Atlantic Coast of Long Island
Jones Inlet to East Rockaway Inlet

Long Beach Island, New York
Coastal Storm Risk Management Project
Hurricane Sandy Limited Reevaluation Report

Appendix A:

Pertinent Correspondence

U.S. Army Corps of Engineers
New York District

February 2014

New York State Department of Environmental Conservation
Division of Water
Bureau of Flood Protection and Dam Safety, 4th Floor
625 Broadway, Albany, New York 12233-3504
Phone: (518) 402-8185 • **FAX:** (518) 402-9029
Website: www.dec.ny.gov

Joe Martens
Commissioner

February 12, 2014

Anthony Ciorra, P.E.
Chief - Coastal Restoration and Special Project Branch
United States Army Corps of Engineers - New York District
26 Federal Plaza - Room 2119A
New York, New York 10278-0090

Re: Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet, Long Beach Island, New York, Hurricane and Storm Damage Reduction Project (Long Beach Project)

Dear Mr. Ciorra:

This letter is in response to the United States Army Corps of Engineers (Corps) request for their non-federal sponsor, New York State Department of Environmental Conservation (Department), to provide a letter of support to move the subject project to the next step in obtaining Corps approval of the Hurricane Sandy Limited Reevaluation Report (HSLRR). The Department reaffirms its support of the Long Beach Project, as stated in its June 24, 2013 letter to Mr. Eugene Brickman, and supports the recommendations included in the Hurricane Sandy Limited Reevaluation Report (HSLRR) for the Long Beach Project.

The Department continues to work with the Corps in moving this project forward and is anticipating the finalization of the HSLRR by the Corps in an expedited manor in order to move into construction as soon as possible and provide the much needed protections for these communities which this project will bring. The Department continues to provide the necessary staffing and support to move the Long Beach Project into Design and Construction. If you have any questions, please contact the Project Manager, John Scudder, by telephone at (518) 402-7082 or email at jsscudde@gw.dec.state.ny.us.

Sincerely,

Alan A. Fuchs, P.E.
Director
Bureau of Flood Protection and Dam Safety

ec: E. Brickman, USACE
S. Couch, USACE
J. LaCarruba, City of Long Beach
R. Master, Town of Hempstead
T. Kelly, County of Nassau

ec: P. Scully, NYSDEC Reg.1
S. McCormick, NYSDEC
A. Servidone, NYSDEC
J. Scudder, NYSDEC

DRAFT PROGRAMMATIC AGREEMENT
AMONG
THE U. S. ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT,
AND
THE NEW YORK STATE OFFICE OF PARKS, RECREATION, and HISTORIC PRESERVATION
REGARDING
THE JONES INLET TO ROCKAWAY INLET, LONG BEACH ISLAND,
NASSAU COUNTY, NEW YORK
COASTAL STORM RISK MANAGEMENT PROJECT

WHEREAS, the U. S. Army Corps of Engineers, New York District (District), is undertaking a coastal storm risk management project that would provide shoreline protection to Long Beach Island, a barrier island located between Jones Inlet and East Rockaway Inlet, in Nassau County, New York, to include the construction of dunes, groins and sand berms, the rehabilitation and/or extension of existing groins, the placement of sand fill, the creation of pedestrian and vehicular access ways, and the planting of dune grass (Project; Appendix A); and

WHEREAS, the Area of Potential Effect (APE) for the Project includes the on-shore and near shore sand placement area, the groin construction and rehabilitation area and the offshore sand borrow source; and

WHEREAS, two anomalies were identified in the offshore borrow area and are considered to be potentially significant cultural resources; and

WHEREAS, the *Marble* Wreck and the wreck of the *Mexico* has been determined potentially eligible for the National Register of Historic Places (NRHP), but requires further investigation to make that determination, and Anomaly 18 represents an unknown object that also requires further investigation to determine its eligibility for the NRHP; and

WHEREAS, the District has determined that the use of the off shore borrow area will avoid the two potentially significant anomalies identified; and

WHEREAS, the District has determined that the project will have an adverse effect on the three submerged cultural resources, the *Marble* Wreck, the *Mexico* Wreck, and Anomaly 18. The *Marble* Wreck is located approximately 100 feet from the work limits for the terminal groin at Point Lookout. The *Mexico* Wreck is located roughly 100 feet from the sand placement area and Anomaly 18 is located within the sand placement area; but cannot fully identify the extent and nature of the adverse effects at this time; and

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

WHEREAS, in accordance with 36 CFR Part 8000.14(b), the District has notified the Advisory

Council on Historic Preservation (ACHP), of its adverse effect determination and its intent to prepare a Programmatic Agreement, providing the specified documentation for actions where such effects have been determined, and has given the ACHP the opportunity to participate in consultation; and

WHEREAS, the District has consulted with the Federally-recognized Tribes, the Shinnecock Nation, the Delaware Nation, the Delaware Tribe of Nations and the Stockbridge-Munsee Banc of Mohicans and invited them to participate in this PA; and

WHEREAS, the District has consulted with the Long Beach Historical and Preservation Society, the Nassau County Historical Society, the Institute for Long Island Archaeology, Long Island Divers Association, Inc., and the Unkechaug Nation as interested parties;

NOW, THEREFORE, the New York District, and the NYSHPO agree that the undertaking shall be administered in accordance with the following stipulations in order to take into account the effect of the Project on historic properties.

STIPULATIONS

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

A. The District shall conduct a remote sensing survey of the *Mexico* Wreck, the *Marble* Wreck, and Anomaly 18. Each site will receive a comprehensive magnetometer, side scan sonar, and sub-bottom profiler survey to relocate and delineate the anomaly and wreck sites, as well as to form baseline data for the wreck sites. The District shall also conduct archeological diver identification and testing of each site. The survey shall be designed to collect sufficient information on the three sites to locate and evaluate their eligibility for the NRHP and make recommendations for future investigations or mitigation measures. The results of the survey shall be provided for comment to the NYSHPO, ACHP, and the consulting and interested parties. The sites shall only be deemed eligible upon concurrence from the NYSHPO following a review of the survey report. If the NYSHPO fails to respond within 30 calendar days of receipt of the District's request for concurrence with the determination, the District's determination shall be deemed conclusive.

B. In consultation with the NYSHPO and interested parties, the District shall determine whether the NRHP-eligible resources can be protected from adverse impacts through use of buffer zones or if, in addition to the buffer zones, there is a need for data recovery as a mitigating measure. If the resources cannot be avoided through the use of buffer zones the District shall prepare a data recovery plan for each resource as mitigation for adverse impacts. Each data recovery plan will be designed to document the remains both photographically and architecturally. A data recovery plan was developed for the *Marble* Wreck and has been reviewed and accepted by the NYSHPO (Appendix C).

C. Once executed, the data recovery plan(s) will be implemented prior to construction of the particular project element.

D. For each site that is determined eligible for the NRHP and documented through Stipulation B, measures will be developed, in consultation with the NYSHPO and interested parties for disseminating the data that is collected through publications, presentations, displays, and/or websites.

E. For all work conducted under this PA, the District shall ensure that qualified professionals meeting the *Secretary of the Interior's Professional Qualification Standards* (48 FR 44738-9) and the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (48 FR 44738-390).

F. The District and its contractors will ensure that all materials and records resulting from the survey, evaluation and data recovery conducted as part of this PA will be curated in accordance with 36 CFR Part 79. The archaeological materials and records will be retained by the District until a suitable repository is identified.

II. Administrative Terms

A. AMENDMENT

This PA may be amended when such an amendment is agreed to 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 ACHP.

B.TERMINATION

If any signatory to this PA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation IV(A) above. If within 30 calendar days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the PA upon written notification to the other signatories. Once the PA is terminated and prior to work continuing on the Project, the District must either 1) execute a PA pursuant to 36 CFR 800.6; or 2) request, take into account, and respond to the comments of the ACHP under 36 CFR 800.7. The District shall notify the signatories as to the course of action it will pursue.

C. ANTI-DEFICIENCY ACT

All requirements set forth in this PA requiring expenditure of funds by the New York 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 New York District under the terms of this PA shall require or be interpreted to require a commitment to extend funds not appropriated for a particular purpose. If the New York District cannot perform any obligation set forth in this PA because of unavailability of funds, that obligation must be renegotiated among the District and the NYSHPO as necessary.

D. DISPUTE RESOLUTION

Should any signatory to this PA object at any time to any actions proposed or the manner in which the terms of this PA are implemented, the District shall consult with such that party to resolve the objection. If the District determines that such an objection cannot be resolved, the District will:

1. Forward all documentation relevant to the dispute, including the New York District's proposed resolution, to the ACHP. The ACHP shall provide the New York District with its advice on the resolution of the objection within 30 calendar days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the New York District shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. The New York District will then proceed according to its final decision.

2. 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 PA, and provide them and the ACHP with a copy of such written response.

3. The District's responsibilities to carry out all other actions subject to the terms of this PA that are not the subject of the dispute remain unchanged.

E. UNANTICIPATED DISCOVERY

If during the construction of this Project or the implementation of any other Project features, including but not limited to those associated with the secondary impacts and impact areas described in this PA, , the District will treat unanticipated discoveries in a manner that is in accordance with 36 CFR Part 800.13 "Post Review Discoveries" and in the case of the discovery of human remains, treatment shall follow the "Human Remains Discovery Protocol" of the New York State Office of Parks, Recreation and Historic Preservation.

F. SUNSET CLAUSE

This PA will continue in full force and effect until the construction of the Project is complete and all terms of this PA are met, unless the Project is terminated or authorization is rescinded.

Execution of this PA by the District and the NYSHPO and implementation of its terms evidences that the District has taken into account the effects of the Project on historic properties and afforded the ACHP an opportunity to comment.

NEW YORK STATE HISTORIC PRESERVATION OFFICE

By: _____ Date: _____

Ruth Pierpont, Deputy Commissioner and Deputy State Historic Preservation Officer

U.S. ARMY CORPS OF ENGINEERS

By: _____ Date: _____

Paul E. Owen
Colonel, U.S. Army
Commander

APPENDIX A – HSRR Selected Alternative

ATLANTIC BEACH

SAND DUNES & BEACH GRASS

P234

P230

N152000

N 151000

E 1065000

E 1066000

Existing MHW (+1.5')

Improved MHW

TRANSITION SAND FILL TO EXISTING GRADE

APPROXIMATE TOE OF DESIGN FILL

TRANSITION SAND FILL TO EXISTING GRADE

21

22

23

N

WO 15

100 50 0 100 200 FT

SCALE: 1" = 100'

-9.60
-9.50
-10.00
-11.00
-11.70
-17.60
-21.20
-20.90
-17.10
-11.30
-11.00
-10.00
-8.60
-7.60
-6.40
-5.40
-4.70
-4.90
-5.30
-5.60
-4.60
-2.80
-2.60
-0.90
-2.00
-2.60
+4.30
+5.90
+6.80
+6.70
+7.30
+7.30
+5.40
+5.20
+5.60
+5.70
+6.30
+7.40
+8.30
+8.80
+9.60
+10.20
+10.80
+11.70
+12.50
+13.20
+14.30
+15.50
+16.20
+16.90
+17.50
+18.00
+18.40
+18.70
+19.00
+19.40
+19.90
+20.30
+20.70
+21.00
+21.10
+21.50
+21.70
+22.00
+22.20
+22.40
+22.60
+23.20
+23.60
+24.00
30

US Army Corps of Engineers New York District

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS NEW YORK, NEW YORK

EROSION CONTROL STUDY

PROPOSED BEACH FILL PLAN

Long Beach New York

Sheet reference number: 1

Sheet 1 of 14

Submitted by: USERNAME Plot Date: DD-MMM-YYYY HH:MM $$$$ FILE NAME $$$$

FIGURE 8-1

US Army Corps of Engineers New York District
LONG BEACH
TRENTON CT.
NEVADA AVE.
OHIO AVE.
ILLINOIS AVE.
CONNETICUT AVE.
FLORIDA ST.
GEORGIA AVE.
KENTUCKY ST.
OCEAN
INDIANA AVE.
MARYLAND AVE.
VIEW
MINNESOTA AVE.
TENNESSEE AVE.
VERMONT ST.
VIRGINIA AVE.
Stucco Cabanas
3 Story Brick Apartments
END OF PROPOSED DUNE
WO 1
WO 2
WO 3
WO 4
WO 5
WO 6
WO 7
WO 8
WO 9
WO 10
SLOPE BERM 1V:10H
PROPOSED TIMBER ADA DUNE WALKOVER
TOP OF DUNE ELEV +14.0' NAVD
CREST WIDTH 25'
SEAWARD SIDE SLOPE 1V:5H
LANDWARD SIDE SLOPE 1V:3H
PROPOSED GRAVEL SURFACE WALKOVERS (TYP)
40'
TOP OF BERM ELEV. = +9.0' NAVD
130'
TOP OF BERM ELEV. = +7.0' NAVD
N152000
N 151000
Existing MHW (+1.5')
0' NAVD 1988
Improved MHW
Slope Varies
1V:30H
24
25
26
27
GROIN REHABILITATION
TRANSITION SAND FILL TO EXISTING GRADE
APPROXIMATE TOE OF DESIGN FILL
E 1067000
E 1068000
E 1069000
100 50 0 100 200 FT
SCALE: 1"= 100'
N
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS NEW YORK, NEW YORK
File name: $ipdesign$
EROSION CONTROL STUDY
PROPOSED
BEACH FILL PLAN
Long Beach
New York
Sheet reference number:
2
Sheet 2 of 14
Submitted by: USERNAME
Plot Date: DD-MMM-YYYY HH:MM
FILE NAME

FIGURE 8-2

LONG BEACH
OCEAN
VIEW
WYOMING AVE.
DELAWARE AVE.
ARIZONA ST.
PENNSYLVANIA AVE.
NEW YORK AVE.
GRAND BLVD.
W. BROADWAY
EXISTING BOARDWALK
"Beach Terrace" Core Facility
US Army Corps of Engineers New York District
WO 11
WO 12
WO 13
WO 14
WO 16
WO 17
VA 15
VA 43
PROPOSED GRAVEL SURFACE WALKOVERS (TYP)
N 152000
N 151000
TOP OF DUNE ELEV +14.0' NAVD
CREST WIDTH 25'
SEAWARD SIDE SLOPE 1V:5H
LANDWARD SIDE SLOPE 1V:3H
40'
130'
PROPOSED GRAVEL VEHICLE ACCESS
SLOPE BERM 1V:10H
PROPOSED TIMBER ADA DUNE WALKOVER
PROPOSED TIMBER ADA DUNE WALKOVER
TOP OF BERM ELEV. = +9.0' NAVD
TOP OF BERM ELEV. = +7.0' NAVD
Existing MHW (+1.5')
0' NAVD 1988
0' NAVD 1988
Improved MHW
Improved MHW
P220
28
29
30
32
GROIN REHABILITATION
GROIN REHABILITATION
1V:30H
1V:30H
PROPOSED VEHICLE ACCESS (TYP)
APPROXIMATE TOE OF DESIGN FILL
E 1070000
E 1071000
E 1072000
N
100 50 0 100 200 FT
SCALE: 1"= 100'
10 9 8 7 6 5 4 3 2 1 0
H G F E D C B A
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS NEW YORK, NEW YORK
Designed by: xxxxx
Dwn by: xxxx
Ckd by: xxxx
Reviewed by: xxxx
Submitted by: xxxx
Date: xxxx
Solicitation no.: xxxx
Contract no.: xxxxx
Plot date: xxxx
Plot by: xxxx
Scale: xxxx
Size: ANSI D
File name: $pdesign$
Mark
EROSION CONTROL STUDY
PROPOSED
BEACH FILL PLAN
Long Beach
New York
Sheet reference number: 3
Sheet 3 of 14
Submitted by: USERNAME
Plot Date: DD-MMM-YYYY HH:MM
FILE NAME

FIGURE 8-3

LONG BEACH
EXISTING BOARDWALK
W. BROADWAY
Hebrew Academy of Long Beach
Hebrew Academy of Long Beach
LINDELL BLVD.
WASHINGTON BLVD.
Construction Site
LAFFAYETTE BLVD.
LAURELTON BLVD.
40'
TOP OF DUNE ELEV +14.0' NAVD
CREST WIDTH 25'
SEAWARD SIDE SLOPE 1V:5H
LANDWARD SIDE SLOPE 1V:3H
WO 18 PROPOSED TIMBER DUNE WALKOVER
TOP OF BERM ELEV. = +9.0' NAVD
SLOPE BERM 1V:10H
WO 19 PROPOSED TIMBER DUNE WALKOVER
VA 20 PROPOSED SWING GATE VEHICLE ACCESS STRUCTURE
WO 21 PROPOSED TIMBER DUNE WALKOVER
WO 22 PROPOSED TIMBER DUNE WALKOVER
N 152000
Existing MHW (+1.5')
0' NAVD 1988
Improved MHW
1V:30H
33
34 GROIN REHABILITATION
35 GROIN REHABILITATION
36 GROIN REHABILITATION
VA 43 PROPOSED VEHICLE ACCESS (TYP)
APPROXIMATE TOE OF DESIGN FILL
N 151000
N 151000
E 1073000
E 1074000
E 1075000
N
100 50 0 100 200 FT
SCALE: 1" = 100'
US Army Corps of Engineers New York District
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS NEW YORK, NEW YORK
EROSION CONTROL STUDY
PROPOSED BEACH FILL PLAN
Long Beach New York
Sheet reference number: 4
Sheet 4 of 14
Submitted by: USERNAME
Plot Date: DD-MMM-YYYY HH:MM
FILE NAME

FIGURE 8-4

LONG BEACH

MAGNOLIA BL

MAGNOLIA BL

NATIONAL BLVD.

EDWARDS BLVD.

EXISTING BOARDWALK

EXISTING BOARDWALK

N 152000

TOP OF BERM
ELEV. = +9.0' NAVD

40'

130'

TOP OF BERM
ELEV. = +4.0' NAVD

SLOPE BERM
1V:10H

TOP OF DUNE ELEV +14.0' NAVD
CREST WIDTH 25'
SEAWARD SIDE SLOPE 1V:5H
LANDWARD SIDE SLOPE 1V:3H

TOP OF DUNE ELEV +14.0' NAVD
CREST WIDTH 25'
SEAWARD SIDE SLOPE 1V:5H
LANDWARD SIDE SLOPE 1V:3H

WO 23 PROPOSED TIMBER DUNE WALKOVER

WO 24 PROPOSED TIMBER ADA DUNE WALKOVER

WO 25 PROPOSED TIMBER ADA DUNE WALKOVER

Existing MHW (+1.5')

0' NAVD 1988

Improved MHW

Existing MHW

0' NAVD 1988

Improved MHW

1V:30H

37

38

GROIN REHABILITATION

39

1V:30H

APPROXIMATE TOE OF DESIGN FILL

N 151000

E 1076000

E 1077000

100 50 0 100 200 FT
SCALE: 1"= 100'

N

US Army Corps of Engineers
New York District

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK

EROSION CONTROL STUDY
PROPOSED
BEACH FILL PLAN
Long Beach New York

Sheet reference number: 5
Sheet 5 of 14

Submitted by: USERNAME Plot Date: DD-MMM-YYYY HH:MM $$ FILE NAME $$

FIGURE 8-5

FIGURE 8-6

US Army Corps of Engineers New York District

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK

Designed by: xxxxx
Dwn by: xxxx
Ckd by: xxxx
Reviewed by: xxxx
Submitted by: xxxx
Date: xxxx
Size: ANSI D
Solicitation no.: xxxx
Contract no.: xxxxx
Plot date: xxxx
Plot by: xxxx
Scale: xxxx
File name: $pdesign$

EROSION CONTROL STUDY
PROPOSED
BEACH FILL PLAN
Long Beach New York

Sheet reference number:
6
Sheet 6 of 14

LONG BEACH

LINCOLN BLVD.

FRANKLIN BLVD.

7 Story Brick Apartments

6 Story Stucco "Casablanca by the Sea" Condos

NEPTUNE BLVD.

SHORE RD.

PARKING

ROOSEVELT BLVD.

SAND DUNES

N152000

N 151000

E 1081000

E 1082000

E 1083000

R200

PROPOSED TIMBER ADA DUNE WALKOVER

WO 30

TOP OF BERM ELEV. = +9.0' NAVD

TOP OF BERM ELEV. = +7.0' NAVD

40'

130'

SLOPE BERM 1V:10H

Existing MHW (+1.5')

0' NAVD 1988

Improved MHW

1V:30H

PROPOSED TIMBER DUNE WALKOVER

WO 31

EXISTING BOARDWALK

WO 32

PROPOSED TIMBER ADA DUNE WALKOVER

TOP OF DUNE ELEV +14.0' NAVD
CREST WIDTH 25'
SEAWARD SIDE SLOPE 1V:5H
LANDWARD SIDE SLOPE 1V:3H

WO 33

PROPOSED TIMBER ADA DUNE WALKOVER

43

44

GROIN REHABILITATION

45

GROIN REHABILITATION

47

GROIN REHABILITATION

APPROXIMATE TOE OF DESIGN FILL

N

SCALE: 1"= 100'

50 0 100 200 FT

US Army Corps of Engineers
New York District

U.S.ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK

EROSION CONTROL STUDY

PROPOSED
BEACH FILL PLAN

Long Beach New York

Sheet reference number:
7
Sheet 7 of 14

Submitted by: USERNAME Plot Date: DD-MMM-YYYY HH:MM FILE NAME

FIGURE 8-7

LONG BEACH

LIDO BEACH

BELMONT
MITCHELL
HARDING
CLEVELAND
MAPLE
E. BROADWAY
PACIFIC BLVD.
SHORE RD.
PARKING
PLAYGROUND
LIDO BEACH TOWERS
Brick 7 Story
1 Story
SAND DUNE

WO 34 PROPOSED TIMBER ADA DUNE WALKOVER

WO 35 PROPOSED TIMBER DUNE WALKOVER

VA 36 PROPOSED GRAVEL VEHICLE ACCESS

VA 43 PROPOSED VEHICLE ACCESS (TYP)

48 GROIN REHABILITATION

51

52

TOP OF DUNE ELEV +14.0' NAVD
CREST WIDTH 25'
SEAWARD SIDE SLOPE 1V:5H
LANDWARD SIDE SLOPE 1V:3H

TOP OF BERM ELEV. = +9.0' NGVD

TOP OF BERM ELEV. = +7.0' NAVD

40'

130'

SLOPE BERM 1V:10H

1V:30H

Existing MHW (+1.5')

0' NAVD 1988

Improved MHW

APPROXIMATE TOE OF DESIGN FILL

LONG BEACH | LIDO BEACH

N152000

N 151000

E 1084000

E 1085000

E 1086000

ATLANTIC OCEAN

N

100 50 0 100 200 FT
SCALE: 1" = 100'

US Army Corps of Engineers
New York District

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK

EROSION CONTROL STUDY
PROPOSED
BEACH FILL PLAN
Long Beach New York

Sheet reference number: 8
Sheet 8 of 14

Plot Date: DD-MMM-YYYY HH:MM
File Name: $$FILE_NAME$$
Submitted by: USERNAME

FIGURE 8-8

US Army Corps of Engineers New York District

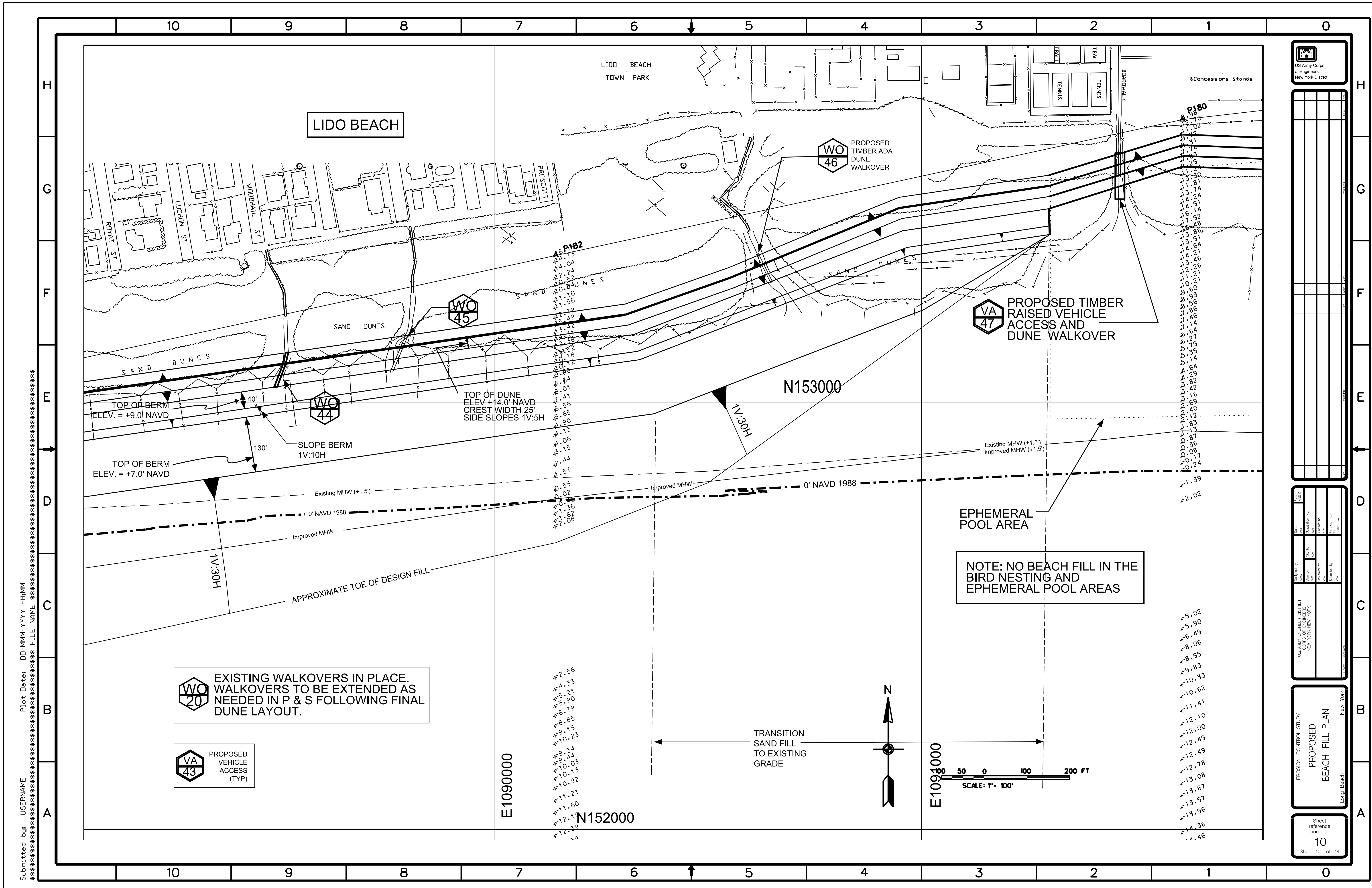
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK

EROSION CONTROL STUDY
PROPOSED
BEACH FILL PLAN
Long Beach New York

Sheet reference number:
9
Sheet 9 of 14

Submitted by: USERNAME Plot Date: DD-MMM-YYYY HH:MM FILE NAME

FIGURE 8-9



LIDO BEACH
LIDO BEACH TOWN PARK
&Concessions Stands
TENNIS
BOARDWALK
ROYAT ST.
LUCHON ST.
WOODHAIL ST.
PRESCOTT
SAND DUNES
P182
P180
WO 46 PROPOSED TIMBER ADA DUNE WALKOVER
WO 45
WO 44
VA 47 PROPOSED TIMBER RAISED VEHICLE ACCESS AND DUNE WALKOVER
TOP OF BERM ELEV. = +9.0' NAVD
40'
130'
SLOPE BERM 1V:10H
TOP OF DUNE ELEV +14.0' NAVD CREST WIDTH 25' SIDE SLOPES 1V:5H
TOP OF BERM ELEV. = +7.0' NAVD
N153000
1V:30H
Existing MHW (+1.5')
Improved MHW (+1.5')
Improved MHW
0' NAVD 1988
APPROXIMATE TOE OF DESIGN FILL
EPHEMERAL POOL AREA
NOTE: NO BEACH FILL IN THE BIRD NESTING AND EPHEMERAL POOL AREAS
WO 20 EXISTING WALKOVERS IN PLACE. WALKOVERS TO BE EXTENDED AS NEEDED IN P & S FOLLOWING FINAL DUNE LAYOUT.
VA 43 PROPOSED VEHICLE ACCESS (TYP)
TRANSITION SAND FILL TO EXISTING GRADE
N
E1090000
E1091000
N152000
100 50 0 100 200 FT
SCALE: 1" = 100'
US Army Corps of Engineers New York District
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS NEW YORK, NEW YORK
EROSION CONTROL STUDY
PROPOSED BEACH FILL PLAN
Long Beach New York
Sheet reference number: 10
Sheet 10 of 14
Submitted by: USERNAME
Plot Date: DD-MMM-YYYY HH:MM
FILE NAME

FIGURE 8-10

LIDO BEACH
"SANDS BEACH CLUB"
TOWNHOMES
TOWNHOMES
SOCIAL HALL
POOL
SAND DUNES
BOARDWALK
PROPOSED GRAVEL VEHICLE ACCESS AND DUNE WALKOVER
VA 50
N154000
NASSAU BEACH
P174
WO 48
PROPOSED TIMBER DUNE WALKOVER
VA 49
PROPOSED GRAVEL VEHICLE ACCESS
GROIN G DEFERRED CONSTRUCTION
MAIN PLOVER AND LEAST TERN NESTING AREA
VA 51
PROPOSED GRAVEL VEHICLE ACCESS
GROIN F DEFERRED CONSTRUCTION
N153000
EPHEMERAL POOL AREA
Existing MHW (+1.5') Improved MHW
0' NAVD 1988
Existing MHW (+1.5') Improved MHW
0' NAVD 1988
NOTE: NO BEACH FILL IN THE BIRD NESTING AND EPHEMERAL POOL AREAS
VA 43
PROPOSED VEHICLE ACCESS (TYP)
E 1092000
E 1093000
E 1094000
N
100 50 0 100 200 FT
SCALE: 1" = 100'
10 9 8 7 6 5 4 3 2 1 0
H G F E D C B A
US Army Corps of Engineers New York District
Mark Description Date Appr.
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS NEW YORK, NEW YORK
Designed by: xxxxx
Dwn by: xxxx
Ckd by: xxxx
Reviewed by: xxxx
Submitted by: xxxx
Date: xxxx
Solicitation no.: xxxx
Contract no.: xxxxx
Plot date: xxxx
Plot by: xxxx
Scale: xxxx
Size: ANSI D
File name:
EROSION CONTROL STUDY
PROPOSED BEACH FILL PLAN
Long Beach New York
Sheet reference number: 11
Sheet 11 of 14
Submitted by: USERNAME
Plot Date: DD-MMM-YYYY HH:MM
FILE NAME

FIGURE 8-11

TOWN OF HEMPSTEAD BEACH

PROPOSED GRAVEL VEHICLE ACCESS AND DUNE WALKOVER (VA 52)

PROPOSED GRAVEL VEHICLE ACCESS (VA 53)

MAIN PLOVER AND LEAST TERN NESTING AREA

GROIN E DEFERRED CONSTRUCTION

PROPOSED GROIN D

PROPOSED GROIN C

TOP OF DUNE ELEV +14.0' NAVD
CREST WIDTH 25'
SIDE SLOPES 1V:5H

PROPOSED TIMBER DUNE WALKOVER (WO 55)

PROPOSED TIMBER ADA DUNE WALKOVER (WO 54)

EPHEMERAL POOL AREA

NOTE: NO BEACH FILL IN THE BIRD NESTING AND EPHEMERAL POOL AREAS

PROPOSED VEHICLE ACCESS (VA 43) (TYP)

Existing MHW (+1.5') Improved MHW

0' NAVD 1988

N153000

E 1095000

E1096000

E1097000

Inground Pool

Wading Pool

CABANAS

MALIBU SURF CLUB

SCALE: 1"= 100'

US Army Corps of Engineers New York District

U.S.ARMY ENGINEER DISTRICT CORPS OF ENGINEERS NEW YORK, NEW YORK

EROSION CONTROL STUDY
PROPOSED
BEACH FILL PLAN
Long Beach New York

Sheet reference number: 12
Sheet 12 of 14

Submitted by: USERNAME Plot Date: DD-MMM-YYYY HH:MM $$FILE_NAME

FIGURE 8-12

TOWN OF HEMPSTEAD BEACH

CABANAS

ASPHALT PARKING AREA

Concession Stand

Comfort Station

Maintenance Building

OCEAN

PARKSIDE DR.

BALDWIN AVE.

TOP OF DUNE ELEV +14.0'
NAVD CREST WIDTH 25'
SIDE SLOPES 1V:5H

VA 56 PROPOSED GRAVEL VEHICLE ACCESS

WO 57 PROPOSED TIMBER ADA DUNE WALKOVER

TOP OF BERM
ELEV. = +9.0' NAVD

Existing MHW (+1.5')
0' NAVD 1988

Improved MHW

1V:20H

1V:20H

1V:20H

N153000

APPROXIMATE TOE OF DESIGN FILL

PROPOSED GROIN B

PROPOSED GROIN A

VA 43 PROPOSED VEHICLE ACCESS (TYP)

55 GROIN REHABILITATION

E1098000

E1099000

E1100000

N

SCALE: 1" = 100'

100 50 0 100 200 FT

US Army Corps of Engineers
New York District

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK

EROSION CONTROL STUDY

PROPOSED
BEACH FILL PLAN

Long Beach New York

Sheet reference number:
13
Sheet 13 of 14

Submitted by: USERNAME Plot Date: DD-MMM-YYYY HH:MM $$FILE_NAME$$

FIGURE 8-13

POINT LOOKOUT
JONES INLET
N
N153000
BELLMORE AVE.
CEDARHURST AVE.
FREEPORT AVE.
GARDEN CITY AVE.
GLENWOOD AVE.
HEWLETT AVE.
INWOOD AVE.
LYNBROOK AVE.
OCEAN BLVD.
SAND DUNES
SAND DUNE
Comfort Station
Chain Link Fence
Covered Patio
Wood Guard Rail
P1
P2
P3
TOP OF BERM ELEV. = +9.0' NAVD
TOP OF DUNE ELEV +14.0' NAVD CREST WIDTH 25' SIDE SLOPES 1V:5H
slope varies
1V:20H
56
GROIN REHABILITATION
58
TERMINAL GROIN REHABILITATION AND EXTENSION
APPROXIMATE TOE OF DESIGN FILL
TRANSITION SAND FILL TO EXISTING GRADE
E1010000
100 50 0 100 200 FT
SCALE: 1" = 100'
US Army Corps of Engineers New York District
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS NEW YORK, NEW YORK
Designed by: xxxxx
Dwn by: xxxx
Ckd by: xxxx
Reviewed by: xxxx
Submitted by: xxxx
Date: xxxx
Solicitation no.: xxxx
Contract no.: xxxxx
Plot date: xxxx
Plot by: xxxx
Scale: xxxx
Size: ANSI D
File name: $pdesign$
Mark
EROSION CONTROL STUDY
PROPOSED BEACH FILL PLAN
Long Beach New York
Sheet reference number: 14
Sheet 14 of 14
Submitted by: USERNAME
Plot Date: DD-MMM-YYYY HH:MM
FILE NAME
10 9 8 7 6 5 4 3 2 1 0
H G F E D C B A

FIGURE 8-14

APPENDIX B – PROJECT CASE REPORT

CULTURAL RESOURCES
CASE REPORT
for
ATLANTIC COAST OF LONG ISLAND
JONES INLET TO ROCKAWAY INLET
LONG BEACH ISLAND, NEW YORK
COASTAL STORM RISK MANAGEMENT PROJECT

Project History

The barrier island of Long Beach, New York, is located between Jones Inlet and East Rockaway Inlet. The area lies within Nassau County, New York. This area has been subject to major flooding during storms, causing damage to structures along the barrier island. Over the years, continued erosion, particularly in the eastern areas, has resulted in a reduction in the height and width of the beachfront, which has increased the potential for storm damages. The U.S. Army Corps of Engineers, New York District (District) has been studying Long Beach Island since the 1960's, however, a major study was not authorized until Hurricane Gloria in 1985, when congress allocated funds for a reconnaissance study of the area.

The reconnaissance report, entitled Atlantic Coast of Long Island. Jones Inlet to East Rockaway Inlet, Long Beach Island, New York: Reconnaissance Report, was completed in 1989. The study findings indicated there was Federal interest in protecting the barrier island of Long Beach from storm damage, therefore, the reconnaissance report recommended that the necessary planning and engineering studies proceed to a cost shared feasibility study. State and local government officials concurred with the decision to proceed, and a Feasibility Cost Sharing Agreement was signed in September 1990. The Long Beach Island, New York, Final Feasibility Report with Final Environmental Impact Statement for Storm Damage Reduction (Feasibility Report) was completed in February 1995. The recommended plan included 41,000 linear feet of beach fill and generally extended from the eastern end of the barrier island at Point Lookout to Yates Avenue in East Atlantic Village where the plan tapered into the existing shoreline in Atlantic Beach.

Following approval of the 1995 Feasibility Report, the 1996 Water Resources and Development Act (WRDA) authorized the project for construction. Following authorization of the project recommended by the 1995 Feasibility Study, East Atlantic Beach chose not to participate in the project. Along with the Village of Atlantic Beach, which opted out of the project during the Feasibility phase, the East Atlantic Beach community (an unincorporated village in the Town of Hempstead) opted out of the project because they were unwilling to provide the level of public access required by the State of New York. The Final Environmental Impact Statement (FEIS) was completed in March 1998. Following completion of the FEIS, the Record of Decision (ROD) was received in December 1998 and filed in the *Federal Register* in January 1999. An Memorandum of Agreement was not prepared for the project as additional studies were required to identify significant resources within the near shore area of the project.

In 2012, the District had been working on a modified plan that included a beach berm and dune and afforded a limited level of risk reduction to that authorized in 1995. However, after Hurricane Sandy caused significant damage to the City of Long Beach, President Obama signed the Hurricane Sandy Disaster Relief Appropriations Act (P.L. 113-2) which provides assistance to state and local governments with disaster recovery and allows for construction of previously authorized projects. Therefore, a Hurrican Sandy Re-Evaluation Report (HSRR) is currently being prepared for the authorized project with minor modifications.

Description of Selected Alternative

Since the Feasibility Study was performed in 1995, the New York District's Atlantic Coast of New York Monitoring Program (ACNYMP) has collected significant amounts of data to document beach conditions and processes. The enhanced understanding of the coastal processes over those available at the time of the Feasibility Study, together with dramatically changing conditions and improved numerical modeling tools, have been used to reanalyze shoreline stabilization measures for the study area. The HSRR refined the selected plan identified in the original Feasibility Report to incorporate this data and to be consistent with the ongoing North Atlantic Coast Comprehensive Study.

The updated HSRR storm damage reduction plan includes changes from the authorized project and comprises approximately 35,000 linear feet of dune and beach fill and generally extends from the eastern end of the barrier island at Point Lookout to the western boundary of the City of Long Beach, including a taper into the shoreline at East Atlantic Beach (Appendix A). This plan consists of:

- A dune with a top elevation of +14 ft above NAVD88, a crest width of 25 ft, and landward and seaward slopes of 1V:5H (1V:3H on landward slope fronting the boardwalk);
- In Point Lookout, a beach berm extending a minimum of 110 ft from the seaward toe of the recommended dune at an elevation of +9 ft NAVD88, then sloping at 1V:20H to intersect with existing bathymetry;
- In the Nickerson Beach area in the Town of Hempstead, a dune only (no berm) placed along approximately 5,000 linear feet of shoreline. The existing berm will remain undisturbed to allow for shorebird nesting and foraging;
- In Lido Beach and the City of Long Beach, a stepped beach berm extending 40 ft. from the seaward toe of the recommended dune at an elevation of +9 ft NAVD88, a 1V:10H slope downward to +7 ft NAVD88, a 130 ft flat berm at +7 ft NAVD88, then sloping 1V:30H to intersection with existing bathymetry;
- A total sandfill quantity of 4,570,000 cy for the initial fill placement, including tolerance, overfill and advanced nourishment (based on 2013 post-Hurricane Sandy survey);
- The planting of 34 acres of dune grass and installation of 75,000 linear feet of sand fence;
- In the City of Long Beach, a total of 34 pedestrian and vehicular accessways over the dune to the berm will be provided including:
    - 12 gravel surface dune walkovers west of the boardwalk;
    - 12 Americans with Disabilities Act (ADA) compliant timber pedestrian dune

walkovers;
    - Seven non-ADA compliant timber pedestrian dune walkovers;
    - Two vehicular accessways under the boardwalk with swing gate closures will be provided at Long Beach Blvd. and Washington Blvd;
    - One gravel surface vehicular access will be provided west of the boardwalk at New York Avenue.
- In the Town of Hempstead, a total of 23 pedestrian and vehicular accessways over the dune to the berm will be provided including;
    - Extension of eight existing dune walkovers;
    - Four ADA compliant timber dune walkovers;
    - Three non-ADA compliant new timber dune walkovers;
    - Five gravel surface vehicle access ramps;
    - Two gravel surface combined vehicular and pedestrian access;
    - One raised timber vehicular access
- Rehabilitation of 17 of the existing groins, plus the rehabilitation and extension of the existing terminal groin at Point Lookout (18 structures total);
- Four newly constructed groins at the eastern end of the island (two groins are deferred construction to be built in the future if required);
- Identification of 5,000 linear feet of bird nesting and foraging area for piping plovers and least terns (within the Town of Hempstead), which will have deferred berm construction;
- Advanced nourishment to ensure the integrity of the initial fill design;
- Periodic nourishment of approximately 1,770,000 cy of fill material at 5-year intervals for the 50-year life of the project. Beach fill for the proposed project is available from an offshore borrow area containing approximately 36 million cy of suitable beach fill material, which exceeds the required initial fill and all periodic renourishment fill operations. The borrow area is located approximately one mile offshore of the barrier island of Long Beach.

Section 106 Compliance Activities

To fulfill the District's responsibilities according to Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), the Abandoned Shipwreck Act of 1987, and the Advisory Council on Historic Preservation regulations, "Protection of Historic Properties", (36 CFR Part 800, as amended through 2004), a series of cultural resources surveys have been prepared. An extensive history and prehistory of the Long Beach Island area was compiled and a pedestrian survey of the shore portion of the study area was carried out in 1993 (Pickman). In 1996 and 1998, a series of near shore remote sensing surveys and dive investigations were carried out to determine the presence or absence of submerged resources along the near shore area and within the offshore borrow area (Panamerican Consultants [PCI] 1996a, 1996b and 1998). In 2005, a dive inspection was carried out to investigate a series of anomalies that were identified in 1998.

Prehistoric Period Sites

There are no known prehistoric or contact period archaeological sites located in the project vicinity (Pickman 1993:9). Native Americans living on the main portion of Long Island may have visited Long Beach Island for brief periods of time to collect fish and shellfish, however, the island would not have been attractive to Native Americans for permanent or semi-permanent settlement because of its exposure to the wind and weather from the Atlantic Ocean. Long Beach would have been especially uninviting to Native American occupation because there was no source of fresh water on the island (Pickman 1993).

During the last glacial period, the sea level was up to 400 feet lower than current levels. The shoreline at this time lay at the outer edge of the continental shelf approximately 100 miles from the present shoreline. According to area studies, the sea level rose to a steady pace between, ca. 7,000-3,000 years before present era (BPE), with a slower rate of increase after ca. 3,000 years BPE. Cores taken adjacent to the project area indicate the presence of peat, silt and clay depsoits that are the remains of the lagoons that formed behind the barrier islands that were created off the present Long Island shoreline at this time. The presence of these lagoonal deposits may mean that the inundation of the ground surface occurred in a low energy environment, which may have permitted any prehistoric sites located in the nearshore are to survive any disturbance (Pickman 1993). The proposed borrow area may also contain prehistoric land surfaces. The borrow site would have been available for human occupation until sometime after 7,000 years BPE. Two of the fifteen cores taken from within the borrow area encountered either clay layer or a layer of dark gray silt at approximately 20 feet depth (Pickman 1993). These clay deposits may represent lagoonal deposits that have the potential to have preserved prehistoric sites below them (Pickman 1993). Dredging activities should not exceed 20 feet in depth, thus, dredging activities for the project would have no impact on submerged prehistoric sites. Should dredging depth exceed 20 feet, additional studies would be required to determine whether prehistoric deposits exist within the borrow area.

Historic Period Sites

The first European settlers arrived on Long Island during the first half of the seventeenth century. It was not until the middle of the nineteenth century, however, that Long Beach was occupied by Euro-Americans. According to local histories, no structures were located on Long Beach until after 1849. Residents of the mainland used the island primarily for pasturage. In 1849, a Life Saving Station was constructed on Long Beach to house surf boats, lifesaving apparatus and a crew of six to seven men.

Between 1849 and 1879, only a few buildings were constructed on Long Beach. In 1873, a transatlantic cable connecting New York to England, via Halifax, Nova Scotia, made its landfall at Long Beach Island, between the current Edwards and Riverside Boulevards. The development of the island began in 1880 with the construction of a railroad from Lynbrook to Long Beach and the construction of the first large resort hotel and bathing pavilion on the island. This was followed by the construction of a number of other hotels in the 1880s and 1890s and during the first two decades of the twentieth century. Summer homes and permanent residences were also built on the island during the twentieth century. The location of these structures was

well north of the present boardwalk and beach zone (Pickman 1993). No significant remains of the project area's history would be situated along the site of the present beach.

Two structures are located in the vicinity of the project area, the Granada Towers and the United States Post Office. Both sites are listed on the NRHP. One private residence, located on Washington Boulevard and thought to be one of the first private homes on Long Beach, is listed on the historic structures inventory maintained by the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP), New York State Historic Preservation Office (NYSHPO). None of these structures are within the project area.

Shipwreck Sites

Several dozen possible shipwrecks were identified in the initial near-shore surveys of the project area (PCI 1996b and 1998) around Long Beach and two shipwrecks were documented within the vicinity of the near shore sand placement zone near Lido Beach and Point Lookout. The 1837 wreck identified as the *Mexico* was known to lie near Lido Beach and a second unnamed wreck was known to lie near Point Lookout (Pickman 1993, PCI 1996b and 1998). In 2004, the District carried out an underwater inspection of targets in the eastern portion of the project area in the location of proposed groin construction and expansion of the terminal groin (interest in the western portion was suspended during this time) (PCI 2005). The survey concluded that many of the anomalies of interest were not significant but identified the wreck near Point Lookout as the *Marble* Wreck. The *Marble* Wreck was found to be potentially eligible for the NRHP and a Data Recovery Plan was prepared for the *Marble* Wreck.

Consultation with the NYSHPO began in 1993 with the submittal of the cultural resources reconnaissance study. The NYSHPO has concurred with the District's findings and has participated in the review process as the project developed (Appendix B). In 2005, while the District was looking at a reduced footprint for the project, the *Marble* wreck site was identified as the only NRHP eligible resource within the project Area of Potential Impact (APE). The NYSHPO concurred with the Data Recovery Plan that was developed for the wreck sites and encouraged the District to develop a draft Programmatic Agreement (PA) that would outline the steps that would be taken to mitigate for impacts as the project moves forward (Appendix C).

Review of Project Findings and Determination of Effect

A review of the survey reports prepared for this project over the years and the Section 106 coordination letters between the District and the NYSHPO has resulted in the identification of three cultural resources of significance within the project's Area of Potential Effect (APE) consisting of the on-shore and near-shore sand placement and groin construction areas and the off shore sand borrow source. These are the *Mexico*, the *Marble*, and an anomaly identified in the 1998 near shore survey which shall be referred to as Anomaly 18. All other anomalies have been sufficiently reviewed and either determined not eligible for the NRHP, will be avoided during construction or are outside the project APE.

The *Marble* Wreck

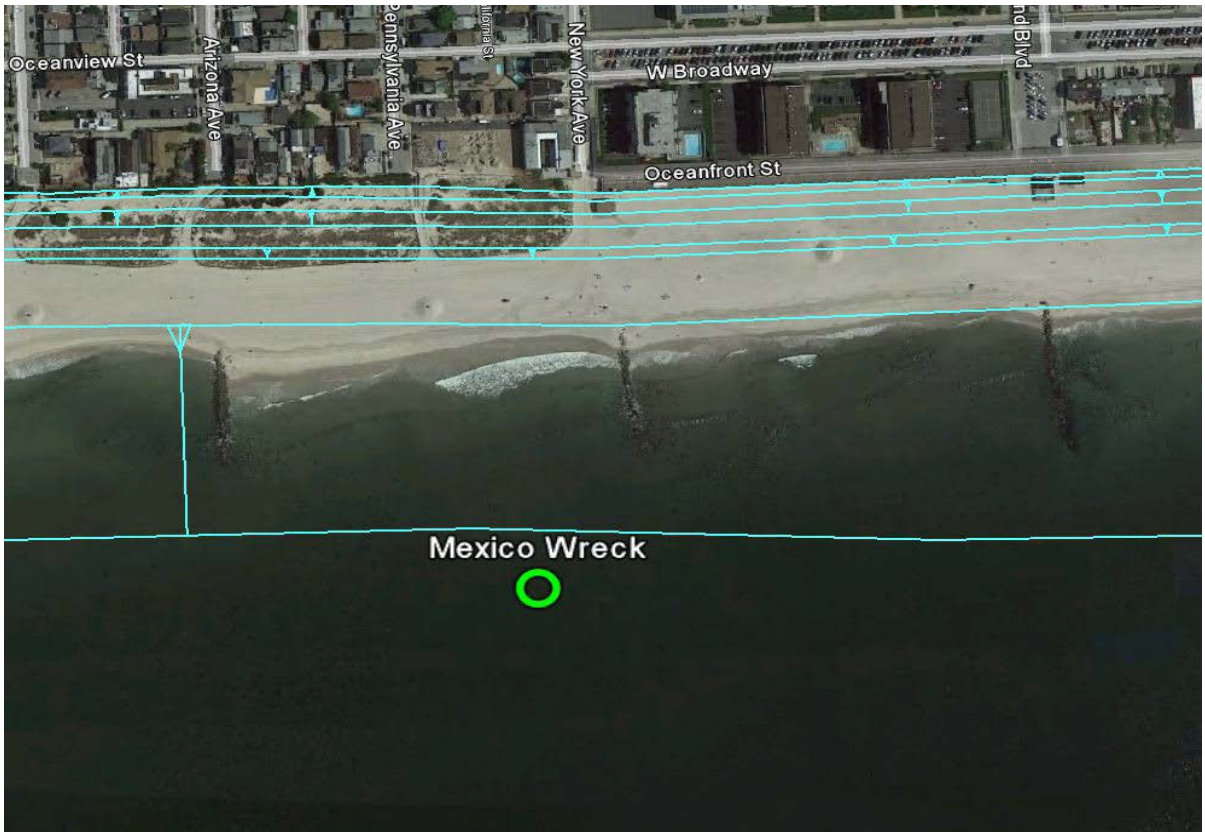
During the 2004 investigations, divers investigating an anomaly in Jones Inlet encountered the remains of a sail/steam vessel likely dating to the mid-to-late 19th century. With an overall length in excess of 100 feet, and retaining its lower wooden hull and possibly a portion of its cargo in the form of large concretions, because of the presence of numerous glass marbles on the site (possibly part of the cargo), the wreck has been called the *Marble* Wreck.

While only one dive was made on the wreck site during the current investigation the diver did observe intact lower hull scantling (i.e., keelson, floor timbers, outer-hull planks, and bilge ceiling), large amounts of ferrous metal concretion, as well as larger unidentified masses of concretion. With a length of over 100 feet, and considering the high-energy environment (i.e., exposure to almost constant tidal currents) of Jones Inlet, it is not surprising that much of the Marble Wreck is no longer intact above the turn of the bilge. Orientation of the wreck site indicates it is situated almost due east-west.

Archival research to date has identified numerous wreck incidents at or near Jones Inlet during the latter half of the nineteenth century. However, identification of the wreck site at this point remains pure speculation. Archival records (i.e., Life-Saving Service Annual Reports) from the 1870s are difficult to locate and will require additional research in the future. It is also difficult to identify a wreck without knowing the vessel type (i.e., schooner, bark, sail/steam), overall dimensions of the vessel (i.e., length, beam), as well as additional cargo located on board. Review of archival records have identified no clear vessel identity to date.

The presence of a wide variety of marbles, including single pontil, hand-gathered oxblood swirls may indicate the production of this marble-type in Germany and not primarily in the United States as previously believed. However, without additional investigation of the hull construction and artifact assemblage, this too remains pure speculation. Considered historically significant and able to meet (at least) Criterion D of National Register of Historic Places (NRHP) nomination eligibility criteria, the wreck shall require further investigation to determine its eligibility status and consideration of the project's effect upon the site. Situated immediately offshore and in alignment with the western Jones Inlet jetty, a review of proposed project activities indicate the wreck site is most likely located within the Area of Potential Effect (APE) of the proposed jetty extension. Since Target 50 represents a potentially significant cultural resource, it may be eligible for listing on the NRHP.

The *Mexico* Wreck



Much archival research has been conducted for the *Mexico*. The 288-ton bark vessel was constructed in Falmouth, Maine in 1822. Little is known about the shipbuilding industry of Falmouth during this period, although it is assumed to have paralleled that of other port cities in Maine, especially neighboring Portland, which in the eighteenth century was part of Falmouth.

The *Mexico's* first master was a man by the name of Bucknam employed by her owners, Train & Co. of Liverpool and Boston. The *Mexico* was originally registered at Boston, sailing to Swansea and Philadelphia. On May 24, 1836, the *Mexico* re-registered at New York. She was on her Liverpool-to-New York run under the command of Captain C. Winslow when she approached the south shore of Long Island on the night of January 2, 1837. She had aboard a crew of 12 and between 104 and 112 immigrant passengers. Due to delays in the voyage, the captain had resorted to rationing stores. For 11 days, passengers received a daily ration of only one biscuit and one-half pint of water. On her arrival off Sandy Hook, New Jersey, the *Mexico* signaled for a pilot but failed to receive one, as the pilots were apparently ashore celebrating the New Year. Meanwhile, a gale blew the *Mexico* across the lower harbor toward Long Island. Early on the morning of January 3, 68 days out of Liverpool, the bark struck the beach at Hempstead (Long Beach), Long Island. Only the captain, cook and five passengers were saved. The rest perished from exposure.

Before the loss of the *Mexico,* New York Harbor pilots operated under a monopoly protected by state law. The pilots were appointed by the governor. Twenty-eight pilots were designated for Sandy Hook, New Jersey, at the lower approach to New York Harbor, and about a dozen for Hell Gate. As early as 1825, New York merchants complained about the lack of competition for pilotage. They charged that the pilots were lax about going out to meet incoming ships during foul weather. The loss the *Mexico* in January 1837, and the wreck of another vessel, the *Bristol*, a few months before, were attributed to pilot negligence (i.e., the failure of a pilot to respond to a call to come on board) and resulted in federal legislation to break the monopolistic hold on the pilot industry and open it to competition. Bad winters and more shipwrecks following on the heels of the *Bristol* and *Mexico* disasters contributed to the call for what became the United States Lifesaving Service on Long Beach Island. Lifesaving atations were eventually established at Long Beach and Point Lookout.

The wreck of the *Mexico* is considered historically significant as an early and rare example of Falmouth shipbuilding. No commercial nineteenth-century wooden sailing vessel built in Maine remains afloat today, and no similar shipwreck sites are presently known. The *Mexico* is further significant through her early association with her owner, Enoch Train, who later founded the packet Train's Line. The loss of the *Mexico* is significant for the tremendous impact it made upon local inhabitants, as well as for its effect on federal legislation with regard to pilotage and lifesaving.

The exact location of the *Mexico* remains obscured by local lore and diving-industry secrecy. During the 1995 investigation, PCI researchers interviewed several members of the local diving community but failed to substantiate the vessel's location (Mitchell et al. 1996). Through interviews and archival research, archaeologists ascertained three conflicting locations: (1) off Short Beach, (2) off Point Lookout, and (3) off the east end of Long Beach. However, informants could not give specific distances, details, or coordinates. Additionally, the shoreline is

not static, changing with each storm or season, creating dramatic shifts in all directions. This in turn confused local legend, which varied from a so-called treasure wreck to a burial site that should remain undisturbed, and made locational information impossible to decipher (Mitchell et al. 1996).

Anomaly 18

The 1998 near shore remote sensing survey identified four targets with sidescan sonar images that represent potentially significant submerged cultural resources protruding from the sea bed, and which might be impacted by beachfilling. One was a tug which had been previously examined (Mitchell et al. 1996). No further work was recommended for this target. The next "site" was actually a cluster composed of four anomalies which was thought to represent the *Mexico*, which has already been discussed. The two other targets were Anomalies 18 and 29. The report recommended these anomalies be assessed by archaeologists to determine their identities and historical significance before burial. Anomaly 29 lies roughly 800 feet south of the sand placement area. Anomaly 18, however, lies within the sand placement area. Further investigation will be required to determine the nature of the anomaly and possibly to determine its NRHP eligibility.

Conclusions

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended and the Secretary of the Interiors Guidelines for Treatment of Historic Properties, the properties found potentially eligible, eligible, or listed on the NRHP must be considered within the framework of the proposed action. A draft PA with the New York State Historic Preservation Office (NYSHPO) was completed for the current HSRR. The PA outlines the proposed testing strategy for the *Marble*, the *Mexico*, and Anomaly 18 and also outlines a process for determining the project's impacts to these resources and possible mitigation measures documented in a Data Recovery Plan.

Should the proposed undertaking adversely impact these three resources and no alternative that would result in no adverse impact can be developed, mitigation measures would be developed in coordination with the NYSHPO and interested parties. Presented in Appendix C of the draft PA**,** a Data Recovery Plan, was developed in 2005 for the *Marble* wreck that will delineate the site through remote sensing and probing, and document the remains both photographically and architecturally, in an effort to adequately mitigate any adverse project effects. This DRP may require some modification prior to implementation but shall serve as an example of what should be developed as the investigations proceed and the adverse impacts are more clearly defined.

Bibliography

Pickman, Arnold
1993 Cultural Resources Reconnaissance, Atlantic Coast of Long Island, Jones Inlet to Rockaway Inlet, Long Beach Island, Nassau County, New York.

Panamerican Consultants, Inc.

1996a Remote Sensing Survey, Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet, Long Beach Island, Nassau County, New York.

1996b Underwater Inspection of Four Shipwrecks, Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet, Long Beach Island, Nassau County, New York.

1998 Remote Sensing Survey, Near Shore Project Area, Atlantic Coast of Long Island, Jones Inlet to Rockaway Inlet, Long Beach Island, Nassau County, New York Storm Damage Reduction Project.

2005 Phase II Underwater Inspection of Seven Targets in the Eastern Portion of the Long Beach Project, Nassau County, New York.

APPENDIX C – *MARBLE* WRECK DATA RECOVERY PLAN

Mitigation Plan

Data Recovery of the Marble Wreck
An Historic Watercraft Located
In the Eastern Portion of the Long Beach Project Area
Nassau County, New York

From August 30th to September 13th, 2004, maritime archaeologists from Panamerican Consultants, Inc. of Memphis, Tennessee (Panamerican) conducted an intensive remote-sensing refinement survey and diver investigation of seven (7) targets located just offshore Long Beach Island, New York (Krivor 2004). Located during a previous survey, these specific targets are situated within the eastern portion of the Near Shore Area-Atlantic Coast of Long Island-Jones Inlet to East Rockaway Inlet-Long Beach Island-Storm Damage Reduction Project Area (Figure 1). Currently, a new groin field and jetty extension are proposed for this portion of the Storm Damage Reduction Project Area. Specifically, four (4) rubble-mounded groins will be constructed, and the jetty at the eastern end of Long Beach Island (adjacent to Jones Inlet) will be extended.

Of the seven targets within the project area, Target 50 has been identified as the remains of a sail/steam vessel likely dating to the mid-to-late 19th century. With an overall length in excess of 100 feet, and retaining its lower wooden hull and possibly a portion of its cargo in the form of large concretions, because of the presence of numerous glass marbles on the site (possibly part of the cargo), the wreck has been labeled as the Marble Wreck. Considered historically significant and able to meet (at least) Criterion D of National Register of Historic Places (NRHP) nomination eligibility criteria.

Situated immediately in line with the western Jones Inlet jetty, a review of proposed project activities indicate the wreck site is located within the Area of Potential Effect (APE) of the proposed jetty extension. Because Target 50 represents a potentially significant cultural resource and may be eligible for listing on the NRHP, if the proposed project activities will adversely impact the site, alternatives to the proposed action must be evaluated. If no alternative, which would result in no adverse impact, can be developed, mitigation of those adverse effects in the form of data recovery should be implemented. The following Data Recovery Plan has been developed in the event that mitigation is required.

As an agency of the Federal Government, the Corps has been entrusted with the protection and preservation of all cultural resources that may be adversely affected by their project activities. Therefore, they are responsible for determining if any properties within the current Lower White River Navigation Project area are eligible for listing on the NRHP, and if present, determining adverse effect, if any. If a determination of adverse impact to such a property is made, alternatives to the proposed action must be evaluated. If no alternative which would result in no adverse impact can be developed, additional activities relative to the evaluation of the resource may be required. The Federal statutes regarding these responsibilities include Section 106 of the National Historic Preservation Act of 1966, as amended; the National Environmental Policy Act

of 1969; the Archaeological Resources Protection Act of 1987; the Advisory Council on Historic Preservation Procedures for the Protection of Historic and Cultural Properties (36 CFR Part 800); and the Abandoned Shipwreck Act of 1987. If a determination of adverse impact to such a property is made, alternatives to the proposed action must be evaluated. If no alternative that would result in no adverse impact can be developed, additional activities relative to the evaluation of the resource may be required.

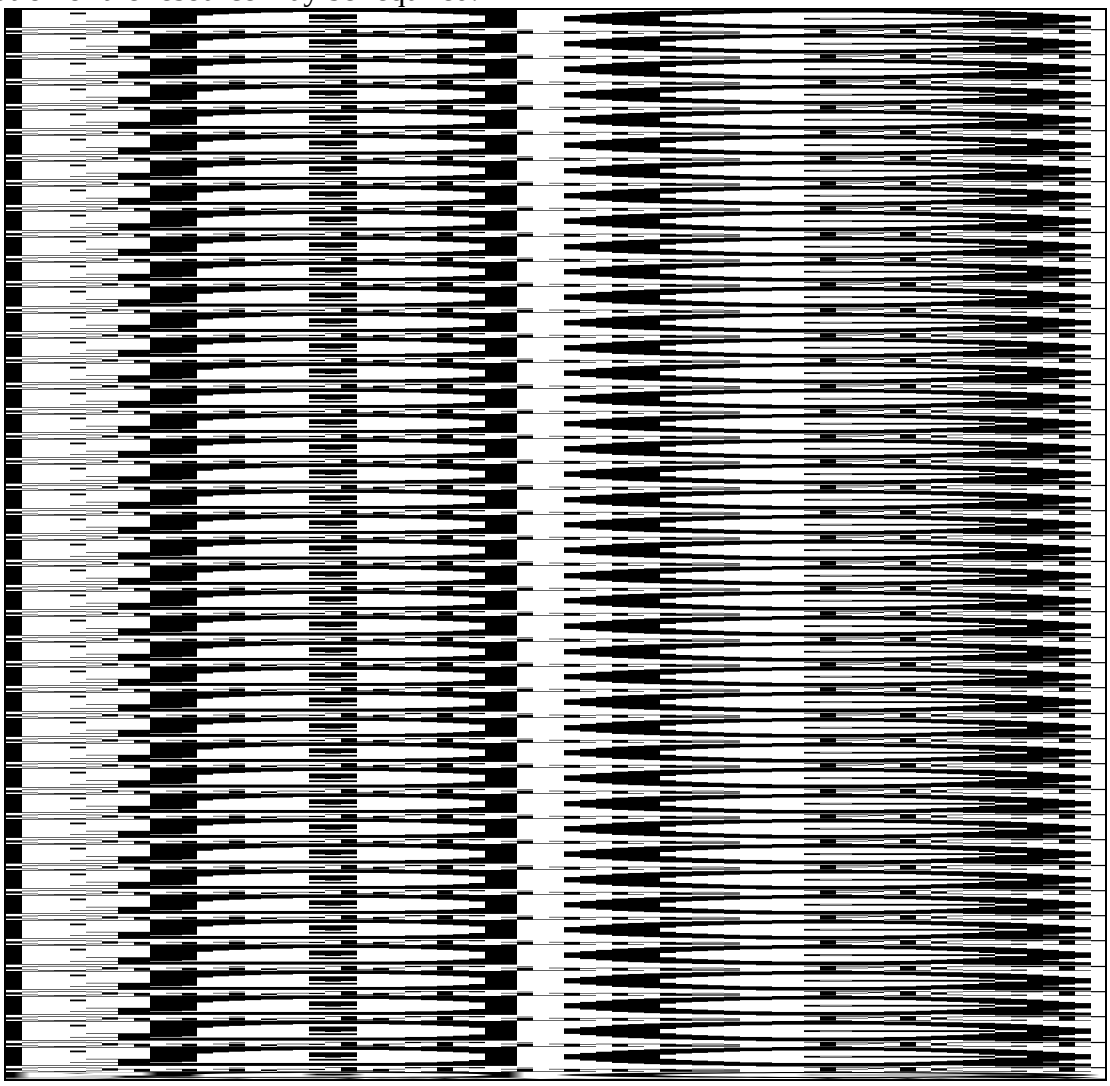


Figure 1. Location of Target 50, the Marble Wreck (1967 U.S.G.S. 7.5-minute series quadrangle map, Jones Inlet, N.Y., Photo inspected 1975).

The Marble Wreck

Target 50 was originally located during a 1997 remote sensing survey that recorded the site as a 1,166-gamma multi-component anomaly with a duration of 300 feet (Tuttle and Mitchell 1998). Considered potentially significant this target was slated for refinement and diver investigation relative to the current project activities. After deploying a buoy near the target area, a series of refinement runs with the magnetometer were made around the target area.

After refining the target location and deploying an additional buoy on site the dive vessel anchored over the target area and a diver suited up to investigate the target. Upon reaching the ocean floor the diver's pneumo-gauge registered a depth of 21 feet. After a series of arched sweeps around the refined area the diver reported a substantial amount of exposed concretion across the seafloor. The diver proceeded to delineate the target in an effort to make a positive identification of the anomaly source. Working towards the southwest of the area of concretion the diver reported exposed wood timbers, indicating the remains of a shipwreck. The exposed timbers included floor timbers, outer-hull planking, and a possible keelson (oriented perpendicular to the floor timbers). The floor timbers are oriented approximately southeast to northwest. The diver reported that the floor timbers have been damaged by Teredo worms (*Teredo navalis*) but the buried outer-hull planking seems to be in better condition. The exposed floor timbers consist of triple floor timbers with a sided dimension approximately 8 inches each (therefore a total sided dimension of 24 inches). Distance between the exposed floor timbers was only 2 to 4 inches. This tight spacing likely indicates the exposed scantling are located near either the bow or stern of the wreck site. A pneumo-guage reading on top of these floor timbers was 21 feet. Located near the exposed floor timbers is the remains of a large concretion. A depth reading on top of the concretion registered 15 feet. The diver then located the southwest extent of the vessel which was subsequently buoyed (see Table 1).

Table 1. Coordinate Location for the Marble Wreck

Target	Northing*	Easting	Water Depth (feet)	Potentially Significant	Comments
50	131079.00	2116881.37	21'	Y	Marble Wreck

*New York-Long Island State Plane NAD 27

Proceeding back along the exposed wreckage the diver reported a substantial amount of concretion indicating a large amount of ferrous metal remaining on site. One loose concretion was retrieved by the dive team for analysis onboard the dive vessel. The concretion appears to contain a round "L-shaped" iron fastener or possibly two iron objects concreted together. One interesting feature of the concretion includes a number of visible marbles perhaps indicative of a portion of the vessel's cargo. This concretion was subsequently photographed and returned onsite. An additional feature identified during the dive included the remains of an iron box approximately 2 feet by 2 feet square. Continuing towards the northeast the diver reported more loose concretion across the seafloor as well as wood framing timbers. Terminating near a tall concretion the diver located what appeared to be the northeast extent of the wreck site. This object may be a stern or stem post, as no propeller or steam machinery were observed at either end. Due to the amount of dive rig in the water and the location of the dive vessel at the time the dive team was unable to buoy this location of the wreck site. However, a visual reconnaissance of the divers bubbles and the buoyed southwest-end of the wreck suggests an overall vessel length in excess of 100 feet.

Specific Data Recovery Requirements

The proposed Data Recovery Plan will delineate the site through remote sensing and probing, and document the remains both photographically and architecturally, in an effort to adequately mitigate any adverse project effects. Professional services required include the following:

1. Archival Research
2. Development of Dive Safety Plan
3. Remote Sensing of the project site
4. Hydraulic probing
5. Site Documentation
6. Analysis of data
7. Preparation of NRHP nomination and State Site forms
8. Preparation of technical report of findings

Archival Research and Literature Review

The Contractor will perform the necessary literature and records check of pertinent sources in order to prepare a detailed history of the wreck site and a general maritime historic context for the project area, as well as a historic context for the vessel, once its temporal and cultural affiliation, and identity (if possible) is identified. Background data sources to be queried include, but will not be limited to, published and unpublished reports and documents, including books, journals, maps, theses, dissertations, manuscripts, and newspapers which have relevance to the project area and site. Documents that may aid in identifying the vessel include, enrollment/registry documents, construction plans, specification books, etc. Besides consultation of current published literature, archival research entails obtaining information from oral interviews and other historic sources, such as courthouse records (e.g., tax registers, land conveyance, articles of incorporation, insurance records), maps and newspapers, government documents (i.e., Annual Corps of Engineer Reports, Life Saving Records, Vessel Papers, Vessel Registrations/Enrollments), previous archaeological publications, and published and unpublished references (e.g., Lytle List, AWOIS and MMS Shipwreck Data files). Such research is designed specifically to acquire identity and background information on sunken watercraft and to develop contextual historic maritime overview a specific vessel. Research will include but not be limited to research at the National Archives and the Library of Congress, Washington, D.C.; the Mariner's Museum, Newport News, Virginia; The Steamship Historical Society, Baltimore, Maryland, as well as consultation with individuals knowledgeable about maritime resources such as the South Street Seaport Museum Staff.

Development of a Dive Plan and Health and Safety Plan

A Dive Plan and Health and Safety Plan will be produced and submitted within ten (10) days of notice-to-proceed. The Plan will address all aspects of the diving investigation and fieldwork and will act as a safety plan and research strategy for both underwater and above-water work. No fieldwork will commence until District acceptance of said plans,

Throughout this investigation diving will be conducted solely with Surface Supplied Air diving systems. Safety will be a primary goal of this project, and diver safety will be given priority in all

decisions and actions undertaken during diving operations. The diving operations for this project will meet all federal requirements for safe diving and will be performed in accordance with the U.S. Army Corps of Engineers "Safety and Health Requirements Manual" EM385-1-1 dated November 2003; with the U.S. Navy Diving Manual as appropriate. Diving will be restricted to the no-decompression limits. It should be stated that the contractor must carry all necessary insurance, including Longshoremen's and Harbor Workers', and Jones Act Insurance coverage, as required by law for maritime operations. Certificates of insurance will be submitted upon award of contract.

Remote Sensing Survey

The contractor shall locate and characterize the wreck site by remote sensing. The contractor shall determine the extent of the wreck site, including buried features, and create a site map. The remote sensing survey portion of this contract shall consist of an initial survey procedure consisting of running parallel lines spaced at no greater than 10 meter intervals. A sufficient number of lines shall be run to insure complete coverage of the wreck area. Additional lines will be run parallel to and perpendicular to transects to ensure adequate coverage to produce magnetic contour maps for the site.

Magnetometer, side-scan sonar, and fathometer equipment will be employed in conjunction so that positioning and data can be produced on all instruments simultaneously. Data will then be analyzed and compared for interpretation in the report. The Contractor will document the location of each resource in both State Plane (NAD 1983) and UTM coordinates.

At a minimum the equipment may include, but will not be limited to the following:

a. A boat suitable for operation in the study area and a licensed operator to pilot the vessel.

b. A positioning system with a differential receiver accuracy of 1-5 meters and the personnel needed to set up and operate the system.

c. A proton precession or cesium magnetometer with marine sensor and dual channel recorder and a skilled operator to operate the equipment. Software and operating system capable of locating and plotting magnetic anomalies.

d. Side-scan sonar system capable of providing a hard copy print out of images, a 500kHz sensor and skilled operator.

Site Documentation

Panamerican proposes a Data Recovery program designed to address specific research questions relating to the vessel's identity, history, construction materials and techniques, as well as site integrity and dynamics. Proposed research aspects include the following:

> *Spatial Extent*—Through the use of remote sensing tools and underwater mapping techniques, a complete site map will be produced. This will include all observed and recorded site components (i.e., engines, boilers, etc.).

Construction Methods and Materials—With regard to the hull, a complete recordation of construction materials and methods will be obtained. An understanding of construction materials and techniques will aid in a determination of the wreck's age and vessel type.

Vessel Size —Mapping of the wreck site will allow a projection of the vessel's length and beam. This data will be employed to address vessel identity.

Artifactual Material—Artifacts which will aid in the determination of a temporal and cultural affiliation of the vessel will be recovered, documented, properly conserved and curated. Recovery of additional wreck components should be discussed in detail in the subsequent "salvage plan and conservation plan" (see below).

Vessel Identity—In concert with archaeological data, archival information will be employed to pursue identification of the vessel. This information will be correlated and compared with data from other shipwreck sites and period documents on vessel construction.

Site Dynamics—Preservative and destructive forces and factors, both natural and man-made, will be observed and recorded. This will include an assessment of post wrecking impacts to the site itself, and integrity of remaining artifacts and hull components.

Documentation. Specific tools to be used by underwater archaeologists during the documentation of the sites should include but not be limited to an underwater jet and hydroprobe system, a variety of hand probes, and measuring tapes. DGPS positioning of the site boundaries (i.e., hull perimeter), and specific vessel components should be a component of the investigation.

Comprehensive documentation of general and specific dimensions, construction details, and other features encountered throughout the site, should be carried out. Detailed drawings and photographic documentation of the remains, extant components, construction methods and materials, as well as any in situ artifacts such as machinery will be a part of the documentation. Mapping will entail plan views, cross sections and profiles, and should provide detailed documentation of hull construction. Illustrations should include diagrams of architectural components and construction techniques. Photo documentation (if possible), both video and 35 mm, should record in situ components and artifacts, construction techniques and materials (visibility permitting), and methodology. In order to retrieve significant data, architectural documentation should be designed to address the following:

- Identification of vessel type, means of propulsion, period of use, and place of origin.

- Detailed descriptions of vessel construction and repair techniques, components, and materials.

- Information regarding the type of service in which the vessel may have been involved.

- Information pertaining to the reasons for the vessel's loss (i.e., sinking, abandonment), date of loss, and salvage and abandonment procedures if any.

The following list is considered to be the minimum amount of information that should be obtained during excavation.

- Plan view tied into a permanent datum. Appropriate methods of excavation control will be used to determine exact location of vessel components and artifacts (i.e. electronic distance meter or manual triangulation).

- Sectional views to record the hull shape, and additional component views as required to illustrate particular construction characteristics (i.e. machinery, chine, bulkheads, rudder configurations, etc.)

- Detailed drawings of distinctive construction features such as fasteners, timber joinery, scarphs, repairs, etc.

- Vessel lines (if possible)

- Complete scantling list.

- Wood samples of various components

- Extensive color slides and black and white photographs of the excavation in progress, the vessel and its components, and associated artifacts. All photographs shall contain an appropriate scale and direction arrow located clearly in the frame if applicable.

Cultural material collected during the field investigations shall be cleaned and accessioned by standard methods using the trinomial system. Analysis of recovered materials will be done according to accepted current methods. Classification of recovered materials will follow established methods and terminology. Preservation of organic materials will be done when it is economically feasible. Furthermore, should human remains be discovered, work shall cease immediately in that area until the Contracting Officer/Contracting Officer's Representative (CO/COR), Corps Archaeologist, and project engineer can be contacted for immediate consultation.

Prepare Salvage and Conservation Plan:

If field investigations and research conclude that the vessel represents a unique and innovative technology, a determination shall be made if any portions of the vessel are worthy of retrieval (i.e., propeller, hull section). If a conclusion is made and retrievable components identified, a plan will be developed to guide retrieval and requisite conservation efforts. The Contractor shall determine if any portions of the vessel, such as the hull or cargo, are worthy of salvage. If such sections are identified, the sections should be clearly marked on drawings. A verbal description of the sections shall be included and justification as to why the pieces should be saved. Based on

field conditions a plan should be developed to guide the salvaging and storage of such pieces. A plan should also be developed that describes the process and time needed to conserve the selected pieces and provides a range of costs associated with the conservation effort.

Data Analysis:

Conduct data analyses in order to synthesize the results of the recordation and archival research. In addition to discussions in the text of the report, the data will be presented as follows:

a. A project area base map, outlining clearly and accurately, the inspection area on the appropriate portion of the relevant USGS 7.5' topographic quad sheet, with the name of the quad sheet clearly indicated in the map title and year of issue.

b. A GIS compatable, georeferenced site map that delineates the exact location of all site components and aspects.

c. Base map(s), delineating the location of all underwater excavations conducted, and the project baseline.

d. Drawings of the vessel shall be presented at a scale appropriate to convey the required detail and information Photographs of the vessel shall include overview shots as well as close-up views of key features.

e. An exact navigational record of the location and water depth of the wreckwill be made.

Report Preparation

A Dive Safety Plan, Written Progress Reports, a Management Summary, Draft and Final Report of Investigations are required under the Scope of Work for this research.

Dive Plan and Health and Safety Plan: A Dive Plan and Health and Safety Plan will be produced and submitted within ten (10) days of notice-to-proceed. They will address all aspects of the diving investigation and fieldwork and will act as a safety plan and research strategy for both underwater and above-water work. No fieldwork will commence until District acceptance of said plans, and will begin no later than ten (10) days after acceptance.

Written progress reports shall be submitted every month and shall briefly discuss work to date and any significant findings.

Management Summary Report: A management summary report will be submitted within forty (40) days from completion of the fieldwork. Although a provisional report, it will briefly discuss field methodology, results, conclusions, and recommendations.

Draft and Final Reports: Five (5) copies of a draft report of investigations will be submitted within 90 calendar days of the issuance of the Notice to Proceed. This report will include

complete sections on the background of the study, environmental and historical contexts, detailed descriptions of the methods, techniques, and results of the archival research, remote sensing survey including magnetic contour maps, and site documentation. A National Register of Historic Places Nomination form for the vessel will be included as an appendix of the report.

Forty (40) copies and one (1) camera-ready original of the final report will be submitted within 30 (30) calendar days of receipt of government review comments for the draft report. A forty five (45) day government review period is anticipated. Both the draft and final reports will conform to *American Antiquity* style, with the exceptions outlined in the Scope. The final report will be signed by the Principal Investigator. Final copies of National Register of Historic Places Nomination form will also be submitted.

REFERENCES CITED

Krivor, M.C.

2004 Management Summary, "*Phase II Underwater Inspection of Seven Targets In the Eastern Portion of the Long Beach Project, Nassau County, New York.* Submitted by Panamerican Consultants, Inc., Memphis, Tennessee to the U.S. Army Corps of Engineers, New York District under contract to Northern Ecological Associates, Inc., Presumpscott, Maine. Contract No. DACW51-01-D-0017, Delivery Order No.41

Tuttle, Michael C., and Amy M. Mitchell

1998 *Remote Sensing Survey, Near-Shore Project Area, Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet, Long Beach Island, Nassau County, New York, Storm Damage Reduction Project*. Submitted by Panamerican Consultants, Inc., Memphis, Tennessee to the U.S. Army Corps of Engineers, New York District.

New York State Department of Environmental Conservation
Division of Water
Bureau of Flood Protection and Dam Safety, 4th Floor
625 Broadway, Albany, New York 12233-3504
Phone: (518) 402-8185 • **FAX:** (518) 402-9029
Website: www.dec.ny.gov

Joe Martens
Commissioner

June 24, 2013

Eugene Brickman, P.G.
Deputy Chief, Planning Division
United States Army Corps of Engineers
New York District
26 Federal Plaza
New York, New York 10278

Re: Atlantic Coast of Long Island, Jones Inlet to Rockaway Inlet, Long Beach Island, New York, Hurricane and Storm Damage Reduction Project (Long Beach Project)

Dear Mr. Brickman:

It was a pleasure meeting with the United States Army Corps of Engineers (Corps), the City of Long Beach (City), the Town of Hempstead (Town) and Nassau County (County) representatives on March 8, 2013. During the meeting the New York State Department of Environmental Conservation (Department) agreed to support completion of the Limited Reevaluation Report (LRR) for the Long Beach Project, provided that the City, the Town and the County submit resolutions authorizing them to enter into a project cooperation agreement with the Department for Design and Construction of the Long Beach Project and to fulfill their responsibilities as the local sponsors.

With the resolutions (enclosed) that the Department received from the City, Resolution No. 42/13, dated March 19, 2013; from the Town, Resolution No. 312-2013, dated March 19, 2013; and from the County, Resolution No. 84-2013, dated May 20, 2013 authorizing the City, the Town and the County to enter into a project cooperation agreement with the Department for the Design and Construction of the Long Beach Project and with the parties' willingness to provide lands, easements and rights-of-way for the Long Beach Project; to operate and maintain the Long Beach Project; and to provide public access to the constructed Long Beach Project, the Department is in support of completing the LRR.

The Department is looking forward to working with the Corps to finalize the LRR and move the Long Beach Project into Design and Construction. If you have any questions, please contact the Project Manager, Anna Servidone, at (518) 402-8147 or axservid@gw.dec.state.ny.us.

Sincerely,

Alan A. Fuchs, P.E., Director
Bureau of Flood Protection and Dam Safety

Enclosures
cc w/Encls.: R. Pinzon, USACE
J. LaCarruba, City of Long Beach
R. Masters, Town of Hempstead
K. Arnold, County of Nassau
P. Scully, NYSDEC
S. McCormick, NYSDEC
A. Servidone, NYSDEC

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

Planning Division

March 14, 2013

Jack Schnirman
City Manager
One West Chester Street
Long Beach, NY 11561

Dear Mr. Schnirman,

On Friday, March 8, 2013, a meeting was held at the City of Long Beach to discuss the path forward for the Atlantic Coast of Long Island, Jones Inlet to Rockaway Inlet, Long Beach Island, New York Hurricane and Storm Damage Reduction Project ("the Long Beach Project"). Representatives from the U.S. Army Corps of Engineers – New York District (USACE), New York State Department of Environmental Conservation (NYSDEC), City of Long Beach, Town of Hempstead, and Nassau County were in attendance.

In 2012, USACE was diligently working on a modified plan that included a beach berm and dune that afforded a level of risk reduction within 20% of the 1995 authorized plan. This plan forward was in accordance with USACE guidance for a Limited Reevaluation Report (LRR).

On October 29, 2012, the City of Long Beach was significantly impacted by Hurricane Sandy and its record setting storm surge and wave heights. Hundreds of structures were either damaged or destroyed. Work on the LRR was put on hold as the District assisted with storm recovery responsibilities.

On January 29, 2013, President Obama signed the Hurricane Sandy Disaster Relief Appropriations Act (P.L. 113-2) to assist state and local governments with recovery. Although final implementation guidance has not yet been received, it is interpreted by the USACE that the Act allows for construction of projects that have been previously authorized, as long as it is the previously authorized plan that is recommended for implementation.

The recommended plan from the 1995 Feasibility Study included 41,000 linear feet of beach fill and generally extended from the eastern end of the barrier island at Point Lookout to Yates Avenue in East Atlantic Village where the plan tapered into the existing shoreline in Atlantic Beach. This plan consisted of:

- a dune with a top elevation of + 15 ft above NGVD, a top width of 25 ft, and landward and seaward slopes of 1V:5H;
- a beach berm extending 110 ft from the seaward toe of the recommended dune at an elevation of +10 ft NGVD, thus gradually sloping approximately between 1V:25H and 1V:35H to match the existing bathymetry;
- a total sand quantity of 8,642,000 cy for the initial beach fill placement, including tolerance, overfill and advanced nourishment;
- planting of 29 acres dune grass and installation of 90,000 linear ft of sand fence;
- 16 dune walkovers and 13 timber ramps for boardwalk access, and 12 vehicle access ramps over the dunes;
- 6 new groins at the eastern end of the island
- rehabilitation of 16 of the existing groins, including the rehabilitation of 640 ft of the existing revetment on the western side of Jones Inlet;
- advanced nourishment to ensure the integrity of the initial beach fill design; and

- periodic nourishment of approximately 2,111,000 cy of beach fill material at 5 year intervals for the 50 year life of the project.

It is the position of the USACE that very minor modifications will be allowed to be made to the 1995 authorized plan and recommended in the LRR because they deal primarily with changes to the project alignment. The recommended plan will include 29,000 linear feet of beach fill and generally extends from the eastern end of the barrier island at Point Lookout to the western boundary of the City of Long Beach, with an incidental taper to Capri Drive East in East Atlantic Beach. Since the project was authorized for construction in 1996, both the Village of Atlantic Beach and East Atlantic Beach decided to drop out of the project.

The allowable modifications to the 1995 authorized plan will be as follows:

- Remove the 15 ft wide dune maintenance pathway between the front of the boardwalk and the landward slope of the dune and position the dune directly in front of the boardwalk.
- Construct the beach berm with a step to help alleviate scarping at the water line. The beach berm will extend 40 ft at an elevation of +10 ft NGVD, slope 20 ft at 1V:10H to +8 ft NGVD and extend 120 ft at an elevation of +8 ft NGVD to slope into the water.
- The slope of the beach berm into the water will be reduced from 1V:35H to 1V:30H, which better matches the existing beach slope (based upon 2010 surveys).
- The advanced nourishment will not be placed in the City of Long Beach since the shoreline has stabilized since completion of the 1995 authorized plan. The shoreline is still very low leaving the City of Long Beach vulnerable to inundation.
- A bird nesting and foraging area (5,000 ft) for piping plovers and least terns (within the Town of Hempstead) will be created. Beach fill will not be placed in this area if equivalent protection is provided.

Based upon the allowable modifications listed above, the quantity of sand planned for placement is expected to be considerably less than what was recommended in the 1995 authorized plan and is being calculated using the latest available beach surveys. It is anticipated that sand will be placed in the surf zone and there will be some coverage of the existing groins; however the potential impact has been reduced from that of the 1995 authorized plan.

After you carefully review what has been laid out in this letter, please provide a letter to the NYSDEC clearly stating your intentions regarding the Long Beach Project. We look forward to working with the City of Long Beach to finalize the LRR and move the project closer to construction. If you have any questions about the content of this letter or the intended path forward, please do not hesitate to contact the Project Manager, Ronald Pinzon at 917-790-8627 or by email at ronald.r.pinzon@usace.army.mil or the Project Planner, Donald E. Cresitello at 917-790-8608 or by email at donald.e.cresitello@usace.army.mil.

Sincerely,

Eugene Brickman, P.G.
Deputy Chief, Planning Division

Cf:
Fuchs
McCormick
Scully
Masters
Arnold
LaCarrubba

City of Long Beach

ONE WEST CHESTER STREET
LONG BEACH, NEW YORK 11561

TEL: (516) 431-1011
FAX: (516) 431-5008

JAMES LACARRUBBA
COMMISSIONER OF PUBLIC WORKS

March 22, 2013

Ms. Susan McCormick, P.E.
Chief, Coastal Erosion Management Section
NYSDEC
625 Broadway, 4th Floor
Albany, New York

Re: Resolution authorizing a Project Partnership Agreement with the City of Beach, NYSDEC and U.S. Army Corps of Engineers

Dear Ms. McCormick:

The City of Long Beach is pleased to submit the enclosed City of Long Beach Resolution for the above stated project

Please contact me if you have any questions; I look forward to working with you on this project.

Sincerely,

James LaCarrubba

JL/cm
Enc.

cc: Jack Schnirman, City Manager

March 19, 2013

Item No. 9
Resolution No. 42/13

The following Resolution was moved by Mr. Torres and seconded by Pres. Mandel :

Resolution Authorizing the City Manager to Enter into a Project Partnership Agreement with the State of New York to Proceed with Design and Construction of the Atlantic Coast of Long Island, Jones Inlet to Rockaway Inlet, Long Beach Island, New York Hurricane and Storm Damage Reduction Project (the "Long Beach Project").

WHEREAS, the City of Long Beach supports the selected alternative from the 1995 Feasibility Plan for Long Beach Island Storm Damage Reduction Project (the "Long Beach Project"); and

WHEREAS, this Project requires the approval and support of the City of Long Beach, the Town of Hempstead and County of Nassau; and

WHEREAS, the City of Long Beach desires to enter into a Project Partnership Agreement with New York State Department of Environmental Conservation ("NYSDEC") in partnership with the U.S. Army Corps of Engineers ("Corps") to proceed with the design and construction of the Long Beach Project; and

WHEREAS, the City of Long Beach will provide the NYSDEC and the Corps all access easements and rights-of-way for the construction of the Project, periodic re-nourishment, inspections and if necessary, for the purposes of operating, maintaining, repairing, replacing or rehabilitating the Project or functional portion of the Project within the City limits; and

WHEREAS, the City of Long Beach will obtain all necessary real estate title and easements required to ensure adequate public access to the constructed Project within the City limits through the preparation of a Public Access Plan; and

WHEREAS, the City of Long Beach will operate and maintain the completed Project or functional portion of the Project within the City limits; and

WHEREAS, the City of Long Beach has committed to supporting this Project and assisting the State and the Army Corps in its share of the cost of this effort, if necessary; and

NOW, THEREFORE, be it

RESOLVED, that the City Council, as Lead Agency for the City of Long Beach, hereby adopts this Resolution and determines that this Project Partnership Agreement constitutes a Type II action pursuant to SEQRA; and be it further

RESOLVED, by the City Council of the City of Long Beach, New York that the City Manager be and he hereby is authorized to enter into a Project Partnership Agreement with the NYSDEC for the above said Project.

APPROVED:

City Manager

APPROVED AS TO FORM & LEGALITY:

Corporation Counsel

VOTING:

Council Member Adelson - AYE

Council Member Goggin - AYE

Council Member McLaughlin- AYE

Council Member Torres - AYE

President Mandel - AYE

A TRUE COPY
DATED, LONG BEACH, N.Y.
3/21/13

CITY CLERK

84/204

RESOLUTION NO. 84- 2013

A RESOLUTION AUTHORIZING THE COUNTY EXECUTIVE TO ENTER INTO A PROJECT PARTNERSHIP AGREEMENT WITH THE STATE OF NEW YORK TO PROCEED WITH THE DESIGN AND CONSTRUCTION OF THE ATLANTIC COAST OF LONG ISLAND, JONES INLET TO ROCKAWAY INLET, LONG BEACH ISLAND, NEW YORK HURRICANE AND STORM DAMAGE REDUCTION PROJECT (THE "LONG BEACH PROJECT")

D FORM
ttorney

STATE OF NEW YORK }
COUNTY OF NASSAU } ss.:

Issued to: *COMPTROLLER/TREASURER*

I, WILLIAM J. MULLER III, *Clerk Of the Legislature of the County of Nassau, do hereby certify that the foregoing is a true and correct copy of the original* Resolution 84-13 *duly passed by the Nassau County Legislature, Mineola, New York, on* Monday, May 20, 2013 *and approved by the County Executive on* Thursday, May 23, 2013 *and on file in my office and recorded in the record of proceedings of the Nassau County Legislature and is the whole of said original.*

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of said Nassau County Legislature

This 20 th *day of* June,

in the Year two thousand and 13.

WILLIAM J. MULLER III

Clerk of the Legislature
County of Nassau
Ninth Legislature

n the 1995

'Long Beach

ty, the City of

sement with the

rtnership with

d construction

access

urishment,

8412014

RESOLUTION NO. 84- 2013

A RESOLUTION AUTHORIZING THE COUNTY EXECUTIVE TO ENTER INTO A PROJECT PARTNERSHIP AGREEMENT WITH THE STATE OF NEW YORK TO PROCEED WITH THE DESIGN AND CONSTRUCTION OF THE ATLANTIC COAST OF LONG ISLAND, JONES INLET TO ROCKAWAY INLET, LONG BEACH ISLAND, NEW YORK HURRICANE AND STORM DAMAGE REDUCTION PROJECT (THE "LONG BEACH PROJECT")

APPROVED AS TO FORM
Deputy County Attorney

Passed by Nassau County Legislature on
5/20/13 **A voice vote was taken with** 18
Legislators present.
Voting: aye 18 **, nay** 0 **, abstained** 0 **, recused** 0
Became a resolution on 5/23/13
With the approval of the County Executive

WHEREAS, the County of Nassau supports the selected alternative from the 1995 Feasibility Plan for Long Beach Island Storm Damage Reduction Project (the "Long Beach Project"); and

WHEREAS, this Project requires the approval and support of the County, the City of Long Beach and the Town of Hempstead; and

WHEREAS, the County desires to enter into a Project Partnership Agreement with the New York State Department of Environmental Conservation (NYSDEC) in partnership with the U.S. Army Corps of Engineers (the "Corps") to proceed with the design and construction of the Long Beach Project; and

WHEREAS, the County will provide NYSDEC and the Corps with all access easements and rights-of-way for the construction of the Project, periodic re-nourishment,

inspections and, if necessary for the purpose of operating, maintaining, repairing, replacing or rehabilitating the Project or functional portion of the Project with the County's jurisdiction; and

WHEREAS, the County will obtain all necessary real estate title and easements required to ensure adequate public access to the constructed Project within the County's jurisdiction through the preparation of a Public Access Plan; and

WHEREAS, the County will operate and maintain the completed Project or functional of the Project under the County's jurisdiction; and

WHEREAS, the County is committed to supporting this Project and assisting NYSDEC and the Corps in its share of the cost of this effort, if necessary; now, therefore, be it

RESOLVED, that the County Executive is authorized to enter into a Project Partnership Agreement with the NYSDEC for the Long Beach Project; and be it further

RESOLVED, that it is hereby determined, pursuant to the provisions of the State Environmental Quality Review Act, 8 N.Y.E.C.L. section 0101 et seq. and its implementing regulations, Part 617 of 6 N.Y.C.R.R., and Section 1611 of the County Government Law of Nassau County, that this renaming is a "Type II" Action within the meaning of Section 617.5(c) of 6 N.Y.C.R.R. and, accordingly, is of a class of actions which do not have a significant effect on the environment; and no further review is required.

APPROVED

County Executive

DATE 5/23/2013

TOWN OF HEMPSTEAD
DEPARTMENT
OF
CONSERVATION & WATERWAYS
LIDO BOULEVARD
P.O. BOX 180
POINT LOOKOUT, N.Y. 11569-0180
(516) 431-9200

FAX 516-431-0088

FACSIMILE (FAX) TRANSMITTAL LETTER

DATE: 4/4/13

COMPANY: NYSDEC

ATTN: Anna Servidone

TOTAL NUMBER OF PAGES SENT (INCLUDING THIS COVER SHEET 2

COMMENTS:

SENT BY: Comm. Ron Masters

CASE NO. 25252 RESOLUTION NO. 312-2013

Adopted: March 19, 2013

Supervisor Murray offered the following resolution and moved its adoption:

RESOLUTION AUTHORIZING THE TOWN OF HEMPSTEAD TO ENTER INTO A COOPERATIVE PROJECT WITH THE FEDERAL GOVERNMENT, THE STATE OF NEW YORK, AND OTHER INVOLVED MUNICIPALITIES FOR THE DESIGN AND CONSTRUCTION OF THE LONG BEACH ISLAND STORM DAMAGE REDUCTION PROJECT

WHEREAS, the Town Board of the Town of Hempstead fully supports the Long Beach Island Storm Damage Reduction Project ("the Project"):

NOW, THEREFORE, BE IT

RESOLVED, that the Town of Hempstead will enter into a project cooperation agreement with the State of New York and any other necessary party for the purpose of proceeding with design and construction of the Project, including the grant of all rights of entry; and, BE IT FURTHER

RESOLVED, that the Town will provide all lands, easements and rights-of-way for the construction of the project, periodic renourishment, inspection, and, if necessary for the purposes of operating, maintaining, repairing, replacing or rehabilitating the Project or a functional portion of the project; and, BE IT FURTHER

RESOLVED, that the Town will operate, maintain, repair and rehabilitate the completed project or functional portion of the project, and provide public access to the entire constructed Project or functional portion of the Project.

The foregoing resolution was seconded by Councilman Santino and adopted upon roll call as follows:

AYES: SIX (6)

NOES: NONE (0)

CITY OF LONG BEACH

1 WEST CHESTER STREET
LONG BEACH, NEW YORK 11561
(516) 431-1001
FAX: (516) 431-1389

JACK SCHNIRMAN
CITY MANAGER

December 14, 2012

Department of Environmental Conservation
Peter A. Scully, Regional Director
SUNY @ Stony Brook
50 Circle Road
Stony Brook, New York 11790-3409

Al Fuchs, Director
Division of Water
Bureau of Flood Protection and Dam Safety
625 Broadway
Albany, New York 12233-3504

Dear Sirs:

Enclosed please find for your records a true copy of the Long Beach City Council Resolution No. 141/12, duly passed on December 4, 2012, affirming that the City of Long Beach supports moving forward with a U.S. Army Corps of Engineers Storm Damage Reduction Project for Long Beach for the next phase including development of plans and specifications for construction.

Sincerely,

Jack Schnirman
City Manager

December 4, 2012

Item No. 11
Resolution No. 141/12

The following Resolution was moved by Mr. Fagen
and seconded by Pres. Torres :

Resolution Affirming that the City of Long Beach Supports Moving Forward with a U.S. Army Corps of Engineers Storm Damage Reduction Project for Long Beach for the Next Phase Including Development of Plans and Specifications for Construction.

WHEEAS, the City of Long Beach wishes to re-invite the U.S. Army Corps of Engineers to work with us in recovering from Hurricane Sandy; and

WHEREAS, on May 4, 2006, the City of Long Beach unanimously defeated a resolution to authorize participation in the U.S. Army Corps of Engineers Storm Damage Reduction Project for Long Beach, thus declining further participation at that time and ; and

WHEREAS, the City of Long Beach sustained extensive damage as a result of coastal flooding and wave impacts due to Hurricane Sandy, losing five feet in elevation of sand on the beaches and the high tide is now 25 feet from the boardwalk versus 125 feet prior to the storm and the City remains vulnerable to future storms due to substantial beach dune erosion caused by Hurricane Sandy; and

WHEREAS, the City of Long Beach recognizes and is increasingly concerned over the impacts of global climate change and volatility, rising sea levels and the potential for more frequent and/or more intense coastal storms and hurricanes; and

WHEREAS, the City of Long Beach is greatly concerned for increased flood risks and related damages and the associated nature demonstrated vulnerability that threatens the protection of the life and health of the residents of Long Beach from both the Atlantic Ocean and Reynolds Channel; and

WHEREAS, nothing in this resolution commits the City of Long Beach to funding the project at this time or in the future and the City of Long Beach will be required to enter into a mutually agreeable cost-sharing agreement with the New York State Department of Environmental Conservation as the local sponsor in order to construct the project and the City will bring positives to the table while ensuring that the public safety needs of Long Beach are met;

NOW, THEREFORE, be it

RESOLVED, that the City Council of the City of Long Beach, New York hereby affirms their support and re-invites the U.S. Army Corps of Engineers to work in a positive manner towards a Storm Damage Reduction Project for the City of Long Beach moving forward for the development of plans and specifications for construction.

A TRUE COPY
DATED, LONG BEACH, N.Y.
12/14/12
CITY CLERK

APPROVED:

Commissioner of Public Works

APPROVED AS TO ADMINISTRATION:

City Manager

APPROVED AS TO FORM & LEGALITY:

Corporation Counsel

VOTING:

Council Member Adelson - AYE

Council Member Fagen - AYE

Council Member Mandel - AYE

Council Member McLaughlin- AYE

President Torres - AYE

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

14 June 1993

Environmental Analysis Branch
Environmental Assessment Section

Ms. Julia S. Stokes
Deputy Commissioner for Historic Preservation
New York State Office of Parks, Recreation, and
Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island
P.O. Box 189
Waterford, New York 12188-0189

Dear Ms. Stokes,

The New York District, Corps of Engineers (Corps), has been authorized to construct a beach nourishment project along the length of Long Beach Island, Nassau County, New York (Figure 1). This project is needed to replace portions of the beach that have undergone severe erosion and to protect existing development from further erosion. The current project area includes the shore and near-shore sand placement area as well as an offshore borrow area located approximately 2000 feet south of the eastern end of Long Beach Island (Figure 1 and 2). The proposed project will not impact the salt marshes situated on the northeast side of Long Beach Island.

Current project plans call for the placement of sand dredged from the offshore borrow site to be placed on Long Beach Island. This material will be placed above the mean high water mark to widen the beach berm to a width of 110 feet and to construct dunes in certain areas. Two portions of Long Beach Island, the westernmost portion of Atlantic Beach and a section of Lido Beach, are not being considered as part of the initial nourishment project, although they will be included as part of the subsequent maintenance cycle. As the project is currently scheduled, the beach maintenance program will last for 50 years, with beach nourishment occurring every five years.

Two structures, the Granada Towers and the U.S. Post Office, are listed on the National Register of Historic Places (NRHP). One private residence located on Washington Boulevard is listed on the historic structures inventory maintained by the New York State Office of Parks, Recreation, and Historic Preservation because it is considered to be one of the first private homes built in Long Beach. None of these structures will be affected by this project.

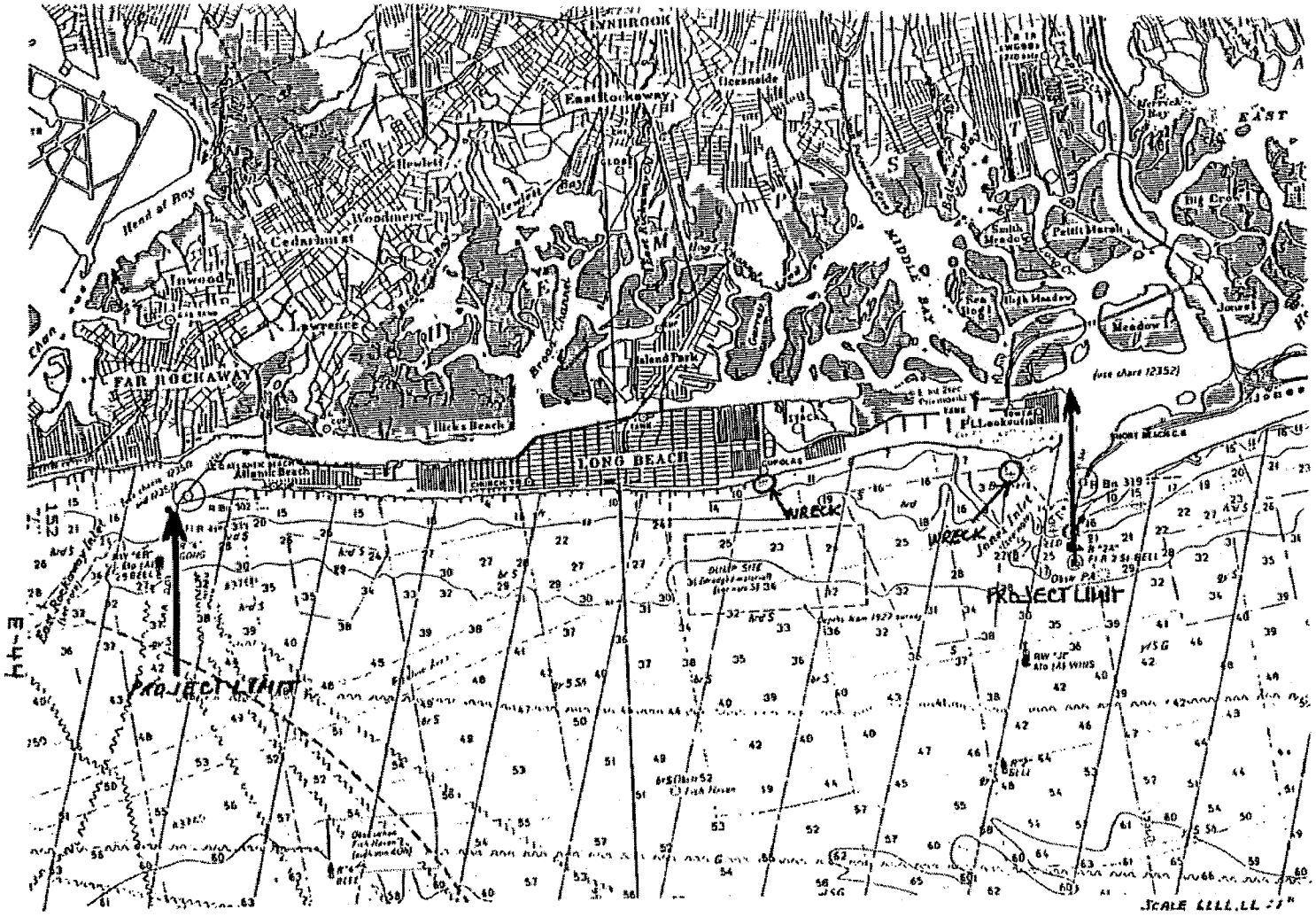


Figure 1: Project Map
Long Beach Island, Nassau unty,
New York.

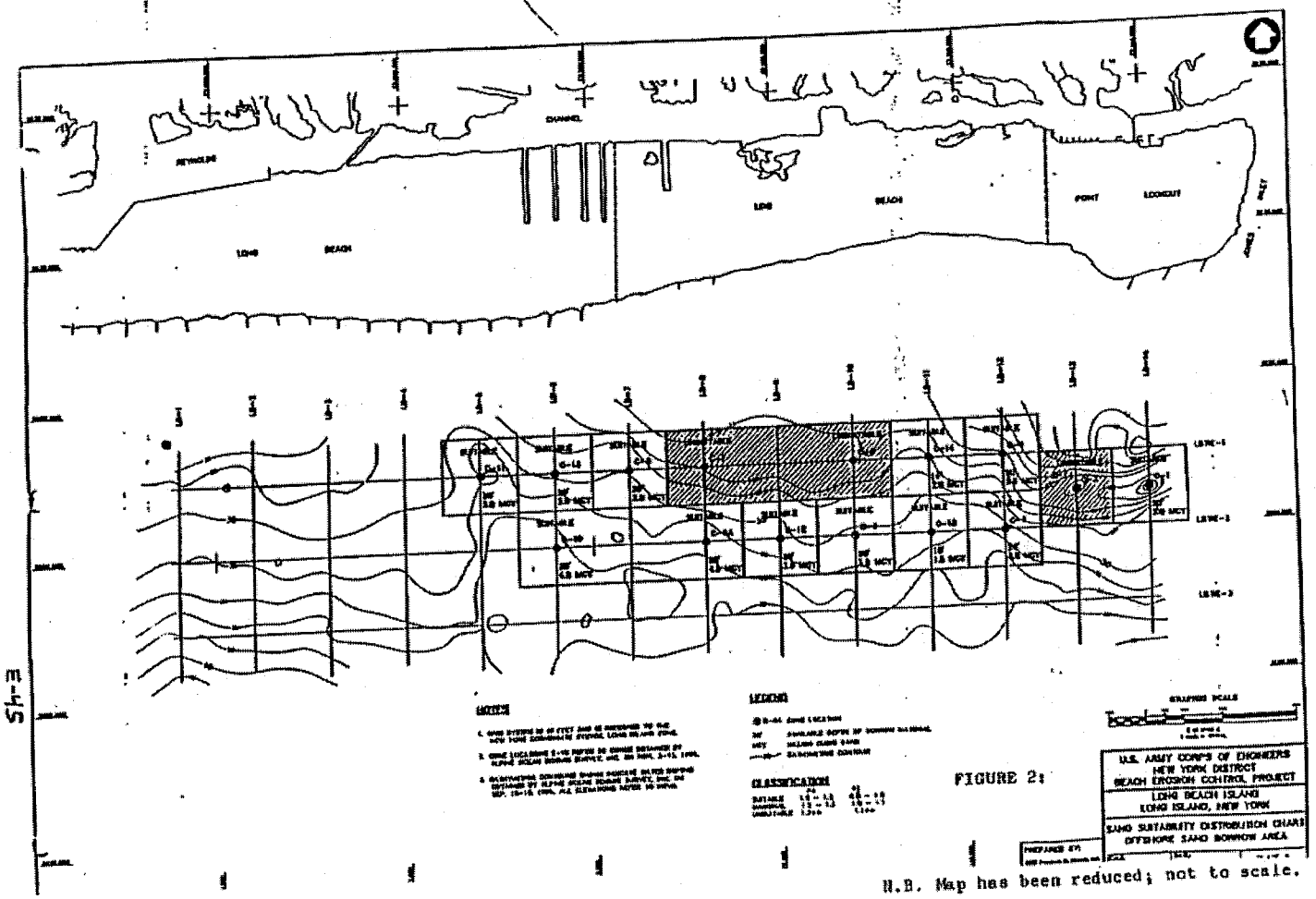


FIGURE 2:

N.B. Map has been reduced; not to scale.

To determine if there were any other potentially NRHP eligible properties located within the project area, the Corps had a cultural resources study prepared as part of this project (Attachment 1). An extensive history and prehistory of the Long Beach Island area was compiled and a pedestrian survey was also conducted for this report. This study found that there were no prehistoric/contact period occupations or archaeological sites on Long Beach. In addition, the location of the 19th and early 20th century structures would be located north of the present beach zone and that no significant remains of the project area's history would be located at the site of the present beach. Since the proposed project involves the deposition of sand, no sites will be disturbed.

The cultural resources study also examined the potential for shipwrecks to be located in the near-shore placement area and the offshore borrow area. Marine charts of the project area show two wrecks within the near-shore sand placement zone in the Lido Beach/Point Lookout areas. These wrecks, however, are not listed on the National Oceanic and Atmospheric Administration's (NOAA) Automated Wreck and Obstruction Information System (AWOIS) listing for the project area. Mark J. Friese, Hydrographic Surveys Branch, NOAA, stated that the AWOIS is often not updated to include information from their charts. There is the potential, then, for the two wrecks to be located in the eastern section of the project area. An underwater investigation of the near-shore area in the vicinity of the two wrecks will be conducted during the next phase of the project.

A number of marine accidents or wrecks have occurred within and near the borrow site. In the next phase of this project, the Corps is planning to conduct a remote sensing survey of the proposed borrow area to determine if any wrecks are present.

On the basis of current project plans and pending review by your office, the Corps is of the opinion that the "Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet, Long Beach Island, Nassau County, New York Beach Nourishment Project" will have no effect on historic properties located onshore. Please provide us with Section 106 comments for the onshore portion of this project as pursuant to 36 CFR 800.5.

The remote sensing survey of the borrow site using a magnetometer and side scan sonar will be conducted as part of the next phase of the project. In addition, an underwater survey of the near-shore area in the location of the two wrecks will also be conducted. The results of these surveys will be coordinated with your office when this work is completed.

If your or your staff have any questions or require further information about this project, please contact Ms. Nancy J. Brighton, Project Archaeologist, (212)264-4663. Thank you for your assistance.

Sincerely,

Bruce A. Bergmann
Chief, Planning Division

Attachments

Enclosure 3

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

NEW YORK STATE
Orin Lerman
Commissioner

June 23, 1993

Mr. Bruce A. Bergmann
Chief, Planning Division
Department of the Army
Corps of Engineers
New York District Office
Jacob K. Javits Federal Building
New York, New York 10278-0090

Dear Mr. Bergmann:

Re: CORPS
Long Beach Erosion Control
Long Beach Island, Nassau County
92PR2416

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the Cultural Resources Reconnaissance Report in accordance with Section 106 of the National Historic Preservation Act of 1966 and the relevant implementing regulations.

Based upon this review, the SHPO concurs with the recommendations of the the report. It is the opinion of the SHPO that no further investigations are warranted for the on-shore area of the project. We look forward to receiving the results of the surveys of the off-shore borrow areas when that work is completed.

If you have any questions, please call James Warren of our Project Review Unit at (518) 237-8643 ext. 280.

Sincerely,

Julia S. Stokes
Deputy Commissioner for
Historic Preservation

JSS/RDK:gc

PC-17

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

November 27, 1995

Environmental Analysis Branch
Environmental Assessment Section

Mr. J. Winthrop Aldrich
Deputy Commissioner for Historic Presrvation
New York State Office of Parks, Recreation, and
Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island
P.O. Box 189
Waterford, New York 12188

RE: CORPS
Long Beach Erosion Control
Long Beach Island, Nassau County
92PR2416

Dear Mr. Aldrich,

Enclosed is a draft copy of the report entitled "Remote Sensing Survey, Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet, Long Beach Island, Nassau County, New York" (Enclosure 1). The report provides a description of the remote sensing survey of the borrow area to be utilized to provide sand for the hurricane and storm protection for Long Beach Island. During the course of the survey, 19 targets or anomalies were identified. Four of them have been identified as belonging to a pipe and thirteen others represent modern debris. The remaining two targets have been identified as potentially significant cultural resources. As currently planned, the targets and anomalies identified as potentially significant cultural resources will be avoided during dredging.

The draft report for the underwater investigations, for which your office has provided comments on an interim report, is currently being prepared. It will be submitted to your office for review when it is complete.

Please review this report and provide comments by January 8, 1996. If you have any questions or require additional information, please contact Ms. Nancy Brighton, (212)264-4663 or by fax (212)264-5472.

Sincerely,

Stuart Piken, P.E.
Chief, Planning Division

Enclosure

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE
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

November 28, 1995

Stuart Piken, P.E.
Department of the Army
N.Y. District Corps of Engineers
Jacob K. Javits Federal Building
New York, NY 10278-0090

Dear Mr. Piken:

Re: CORPS
Long Beach Island Erosion Control
Long Beach, Nassau County
92PR2416

Thank you for providing this office with a copy of your draft report on the remote sensing survey of the intended borrow area involved in this project. The State Historic Preservation Office concurs with the findings of this report and believes that it is unlikely that significant cultural resources exist in the borrow area. In addition, several of the questions addressed to you in my November 02 letter are satisfactorily answered by Amy Mitchell of Panamerican Consultants in her October 05 memorandum to Nancy Brighton of your staff. At this point in time, the only unresolved issue in our Section 106 review of this project concerns the eligibility of the steam tugboat wreck and its location in relationship to dredging and placement of soils. Amy Mitchell indicates that the tugboat site is located 1000 feet offshore, placing it, we believe, well outside the limits of intended soil deposition or dredging. If this statement is correct, no further investigations or submissions will be necessary for this office to issue a no effect finding. If, however, you find that the tugboat site will be impacted by this project, information supporting the eligibility or non-eligibility of this site will need to be forwarded to this office for a determination.

Thank you for your continuing consultation with the State Historic Preservation Office. When responding, please be sure to refer to the OPRHP project review number (PR) noted above. If you have any questions, please feel free to contact me at (518) 237-8643 ext. 258.

Sincerely,

Robert D. Kuhn, Ph.D.
Historic Preservation Coordinator
Field Services Bureau

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE

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

February 21, 1996

Stuart Piken, P.E.
Chief, Planning Division
Environmental Assessment Section
Department of the Army
New York District, Corps of Engineers
Jacob K. Javits, Federal Building
New York, New York 10278-0090

Re: Long Beach Erosion Control
Long Beach, Nassau Co.
92PR2416

Dear Mr. Piken:

Thank you for providing our office with an update on this shore stabilization project together with copies of the final remote sensing survey report and the draft archaeological report documenting the remains of a wooden steam tug located at Jones Inlet. Based on the information provided, we concur with Panamerican Consultants' recommendations that the tugboat no longer retains sufficient integrity to meet the criteria for listing on the National Register. For the reasons outlined in the same recommendations, the suspected remains of three other vessels in the project area could not be identified or evaluated. In the case of the unnamed wreck and the barge, a determination of eligibility will not be required since neither site appears to be impacted by the project. However, in the case of the Mexico, we concur with the recommendations of the consultants and the Corps that further efforts be made to locate, identify and evaluate the site prior to construction. The 1826 Mexico, if located, is likely to be eligible for listing given its historical associations, age and the circumstances of its accidental loss in 1837.

We look forward to continuing coordination with your office on this and other cultural resources issues in New York State. Please feel free to contact me at 518-237-8643 ext. 258 or Dr. Kuhn, Program Coordinator at ext. 255 if you have any questions.

Sincerely,

Mark L. Peckham
Historic Preservation
Program Analyst

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

November 18, 1997

REPLY TO
ATTENTION OF

Environmental Analysis Branch
Environmental Assessment Section

Mark Peckham
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
Long Beach Island Erosion Control
Long Beach, Nassau County
92PR2416

Dear Mr. Peckham,

Reference is made to the underwater inspection of four shipwrecks in the near shore placement area for the above subject and the comments provided by your office (Enclosures 1 and 2). The inspection recommended a remote sensing survey of the near shore area of the proposed study area to ensure the identification of any remains of vessels that may lie along the Long Beach shoreline. In June 1997, Panamerican Consultants, Inc., under contract to the U.S. Army Corps of Engineers, New York District, completed a remote sensing survey of the near shore area of Long Beach Island. Enclosed is the draft report entitled "Remote-Sensing Survey, Near-Shore Project Area, Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet, Long Beach Island, Nassau County, New York Storm Damage Reduction Project" that presents the results of this investigation (Enclosure 3).

The remote-sensing data identified 26 anomalous features that fit the criteria for potentially significant submerged resources. The majority of these features has only a magnetic signature indicating they are buried beneath the seabed. These resources should not be impacted by the placement of sand along the near-shore area and the placement of additional sand in this area should further protect any targets that represent historic shipwrecks. No further work is recommended for these targets if the proposed storm reduction project activities do not disturb the sea floor.

There are four targets with associated sidescan sonar images that represent potentially significant submerged cultural resources protruding from the sea floor that might be impacted by the placement of fill. One of the targets is a tug that was investigated in 1996. No further work is recommended for this target. The three other targets, however, are unidentified. One target is a cluster of four anomalies; one of which has a sidescan return that may be an anchor. This cluster is in the general area that local informants believe is the site of the *Mexico*. It is

recommended that these three target areas, represented by six anomalies, be assessed by qualified underwater archaeologists to determine the nature of these anomalies and their historical significance.

The Corps concurs with the report's recommendations because of the potential significance of these targets. At this time, however, current proposed project plans are limited to work on the jetty at the eastern end of the Long Beach Island. The jetty project will be coordinated with your office when the proposed plans have been developed. If project plans change to include storm damage protection consisting of the placement of sand along the shoreline, then this office will conduct the recommended underwater archaeological survey. The results of that effort will be coordinated with your office.

Please review the attached report and provide comments. If you have any questions or require additional information, please contact Ms. Nancy Brighton (212) 264-4663. Thank you for your cooperation.

Sincerely,

John Sassi, P.E.
Chief, Planning Division

Enclosures

Contract No. DACW51-95-D-0024
Delivery Order No. 0004

U.S. Army Corps
of Engineers
New York District

UNDERWATER INSPECTION OF FOUR SHIPWRECKS ATLANTIC COAST OF LONG ISLAND JONES INLET TO EAST ROCKAWAY INLET LONG BEACH ISLAND, NASSAU COUNTY, NEW YORK STORM DAMAGE REDUCTION PROJECT

FINAL REPORT

April 1996

Panamerican Consultants, Inc.
15 South Idlewild Street
Memphis, Tennessee 38104

PREPARED FOR:

U.S. Army Corps of Engineers
New York District
26 Federal Plaza
New York, New York 10278

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE

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

February 21, 1996

Stuart Piken, P.E.
Chief, Planning Division
Environmental Assessment Section
Department of the Army
New York District, Corps of Engineers
Jacob K. Javits, Federal Building
New York, New York 10278-0090

Re: Long Beach Erosion Control
Long Beach, Nassau Co.
92PR2416

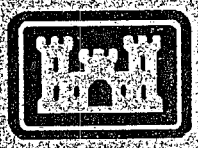
Dear Mr. Piken:

Thank you for providing our office with an update on this shore stabilization project together with copies of the final remote sensing survey report and the draft archaeological report documenting the remains of a wooden steam tug located at Jones Inlet. Based on the information provided, we concur with Panamerican Consultants' recommendations that the tugboat no longer retains sufficient integrity to meet the criteria for listing on the National Register. For the reasons outlined in the same recommendations, the suspected remains of three other vessels in the project area could not be identified or evaluated. In the case of the unnamed wreck and the barge, a determination of eligibility will not be required since neither site appears to be impacted by the project. However, in the case of the Mexico, we concur with the recommendations of the consultants and the Corps that further efforts be made to locate, identify and evaluate the site prior to construction. The 1826 Mexico, if located, is likely to be eligible for listing given its historical associations, age and the circumstances of its accidental loss in 1837.

We look forward to continuing coordination with your office on this and other cultural resources issues in New York State. Please feel free to contact me at 518-237-8643 ext. 258 or Dr. Kuhn, Program Coordinator at ext. 255 if you have any questions.

Sincerely,

Mark L. Peckham
Historic Preservation
Program Analyst



Contract No. DACW51-95-D-0024
Delivery Order No. 0018

U.S. Army Corps
of Engineers
New York District

REMOTE-SENSING SURVEY, NEAR-SHORE PROJECT AREA, ATLANTIC COAST OF LONG ISLAND, JONES INLET TO EAST ROCKAWAY INLET, LONG BEACH ISLAND, NASSAU COUNTY, NEW YORK STORM DAMAGE REDUCTION PROJECT

DRAFT REPORT

1997

Panamerican Consultants, Inc.
15 South Idlewild Street
Memphis, Tennessee 38104

PREPARED FOR:

U.S. Army Corps of Engineers
New York District
26 Federal Plaza
New York, New York 10278

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE

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

December 01, 1997

Mr. John Sassi, P.E.
Chief, Planning Division
Department of the Army
New York District Corps of Engineers
Jacob K. Javits Federal Building
New York, New York 10278-0090

Re: Long Beach Erosion Control
Long Beach, Nassau Co.
92PR2416

Dear Mr. Sassi:

Thank you for your letter of November 18 and the attached remote sensing report by Panamerican Consultants, Inc. We concur with the recommendations outlined in the report and endorsed in your letter and look forward to continuing consultation as construction plans develop. Please feel free to contact me at 518-237-8643 ext. 258 if I can be of any assistance.

Sincerely,

Mark L. Peckham
Historic Preservation
Program Analyst

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE
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

January 20, 2005

Christopher Ricciardi
U.S. Army corps of Engineers - Planning Division
Jacob K. Javits Federal building
26 Federal Plaza- Room 2131
New York, NY 10278-0090

Dear Mr. Ricciardi,

Re: CORPS
Long Beach Island Erosion Control
Long Beach, Nassau County, NY
05PR00126 (formerly 92PR2416)

Thank your for requesting the comments of the New York State Historic Preservation Office (SHPO) with regard to the potential for thIs project to affect significant historical/cultural resources. SHPO has reviewed your agencies correspondence of December 22, 2004 and the report "*Phase II Underwater Inspection of Seven Targets in the Eastern Portion of the Long Beach Project, Nassau County, New York - Draft Report*" prepared by Panamerican Consultants in December 2004. SHPO con curs with the findings and recommendations of that report. We have assigned Unique Site Number A05901.000450 to the Marble Wreck Site, which has been determined eligible for the National Register of Historic Places. We request that you have a completed archaeological site inventory form prepared and submitted for this site.

Our review in included a review of the Mitigation Plan included as Appendix C of the report. We concur with the Data Recovery Plan presented, however we would like to request that a protocol for the treatment of humans remains be added as well as a protocol for disseminating the results of the investigations to the public. Public dissemination may take the form of publications, presentations, displays, web sites or other measures appropriate for a particular site. Please provide some discussion/options for this site. The revised plan should be included as part of an Memorandum of Agreement (MOA) that will be developed to mitigate the adverse effects of your project. Please contact me to discuss preparation of the MOA.

Please contact me at extension 3291, or by e-mail at douglas.mackey@oprhp.state.ny.us, if you have any questions regarding these comments.

Sincerely

Douglas P. Mackey
Historic Preservation Program Analyst
Archaeology

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

3 March 2005

Environmental Analysis Branch

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

RE: CORPS
Long Beach Island Erosion Control
Long Beach, Nassau County
05PR00126 (formerly 92PR2416)

Dear Ms. Pierpont:

The U.S. Army Corps of Engineers, New York District (Corps), is pleased to furnish you with a copy of the final report, *Phase II Underwater Inspection Of Seven Targets In The Eastern Portion Of The Long Beach Project, Nassau County, New York.* This report details the Phase II Underwater Inspection of targets covered in the Limited Reevaluation Report (LRR) that the Corps is currently undertaking. This report serves as an update to the original Environmental Impact Statement that was completed in 1998. At this time, the Corps is unclear as to whether or not the project will move beyond the LRR and into construction. If the Long Beach Project is to progress beyond the LRR, the Corps will initiate formal consultation for the creation of the Memorandum of Agreement, as recommended, with regard to the Phase III Mitigation work.

The current proposed project is the rehabilitation and construction of four groins and the extension of the Jones Inlet jetty. Work undertaken for the report included: sonar and physical investigation by divers of the targets uncovered and a determination for the potential of National Register eligibility. The report investigated and identified seven targets in the revised project area, with one Target (number 50) being identified as potentially eligible for inclusion on the National Register for Historic Places/Shipwrecks and recommended Phase III Archaeological Mitigation for it.

The Corps is pleased that your office concurred with the recommendation in the report as well as offered insightful comments to the future of the project. Once again, we will work with your office if the project should proceed forward.

Thank you, Douglas Mackey and Mark Peckham for your participation in the Section 106 process for this particular aspect of the Long Beach Project. If you have any questions, please contact the Project Archaeologist, Dr. Christopher Ricciardi, at (917) 790-8630.

Sincerely,

Leonard Houston
Chief, Environmental Analysis Branch

Enclosure

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

Reply to
Environmental Analysis Branch

September 10, 2013

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

Re: CORPS
Long Beach Island Storm Damage Reduction
Long Beach, Nassau County
05PR00126 (formerly 92PR2416)

Dear Ms. Pierpont:

The U.S. Army Corps of Engineers, New York District (District) has developed a plan to restore the shoreline and provide shoreline protection to Long Beach Island, a barrier island located between Jones Inlet and East Rockaway Inlet, in Nassau County, New York (Enclosure 1). The Atlantic Coast of New York, Jones Inlet to East Rockaway Inlet, Long Beach Island, New York Storm Damage Reduction Project (Project) covers of approximately 29,000 linear feet of shoreline and generally extends from the eastern end of the barrier island at Point Lookout to the western boundary of the City of Long Beach. The plan consists of dune and berm construction, planting of dune grass and installation of sand fencing. Also included in the project is construction of dune walkovers, vehicle accessways, retaining walls, and lifeguard stations as well as the rehabilitation of 18 existing groins including the terminal groin at Point Lookout and the construction of 7 new groins. The project shall also include advanced nourishment and periodic renourishment at 5 year intervals for the 50 year life of the project.

The District has carried out cultural resources and remote sensing investigations to determine whether the project will have an adverse impact on cultural resources. The following is a list of relevant reports:

1) *Underwater Inspection of Four Ship Wrecks, Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet, Long Beach Island, Nassau County, New York Storm Damage Reduction Project, 1996, prepared by Panamerican Consultant, Inc..*
2) *Remote Sensing Survey, Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet, Long Beach Island, Nassau County, New York. 1996. Prepared by Panamerican Consultants, Inc. (An investigation of the Sand Borrow Area)*

3) *Remote-Sensing Survey, Near-Shore Project Area, Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet, Long Beach Island, Nassau County, New York Storm Damage Reduction Project, 1998, prepared by Panamerican Consultants, Inc.*
4) *Phase II Underwater Inspection of Seven Targets in the Eastern Portion of the Long Beach Project, Nassau County, New York – February*, 2005, *prepared by Panamerican Consultants, Inc.*

The remote sensing and dive inspection surveys of the study area and sand borrow area resulted in the identification of two shipwrecks within the near shore sand placement area vicinity, the *Mexico* Wreck and the *Marble* Wreck, and one anomaly of interest. At this time the anomaly, number 18, identified during the 1998 near shore remote sensing survey requires further investigation, the *Mexico* is considered potentially eligible for the National Register of Historic Places (NRHP) but requires further investigation to determine its NRHP eligibility and the *Marble*, which was subject to dive investigation in the 2005 survey, has been determined potentially eligible for the NRHP. Section 106 consultation was carried out with your office regarding this project as part of the feasibility study and environmental impact statement which were completed in 1995. Also, coordination was carried out following the 2005 underwater inspections for the subsequent re-evaluation of the selected alternative which was carried out to address changes to the shoreline, the project scope, and to address environmental concerns.

In accordance with the recommendations of the surveys and the consultation comments received from your office, the New York District has prepared, for review and comment, a fact sheet summarizing the previous investigations, coordination with your office, and the project plans as well as a draft Programmatic Agreement (PA) (Enclosures 2 and 3). The draft PA stipulates how the anticipated adverse impacts shall be managed as this project moves forward. A Data Recovery Plan, developed in 2005 for the *Marble*, is included as an attachment to the PA. The New York District plans to begin construction of this project in the fall of 2014. Considering this short consultation period the New York District has begun the process of awarding a contract for a survey of the three resources, which shall fulfill the requirements outlined in Stipulation A of the draft PA. The current investigation shall include a refinement remote sensing survey of the anomaly and wreck sites, diver investigation of anomalies, and diver assessment of the Marble Wreck Site, the Mexico Wreck Site, and Anomaly 18. A determination shall be made as to the NRHP eligibility of each site so that plans for further investigations may be developed as well as mitigation plans if necessary.

We ask that you and your staff review and comment on the enclosed draft PA and supporting documentation provided as soon as possible pursuant to 36 CFR Part 800.5(e)(4). We are currently preparing input to the Limited Re-evaluation Report and the supplemental EA and will include this draft PA in the Appendices. If you or your staff require additional information or have any questions, please contact Carissa Scarpa, Project Archaeologist, at (917)790-8612.

Sincerely,

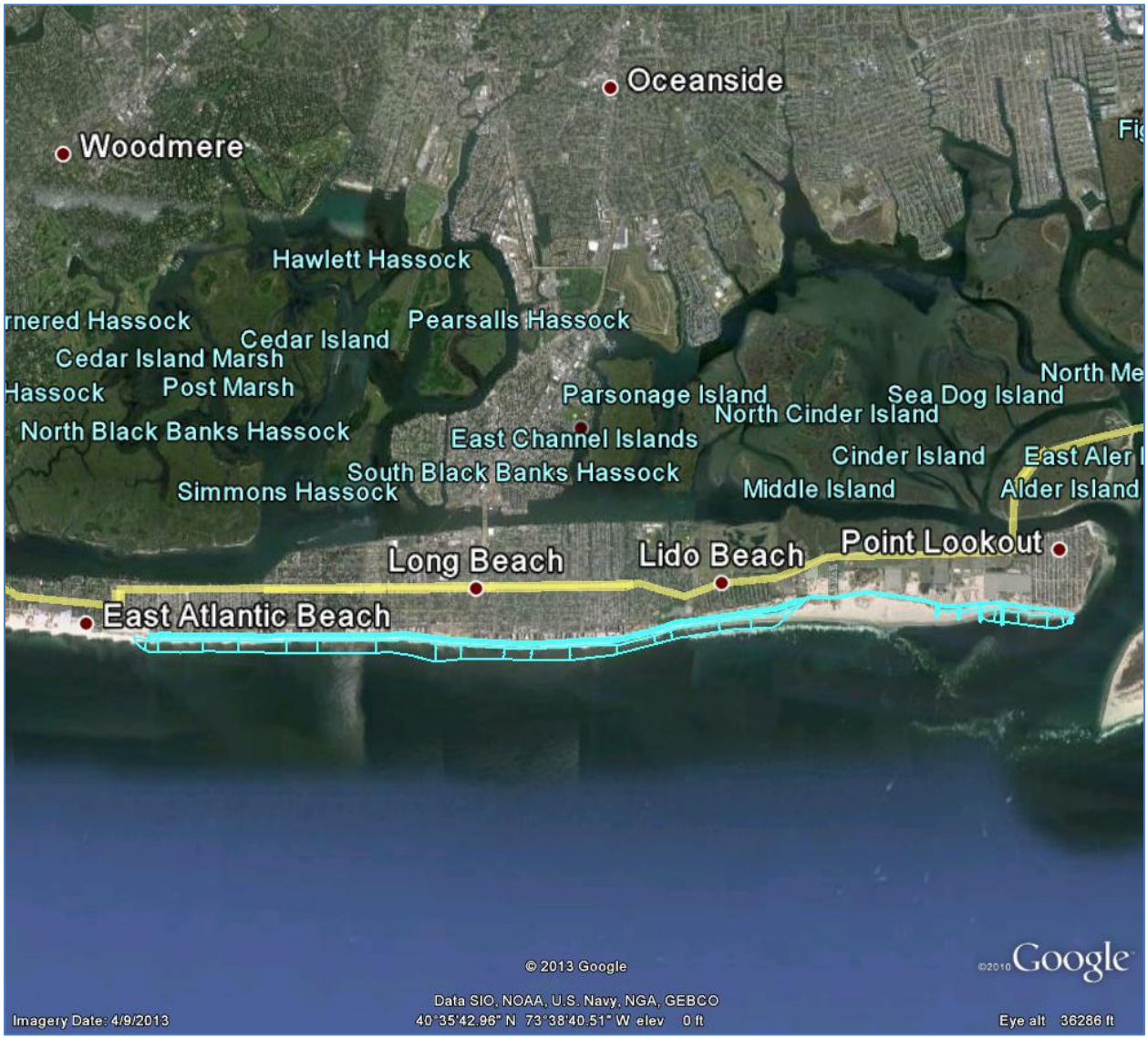
L. Houston

Leonard Houston,
Chief, Environmental Analysis Branch

Enclosures

ENCLOSURE 1

Location of Long Beach Island Storm Damage Reduction Project



ENCLOSURE 2

CULTURAL RESOURCES
FACT SHEET
for
ATLANTIC COAST OF LONG ISLAND
JONES INLET TO ROCKAWAY INLET
LONG BEACH ISLAND, NEW YORK
STORM DAMAGE REDUCTION PROJECT

Project History

The barrier island of Long Beach, New York, is located between Jones Inlet and East Rockaway Inlet. The area lies within Nassau County, New York. This area has been subject to major flooding during storms, causing damage to structures along the barrier island. Over the years, continued erosion, particularly in the eastern areas, has resulted in a reduction in the height and width of the beachfront, which has increased the potential for storm damages. The U.S. Army Corps of Engineers, New York District (District) has been studying Long Beach Island since the 1960's, however, a major study was not authorized until Hurricane Gloria in 1985, when congress allocated funds for a reconnaissance study of the area.

The reconnaissance report, entitled Atlantic Coast, of Long Island. Jones Inlet to East Rockaway Inlet, Long Beach Island, New York: Reconnaissance Report, was completed in 1989. The study findings indicated there was federal interest in protecting the barrier island of Long Beach from storm damage, therefore, the reconnaissance report recommended that the necessary planning and engineering studies proceed to a cost shared feasibility study. State and local government officials concurred with the decision to proceed, and a Feasibility Cost Sharing Agreement was signed in September 1990. The Long Beach Island, New York, Final Feasibility Report with Final Environmental Impact Statement for Storm Damage Reduction (Feasibility Report) was completed in February 1995. The recommended plan included 41,000 linear feet of beach fill and generally extended from the eastern end of the barrier island at Point Lookout to Yates Avenue in East Atlantic Village where the plan tapered into the existing shoreline in Atlantic Beach.

Following approval of the 1995 Feasibility Report, the 1996 Water Resources and Development Act (WRDA) authorized the project for construction. Following authorization of the project recommended by the 1995 Feasibility Study, East Atlantic Beach chose not to participate in the project. Along with the Village of Atlantic Beach, which opted out of the project during the feasibility phase, the East Atlantic Beach community (an unincorporated village in the Town of Hempstead) opted out of the project because they were unwilling to provide the level of public access required by the State of New York. Following completion of the feasibility study and EIS, the Record of Decision (ROD) was received in December 1998 and filed in the *Federal Register* in January 1999.

In 2012, the District was working on a modified plan that included a beach berm and dune and afforded a limited level of risk reduction to that authorized in 1995. However, after Hurricane Sandy caused significant damage to the City of Long Beach, President Obama signed the Hurricane Sandy Disaster Relief Appropriations Act (P.L. 113-2) which provided assistance to state and local governments with disaster recovery and allowed for construction of previously authorized projects. Therefore, a Limited Re-Evaluation Report (LRR) is currently being prepared for the authorized project with minor modifications.

Description of Selected Alternative

Since the Feasibility Study was performed in 1995, the New York District's Atlantic Coast of New York Monitoring Program (ACNYMP) has collected significant amounts of data to document beach conditions and processes. The enhanced understanding of the coastal processes over those available at the time of the feasibility study, together with dramatically changing conditions and improved numerical modeling tools, have been used to reanalyze shoreline stabilization measures for the study area. The LRR reviewed the following alternatives:

- Without Project - (No Action)
- Alternative Plan 1 – Beach nourishment
- Alternative Plan 2 – Beach nourishment with (6) groins at 1200 ft intervals
- Alternative Plan 3 – Beach nourishment with (12) groins at 1200 ft intervals with tapered transition at westerly end
- Alternative Plan 4 – Beach nourishment with (6) groins at 1200 ft intervals with tapered transition at westerly end
- Alternative Plan 5 – Beach nourishment with (16) groins at 900 ft intervals
- Alternative Plan 6 – Beach nourishment with (6) groins at 1200 ft intervals

An additional alternative, Alternative 4a, was identified by reducing groin spacing and adding an additional groin to Alternative 4. The result was a groin field where the easternmost four groins are spaced at 800-foot intervals west of groin 3 followed by an additional 3 groins proceeding (and tapered) to the west with a longshore spacing of 1200 feet. This has become the selected plan.

The selected LRR storm damage reduction plan includes changes from the authorized project. This plan consists of:

- A dune with a top elevation of +14 ft above NAVD, a crest width of 25 ft, and landward and seaward slopes of 1V:5H (1V:3H on landward slope fronting the boardwalk) along the entire;
- In Point Lookout, a beach berm extending a minimum o f 110 ft from the seaward toe of the recommended dune at an elevation of +9 ft NAVD, then sloping at 1V:20H to intersection with existing bathymetry;
- In the Nickerson Beach area in the Town of Hempstead, dune only (no berm) placed along approximately 5,000 lf of shoreline. Existing berm will remain undisturbed to allow for shorebird nesting and foraging;
- In Lido Beach and the City of Long Beach, a stepped beach berm extending 40 ft. from the seaward toe of the recommended dune at an elevation of +9 ft NAVD, a 1V:10H slope downward to +7 ft NAVD, a 130 ft flat berm at +7 ft NAVD, then sloping 1V:30H to intersection with existing bathymetry;
- Total sandfill quantity of 4,570,000 cy for the initial fill placement, including 1.0 ft tolerance, overfill equal to 2.5%, and advanced nourishment (based on 2013 post-Hurricane Sandy survey);

- Planting of 34 acres of dune grass and installation of 75,000 lf of sand fence;
- In the City of Long Beach, a total of 34 pedestrian and vehicular accessways over the dune to the berm will be provided including:
  Twelve (12) gravel surface dune walkovers west of the boardwalk;
  Twelve (12) ADA compliant timber pedestrian dune walkovers;
  Seven (7) non-ADA compliant timber pedestrian dune walkovers;
  Two (2) vehicular accessways under the boardwalk with swing gate closures will be provided at Long Beach Blvd. and Washington Blvd;
  One (1) gravel surface vehicular access will be provided west of the boardwalk at New York Avenue.
- In the Town of Hempstead, a total of 23 pedestrian and vehicular accessways over the dune to the berm will be provided including;
  Extension of eight (8) existing dune walkovers;
  Four (4) ADA compliant timber dune walkovers;
  Three (3) non-ADA compliant new timber dune walkovers;
  Five (5) gravel surface vehicle access ramps;
  Two (2) gravel surface combined vehicular and pedestrian access;
  One (1) raised timber vehicular access
- Rehabilitation of seventeen (17) of the existing groins, plus the rehabilitation and extension of the existing terminal groin at Point Lookout (18 structures total);
- Seven (7) newly constructed groins at the eastern end of the island (3 of which are deferred construction to be built in the future if required);
- Identification of 5,000 lf of bird nesting and foraging area for piping plovers and least terns (within the Town of Hempstead), which will have deferred berm construction;
- Advanced nourishment to ensure the integrity of the initial fill design;
- Periodic nourishment of approximately 1,770,000 cy of fill material at 5 year intervals for the 50-year life of the project. Beach fill for the proposed project is available from an offshore borrow area containing approximately 36 million cy of suitable beach fill material, which exceeds the required initial fill and all periodic renourishment fill operations. The borrow area is located approximately one mile offshore of the barrier island of Long Beach.

Section 106 Compliance Activities

To fulfill the District's responsibilities according to the National Historic Preservation Act of 1966, as amended (NHPA), the Abandoned Shipwreck Act of 1987, and the Advisory Council on Historic Preservation Guidelines for the Protection of Cultural and Historic Properties (36 CFR Part 800), a series of cultural resources surveys have been prepared. An extensive history and prehistory of the Long Beach Island area was compiled and a pedestrian survey of the shore portion of the study area was carried out in 1993 (Pickman). In 1996 and 1998, a series of near shore remote sensing surveys and dive investigation were carried out to determine the presence or absence of submerged resources (Panamerican Consultants, Inc. or PCI 1996 a&b, 1998). And again, in 2005, a dive inspection was carried out in the reduced project APE to investigate a series of anomalies that were identified in 1998.

Prehistoric Sites

There are no known prehistoric or contact period archaeological sites located in the project vicinity (Pickman 1993:9). Native Americans living on the main portion of Long Island may have visited Long Beach Island for brief periods of time to collect fish and shellfish, however, the island, would not have been attractive to Native Americans for permanent or semi-

permanent settlement because of its exposure to the wind and weather from the Atlantic Ocean. Long Beach would have been especially uninviting to Native American occupation because there was no source of fresh water available on the island (Pickman 1993:11).

During the last glacial period, the sea level was up to 400 feet lower than current levels. The shoreline at this time lay at the outer edge of the continental shelf approximately 100 miles from the present shoreline. According to area studies, the sea level rose at a steady pace between circa 7000 to 3000 before present era, with a slower rate of increase after circa 3000 before present era. Cores taken adjacent to the project area indicate the presence of peat, silt, and clay deposits that are remains of the lagoons that formed behind the barrier islands that were created off the present Long Island shoreline at this time. The presence of these lagoonal deposits may mean that the inundation of the ground surface occurred in a low energy environment, which may have permitted any prehistoric sites located in the nearshore area to survive any disturbance (Pickman 1993:46). The proposed borrow area may also contain prehistoric land surfaces. The borrow site would have been available for human occupation until some time after 7000 before the present era. Two of fifteen cores taken from within the borrow site encountered either a clay layer or layer of dark gray silt at 20 feet depth (Pickman 1993:47). These clay deposits may represent lagoonal deposits that have the potential to have preserved prehistoric sites below them (Pickman 1993). Dredging activities will not exceed 20 feet in depth, thus, dredging activities for the project would have no impact on submerged prehistoric sites. Should dredging depth exceed 20 feet, additional studies would be required to determine whether prehistoric deposits exist within the borrow area.

Historic Period Sites

The first European settlers arrived on Long Island during the first half of the seventeenth century. It was not until the middle of the nineteenth century, however, that Long Beach was occupied by Euro-Americans. According to local histories, no structures were located on Long Beach until after 1849. Residents of the mainland used the island primarily for pasturage. In 1849, a Life Saving Station was constructed on Long Beach to house surf boats, lifesaving apparatus and a crew of six to seven men.

Between 1849 and 1879, only a few buildings were constructed on Long Beach. In 1873, a transatlantic cable connecting New York to England, via Halifax, Nova Scotia, made its landfall at Long Beach Island, between the current Edwards and Riverside Boulevards. The development of the island began in 1880 with the construction of a railroad from Lynbrook to Long Beach and the construction of the first large resort hotel and bathing pavilion on the island. This was followed by the construction of a number of other hotels in the 1880s and 1890s and during the first two decades of the twentieth century. Summer homes and permanent residences were also built on the island during the twentieth century. The location of these structures was well north of the present boardwalk and beach zone (Pickman 1993:14-32; 51). No significant remains of the project area's history would be situated along the site of the present beach.

Two structures are located in the vicinity of the project area, the Granada Towers and the United States Post Office. Both sites are listed on the NRHP. One private residence, located on Washington Boulevard and thought to be one of the first private homes on Long Beach, is listed on the historic structures inventory maintained by the New York State Office of Parks,

Recreation and Historic Preservation (NYSOPRHP). None of these structures are within the project area.

Shipwreck Sites

Several dozen possible shipwrecks were identified in the initial near-shore surveys of the project area (PCI 1996 and 1998) around Long Beach and two shipwrecks were documented within the vicinity of the near shore sand placement zone near Lido Beach and Point Lookout. The 1837 wreck identified as the *Mexico* was known to lie near Lido Beach and a second unnamed wreck was known to lie near Point Lookout (Pickman 1993, PCI 1996 and 1998). In 2004, the District carried out an underwater inspection of targets in the eastern portion of the project area in the location of proposed groin construction and expansion of the terminal groin (interest in the western portion was suspended during this time) (PCI 2005). The survey concluded that many of the anomalies of interest were not significant but identified the wreck near Point Lookout as the *Marble*. The *Marble* was found to be potentially eligible for the NRHP and a Data Recovery Plan was prepared for the *Marble* wreck.

Consultation with the New York State Historic Preservation Office began in 1993 with the submittal of the cultural resources reconnaissance study. The NYSHPO has concurred with the District's findings and has participated in the review process as the project developed (See Correspondence Package Enclosed). In 2005, while the District was looking at a reduced footprint for the project, the *Marble* wreck site was identified as the only NRHP eligible resource within the project Area of Potential Impact (APE). The NYSHPO concurred with the Data Recovery Plan that was developed for the wreck sites and encouraged the District to develop a draft Programmatic Agreement (PA) that would outline the steps that would be taken to mitigate for impacts as the project moves forward.

<u>Review of Project Findings and Determination of Effect</u>

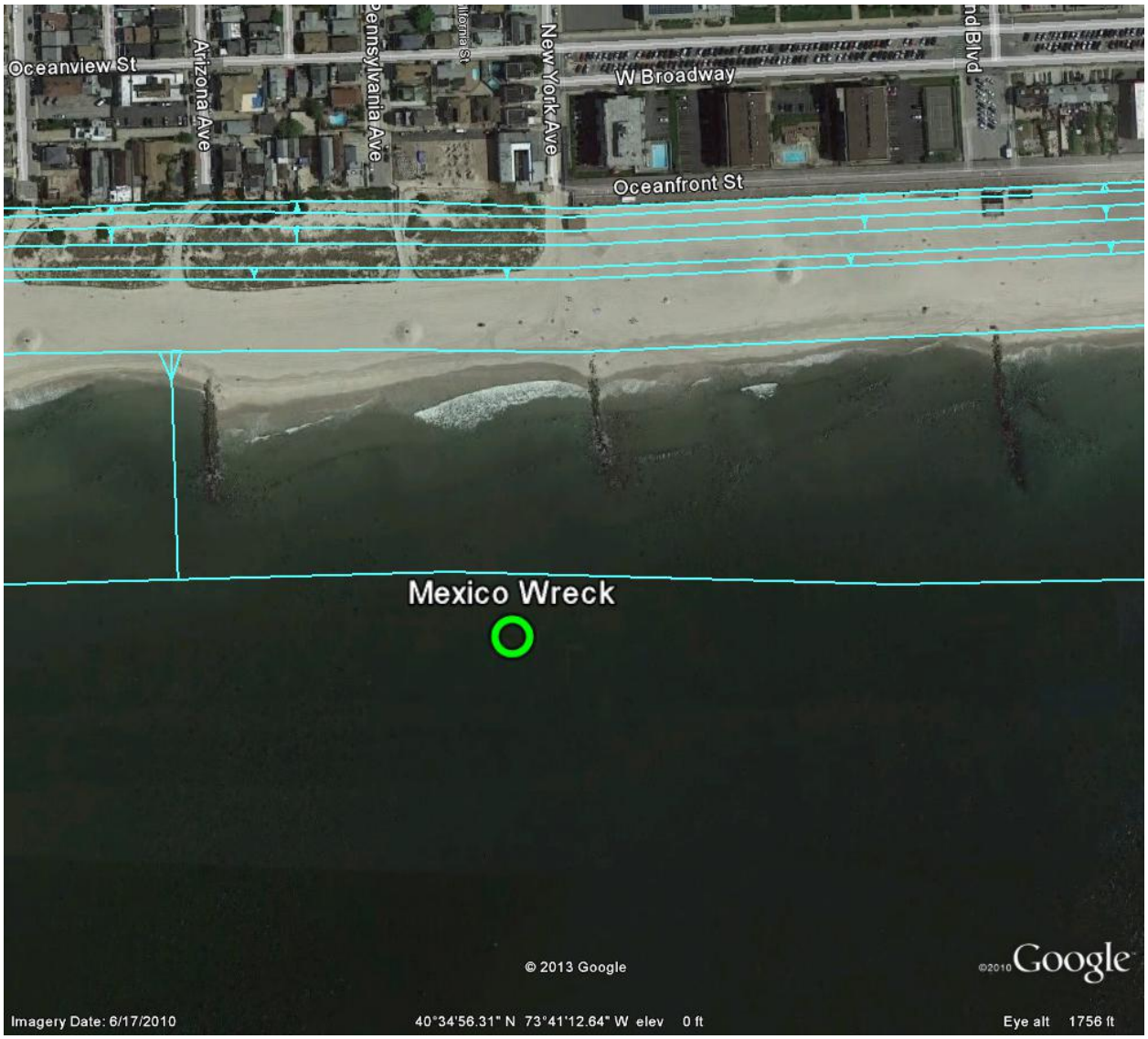
A review of the survey reports prepared for this project over the years and the Section 106 coordination letters between the District and the NYSHPO has resulted in the identification of three cultural resources of significance within the current project's potential APE. These are the *Mexico*, the *Marble*, and an anomaly identified in the 1998 near shore survey which shall be referred to as Anomaly 18. All other anomalies have been sufficiently reviewed and either determined not eligible for the NRHP or are safely outside the project APE.

The *Marble* Wreck

During the 2004 investigations, divers investigating an anomaly in Jones Inlet encountered the remains of a sail/steam vessel likely dating to the mid-to-late 19th century. With an overall length in excess of 100 feet, and retaining its lower wooden hull and possibly a portion of its cargo in the form of large concretions, because of the presence of numerous glass marbles on the site (possibly part of the cargo), the wreck has been labeled as the *Marble* Wreck (PCI 2005).

While only one dive was made on the wreck site during investigation the diver did observe intact lower hull scantling (i.e., keelson, floor timbers, outer-hull planks, and bilge ceiling), large amounts of ferrous metal concretion, as well as larger unidentified masses of concretion. Archival research to date has identified numerous wreck incidents at or near Jones Inlet during the latter half of the nineteenth century. Identification of the wreck site at this point remains pure speculation. Archival records (i.e., Life-Saving Service Annual Reports) from the

1870s are difficult to locate and will require additional research in the future. Review of archival records have identified no clear vessel identity to date (PCI 2005). Considered historically significant and able to meet (at least) Criterion D of National Register of Historic Places (NRHP) nomination eligibility criteria, the wreck shall require further investigation to determine its eligibility status and consideration of the project's effect upon the site. Situated immediately offshore and in alignment with the western Jones Inlet jetty, a review of proposed project activities indicate the wreck site is most likely located within the APE of the proposed jetty extension.



The *Mexico* Wreck

Much archival research has been conducted for the *Mexico*. The 288-ton bark vessel was constructed in Falmouth, Maine in 1822. Little is known about the shipbuilding industry of Falmouth during this period, although it is assumed to have paralleled that of other port cities in Maine, especially neighboring Portland, which in the eighteenth century was part of Falmouth.

The *Mexico's* first master was a man by the name of Bucknam employed by her owners, Train & Co. of Liverpool and Boston. The *Mexico* was originally registered at Boston, sailing to Swansea and Philadelphia. On May 24, 1836, the *Mexico* re-registered at New York. She was on her Liverpool-to-New York run under the command of Captain C. Winslow when she approached the south shore of Long Island on the night of January 2, 1837. She had aboard a crew of 12 and between 104 and 112 immigrant passengers. Due to delays in the voyage, the captain had resorted to rationing stores. For 11 days, passengers received a daily ration of only one biscuit and one-half pint of water. On her arrival off Sandy Hook, New Jersey, the *Mexico* signaled for a pilot but failed to receive one, as the pilots were apparently ashore celebrating the new year. Meanwhile, a gale blew the *Mexico* across the lower harbor toward Long Island. Early on the morning of January 3, 68 days out of Liverpool, the bark struck the beach at Hempstead (Long Beach), Long Island. Only the captain, cook and *5* passengers were saved. The rest perished from exposure (PCI 1996).

Before the loss of the *Bristol* and the *Mexico,* New York Harbor pilots operated under a monopoly protected by state law. The pilots were appointed by the governor. Twenty-eight were designated for Sandy Hook, New Jersey, at the lower approach to New York Harbor, and about a dozen for Hell Gate. As early as 1825, New York merchants complained about the lack of competition for pilotage. They charged that the pilots were lax about going out to meet incoming ships during foul weather. The loss of the *Bristol* in November 1836 and the *Mexico* in January 1837, both attributed to pilot negligence (i.e., the failure of a pilot to respond to a call to come on board), resulted in federal legislation to break the monopolistic hold on the pilot industry and throw it open to competition. Bad winters and more shipwrecks following on the heels of the *Bristol* and *Mexico* disasters contributed to the call for what became the United States Lifesaving Service On Long Beach Island, Lifesaving Stations were eventually established at Long Beach and Point Lookout (PCI 1996).

The wreck of the *Mexico* is considered historically significant as an early and rare example of Falmouth shipbuilding. No commercial nineteenth-century wooden sailing vessel built in Maine remains afloat today, and no similar shipwreck sites are presently known. The *Mexico* is further significant through her early association with her owner, Enoch Train, who later founded the packet Train's Line. The loss of the *Mexico* is significant for the tremendous impact it made upon local inhabitants, as well as for its effect on federal legislation with regard to pilotage and lifesaving (PCI 1996).

The exact location of the *Mexico* remains obscured by local lore and diving-industry secrecy. During the 1995 investigation, PCI researchers interviewed several members of the local diving community but failed to substantiate the vessel's location (PCI 1996). Through interviews and archival research, archaeologists ascertained three conflicting locations: (1) off Short Beach, (2) off Point Lookout, and (3) off the east end of Long Beach. However, informants could not give specific distances, details, or coordinates. Additionally, the shoreline is not static, changing with each storm or season, creating dramatic shifts in all directions. This in turn confused local legend, which varied from a so-called treasure wreck to a burial site that should remain undisturbed, and made locational information impossible to decipher (PCI 1996).

Anomaly 18

The 1998 near shore remote sensing survey identified four targets with sidescan sonar images that represent potentially significant submerged cultural resources protruding from the sea bed, and which might be impacted by beachfilling. One was a tug which had been previously examined (PCI 1996). No further work was recommended for this target. The next "site" was actually a cluster composed of four anomalies which was thought to represent the *Mexico*, which has already been discussed. The other two targets were Anomalies 18 and 29. The report recommended these anomalies be assessed by archaeologists to determine their identities and historical significance before burial. Anomaly 29 lies roughly 800 feet south of the sand placement area. Anomaly 18, however, lies within the sand placement area. Further investigation will be required to determine the nature of the anomaly and possibly to determine its NRHP eligibility (PCI 1998).

Conclusions

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended and the Secretary of the Interiors Guidelines for Treatment of Historic Properties, the properties found potentially eligible, eligible, or listed on the NRHP must be considered within the framework of the proposed action. A draft PA with the New York State Historic Preservation Office (NYSHPO) was completed for the current LRR. The PA outlines the proposed testing strategy for the Marble, the Mexico, and Anomaly 18 and also outlines a process for determining the project's impacts to these resources and possible mitigation measures such as development of a Data Recovery Plan.

Should the proposed undertaking adversely impact these three resources and no alternative that would result in no adverse impact can be developed, mitigation measures would be developed in coordination with the NYSHPO and interested parties. Presented in Appendix C of the draft PA**,** a Data Recovery Plan, was developed in 2005 for the *Marble* wreck that will delineate the site through remote sensing and probing, and document the remains both photographically and architecturally, in an effort to adequately mitigate any adverse project effects. This DRP may require some modification prior to implementation but shall serve as an example of what should be developed as the investigations proceed and the adverse impacts are more clearly defined.

Bibliography

Pickman, Arnold

1993 Cultural Resources Reconnaissance, Atlantic Coast of Long Island, Jones Inlet to Rockaway Inlet, Long Beach Island, Nassau County, New York.

Panamerican Consultants, Inc.

1996a Remote Sensing Survey, Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet, Long Beach Island, Nassau County, New York.

1996b Underwater Inspection of Four Shipwrecks, Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet, Long Beach Island, Nassau County, New York.

1998 Remote Sensing Survey, Near Shore Project Area, Atlantic Coast of Long Island, Jones Inlet to Rockaway Inlet, Long Beach Island, Nassau County, New York Storm Damage Reduction Project.

2005 Phase II Underwater Inspection of Seven Targets in the Eastern Portion of the Long Beach Project, Nassau County, New York.

PROJECT PLANS PACKET

CORRESPONDENCE PACKET

ENCLOSURE 3 – Programmatic Agreement

DRAFT PROGRAMMATIC AGREEMENT
AMONG
THE U. S. ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT,
AND
THE NEW YORK STATE OFFICE OF PARKS, RECREATION, and HISTORIC PRESERVATION
REGARDING
THE JONES INLET TO ROCKAWAY INLET, LONG BEACH ISLAND, STORM DAMAGE REDUCTION PROJECT

WHEREAS, the U. S. Army Corps of Engineers, New York District (District), is undertaking a storm damage reduction project that would provide shoreline protection to Long Beach Island, a barrier island located between Jones Inlet and East Rockaway Inlet, in Nassau County, New York; and

WHEREAS, the Area of Potential Effect (APE) for the Jones Inlet to Rockaway Inlet, Long Beach Island, Storm Damage Reduction Project (project) is defined as the beach and near shore area for approximately 29,000 linear feet and consists of dune and berm construction, planting of dune grass, installation of sand fencing, construction of dune walkovers, vehicle accessways, retaining walls, and lifeguard stations as well as rehabilitation of 18 existing groins including the terminal groin at Point Lookout and construction of 7 new groins (Appendix A); and

WHEREAS, the Marble Wreck has been determined potentially eligible for the National Register of Historic Places (NRHP), the Mexico is potentially eligible for the NRHP but requires further investigation to make that determination, and Anomaly 18 represents an unknown object that also requires further investigation to determine its eligibility for the NRHP; and

WHEREAS, the District has determined that the project will have an adverse effect on the three submerged cultural resources, the Marble Wreck, the Mexico Wreck, and Anomoly 18. The Marble Wreck is located approximately 100 feet from the work limits for the terminal groin at Point Lookout. The Mexico Wreck is located roughly 100 feet from the sand placement area and Anomoly 18 is located within the sand placement area; 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

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

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

A. The District shall conduct a remote sensing survey of the Mexico Wreck, the Marble Wreck, and Anomaly 18. Each site will receive a comprehensive magnetometer, side scan sonar, and sub-bottom profiler survey to relocate and delineate the anomaly and wreck sites, as well as to form baseline data for the wreck sites. The District shall also conduct archeological diver identification and testing of each site. The survey shall be designed to collect sufficient information on the three sites to locate and evaluate their eligibility for the NRHP and make recommendations for future investigations or mitigation measures. The results of the survey shall be provided for comment to a group of interested parties (Appendix B). The sites shall only be deemed eligible upon concurrence from the NYSHPO following a review of the survey report. If the NYSHPO fails to respond within 30 days of receipt of the District's request for concurrence with the determination the District's determination shall be deemed conclusive.

B. In consultation with the NYSHPO and interested parties, the District shall determine whether the NRHP-eligible resources can be protected from adverse impacts through use of buffer zones or if, in addition to the buffer zones, there is a need for data recovery as a mitigating measure. If the resources cannot be avoided through the use of buffer zones the District shall prepare a data recovery plan for each resource as mitigation for adverse impacts. Each data recovery plan will be designed to document the remains both photographically and architecturally. A data recovery plan was developed for the Marble Wreck and has been reviewed and accepted by the NYSHPO (Appendix C).

C. For each site that is determined eligible for the NRHP and documented through Stipulation B, measures will be developed, in consultation with the NYSHPO and interested parties for disseminating the data that is collected through publications, presentations, displays or websites.

D. All work, under Stipulations A through C, will be performed by a professional(s) who meets the Secretary of the Interior's Professional Qualification Standards (48 FR 44738-9) and who is experienced in underwater archaeology.

II. Administrative Terms

1.UNANTICIPATED DISCOVERY

During the construction of this project and during the implementation of any other project features, including but not limited to those associated with the secondary impacts and impact areas described in this Agreement, the New York District will treat unanticipated discoveries in a manner that is in accordance with 36 CFR Part 800.13 "Post Review Discoveries" and in the case of the discovery of human remains, treatment shall follow the "Human Remains Discovery Protocol" of the New York State Office of Parks, Recreation and Historic Preservation.

2.TERMINATION

Any signatory to this Programmatic Agreement (PA) may terminate it by providing thirty days written notice to the other parties, provided that the parties will consult during the period prior to termination by certified mail to seek agreement on amendments or other actions that would avoid termination.

3.SUNSET CLAUSE

This PA will continue in full force and effect until the construction of the Project is complete and all terms of this PA are met, unless the Project is terminated or authorization is rescinded.

Execution and implementation of this PA evidences that the New York District has satisfied its Section 106 responsibilities for all individual undertakings of the Project, and that the New York District has afforded the NYSHPO an opportunity to comment on the undertaking and its effects on historic properties.

4. 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 ACHP.

5. ANTI-DEFICIENCY ACT

All requirements set forth in this PA requiring expenditure of funds by the New York 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 New York District under the terms of this PA shall require or be interpreted to require a commitment to extend funds not appropriated for a particular purpose. If the New York District cannot perform any obligation set forth in this PA because of unavailability of funds, that obligation must be renegotiated among the New York District and the NYSHPO as necessary.

6. DISPUTE RESOLUTION

Should the NYSHPO object at any time to any actions proposed or the manner in which the terms of this PA are implemented, New York District shall consult with the NYSHPO to resolve the objection. If the New York District determines that such objection cannot be resolved, the New York District will:

a. Forward all documentation relevant to the dispute, including the New York District's proposed resolution, to the Advisory Council on Historic Preservation (ACHP). The ACHP shall provide the New York District with its advice on the resolution of the objection within 30 calendar days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the New York District shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. The New York District will then proceed according to its final decision.

b. 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 PA, and provide them and the ACHP with a copy of such written response.
c. The New York District's responsibilities to carry out all other actions subject to the terms of this PA that are not the subject of the dispute remain unchanged.

NEW YORK STATE HISTORIC PRESERVATION OFFICE

By: _____ Date: _____

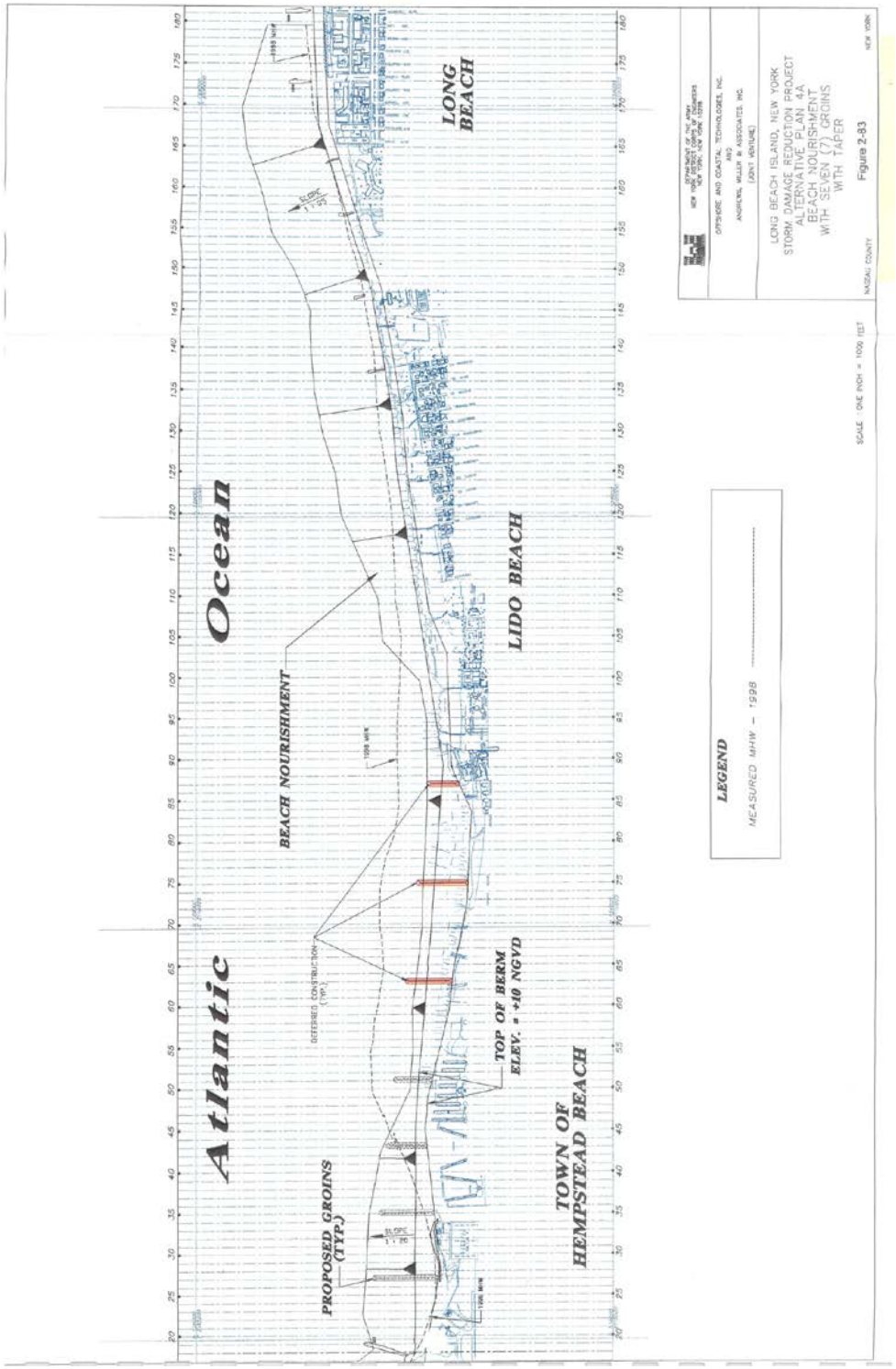
Ruth Pierpont, Deputy Commissioner and Deputy State Historic Preservation Officer

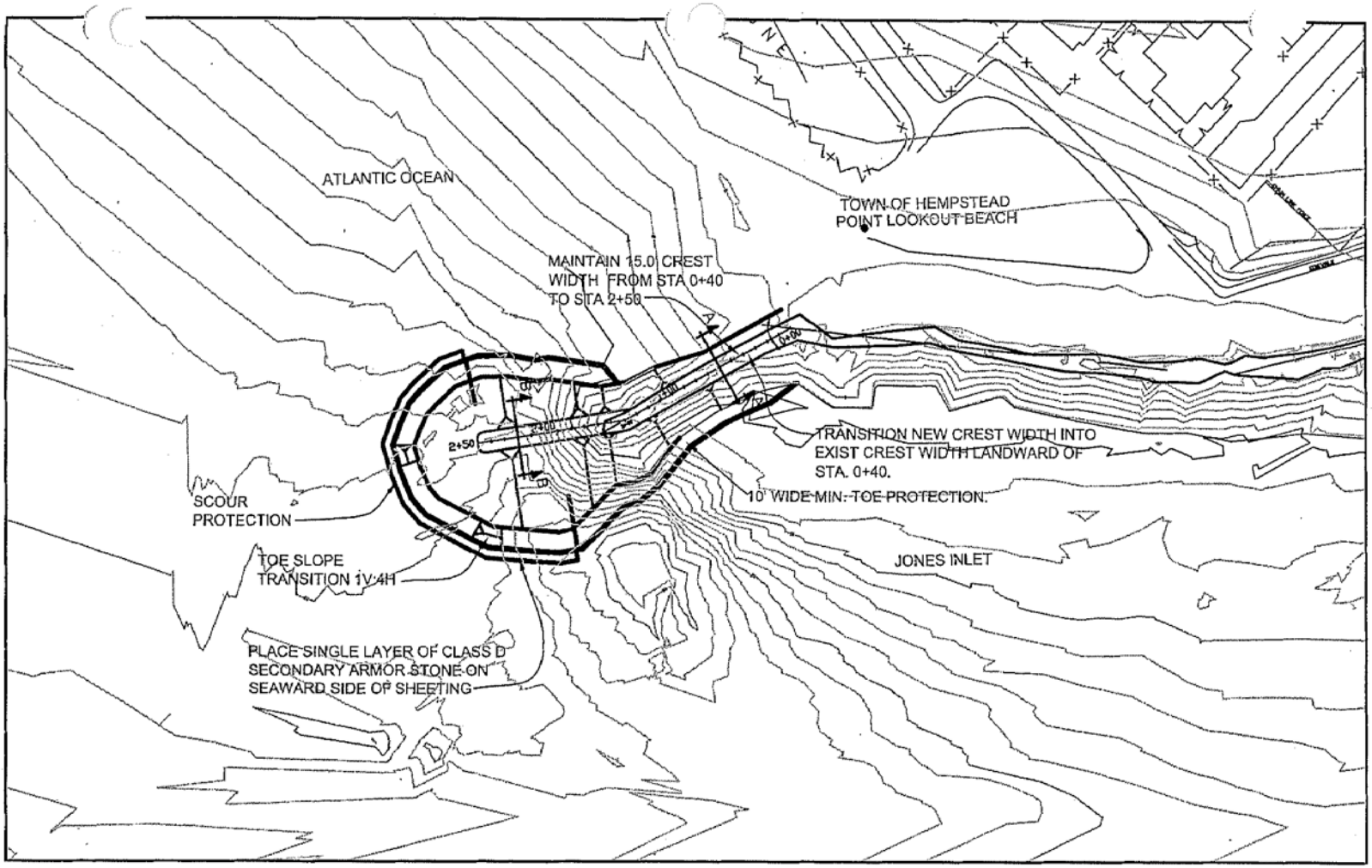
U.S. ARMY CORPS OF ENGINEERS

By: _____ Date: _____

Paul X. Owen
District Engineer, New York District

APPENDIX A – Selected Alternative





TERMINAL GROIN REHABILITATION AND EXTENSION
AT JONES INLET

SCALE: 1" = 100'

APPENDIX B - **List of Interested Parties**

Long Beach Island Storm Damage Reduction Project, Long Beach, Nassau

Long Beach Historical and Preservation Society
P.O. BOX 286
LONG BEACH, NY 11561

Nassau County Historical Society
P.O. Box 207
Garden City, NY 1150-0207

The Institute for Long Island Archaeology
Stony Brook University
Stony Brook, NY 11794

Long Island Divers Association, Inc.
P.O. Box 759
Coram, NY 11727-0759

APPENDIX C – Data Recovery Plan

Data Recovery of the Marble Wreck
An Historic Watercraft Located
In the Eastern Portion of the Long Beach Project Area
Nassau County, New York

From August 30th to September 13th, 2004, maritime archaeologists from Panamerican Consultants, Inc. of Memphis, Tennessee (Panamerican) conducted an intensive remote-sensing refinement survey and diver investigation of seven (7) targets located just offshore Long Beach Island, New York (Krivor 2004). Located during a previous survey, these specific targets are situated within the eastern portion of the Near Shore Area-Atlantic Coast of Long Island-Jones Inlet to East Rockaway Inlet-Long Beach Island-Storm Damage Reduction Project Area (Figure 1). Currently, a new groin field and jetty extension are proposed for this portion of the Storm Damage Reduction Project Area. Specifically, four (4) rubble-mounded groins will be constructed, and the jetty at the eastern end of Long Beach Island (adjacent to Jones Inlet) will be extended.

Of the seven targets within the project area, Target 50 has been identified as the remains of a sail/steam vessel likely dating to the mid-to-late 19th century. With an overall length in excess of 100 feet, and retaining its lower wooden hull and possibly a portion of its cargo in the form of large concretions, because of the presence of numerous glass marbles on the site (possibly part of the cargo), the wreck has been labeled as the Marble Wreck. Considered historically significant and able to meet (at least) Criterion D of National Register of Historic Places (NRHP) nomination eligibility criteria.

Situated immediately in line with the western Jones Inlet jetty, a review of proposed project activities indicate the wreck site is located within the Area of Potential Effect (APE) of the proposed jetty extension. Because Target 50 represents a potentially significant cultural resource and may be eligible for listing on the NRHP, if the proposed project activities will adversely impact the site, alternatives to the proposed action must be evaluated. If no alternative, which would result in no adverse impact, can be developed, mitigation of those adverse effects in the form of data recovery should be implemented. The following Data Recovery Plan has been developed in the event that mitigation is required.

As an agency of the Federal Government, the Corps has been entrusted with the protection and preservation of all cultural resources that may be adversely affected by their project activities. Therefore, they are responsible for determining if any properties within the current Lower White River Navigation Project area are eligible for listing on the NRHP, and if present, determining adverse effect, if any. If a determination of adverse impact to such a property is made, alternatives to the proposed action must be evaluated. If no alternative which would result in no adverse impact can be developed, additional activities relative to the evaluation of the resource may be required. The Federal statutes regarding these responsibilities include Section 106 of the National Historic Preservation Act of 1966, as amended; the National Environmental Policy Act of 1969; the Archaeological Resources Protection Act of 1987; the Advisory Council on Historic

Preservation Procedures for the Protection of Historic and Cultural Properties (36 CFR Part 800); and the Abandoned Shipwreck Act of 1987. If a determination of adverse impact to such a property is made, alternatives to the proposed action must be evaluated. If no alternative that would result in no adverse impact can be developed, additional activities relative to the evaluation of the resource may be required.

The Marble Wreck

Target 50 was originally located during a 1997 remote sensing survey that recorded the site as a 1,166-gamma multi-component anomaly with a duration of 300 feet (Tuttle and Mitchell 1998). Considered potentially significant this target was slated for refinement and diver investigation relative to the current project activities. After deploying a buoy near the target area, a series of refinement runs with the magnetometer were made around the target area.

After refining the target location and deploying an additional buoy on site the dive vessel anchored over the target area and a diver suited up to investigate the target. Upon reaching the ocean floor the diver's pneumo-gauge registered a depth of 21 feet. After a series of arched sweeps around the refined area the diver reported a substantial amount of exposed concretion across the seafloor. The diver proceeded to delineate the target in an effort to make a positive identification of the anomaly source. Working towards the southwest of the area of concretion the diver reported exposed wood timbers, indicating the remains of a shipwreck. The exposed timbers included floor timbers, outer-hull planking, and a possible keelson (oriented perpendicular to the floor timbers). The floor timbers are oriented approximately southeast to northwest. The diver reported that the floor timbers have been damaged by Teredo worms (*Teredo navalis*) but the buried outer-hull planking seems to be in better condition. The exposed floor timbers consist of triple floor timbers with a sided dimension approximately 8 inches each (therefore a total sided dimension of 24 inches). Distance between the exposed floor timbers was only 2 to 4 inches. This tight spacing likely indicates the exposed scantling are located near either the bow or stern of the wreck site. A pneumo-guage reading on top of these floor timbers was 21 feet. Located near the exposed floor timbers is the remains of a large concretion. A depth reading on top of the concretion registered 15 feet. The diver then located the southwest extent of the vessel which was subsequently buoyed (see Table 1).

Table 1. Coordinate Location for the Marble Wreck

Target	Northing*	Easting	Water Depth (fee	Potentially Significant	Comments
50	131079.00	2116881.37	21'	Y	Marble Wreck

*New York-Long Island State Plane NAD 27

Proceeding back along the exposed wreckage the diver reported a substantial amount of concretion indicating a large amount of ferrous metal remaining on site. One loose concretion was retrieved by the dive team for analysis onboard the dive vessel. The concretion appears to contain a round "L-shaped" iron fastener or possibly two iron objects concreted together. One

interesting feature of the concretion includes a number of visible marbles perhaps indicative of a portion of the vessel's cargo. This concretion was subsequently photographed and returned onsite. An additional feature identified during the dive included the remains of an iron box approximately 2 feet by 2 feet square. Continuing towards the northeast the diver reported loose concretion across the seafloor as well as wood framing timbers. Terminating near a tall concretion the diver located what appeared to be the northeast extent of the wreck site. This object may be a stern or stem post, as no propeller or steam machinery were observed at either end. Due to the amount of dive rig in the water and the location of the dive vessel at the time the dive team was unable to buoy this location of the wreck site. However, a visual reconnaissance of the divers bubbles and the buoyed southwest-end of the wreck suggests an overall vessel length in excess of 100 feet.

Specific Data Recovery Requirements

The proposed Data Recovery Plan will delineate the site through remote sensing and probing, and document the remains both photographically and architecturally, in an effort to adequately mitigate any adverse project effects. Professional services required include the following:

1. Archival Research
2. Development of Dive Safety Plan
3. Remote Sensing of the project site
4. Hydraulic probing
5. Site Documentation
6. Analysis of data
7. Preparation of NRHP nomination and State Site forms
8. Preparation of technical report of findings

Archival Research and Literature Review

The Contractor will perform the necessary literature and records check of pertinent sources in order to prepare a detailed history of the wreck site and a general maritime historic context for the project area, as well as a historic context for the vessel, once its temporal and cultural affiliation, and identity (if possible) is identified. Background data sources to be queried include, but will not be limited to, published and unpublished reports and documents, including books, journals, maps, theses, dissertations, manuscripts, and newspapers which have relevance to the project area and site. Documents that may aid in identifying the vessel include, enrollment/registry documents, construction plans, specification books, etc. Besides consultation of current published literature, archival research entails obtaining information from oral interviews and other historic sources, such as courthouse records (e.g., tax registers, land conveyance, articles of incorporation, insurance records), maps and newspapers, government documents (i.e., Annual Corps of Engineer Reports, Life Saving Records, Vessel Papers, Vessel Registrations/Enrollments), previous archaeological publications, and published and unpublished references (e.g., Lytle List, AWOIS and MMS Shipwreck Data files). Such research is designed specifically to acquire identity and background information on sunken watercraft and to develop contextual historic maritime overview a specific vessel. Research will include but not be limited

to research at the National Archives and the Library of Congress, Washington, D.C.; the Mariner's Museum, Newport News, Virginia; The Steamship Historical Society, Baltimore, Maryland, as well as consultation with individuals knowledgeable about maritime resources such as the South Street Seaport Museum Staff.

Development of a Dive Plan and Health and Safety Plan

A Dive Plan and Health and Safety Plan will be produced and submitted within ten (10) days of notice-to-proceed. The Plan will address all aspects of the diving investigation and fieldwork and will act as a safety plan and research strategy for both underwater and above-water work. No fieldwork will commence until District acceptance of said plans,

Throughout this investigation diving will be conducted solely with Surface Supplied Air diving systems. Safety will be a primary goal of this project, and diver safety will be given priority in all decisions and actions undertaken during diving operations. The diving operations for this project will meet all federal requirements for safe diving and will be performed in accordance with the U.S. Army Corps of Engineers "Safety and Health Requirements Manual" EM385-1-1 dated November 2003; with the U.S. Navy Diving Manual as appropriate. Diving will be restricted to the no-decompression limits. It should be stated that the contractor must carry all necessary insurance, including Longshoremen's and Harbor Workers', and Jones Act Insurance coverage, as required by law for maritime operations. Certificates of insurance will be submitted upon award of contract.

Remote Sensing Survey

The contractor shall locate and characterize the wreck site by remote sensing. The contractor shall determine the extent of the wreck site, including buried features, and create a site map. The remote sensing survey portion of this contract shall consist of an initial survey procedure consisting of running parallel lines spaced at no greater than 10 meter intervals. A sufficient number of lines shall be run to insure complete coverage of the wreck area. Additional lines will be run parallel to and perpendicular to transects to ensure adequate coverage to produce magnetic contour maps for the site.

Magnetometer, side-scan sonar, and fathometer equipment will be employed in conjunction so that positioning and data can be produced on all instruments simultaneously. Data will then be analyzed and compared for interpretation in the report. The Contractor will document the location of each resource in both State Plane (NAD 1983) and UTM coordinates.

At a minimum the equipment may include, but will not be limited to the following:

a. A boat suitable for operation in the study area and a licensed operator to pilot the vessel.

b. A positioning system with a differential receiver accuracy of 1-5 meters and the personnel needed to set up and operate the system.

c. A proton precession or cesium magnetometer with marine sensor and dual channel recorder

and a skilled operator to operate the equipment. Software and operating system capable of locating and plotting magnetic anomalies.

d. Side-scan sonar system capable of providing a hard copy print out of images, a 500kHz sensor and skilled operator.

Site Documentation

Panamerican proposes a Data Recovery program designed to address specific research questions relating to the vessel's identity, history, construction materials and techniques, as well as site integrity and dynamics. Proposed research aspects include the following:

Spatial Extent—Through the use of remote sensing tools and underwater mapping techniques, a complete site map will be produced. This will include all observed and recorded site components (i.e., engines, boilers, etc.).

Construction Methods and Materials—With regard to the hull, a complete recordation of construction materials and methods will be obtained. An understanding of construction materials and techniques will aid in a determination of the wreck's age and vessel type.

Vessel Size —Mapping of the wreck site will allow a projection of the vessel's length and beam. This data will be employed to address vessel identity.

Artifactual Material—Artifacts which will aid in the determination of a temporal and cultural affiliation of the vessel will be recovered, documented, properly conserved and curated. Recovery of additional wreck components should be discussed in detail in the subsequent “salvage plan and conservation plan” (see below).

Vessel Identity—In concert with archaeological data, archival information will be employed to pursue identification of the vessel. This information will be correlated and compared with data from other shipwreck sites and period documents on vessel construction.

Site Dynamics—Preservative and destructive forces and factors, both natural and man-made, will be observed and recorded. This will include an assessment of post wrecking impacts to the site itself, and integrity of remaining artifacts and hull components.

Documentation. Specific tools to be used by underwater archaeologists during the documentation of the sites should include but not be limited to an underwater jet and hydroprobe system, a variety of hand probes, and measuring tapes. DGPS positioning of the site boundaries (i.e., hull perimeter), and specific vessel components should be a component of the investigation.

Comprehensive documentation of general and specific dimensions, construction details, and other features encountered throughout the site, should be carried out. Detailed drawings and photographic documentation of the remains, extant components, construction methods and materials, as well as any in situ artifacts such as machinery will be a part of the documentation. Mapping will entail plan views, cross sections and profiles, and should provide detailed documentation of hull construction. Illustrations should include diagrams of architectural components and construction techniques. Photo documentation (if possible), both video and 35 mm, should record in situ components and artifacts, construction techniques and materials (visibility permitting), and methodology. In order to retrieve significant data, architectural documentation should be designed to address the following:

- Identification of vessel type, means of propulsion, period of use, and place of origin.

- Detailed descriptions of vessel construction and repair techniques, components, and materials.

- Information regarding the type of service in which the vessel may have been involved.

- Information pertaining to the reasons for the vessel's loss (i.e., sinking, abandonment), date of loss, and salvage and abandonment procedures if any.

The following list is considered to be the minimum amount of information that should be obtained during excavation.

- Plan view tied into a permanent datum. Appropriate methods of excavation control will be used to determine exact location of vessel components and artifacts (i.e. electronic distance meter or manual triangulation).

- Sectional views to record the hull shape, and additional component views as required to illustrate particular construction characteristics (i.e. machinery, chine, bulkheads, rudder configurations, etc.)

- Detailed drawings of distinctive construction features such as fasteners, timber joinery, scarphs, repairs, etc.

- Vessel lines (if possible)

- Complete scantling list.

- Wood samples of various components

- Extensive color slides and black and white photographs of the excavation in progress, the vessel and its components, and associated artifacts. All photographs shall contain an appropriate scale and direction arrow located clearly in the frame if applicable.

Cultural material collected during the field investigations shall be cleaned and accessioned by standard methods using the trinomial system. Analysis of recovered materials will be done

according to accepted current methods. Classification of recovered materials will follow established methods and terminology. Preservation of organic materials will be done when it is economically feasible. Furthermore, should human remains be discovered, work shall cease immediately in that area until the Contracting Officer/Contracting Officer's Representative (CO/COR), Corps Archaeologist, and project engineer can be contacted for immediate consultation.

Prepare Salvage and Conservation Plan:

If field investigations and research conclude that the vessel represents a unique and innovative technology, a determination shall be made if any portions of the vessel are worthy of retrieval (i.e., propeller, hull section). If a conclusion is made and retrievable components identified, a plan will be developed to guide retrieval and requisite conservation efforts. The Contractor shall determine if any portions of the vessel, such as the hull or cargo, are worthy of salvage. If such sections are identified, the sections should be clearly marked on drawings. A verbal description of the sections shall be included and justification as to why the pieces should be saved. Based on field conditions a plan should be developed to guide the salvaging and storage of such pieces. A plan should also be developed that describes the process and time needed to conserve the selected pieces and provides a range of costs associated with the conservation effort.

Data Analysis:

Conduct data analyses in order to synthesize the results of the recordation and archival research. In addition to discussions in the text of the report, the data will be presented as follows:

a. A project area base map, outlining clearly and accurately, the inspection area on the appropriate portion of the relevant USGS 7.5' topographic quad sheet, with the name of the quad sheet clearly indicated in the map title and year of issue.

b. A GIS compatable, georeferenced site map that delineates the exact location of all site components and aspects.

c. Base map(s), delineating the location of all underwater excavations conducted, and the project baseline.

d. Drawings of the vessel shall be presented at a scale appropriate to convey the required detail and information Photographs of the vessel shall include overview shots as well as close-up views of key features.

e. An exact navigational record of the location and water depth of the wreckwill be made.

Report Preparation

A Dive Safety Plan, Written Progress Reports, a Management Summary, Draft and Final Report of Investigations are required under the Scope of Work for this research.

Dive Plan and Health and Safety Plan: A Dive Plan and Health and Safety Plan will be produced and submitted within ten (10) days of notice-to-proceed. They will address all aspects of the diving investigation and fieldwork and will act as a safety plan and research strategy for both underwater and above-water work. No fieldwork will commence until District acceptance of said plans, and will begin no later than ten (10) days after acceptance.

Written progress reports shall be submitted every month and shall briefly discuss work to date and any significant findings.

Management Summary Report: A management summary report will be submitted within forty (40) days from completion of the fieldwork. Although a provisional report, it will briefly discuss field methodology, results, conclusions, and recommendations.

Draft and Final Reports: Five (5) copies of a draft report of investigations will be submitted within 90 calendar days of the issuance of the Notice to Proceed. This report will include complete sections on the background of the study, environmental and historical contexts, detailed descriptions of the methods, techniques, and results of the archival research, remote sensing survey including magnetic contour maps, and site documentation. A National Register of Historic Places Nomination form for the vessel will be included as an appendix of the report.

Forty (40) copies and one (1) camera-ready original of the final report will be submitted within 30 (30) calendar days of receipt of government review comments for the draft report. A forty five (45) day government review period is anticipated. Both the draft and final reports will conform to *American Antiquity* style, with the exceptions outlined in the Scope. The final report will be signed by the Principal Investigator. Final copies of National Register of Historic Places Nomination form will also be submitted.

REFERENCES CITED

Krivor, M.C.

2004 Management Summary, *"Phase II Underwater Inspection of Seven Targets In the Eastern Portion of the Long Beach Project, Nassau County, New York.* Submitted by Panamerican Consultants, Inc., Memphis, Tennessee to the U.S. Army Corps of Engineers, New York District under contract to Northern Ecological Associates, Inc., Presumpscott, Maine. Contract No. DACW51-01-D-0017, Delivery Order No.41

Tuttle, Michael C., and Amy M. Mitchell

1998 *Remote Sensing Survey, Near-Shore Project Area, Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet, Long Beach Island, Nassau County, New York, Storm Damage Reduction Project*. Submitted by Panamerican Consultants, Inc., Memphis, Tennessee to the U.S. Army Corps of Engineers, New York District.