sandy. The dune design template in this area includes a berm width of 90 ft at an elevation at +9.5 ft NGVD, and a vegetated dune with a crest width of 25 ft at an elevation of +15 ft NGVD. It also includes a dune slope of 1V:5H and a foreshore slope of 12H:1V.

The alignment of the FIMI Selected Plan has been optimized to the existing barrier island profile, including beach berm and dunes, and minimizes shifting the beach alignment seaward to protect



a small number of structures that are set apart from the other structures. In several areas, tapers have been adjusted per consultations with U.S. Fish and Wildlife Service and National Park Service in order to address park objectives and minimize potential adverse impacts to threatened and endangered species. The selected alignment requires a total of approximately 41 real estate acquisitions and 7 real estate relocations (6 structures and relocation/reconstruction of the Ocean Beach well complex). The majority of the acquisitions are in either Ocean Bay Park (19) or Davis Park (19). The other three acquisitions are located in Dunewood (2) and Robbins Rest (1). The proposed relocations are located in Davis Park (3), Fire Island Pines (2), Saltaire (1) and Ocean Beach (1). The Ocean Beach real estate relocation includes the water supply. Beach fill tapers are also proposed in several locations within Federal Tracts to avoid and lessen the end losses of the proposed project's dune and berm features.

Table 1 provides an overview of the dune elevations by location along the selected plan.

Table 1 – Overview of Selected Design Sections

BERM/DUNE DESIGN	<u>NGVD 29</u>	<u>NAVD 88</u>
A. ROBERT MOSES STATE PARK		
Berm Width	90 ft.	NA
Top Elevation	9.5 ft.	8.5 ft
Slope	12H:1V	NA
Fill Volume	1,160,400 c.y	NA
Vegetation	NA	NA
B. SMITH POINT COUNTY PARK		
Berm Width	90 ft.	NA
Top Elevation	9.5 ft.	8.5 ft
Foreshore Slope	12H:1V	NA
Dune Slope	5H:1V	NA
Dune Crest Width	25 ft	NA
Dune Elevation	13 ft	12ft
Fill Volume	1,430,000 c.y	NA
Vegetation	18 inch spacing	NA
1. Pattersquash Island Overwash		
Berm Width	90 ft.	NA
Top Elevation	9.5 ft.	8.5 ft
Foreshore Slope	12H:1V	NA
Dune Slope	5H:1V	NA
Dune Crest Width	25 ft	NA
Dune Elevation	13 ft	12ft
Volume	13 Hectares	NA
Vegetation	18 " spacing	NA
2. Smith Point Breach Overwash		
Berm Width	90 ft.	NA
Top Elevation	9.5 ft.	8.5 ft
Foreshore Slope	12H:1V	NA
Dune Slope	5H:1V	NA
Dune Crest Width	25 ft	NA
Dune Elevation	13 ft	12ft



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**Fire Island Inlet to Moriches Inlet
Stabilization Project**

Volume	6.1 Hectares	NA
Vegetation	18" spacing	NA

3. New Made Island Overwash – 10.5 HA

Berm Width	90 ft.	NA
Top Elevation	9.5 ft.	8.5 ft
Foreshore Slope	12H:1V	NA
Dune Slope	5H:1V	NA
Dune Crest Width	25 ft	NA
Dune Elevation	13 ft	12ft
Volume	10.5 Hectares	NA
Vegetation	18" spacing	NA

4. New Made Dredge Disposal Habitat

Volume	4 HA +2 HA Expansion	NA
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5. Great Gunn

Berm Width	90 ft.	NA
Top Elevation	9.0-7.0 ft.	8.0-6.0 ft
Foreshore Slope	12H:1V	NA
Dune Slope	5H:1V	NA
Dune Crest Width	25 ft	NA
Dune Elevation	13 ft	12ft
Volume	768,350 cy & 34 Hectares	NA
Vegetation	18" spacing	NA

C. FIRE ISLAND LIGHTHOUSE TRACT

Berm Width	90 ft	NA
Top Elevation	9.5 ft.	8.5 ft
Foreshore Slope	12H:1V (vegetated)	NA
Fill Volume	444,500 c.y	NA
Dune Crest Width	25 ft	NA
Dune Elevation	13 ft	12 ft
Dune Slope	5H:1V	NA

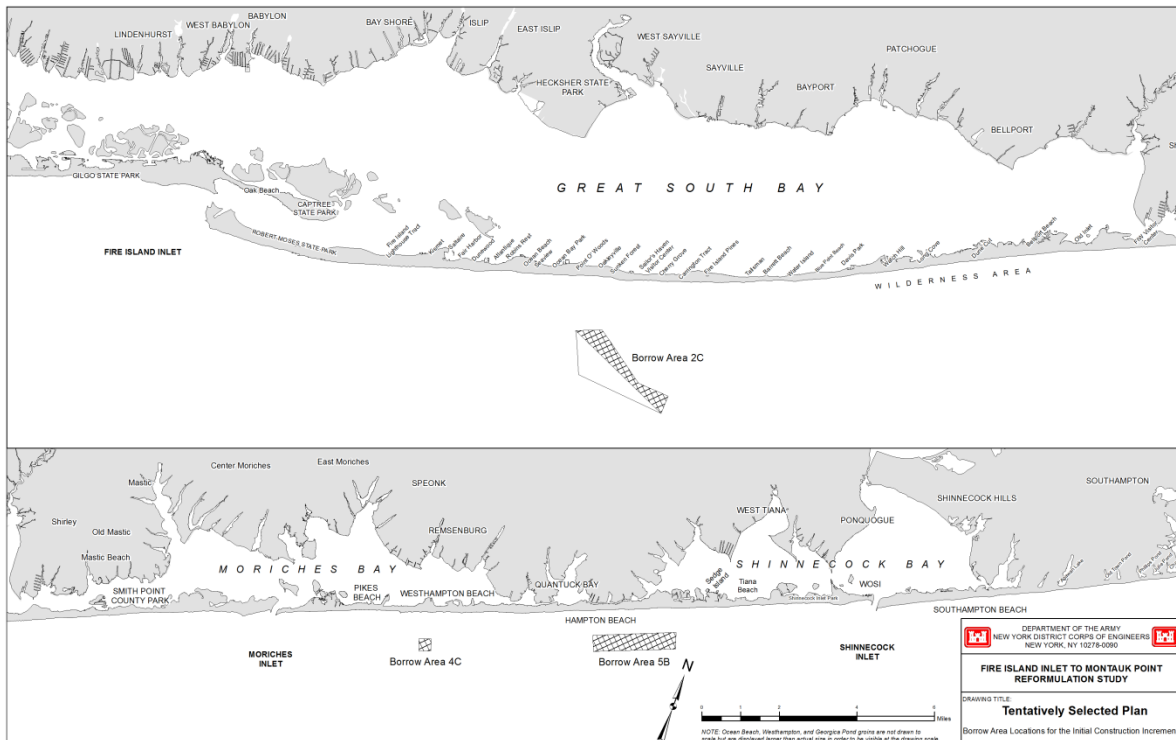
D. COMMUNITIES (MEDIUM)

Berm Width	90 ft	NA
Top Elevation	9.5 ft.	8.5 ft
Slope	1V:5H (vegetated)	NA
Fill Volume	3,635,000 cy	NA
Dune Crest Width	25 ft	NA
Dune Elevation	15 ft	14 ft
Dune Slope	5H:1V	NA

E. ROBBINS REST

Berm Width	90 ft	NA
Top Elevation	9.5 ft.	8.5 ft
Slope	1V:10H (un-vegetated)	NA
Dune Crest Width	25 ft	NA
Dune Elevation	15 ft	14 ft
Length	900 ft	NA





D. Advance Fill

To ensure the integrity of the design fill cross-section, advance fill will be placed along the proposed project shoreline. Advance fill is a sacrificial quantity of sand which acts as an erosional buffer against long-term and storm-induced erosion, in addition to beachfill losses caused by “spreading out” or diffusion. The required advance berm width was computed based on representative erosion rates. The representative erosion rates were calculated based on the historical sediment budget, the performance of recent beach fill projects on the island, and anticipated beachfill spreading.

E. Fill Volumes

The total initial project fill volume is the sum of the design fill, advance fill, and overfill and contingency. The total initial fill volumes for each design reach are presented in Table 2. The total initial fill volume for the initial construction increment is estimated at 6,992,145 cy.

F. Conservation Measures/Project Design Adjustments

The alignment of the FIMI Selected Plan has been optimized to the existing barrier island profile, including beach berm and dunes, and minimizes shifting the beach alignment seaward to protect a small number of structures that are set apart from the other structures. In several areas, tapers have been adjusted per consultations with U.S. Fish and Wildlife Service and National Park Service in order to address park objectives and minimize potential adverse impacts to threatened and endangered species. The selected alignment requires a total of approximately 41 real estate acquisitions and 7 real estate relocations (6 structures and relocation/reconstruction of the Ocean Beach well complex). The majority of the acquisitions are in either Ocean Bay Park (19) or Davis Park (19). The other three acquisitions are located in Dunewood (2) and Robbins Rest (1). The proposed relocations are located in Davis Park (3), Fire Island Pines (2), Saltaire (1) and



June 2014

**Fire Island Inlet to Moriches Inlet
Stabilization Project**

Ocean Beach (1). The Ocean Beach real estate relocation includes the water supply. Beach fill tapers are also proposed in several locations within Federal Tracts to avoid and lessen the end losses of the proposed project's dune and berm features. Specifically discussed here are the adjustments to the FIMI Plan. Detailed plan layouts (1 on 100 scale) of the proposed action are presented in Attachment A of this report refer to the engineering report for more detailed information.

Detailed taper information for following plan sheets:

- C17 - Current design acceptable
- C18 - Change taper to 300' -- end at 607+00
- C19 - Change taper to 300' -- end at 643+00 (last full section at 640+00)
- C20 - Change taper to 300' -- end at 655+00 (last full section at 658+00), last two properties are owned by the federal government so end dune at 658+00
- C22 - Current design acceptable
- C23 - Change taper to 200' -- end at 789+00
- C24 - Change taper to 300' -- end at 813+50
- C25 - Change taper to 300' -- end at 853+50
- C27 - Change taper to 300' -- end at 901+20
- C28 - End taper at 1294+00 (last full section at 1297+00)

Detailed Dune Alignment and slopes:

Lighthouse Tract:

From Station 223+50 to 274+50

Straight dune alignment (alignment based upon aligning the seaward toe of the dune).

Dune template from original toe of dune with a 1V:10H seaward slope, 25 ft crest width, and 1V:10H (see Figure 4) landward slope to intersection of existing topography.

East of 274+50, 1V:5H slopes of dune (seaward dune toe to match alignment).

West of Robbins Rest:

Realigned dune to maximize beach habitat, as shown on Sheet C-12, with slopes as shown (1V:5H)

All other Communities' dunes:

Standard alignment and slopes.

Smith Point County Park:

- Dune as shown, from Station 151+00 to 1386+00, 1V:5H slopes of dune (seaward dune toe to match alignment.)
- From Station (**Pattersquash**) 1386+00 to 1420+00, straight dune alignment, (alignment based upon aligning the seaward toe of the dune). Create dune template from original toe of dune, with 1V:5H seaward slope, 25 ft crest width, and 1V:5H landward slope to intersection of existing topography.



- From Station 1420+00 to 1443+00, dune as shown, 1V:5H slopes of dune (seaward dune toe to match alignment.)
- From Station (**recently closed Smith Point Breach**) 1445+00 to 1465+00, straight dune alignment, (alignment based upon aligning the seaward toe of the dune). Create dune template from original toe of dune, with 1V:5H seaward slope, 25 ft crest width, and 1V:5H landward slope to intersection of existing topography.

Table 2 – Fill Volumes by Design Reach - FIMI Selected Plan

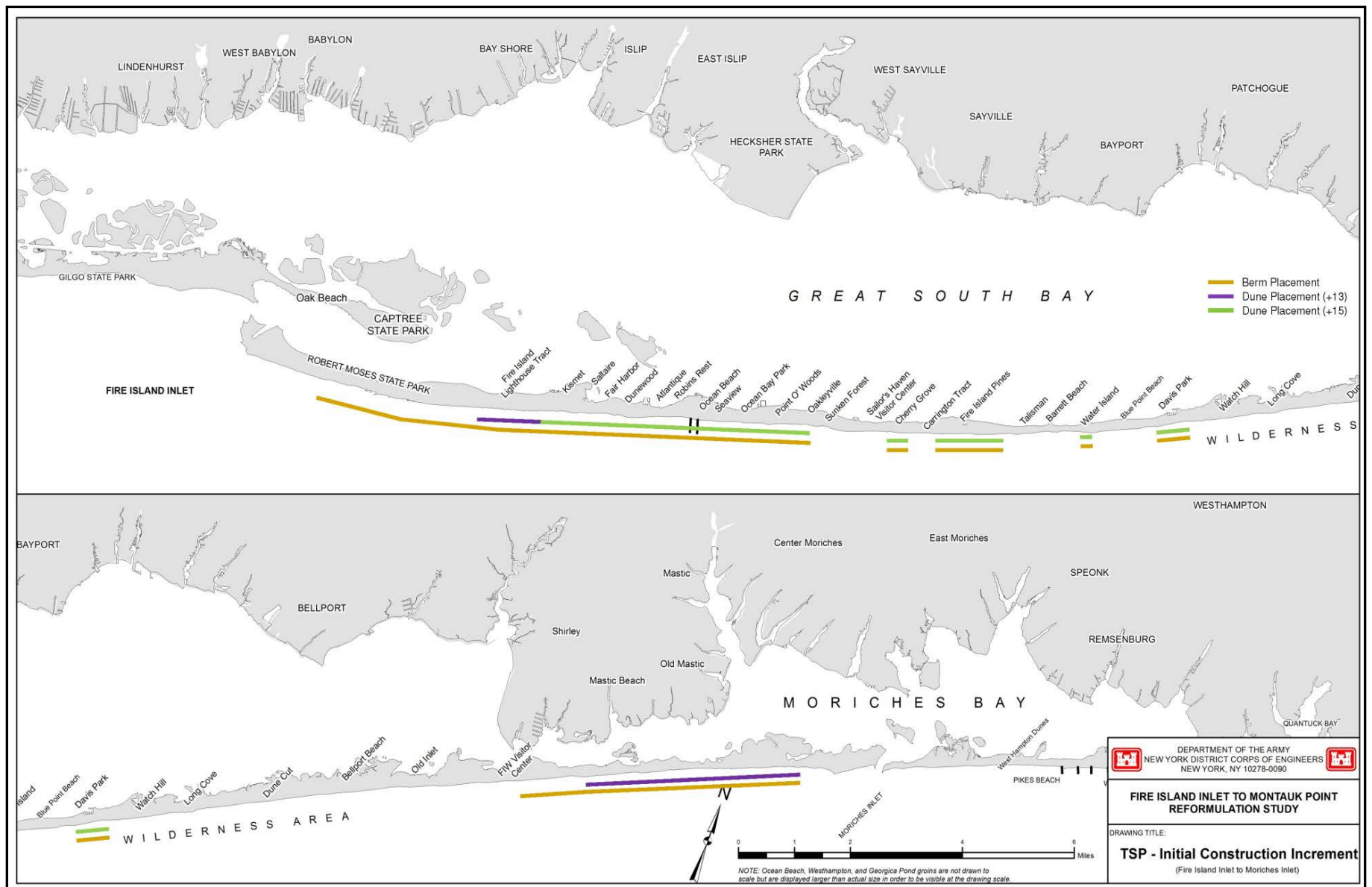
Location	Design Reach	Fill Length (ft)	Design Fill Volume (cy)	Advance Fill Volume (cy)	10% Overfill Factor (cy)	Subtotal Volume (cy)	15% Contingency (cy)	Total Initial Fill (cy)
RMSP	GSB-1A	16,562	458,164	110,942	56,911	635,238	95,286	730,524
FILT	GSB-1B	5,461	253,025	98,301	35,133	386,459	57,969	444,428
Kismet to Lonelyville	GSB-2A	8,918	200,098	109,770	30,987	340,855	51,128	391,983
Town Beach to Corneille Est.	GSB-2B	4,529	313,822	92,548	40,637	447,008	67,051	514,059
Ocean Beach to Seaview	GSB-2C	3,752	147,569	75,401	22,297	245,267	36,790	282,057
OBP to POW	GSB-2D	7,228	250,258	97,956	34,821	384,077	57,612	441,689
Cherry Grove	GSB-3A	2,950	10,278	0	1,028	14,041	2,106	16,147
Fire Island Pines	GSB-3C	6,457	549,255	346,159	89,541	1,029,435	154,415	1,183,850
Water Island	GSB-3E	1,196	30,676	9,127	3,980	59,670	8,951	68,621
Davis Park	GSB-3G	4,167	305,013	215,297	52,031	639,880	95,982	735,862
SPCP-TWA	MB-1A	6,342	265,725	13,872	27,960	373,830	56,075	429,905
SPCP	MB-1B	13,095	681,702	96,696	77,840	856,239	128,436	984,675
Great Gunn	MB-2A	4,461	525,019	43,725	56,874	668,126	100,219	768,345
Total		85,118	3,990,604	1,309,794	530,040	6,080,125	912,020	6,992,145

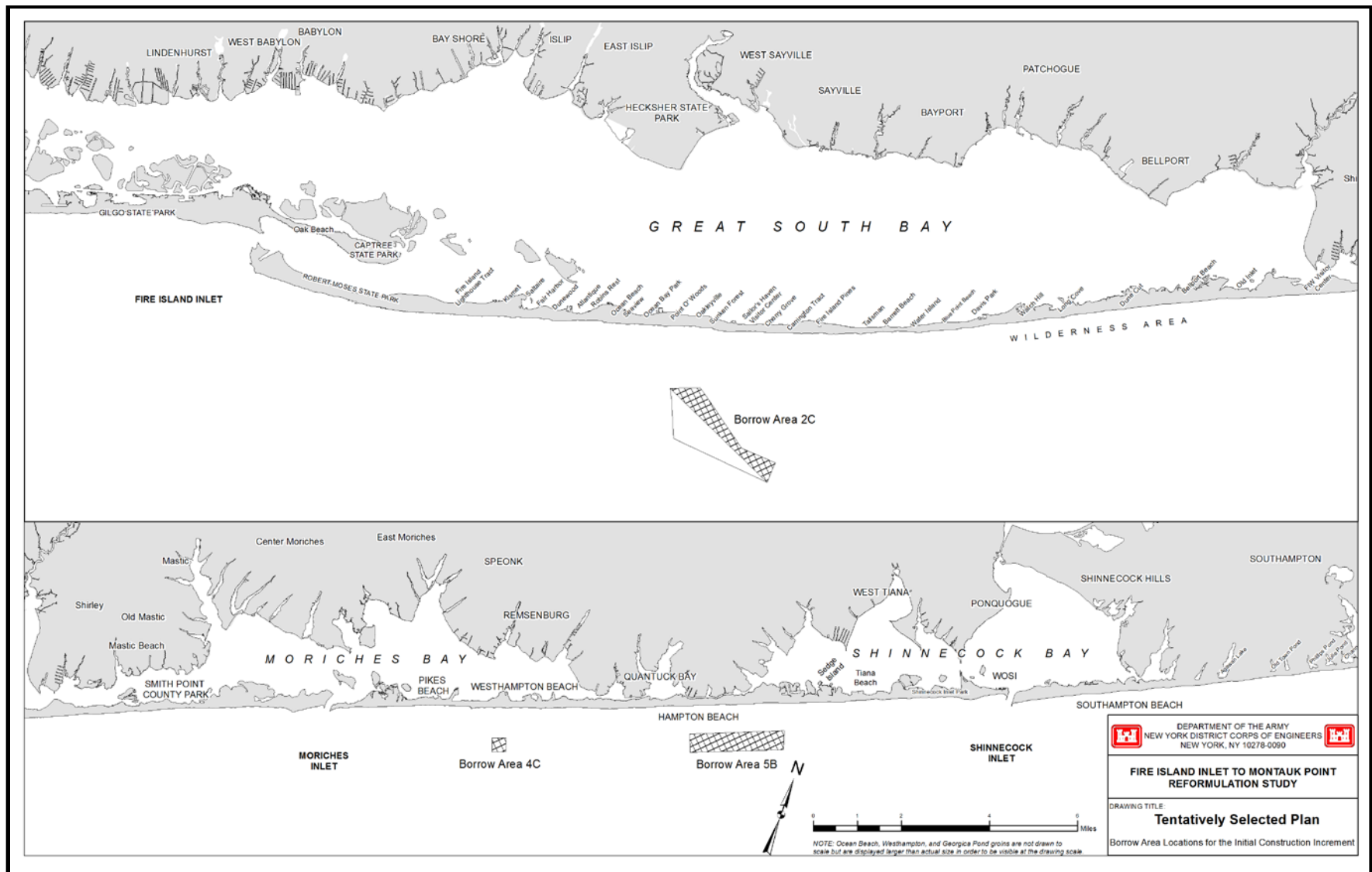
- From Station 1465+00 to 1486+00, dune as shown, 1V:5H slopes of dune (seaward dune toe to match alignment.)
- From Station (**New Made Island**) 1486+00 to 1515+00, straight dune alignment, (alignment based upon aligning the seaward toe of the dune). Create dune template from original toe of dune, with 1V:5H seaward slope, 25 ft crest width, and 1V:5H landward slope to intersection of existing topography.
- From Station 1515+00 to 1534+50, dune as shown, 1V:5H slopes of dune (seaward dune toe to match alignment.)
- East of Station 1534+50 east of Great Gunn, an approximate 68 Acre area will be de-vegetated to provide habitat for endangered species

II. Real Estate Acquisitions and Relocations

The Real Estate requirements, for this project, include the lands, easements, relocations and rights of way (LERR) to implement the initial construction increment. The project will require the following estates: Fee Acquisition, Perpetual Beach Storm Reduction Easement and Temporary Work Area Easement. Right of Entries, Special Use Permits and License Agreement may be used for parcels owned by Municipalities and local government. Approximately 733 properties will be impacted by the Fire Island Inlet to Moriches Inlet portion of the Project which includes 689 Easements: 663 Perpetual Beach Storm Damage Reduction Easements and 26 Temporary Work Area Easements (including the borrow areas). The 689 easements include the on-site relocation of 6 homes. Forty-one Fee Acquisitions of primarily summer residences are required and two Right-of-Entries for staging, storage of materials and equipment in the Robert Moses State Park and Smith Point County Park West, as well as for Bridge Access to project areas. The project also includes the Relocation of 1 Municipal Well in the Town of Ocean Beach. A Temporary Work Area Easement is required for the current and future location of the Municipal Well. A Temporary Work Area Easement for the well's current location is included list of 26 required Temporary Easements. The new location of the well is currently undetermined, but will be located on property owned by the Town of Ocean Beach.





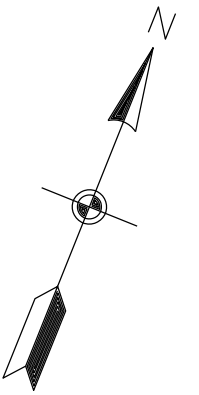


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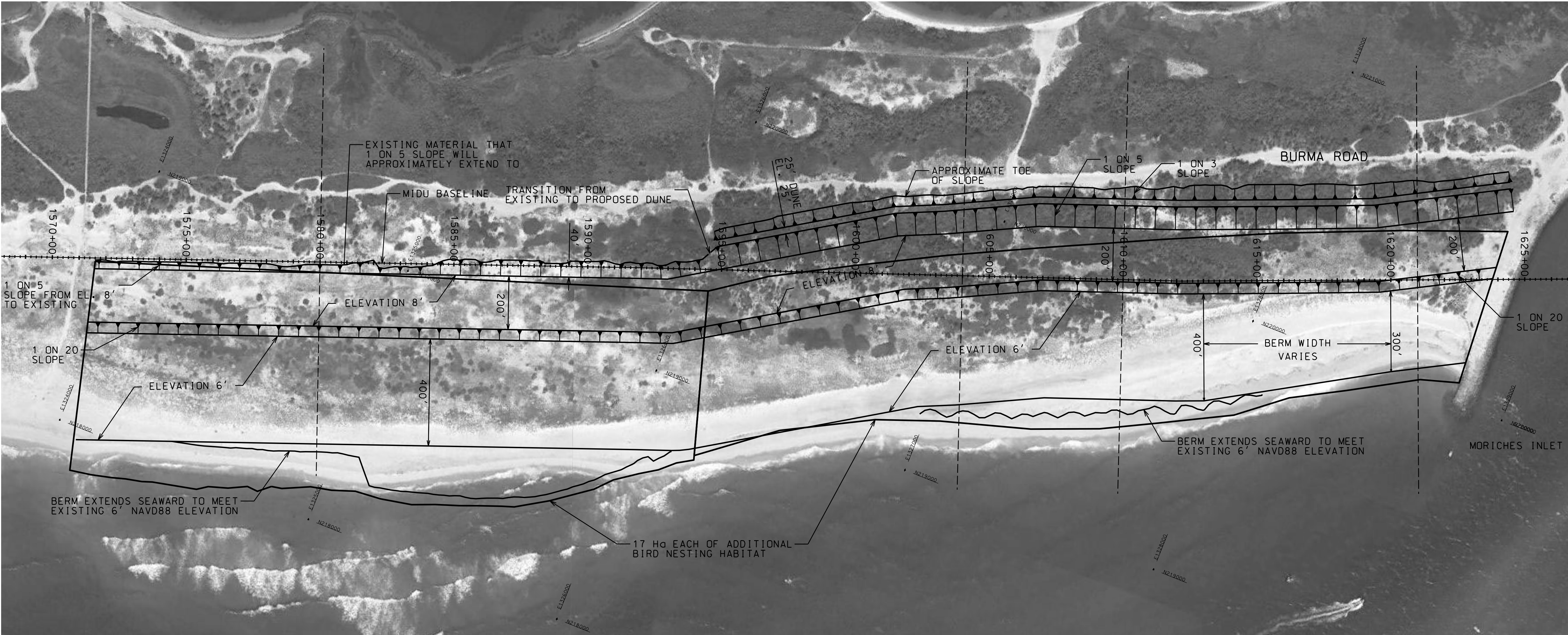
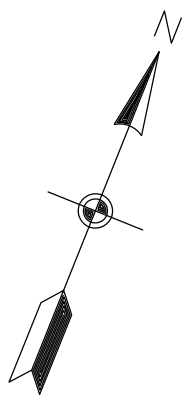
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- SCALE: 1" = 200'



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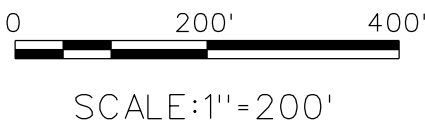
SHEET
IDENTIFICATION
C-39

ADDITIONAL BIRD NESTING HABITAT
GREAT GUNN



NOTES:

1. ALL ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. COORDINATES ARE BASED ON LONG ISLAND LAMBERT NAD83 (US FEET).
3. AERIAL, DATED 19 SEPTEMBER 2013, WAS GEOREFERENCED USING GOOGLE EARTH.
4. SEE CROSS SECTIONS FOR MORE DETAILS.



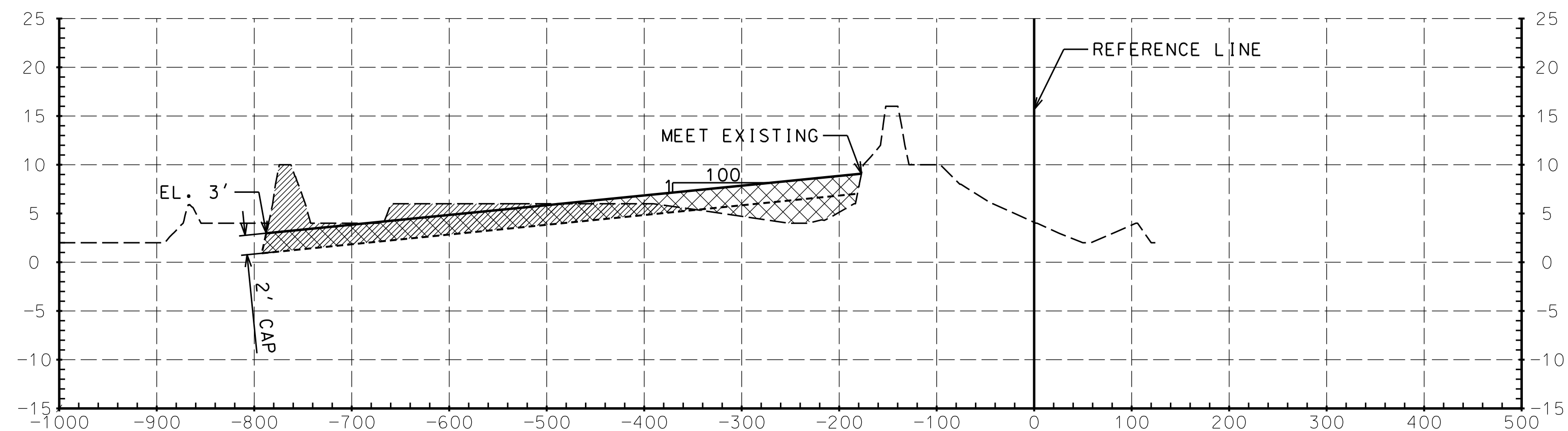
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NEW YORK
<http://www.nan.usace.army.mil>

FIRE ISLAND INLET
TO
MORICHES INLET, NEW YORK
STABILIZATION PROJECT
CIVIL
BEACH FILL PLAN VIEW

SHEET
IDENTIFICATION
C-40

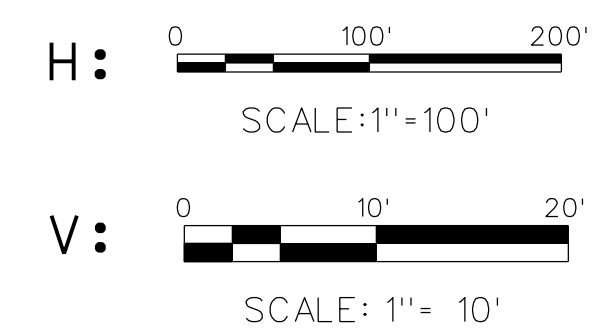
A



STA 1483+00

NOTE:

1. EXISTING DIKE WILL BE REMOVED.
2. THE 2' CAP WILL BE PLACED WITH OFFSHORE MATERIAL,
AND WILL HAVE A 1 ON 100 SLOPE.



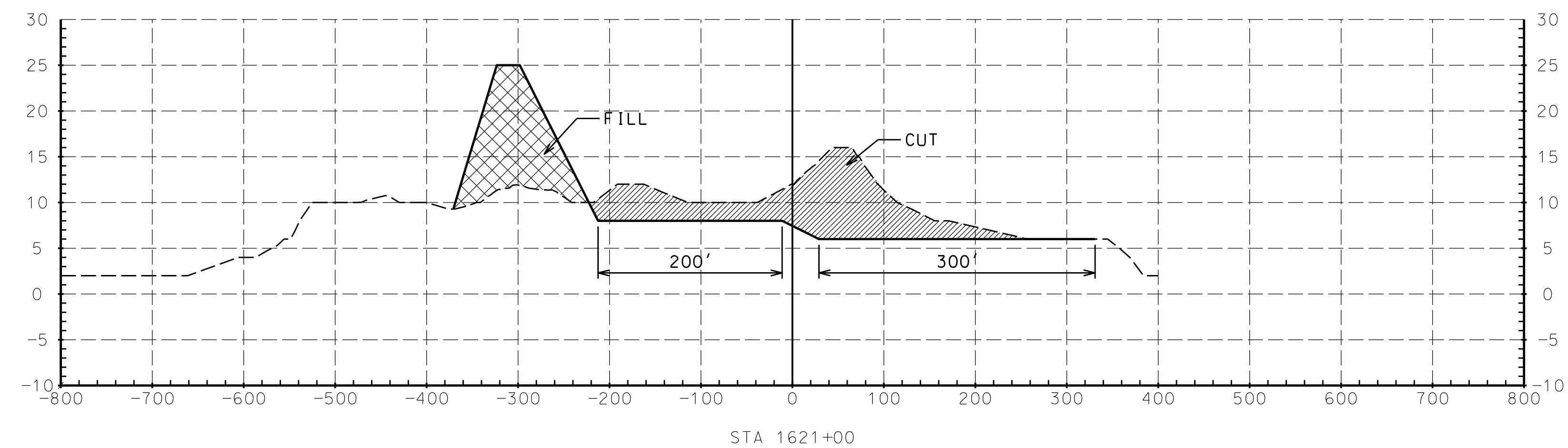
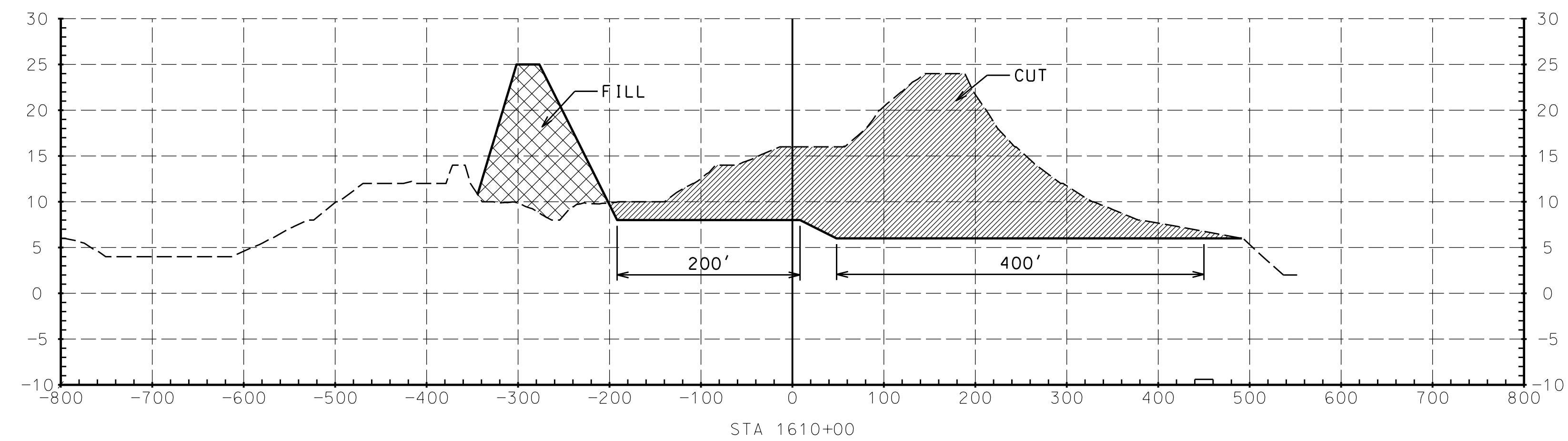
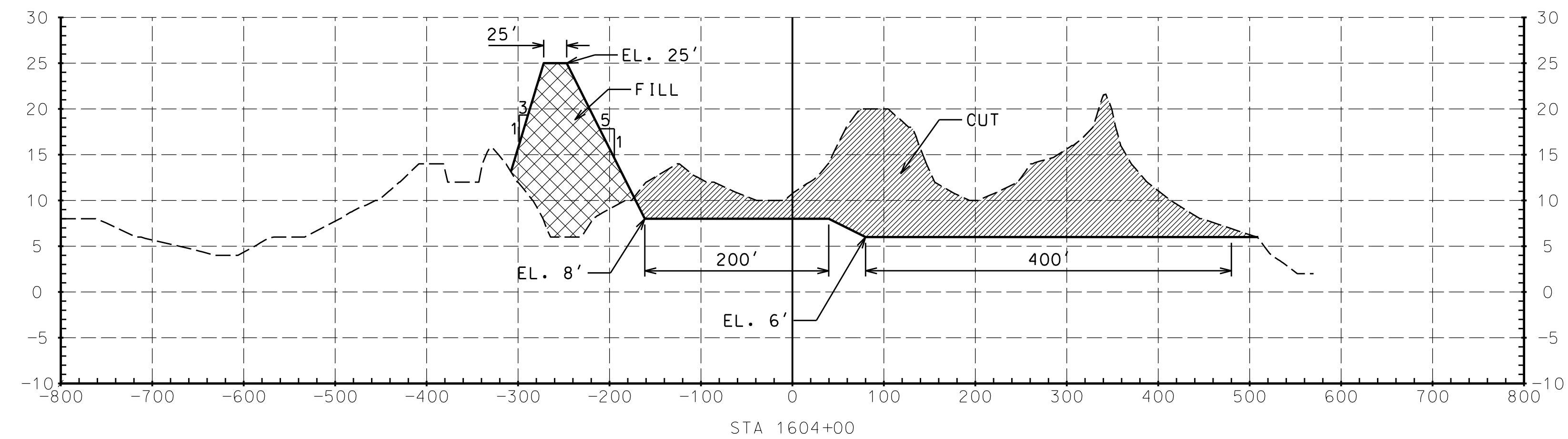
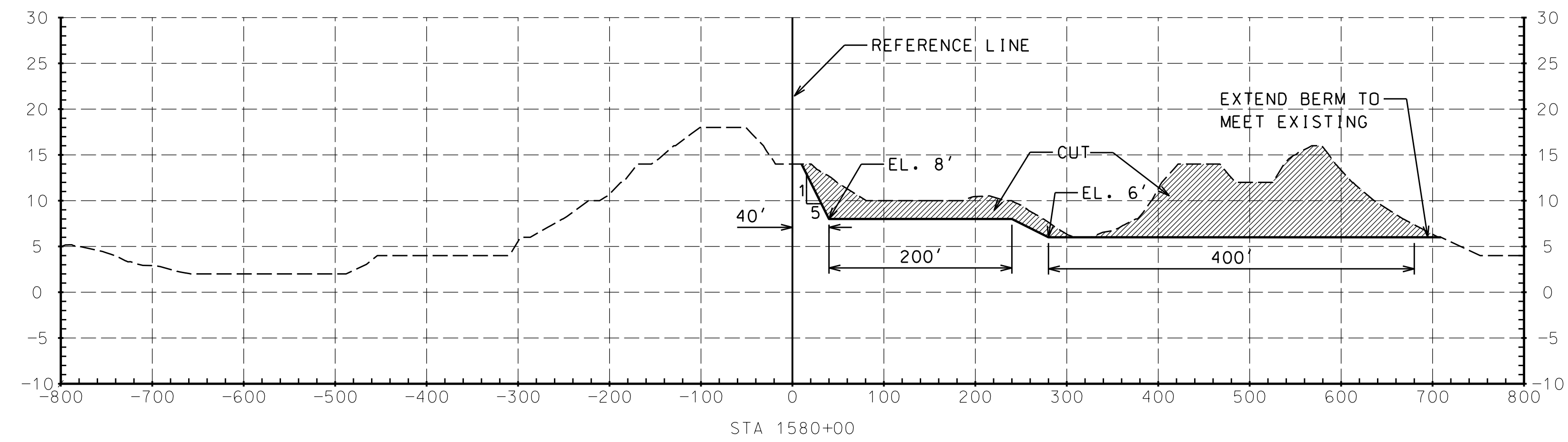
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STABILIZATION PROJECT

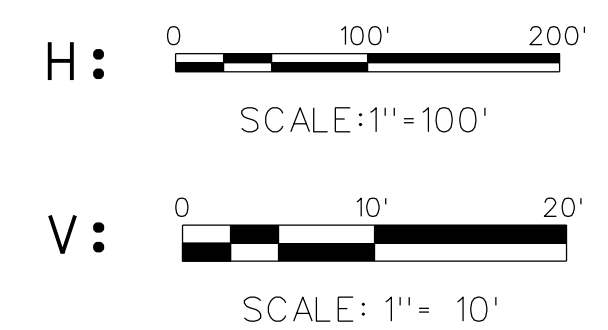
CROSS SECTIONS
NEW MADE ISLAND

FIRE ISLAND INLET
TO
MORICHES INLET, NEW YORK

SHEET
IDENTIFICATION
C-41



LINE	SURFACE	UNITS = FEET
————	CONSTRUCTION TEMPLATE	
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**U.S. Army Corps
of Engineers®
New York District**

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http://www.nan.usace.army.mil	
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TO
MORICHES INLET, NEW YORK

STABILIZATION PROJECT

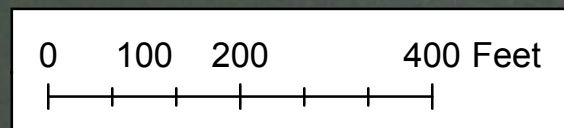
CROSS SECTIONS
GREAT GUNN

SHEET
IDENTIFICATION
C-42

Smiths Point Breach

6 Ha

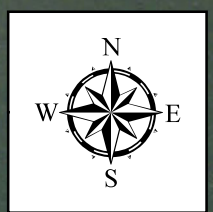
1 in = 200 ft



Pattersquach

13 Ha

1 in = 400 ft

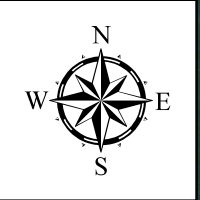
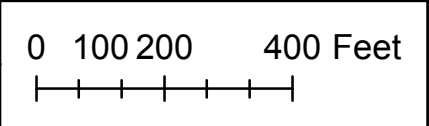


New Made Island

6 Ha

10.5 Ha

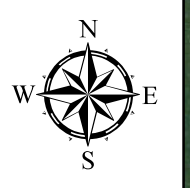
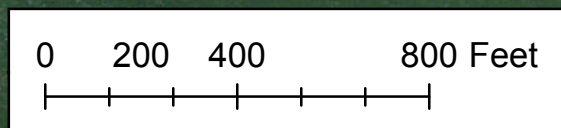
1 in = 300 ft



Lighthouse Tract

11 Ha

1 in = 400 ft

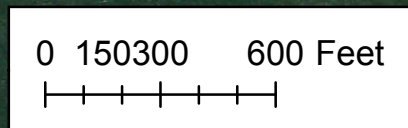


Great Gun

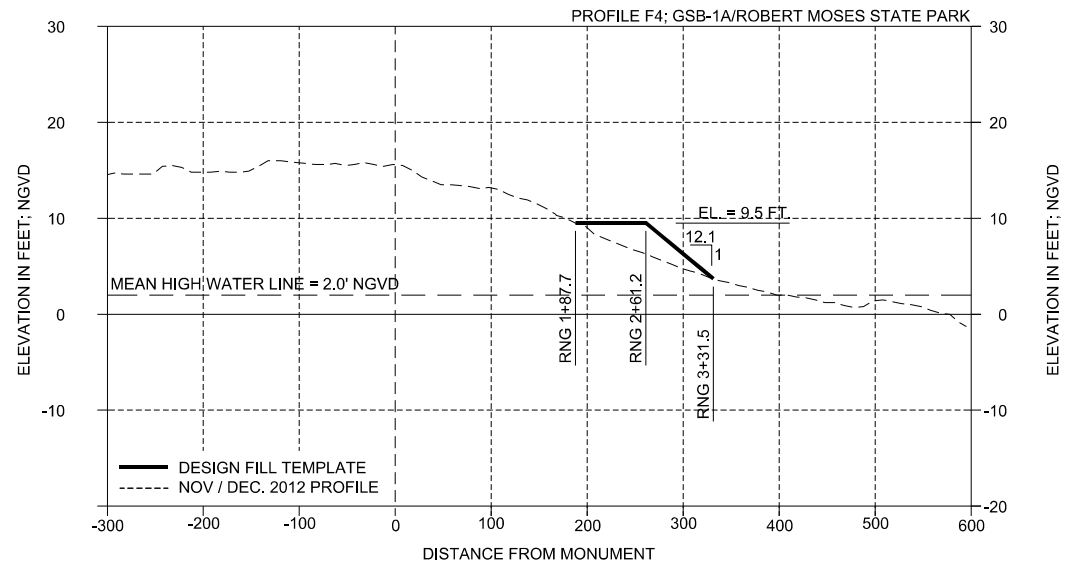
17 Ha

17 Ha

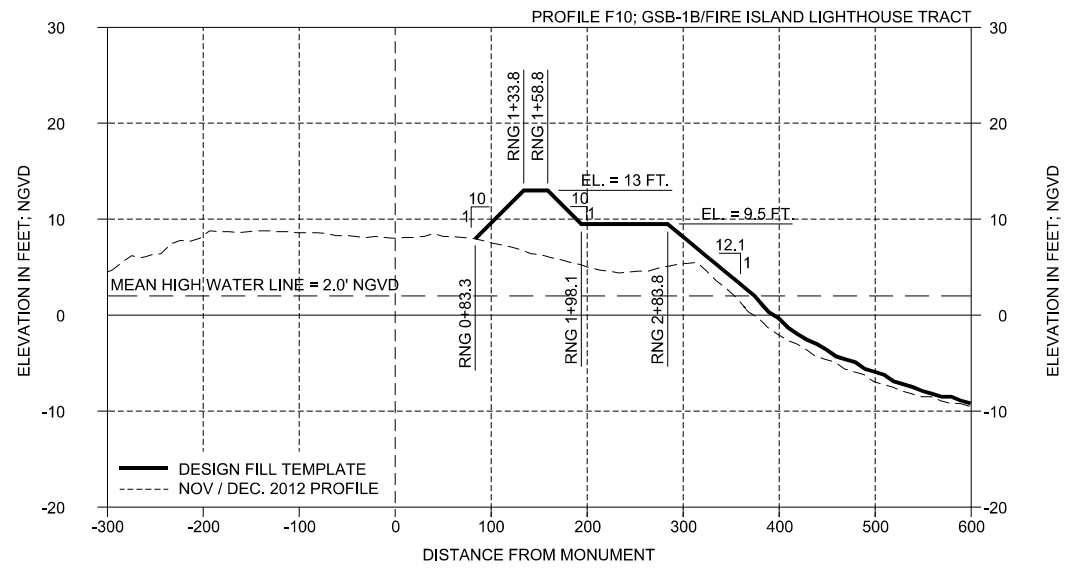
1 in = 500 ft



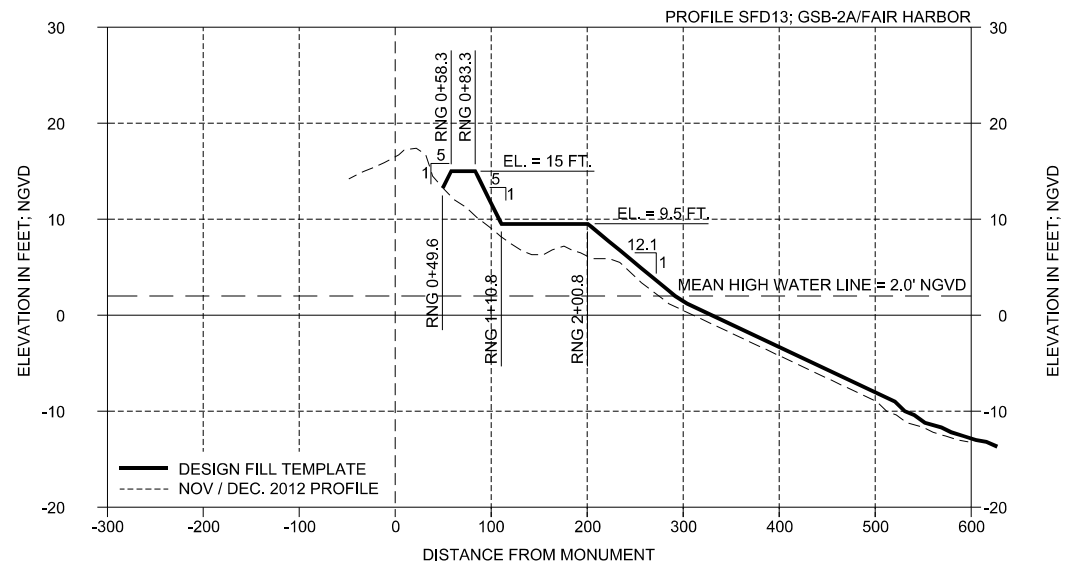
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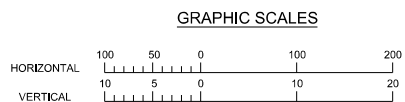
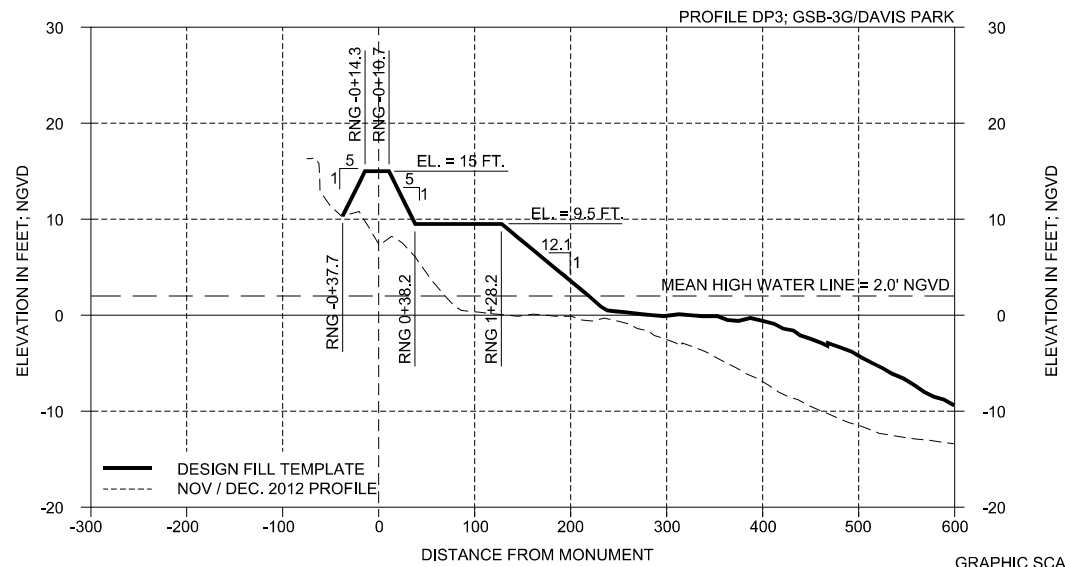
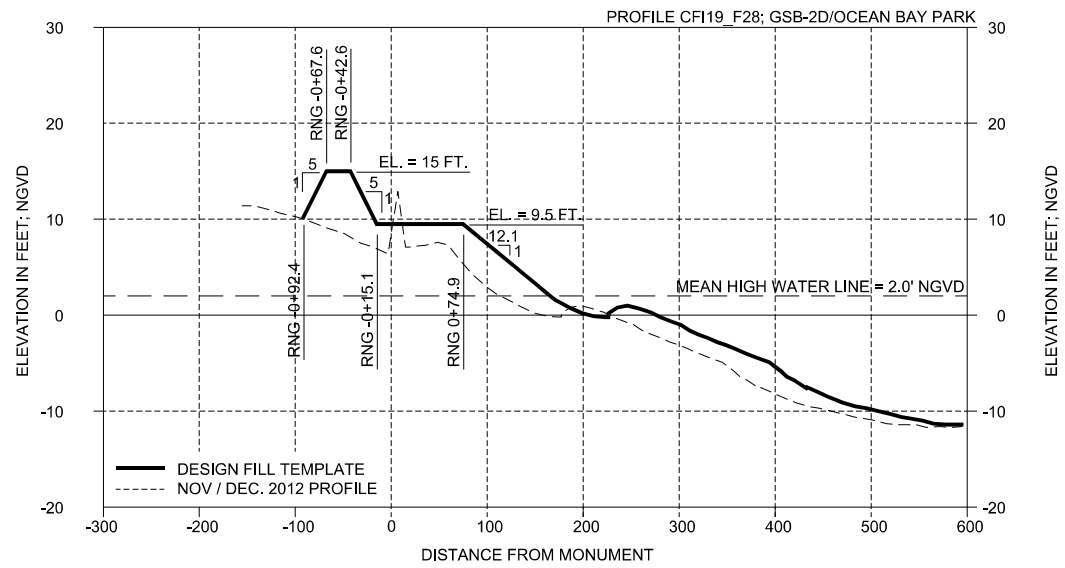
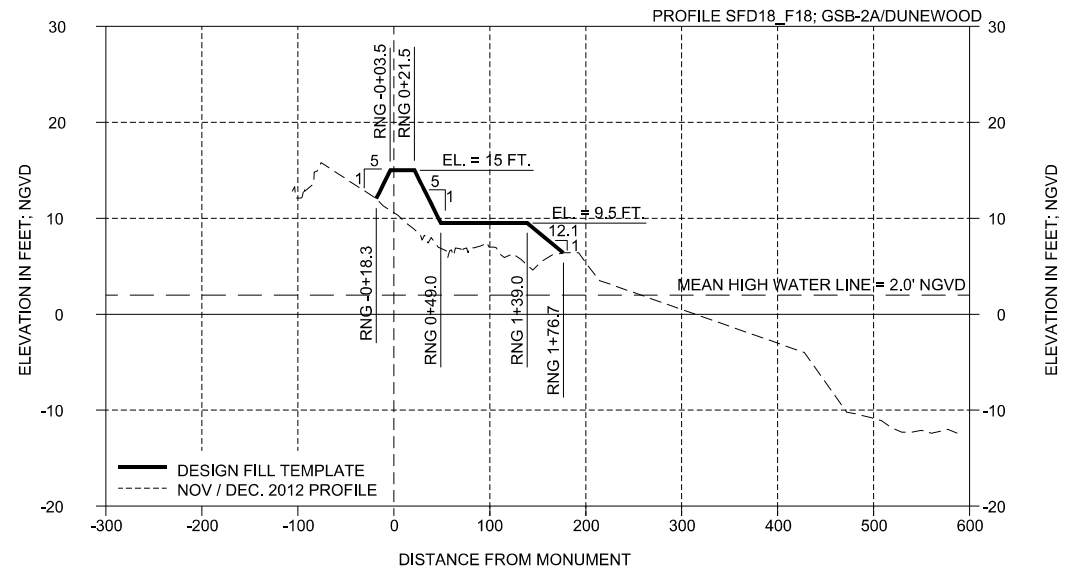


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New York District

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NEW YORK
<http://www.nam.usace.army.mil>

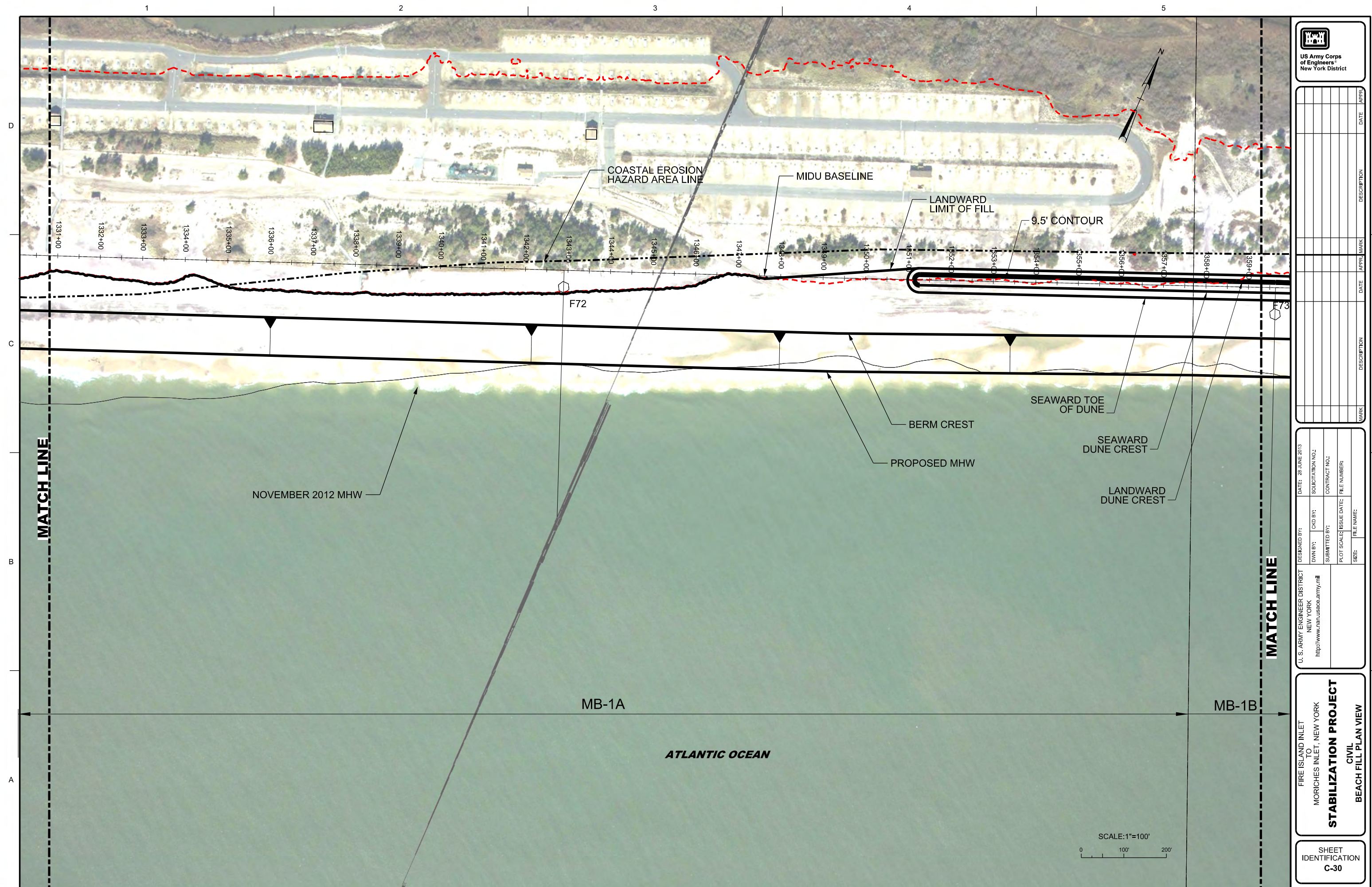
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FIRE ISLAND INLET TO
MORICHES INLET, NEW YORK

STABILIZATION PROJECT

TYPICAL FILL PROFILES

SHEET
IDENTIFICATION
C-38



**US Army Corps
of Engineers®
New York District**

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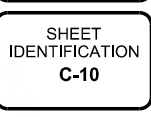
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FIRE ISLAND INLET
TO
MORICHES INLET, NEW YORK

STABILIZATION PROJECT

CIVIL
BEACH FILL PLAN VIEW

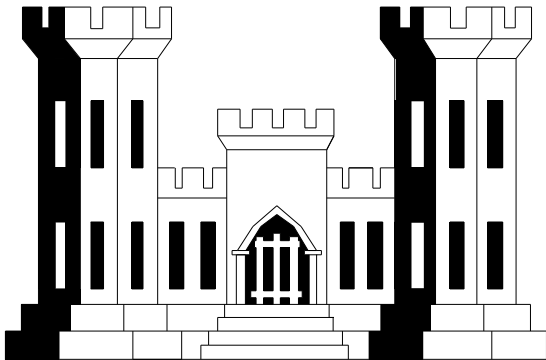
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**FIRE ISLAND INLET TO
MORICHES INLET, NEW YORK**

**PLANS
FOR CONSTRUCTION OF**

STABILIZATION PROJECT
SUFFOLK COUNTY, NEW YORK



PRELIMINARY
DO NOT USE FOR CONSTRUCTION

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
NEW YORK, NEW YORK

2014

 "INCREASE PROFIT -- SUBMIT VECPS"

TO ACCOMPANY INVITATION
NO. W912EP-XX-X-XXXX

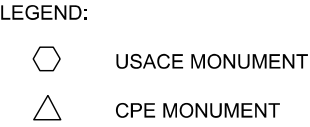
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GENERAL	
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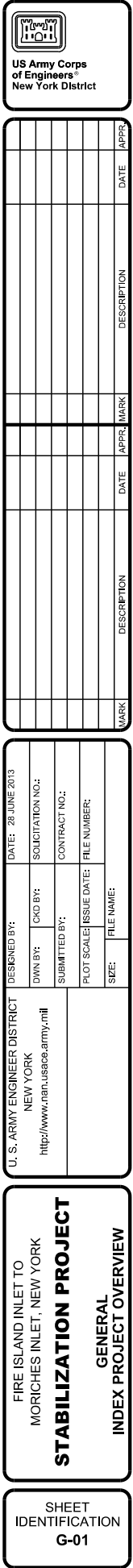
G-01	INDEX AND PROJECT OVERVIEW
G-02	RANGE MONUMENT CONTROL DATA

CIVIL

C-01	BEACH FILL PLAN VIEW
C-02	BEACH FILL PLAN VIEW
C-03	BEACH FILL PLAN VIEW
C-04	BEACH FILL PLAN VIEW
C-05	BEACH FILL PLAN VIEW
C-06	BEACH FILL PLAN VIEW
C-07	BEACH FILL PLAN VIEW
C-08	BEACH FILL PLAN VIEW
C-09	BEACH FILL PLAN VIEW
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C-33	BEACH FILL PLAN VIEW
C-34	BEACH FILL PLAN VIEW
C-35	BEACH FILL PLAN VIEW
C-36	BEACH FILL PLAN VIEW
C-37	BEACH FILL PLAN VIEW
C-38	TYPICAL FILL PROFILES



1. THE PLANIMETRIC LAND FEATURES DEPICTED ON THESE PLANS ARE FOR INFORMATION ONLY AND WERE NOT PHYSICALLY LOCATED BY SURVEY UNLESS OTHERWISE INDICATED. NOT ALL EXISTING STRUCTURES ARE INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL SUCH FEATURES THAT HE/SHE DETERMINES ARE NECESSARY FOR OR AFFECT THE PERFORMANCE OF THIS PROJECT.
2. ELEVATIONS SHOWN HEREON ARE IN U.S. SURVEY FEET REFERENCED TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD29).
3. COORDINATES SHOWN HEREON ARE IN U.S. SURVEY FEET REFERENCED TO NEW YORK STATE PLANE, LONG ISLAND, NORTH AMERICAN DATUM 1983 (NAD83).
4. MEAN HIGH WATER (MHW) IS DEFINED AT 2 FEET, NGVD29. MHW ELEVATION WAS DETERMINED BY USING VDATUM.
5. EXISTING VEGETATION WITHIN THE PROJECT AREA SHALL NOT BE COVERED BY FILL. THE CONTRACTOR SHALL MINIMIZE IMPACTS TO VEGETATION WHILE ACCESSING THE PROJECT AREA AND DURING CONSTRUCTION.
6. AZIMUTHS SHOWN HEREON ARE PERPENDICULAR TO BASELINE.
7. THE +9.5' NGVD CONTOUR REPRESENTS THE APPROXIMATE LANDWARD LIMIT OF FILL FOR THE LOCATIONS OF NO DUNE FILL. LANDWARD LIMIT OF FILL FOR THE DUNE DESIGN ASSUMES A LANDWARD DUNE TOE INTERSECTION AT +10.0' NGVD. ACTUAL LANDWARD DUNE TOE INTERSECTION WILL VARY DEPENDING ON EXISTING TOPOGRAPHY.



1

2

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DCBA

REACH	MONUMENT	EAST	NORTH	MOUMENT AZIMUTH	AZIMUTH PERPENDICULAR TO BASELINE
GSB-2D	F125	1225194.0	177109.0	160	161
GSB-2D	F125.5	1225673.0	177279.0	160	161
GSB-2D	F30	1226277.0	177406.2	159	161
GSB-2D	F126.5	1226683.0	177629.0	189	161
GSB-2D	F127	1227201.0	177788.0	159	161
GSB-2D	F31	1227685.0	177932.1	159	164
GSB-2D	CFI26	1228192.0	178099.0	160	163
taper	F32	1228734.0	178245.2	159	163
taper	F35	1235722.0	180259.8	159	164
GSB-3A	F36	1237559.0	180742.5	159	161
taper	F37	1238790.0	181221.7	159	162
taper	FIP1_F38	1239852.0	181547.0	159	162
taper	FIP1+30	1240145.9	181621.2	159	162
GSB-3C	FIP2	1240301.0	181663.0	159	162
GSB-3C	FIP3	1240795.0	181848.0	159	163
GSB-3C	FIP4_F39	1241331.0	181991.0	159	162
GSB-3C	FIP5	1241860.0	182179.0	159	162
GSB-3C	FIP6_F40	1242413.0	182337.2	159	162
GSB-3C	FIP7	1242896.0	182550.0	159	162
GSB-3C	FIP8	1243352.0	182672.0	159	162
GSB-3C	FIP9_F41	1243771.2	182806.4	159	162
GSB-3C	FIP10	1244305.0	183017.0	159	162
GSB-3C	FIP11	1244710.0	183215.0	159	161
GSB-3C	F42	1244973.0	183198.0	159	161
GSB-3C	FIP12	1245296.0	183331.0	159	161
GSB-3C	FIP13	1245761.0	183606.0	159	159
GSB-3C	FIP13+435	1246209.5	183651.7	159	159
taper	F43	1246276.0	183746.5	159	158
taper	FIP15	1246658.0	183985.0	159	158
taper	F44	1247043.0	184046.2	159	158
taper	F48	1252423.0	186296.5	159	159
GSB-3E	WI2	1252882.0	186480.0	159	159
GSB-3E	WI3	1253397.0	186667.0	159	159
taper	F53	1257779.0	188574.5	159	153
taper	DP1_F54	1258776.6	189060.8	159	153
taper	DP1+80	1258833.6	189106.4	159	153
GSB-3G	DP2	1259189.4	189262.0	159	155
GSB-3G	DP3	1259602.3	189463.2	159	155
GSB-3G	DP4	1260015.1	189664.4	159	155
GSB-3G	DP5_F55	1260422.0	189862.7	159	152
GSB-3G	DP6	1260858.4	190090.3	159	152
GSB-3G	DP7	1261294.4	190317.9	159	152
GSB-3G	DP8_F56	1261722.6	190541.1	159	151
GSB-3G	DP9	1262049.0	190705.6	159	151
GSB-3G	DP10	1262375.4	190870.1	159	151
GSB-3G	DP10+184	1262540.8	190952.5	159	151
taper	DP11_F57	1262696.9	191032.2	159	153
taper	F58	1263714	191565.7	159	153
MB-1A	F71	1298571	208023.7	159	156
MB-1A	F72	1302770	209886	159	158
MB-1B	F73	1304328	210495.7	159	158
MB-1B	F74	1305734	211106.1	159	158
MB-1B	F75	1307345	211969	159	156
MB-1B	F76	1308911	212558.8	159	156
MB-1B	F77	1312891	214320.6	159	156
MB-1B	F78	1315913	215331.1	159	157
MB-2A	F79	1318843	216603.8	159	157
MB-2A	F80	1321197	216657	159	159

[illegible]

U. S. ARMY ENGINEER DISTRICT NEW YORK	DESIGNED BY:	DATE: 20 JUNE 2013
http://www.nen.usace.army.mil	OWN BY: CWD BY:	
	SUBMITTED BY:	SOLICITATION NO.:
		CONTRACT NO.:
	PLOT SCALE:	ISSUE DATE:
	SIZE:	FILE NAME:

FIRE ISLAND INLET TO
MORICHES INLET, NEW YORK

STABILIZATION PROJECT

GENERAL
RANGE MONUMENT CONTROL DATA

SHEET
IDENTIFICATION
G-02

