APPENDIX E

- **U.S. Army Corps of Engineers Permit**
- **NOAA Consultation and Essential Fish Habitat Designation**

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING
572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620
npv@nelsonpope.com

March 6, 2017

U.S. Army Corps of Engineers
ATTN: Ronald R. Pinzon
Chief, Eastern Section
Jacob Javits Federal Building
Room 1937
26 Federal Plaza
New York, N.Y. 10278-0090

Re: Application for Coverage Under
Nationwide Permit #27
Gardiner County Park
SCTM# 0500-47000-100-1000
NP&V #16154

Dear Mr. Pinzon:

Nelson, Pope & Voorhis (NP&V)/Nelson & Pope (N&P) has been retained by Suffolk County Department of Public Works, Division of Vector Control (c/o Tom Iwanejko) to obtain the necessary permits for the improvements proposed at the above referenced site. The proposed project involves the restoration of marsh habitat and associated reduction of mosquito breeding areas through the use of integrated marsh management techniques.

The project site is bisected by an access road that extends from the parking lot located on the north side of the property south to the Great South Bay. As the access road bisects the marsh, the project site is effectively divided into two separate and unique marsh systems; Gardiner County Park East (Gardiner East) and Gardiner County Park West (Gardiner West).

Gardiner West and Gardiner East are both the sites of historic grid ditching which has contributed to the long-term degradation of the marsh system. When originally constructed, the linear ditches were arbitrarily placed and consideration was not given to the typical scour and sediment deposition processes that occurs along a naturally flowing channel. The linear ditches run perpendicular or parallel to each other and create small panels between the grid-like ditches. As a result, a significant loss in marsh habitat has occurred at this site. In addition to the marsh loss, berms have formed along the edges of the ditches contributing to the change in the tidal flow through the marsh system, and ultimately creating ideal mosquito breeding habitat. The proposed project seeks to return the marsh to a more natural system to ameliorate the impacts the marsh has experienced over time.

The project consists of five main components; removal of material from the existing berms and utilization of that material in the filling of historic grid ditching, the creation of runnels, naturalization of channels and the creation of micro-pools. The project proposes filling of approximately ±6,770 feet (FT) of existing linear mosquito ditches within Gardiner West and ±3,994 FT within Gardiner East. To fill these ditches, material from the berms located along the banks of the ditches will be utilized. Capturing material from the berms will help create a more level marsh surface that more closely

resembles natural conditions. Revegetation across the filled ditches and in the disturbed area associated with berm removal will occur naturally from existing seed stock present in the soil and through encroachment from the vegetation along the edges of the disturbance. Coir logs will be utilized to help fill the mosquito ditches, as sufficient volume to fill the ditches is not available within the berms. coir logs are biodegradable coconut fiber rolls that can be placed in the existing mosquito ditches, secured and covered with material captured from the berms. It is expected that the coir logs will slowly degrade and be replaced by sediment over time through natural sediment deposition processes that occur within the marsh system.

Narrow, shallow channels (called runnels) are proposed to connect existing pannes to the naturalized channels. This will allow the standing water to drain from pannes and prevent future standing water from occurring in the existing depressions. Once standing water is no longer present, it is anticipated that natural sediment deposition and associated revegetation of the pannes will occur in subsequent growing seasons.

The majority of the remaining ditches will be naturalized in order to achieve a function that more closely mimics natural marsh conditions. Naturalized channels will utilize the same general layout of the remaining mosquito ditches, however, they will be altered to create more meandering channels to aid in slowing the water velocity within the ditches during tide inflow and outflow. As illustrated on the Proposed Marsh Restoration Details, ditch berm soil will be moved from the berm to the inner bank of the existing ditch in select locations. This will create small curves throughout the existing ditch that mimics natural channel conditions. It is expected that scour will occur on the outside of the curve created within the ditch and sediment deposition will occur on the inside of the created curve. This will prevent sediment from gathering on top of the banks of the channel and creating new berms, which currently exacerbates marsh loss. Approximately ±2,920 LF of naturalized channel will be created through the re-alignment of ±793 FT of existing mosquito ditches within Gardiner East. Approximately ±6,671 LF of naturalized channel will be created through the re-alignment of ±2,045 FT of existing mosquito ditches within Gardiner West.

Finally, 10 micropools are proposed within Gardiner East and 22 micropools are proposed within Gardiner West. At a maximum, micropools will be 10' x 5 x 2'. Micropools are designed to create fish habitat within the marsh and will be located in areas where Suffolk County Department of Public Works, Division of Vector Control, has detected mosquito larvae. The proposed micropools will be connected to tidal flow through runnels. Fish are natural predators of mosquitos and the creation of fish habitat in these areas is expected to reduce the overall mosquito population. Furthermore, as these areas are dominated by the invasive reed *Phragmites australis,* the creation of micropools will have limited disturbance to desirable marsh vegetation.

Low ground pressure (<2 psi) machinery will be utilized during construction in order to minimize the impact to the existing healthy marsh areas. Construction access will be from the existing adjacent golf course, and all staging and equipment storage will occur in the upland area.

Enclosed please find the following required materials for your review:

1. Joint Application Form
2. Project Narrative
3. Army Corps Environmental Questionnaire

4. Copy of the Federal Consistency Assessment Form (FCAF) sent to NYSDOS and attachment for discussion of applicable State Coastal Management Policies
5. Essential Fish Habitat Assessment Worksheet
6. Location Map
7. Photographs showing existing conditions of the wetland and waterway
8. Aerial photograph with picture index
9. Proposed Marsh Restoration Plan (Gardiner East)
10. Proposed Marsh Restoration Plan (Gardiner West)

Please let me know if you will need any additional information for your review. Thank you.

Sincerely,

NELSON, POPE & VOORHIS

Hannah Emouna
Environmental Scientist

cc: Tom Iwanejko, SCDPW (Digital)
File

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

MAY 31 2018

REGULATORY BRANCH

SUBJECT: Permit Application File Number NAN-2017-00311-EHA by Suffolk County Department of Public Works for marsh restoration in Thompsons Creek tributary of Great South Bay at Bay Shore, Town of Islip, Suffolk County, New York

1. PERMITTEE:
Suffolk County Department of Public Works - Vector Control
Attn: Tom Iwanejko
335 Yaphank Avenue
Yaphank, New York 11980
631-852-4010

2. On March 8, 2017, the New York District of the U.S. Army Corps of Engineers received a request for Department of the Army authorization to fill approximately 1,695 cubic yards of mosquito ditches and restore marshes off of Thompsons Creek a tributary of Great South Bay. The proposed restoration consists of removal of material from the existing berms and utilization of that material and coir logs in the filling of historic grid ditching, the creation of runnels, and the creation of micro-pools in two areas of Gardiner's County Park known as Gardiner East and Gardiner West impacting approximately 12.2 acres. The project is located in Thompsons Creek tributary of Great South Bay and Gardiner County Park, Montauk Highway, Bay Shore, Town of Islip, Suffolk County, New York.

3. The specific applicant–provided details are as shown on the enclosed dated permit drawings, titled "Proposed Marsh Restoration...Gardiners Park Wetland (East) and (West)," dated February 14, 2018, prepared by Nelson and Pope.

4. This determination covers only the work described in the submitted material. Any major changes in the regulated work may require additional authorizations from the New York District of the U.S. Army Corps of Engineers.

5. Based on the information submitted to this office and accomplishment of any required notification in accordance with the applicable federal requirements, our review of the subject work indicates that an individual Department of the Army permit is not required. It appears that the activities within the jurisdiction of this office could be accomplished under Department of the Army Nationwide General Permit Number 27 AQUATIC HABITAT RESTORATION, ENHANCEMENT AND ESTABLISHMENT ACTIVITIES in accordance with Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344). The nationwide permits are prescribed at Reissuance of Nationwide Permits in the Federal Register dated January 6, 2017 (82 FR 1860). The subject work may be performed without further authorization from this office provided it complies with Sections A through D, Number 27 AQUATIC HABITAT RESTORATION, ENHANCEMENT AND ESTABLISHMENT ACTIVITIES; New York District regional conditions; the following

work-specific Special Conditions listed below; and any applicable regional conditions added by the State of New York.

6. Other than the work-specific Special Conditions listed below, the 2017 nationwide general permits in the State of New York, including their final regional conditions, water quality certifications, and coastal zone concurrence statements are available at:

New York Public Notice –
http://www.nan.usace.army.mil/Portals/37/docs/regulatory/publicnotices/Regional%20Gen%20Permit/PN-LRB%20NAN%20FinalRegionalConditionsWQC%20CZMforNYdated%2021-MAR-2017.pdf

If you require a specific paper copy, please contact our Regulator-of-the-Day at 917-790-8511 to request one be mailed to you. Please be sure to have the above eighteen-character file number readily available when you call.

7. Work-specific Special Conditions:

(A) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

(B) The permittee shall sign and submit the attached compliance certification form to this office within 30 days of the **COMPLETION** of the regulated activity authorized by this permit and any mitigation work required by Special Condition.

(C) The permittee shall take actions to prevent construction materials, including debris, from entering any waterway to become drift or pollution hazards.

(D) The permittee shall develop and implement a five year monitoring plan for the restored wetland. By November of each year, a copy of the annual monitoring report shall be sent to this office at U.S. Army Corps of Engineers – New York District, ATTN: Regulatory Branch, Room 1937, 26 Federal Plaza, New York, New York, 10278-0090 and to NOAA/NMFS, Habitat Conservation Division, James J. Howard Marine Science Library, ATTN: Dr. Ursula Howson, 74 Magruder Road, Highlands, NJ 07732

REGULATORY BRANCH

MAY 3 1 2018

SUBJECT: Permit Application File Number NAN-2017-00311-EHA by Suffolk County Department of Public Works for marsh restoration in Thompsons Creek tributary of Great South Bay at Bay Shore, Town of Islip, Suffolk County, New York

(E) The permittee shall ensure that if fill is imported to the site, it should be of compatible grain size and characteristics to the sediment at the site.

(F) The permittee shall use best management practice to minimize the release of suspended sediments into waterways.

8. Please note that this nationwide permit (NWP) verification is based on a preliminary jurisdictional determination (JD). A preliminary JD is not appealable. If you wish, prior to commencement of the authorized work you may request an approved JD, which may be appealed, by contacting the New York District, U.S. Army Corps of Engineers for further instruction. To assist you in this decision and address any questions you may have on the differences between preliminary and approved jurisdictional determinations, please review U.S. Army Corps of Engineers Regulatory Guidance Letter No. 16-01, which can be found at:

http://www.usace.army.mil/Portals/2/docs/civilworks/RGLS/rgl_6-01_app1-2.pdf

9. This verification is valid until March 18, 2022, unless the nationwide permit is modified, reissued, or revoked. This verification will remain valid until March 18, 2022, if the activity complies with the terms of any subsequent modifications of the nationwide permit authorization. If the nationwide permits are suspended, revoked, or modified in such a way that the activity would no longer comply with the terms and conditions of a nationwide permit, and the proposed activity has commenced, or is under contract to commence, the permittee shall have 12 months from the date of such action to complete the activity.

10. In order for us to better serve you and others, please complete our Customer Service Survey located at:

http://www.nan.usace.army.mil/Missions/Regulatory/CustomerSurvey.aspx

11. Any inquiries should be directed to Courtney McCathern at 917-790-8091. Please be sure to have the above eighteen-character file number readily available when you call.

Ronald R. Pinzon
Chief, Eastern Section

MAY 3 1 2018

REGULATORY BRANCH

SUBJECT: Permit Application File Number NAN-2017-00311-EHA by Suffolk County Department of Public Works for marsh restoration in Thompsons Creek tributary of Great South Bay at Bay Shore, Town of Islip, Suffolk County, New York

Encls
1. Dated Permit Drwgs
2. Completion Form
CF: w/o encls
NYDOS
NYSDEC **Region 1**
Hannah Emouna
Nelson, Pope & Voorhis
572 Walt Whitman Road
Melville New York 11747

NATIONWIDE GENERAL PERMIT COMPLIANCE CERTIFICATION AND REPORT FORM

Permit File Number: NAN-2017-00311-EHA
Permittee: Suffolk County Dept of Public Works - Vector Control
Location: Gardiner County Park, off of Montauk Highway, Bay Shore, Town of Islip, Suffolk County New York 11706
Date Permit Letter Issued: MAY 3 1 2018

Within 30 days of the completion of the activity authorized by this nationwide general permit and any mitigation required in the verification letter, please sign this certification and return it to the address at the bottom of this form.

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the permit's terms and conditions you are subject to permit suspension, modification or revocation.

I hereby certify that the work authorized by the above referenced nationwide general permit has been completed in accordance with the terms and conditions of said permit, and required mitigation was completed in accordance with the permit conditions.

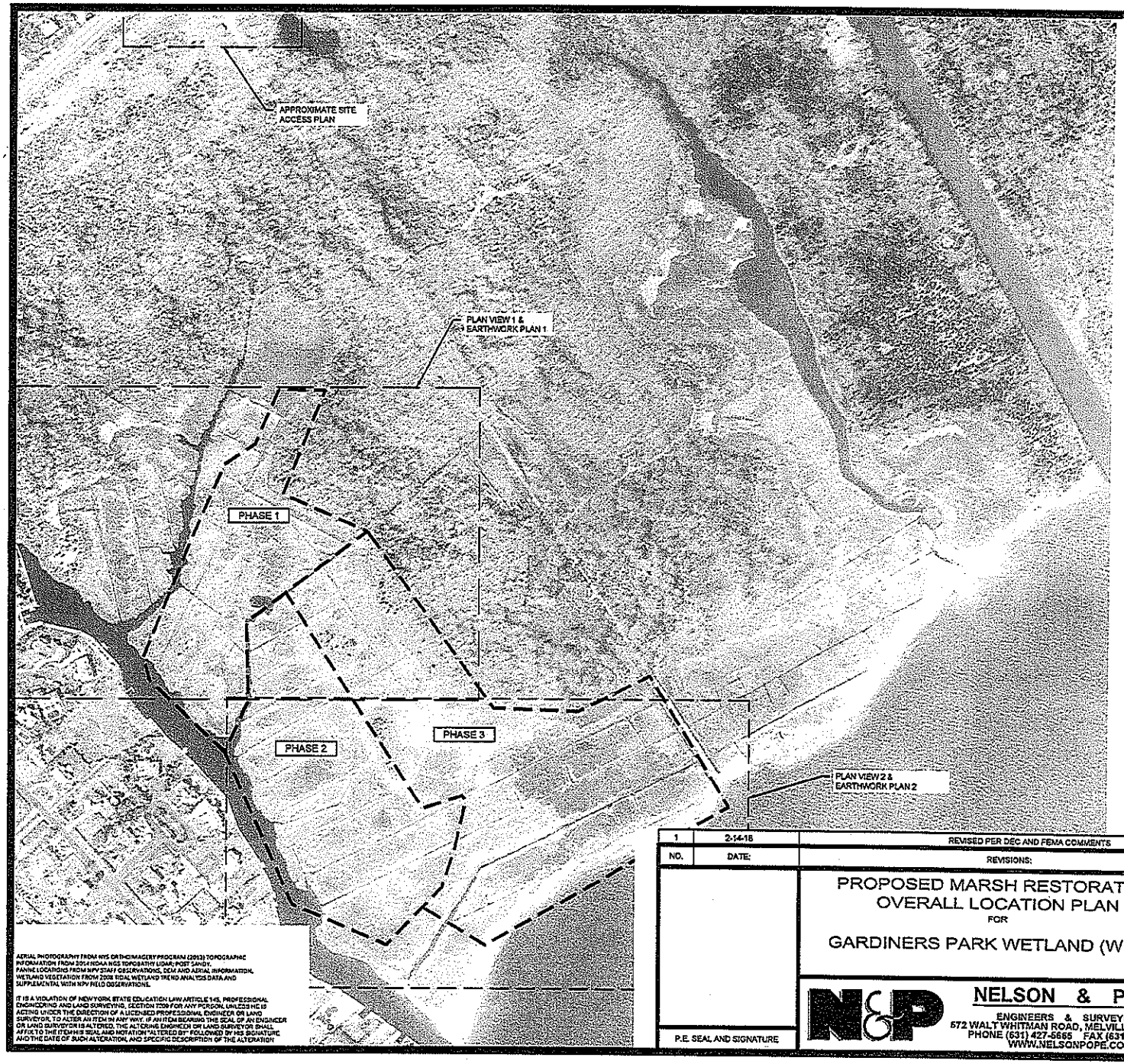
_____ _____
Signature of Permittee Date

FOLD THIS FORM INTO THIRDS, WITH THE BOTTOM THIRD FACING OUTWARD. TAPE IT TOGETHER AND MAIL TO THE ADDRESS BELOW OR FAX (212) 264-4260.

PLACE STAMP HERE

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
ATTN: CENAN-OP-RE
NEW YORK, NEW YORK 10278

NAN - 2017-00311 - EHA 1 of 17



AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NAVD 88 GEOGRAPHY LIDAR POINT SURVEY. PAVING LOCATIONS FROM NPV STAFF OBSERVATIONS, DEM AND AERIAL INFORMATION. WETLAND VEGETATION FROM 2008 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.

IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, PROFESSIONAL ENGINEERING AND LAND SURVEYING, SECTION 7209 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE, AND THE DATE OF SUCH ALTERATION, AND SPECIFIC DESCRIPTION OF THE ALTERATION

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION OVERALL LOCATION PLAN

FOR

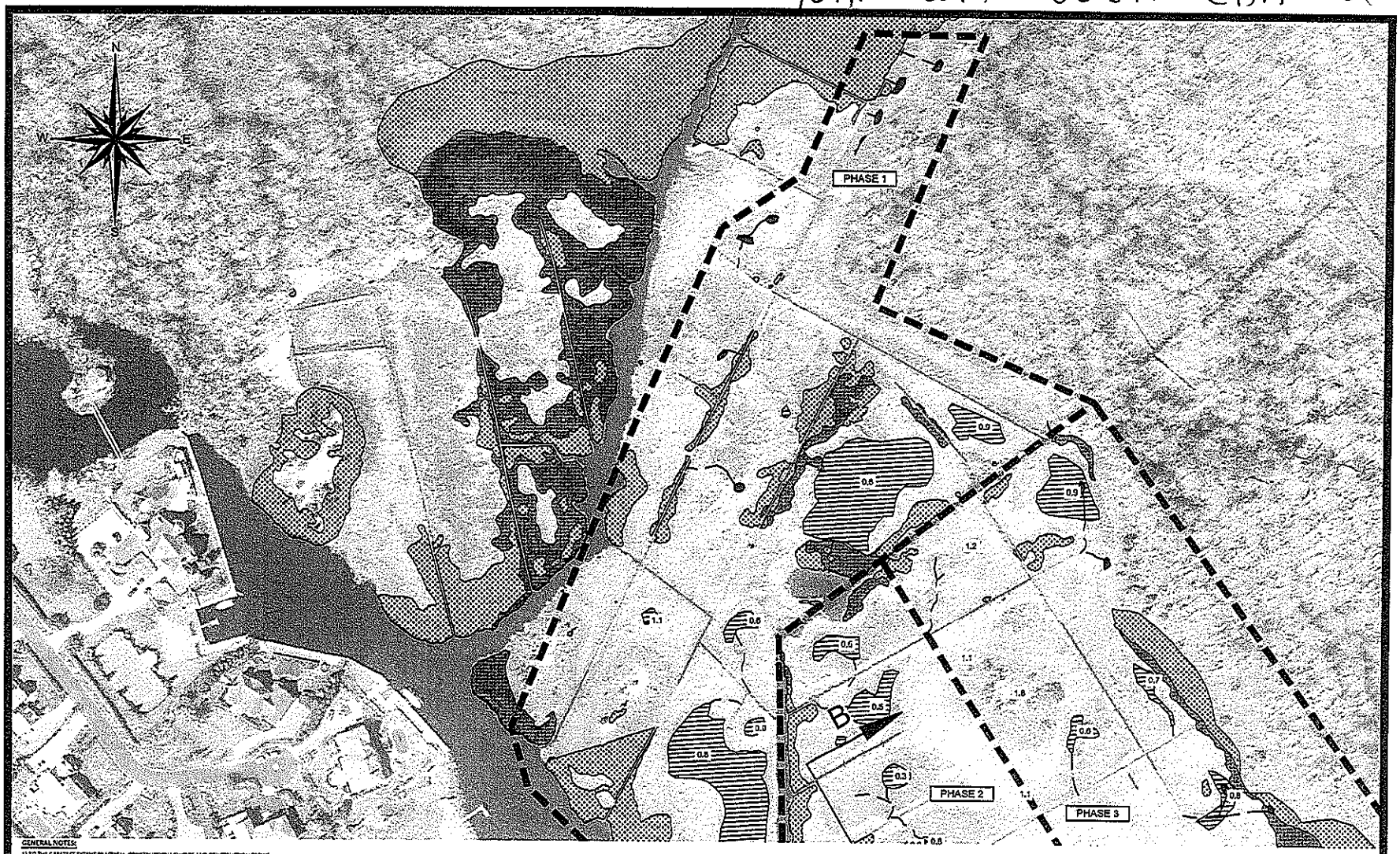
GARDINERS PARK WETLAND (WEST)

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	1" = 500'
FILE NO.:	
CADD16-GARDINERS-ACOE-WEST	
DRAWING NO.:	C-101
SHEET NO.:	1 OF 20

MAY 31 2018

NAN-2017-00311-EHA 20f 17



GENERAL NOTES:

1) TO THE GREATEST EXTENT PRACTICAL, CONSTRUCTION VEHICLES AND CONSTRUCTION CREWS WILL AVOID TRAVERSING THE SAME PATH TO REDUCE THE COMPACTION WITHIN THE MARSH

2) THE TERMINI OF ALL EXISTING DITCHES TO BE FILLED WILL BE STAKED-OUT PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

3) THE LOCATION OF RUNNELS INTENDED TO ALLOW FOR THE DRAINING OF PANNES WITHIN THE GRID CELLS IS SUBJECT TO THE DISCRETION OF THE PROJECT SUPERVISOR AS DETERMINED BY FIELD OBSERVATIONS PRIOR TO EXCAVATION.

4) IN ORDER TO LIMIT DISTURBANCE TO DESIRABLE MARSH VEGETATION, PROPOSED MICROPOOLS WILL BE LOCATED WITHIN EXISTING PANNES OR MONOCULTURES OF INVASIVE PHRAGMITES AUSTRALIS WHEREVER POSSIBLE.

5) TO ENSURE THE SAFETY OF THE PUBLIC AS WELL AS THE SAFETY OF THE CONSTRUCTION CREW, THE PROJECT SITE WILL BE "POSTED" DURING THE CONSTRUCTION PERIOD.

6) CONSTRUCTION ACCESS TO THE MARSH COMPLEX WILL OCCUR ONLY IN THE LOCATIONS IDENTIFIED ON THE "PROPOSED RESTORATION PLAN"

7) EXISTING MOSQUITO DITCHES THAT ARE NOT PROPOSED TO BE REALIGNED MAY BE CLEANED OF SEDIMENT AND DEBRIS. THIS MATERIAL WOULD BE USED AS FILL

AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NOAA/USGS TOPOBATHY LIDAR, POST SANDY. PANNE LOCATIONS FROM NPV STAFF OBSERVATIONS, GEAA AND AERIAL INFORMATION. WETLAND VEGETATION FROM 2008 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.

LEGEND

- EXISTING MOSQUITO DITCH TO BE FILLED (±9,779 FT / ±2,326 CY)
- PROPOSED RUNNEL (±3,243 LF / ±1,081 YD)
- PROPOSED MICRO POOL (22)
- EXISTING PHRAGMITES
- EXISTING IVA / LOW/PHRAG
- EXISTING MARSH PAN AREAS
- 1.0 EXISTING SPOT ELEVATION

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION PLAN VIEW 1

FOR

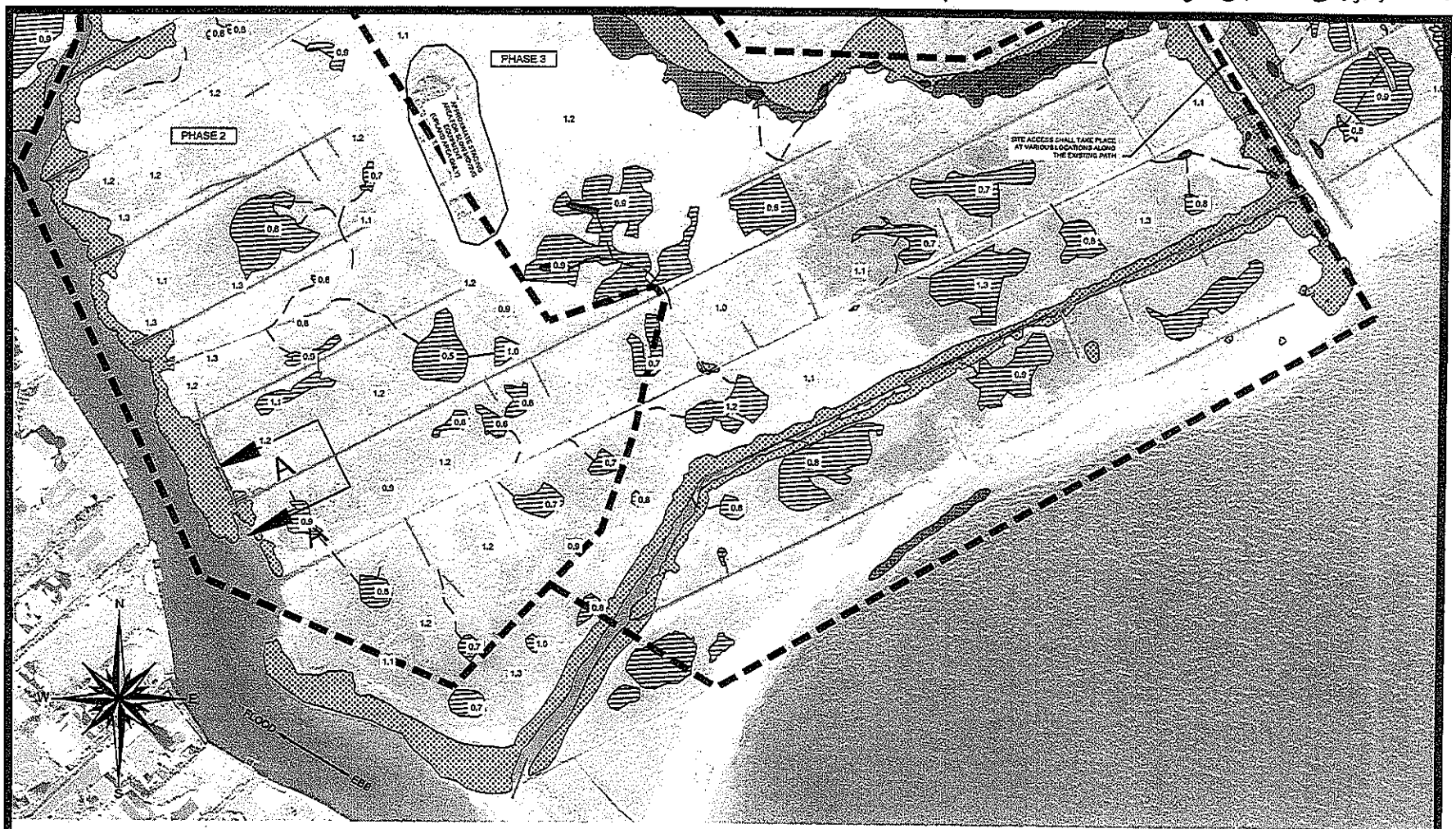
GARDINERS PARK WETLAND (WEST)

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	-
CAD#154-GARDINERS-ACOE-WEST	
DRAWING NO.:	C-102
SHEET NO.:	2 OF 20

MAY 3 1 2018

NAN-2017-00311-EHA 30f17



GENERAL NOTES:

1) TO THE GREATEST EXTENT PRACTICAL, CONSTRUCTION VEHICLES AND CONSTRUCTION CREWS WILL AVOID TRAVERSING THE SAME PATH TO REDUCE THE COMPACTION WITHIN THE MARSH
2) THE TERMINI OF ALL EXISTING DITCHES TO BE FILLED WILL BE STAKED OUT PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
3) THE LOCATION OF RUNNELS INTENDED TO ALLOW FOR THE DRAINING OF PANNES WITHIN THE GRID CELLS IS SUBJECT TO THE DISCRETION OF THE PROJECT SUPERVISOR AS DETERMINED BY FIELD OBSERVATIONS PRIOR TO CONSTRUCTION.
4) IN ORDER TO LIMIT DISTURBANCE TO DESIRABLE MARSH VEGETATION, PROPOSED MICROPOOLS WILL BE LOCATED WITHIN EXISTING PANNES OR MONOCULTURES OF INVASIVE PHRAGMITES AUSTRALIS WHEREVER POSSIBLE.
5) TO ENSURE THE SAFETY OF THE PUBLIC AS WELL AS THE SAFETY OF THE CONSTRUCTION CREW, THE PROJECT SITE WILL BE "POSTED" DURING THE CONSTRUCTION PERIOD.
6) CONSTRUCTION ACCESS TO THE MARSH COMPLEX WILL OCCUR ONLY IN THE LOCATIONS IDENTIFIED ON THE "PROPOSED RESTORATION PLAN"
7) EXISTING MOSQUITO DITCHES THAT ARE NOT PROPOSED TO BE REMAINED MAY BE CLEANED OF SEDIMENT AND DEBRIS. THIS MATERIAL WOULD BE USED AS FILL.

AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NOAA NGS TOPOBATHY LIDAR; POST SANDY. PANNE LOCATIONS FROM NPV STAFF OBSERVATIONS, DEM AND AERIAL INFORMATION. WETLAND VEGETATION FROM 2003 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.

LEGEND

- EXISTING MOSQUITO DITCH TO BE FILLED (±6,770 FT / ±2,256 CY)
- PROPOSED RUNNEL (±3,243 LF / ±1,081 YD)
- PROPOSED MICRO POOL (72)
- EXISTING PHRAGMITES
- EXISTING IVA / LOW PHRAG
- EXISTING MARSH/PAN AREAS
- 1.0 EXISTING SPOT ELEVATION

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION PLAN VIEW 2

FOR

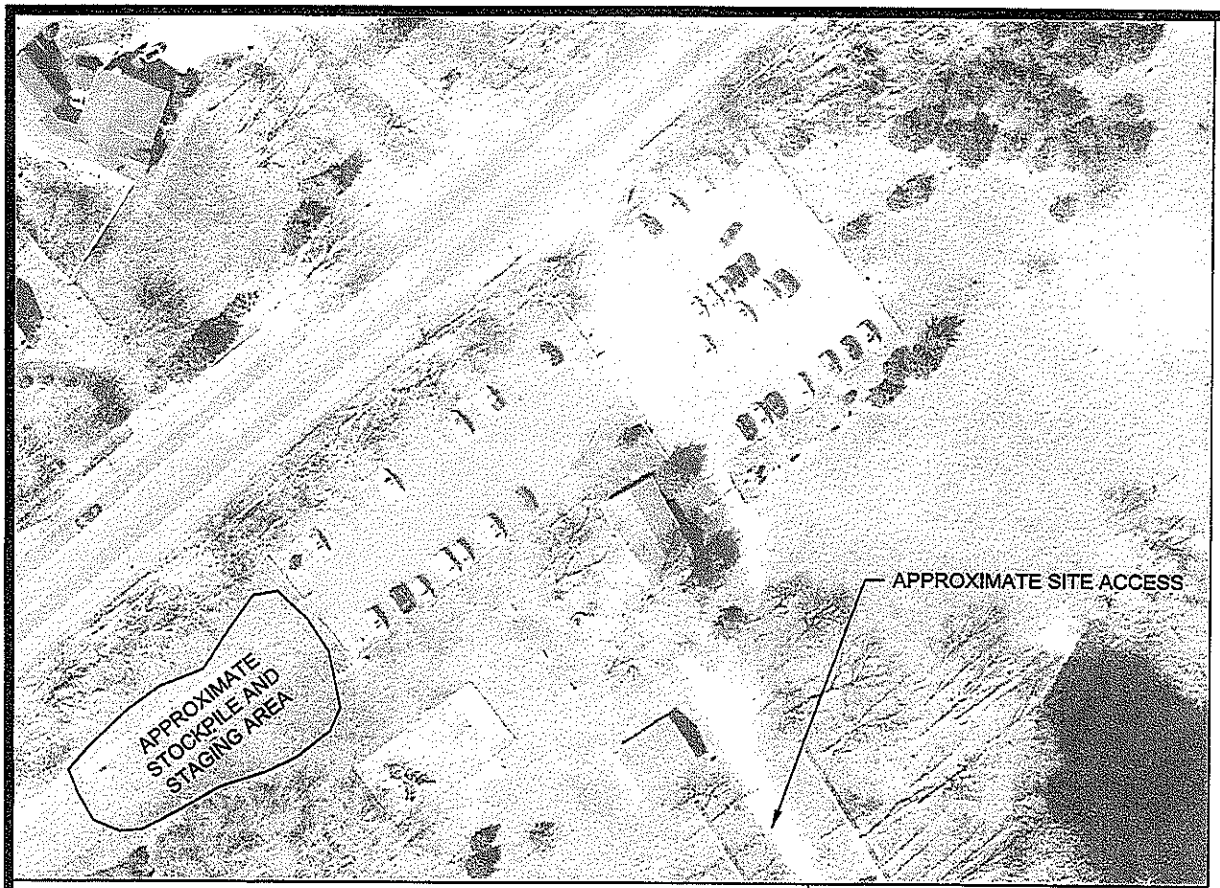
GARDINERS PARK WETLAND (WEST)

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	-
CAD#	16154-GARDINERS-ACOE-WEST
DRAWING NO.:	C-103
SHEET NO.:	3 OF 20

MAY 31 2018

NAN - 2017-00311 - CHA 4 of 17



AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NOAA NGS TOPOBATHY LIDAR; POST SANDY. PARCEL LOCATIONS FROM NPV STAFF OBSERVATIONS, DCM AND AERIAL INFORMATION. WETLAND VEGETATION FROM 2008 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION
PLAN VIEW SITE ACCESS
FOR
GARDINERS PARK WETLAND (WEST)

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
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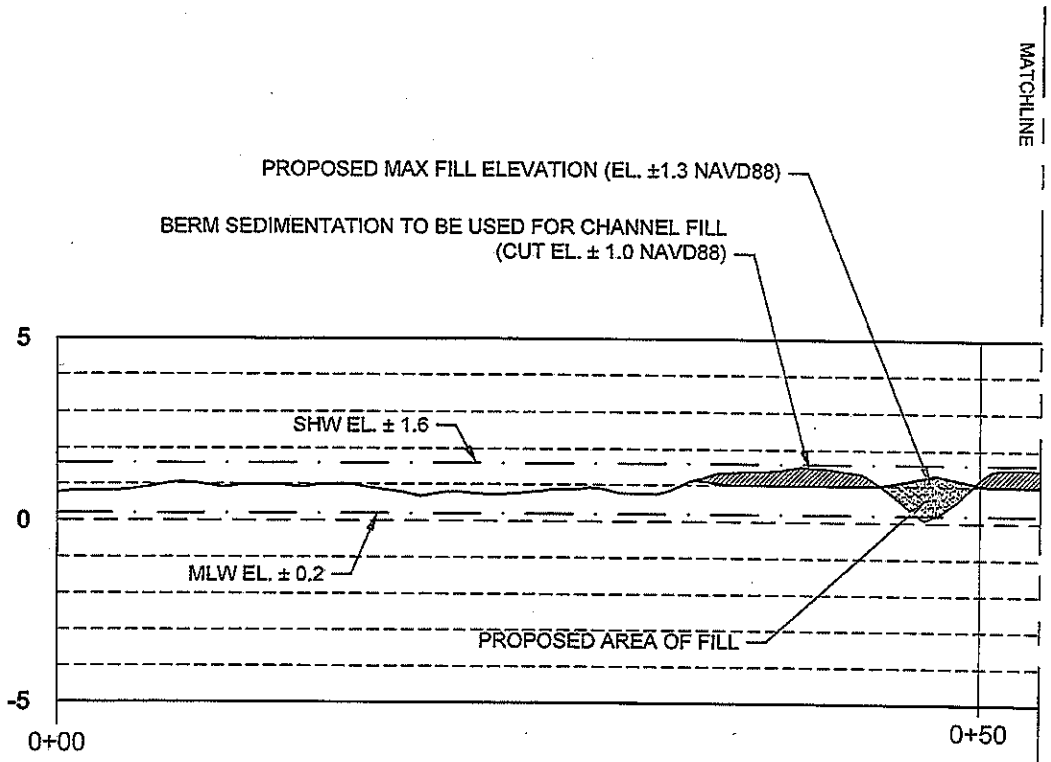
SHEET NO.:	4 OF 20

MAY 3 1 2018



SECTION 'D-D'
SCALE: 1" = 5' (VERT.)
1" = 10' (HORZ.)

LEGEND

SHW	SPRING HIGH WATER LEVEL
MLW	MEAN LOW WATER LEVEL

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

PROPOSED MARSH RESTORATION
SECTION 'D-D' 1
FOR
GARDINERS PARK WETLAND (EAST)

P.E. SEAL AND SIGNATURE

NELSON & POPE
ENGINEERS & SURVEYORS
672 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
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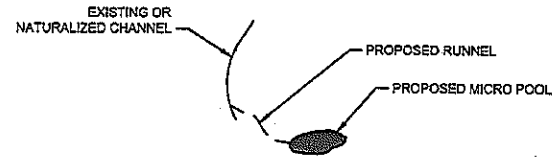
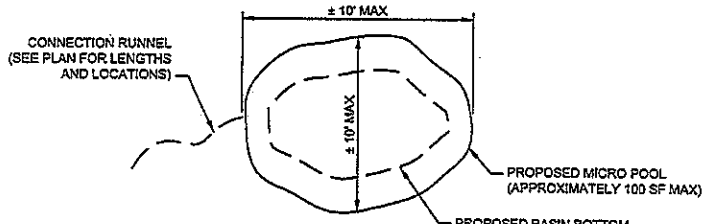
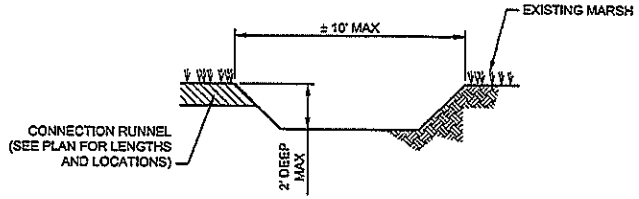
CADD:	GARDINERS-ACOE-EAST
DRAWING NO.:	C-105
SHEET NO.:	5 OF 21



MAP SYMBOL



PLAN DETAIL



SECTION DETAIL

PROPOSED MICRO POOL DETAIL

NTS

NOTE:
1. MICRO POOLS ARE CREATED TO PROVIDE FISH HABITAT FOR BIOLOGICAL MOSQUITO CONTROL.
2. LOCATIONS OF POOLS ARE TO BE WITHIN AREAS OF PHRAGMITES OR EXISTING WATER LOGGED AREAS THAT ARE DEVOID OF NATURAL VEGETATION.

NO.	DATE	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

PROPOSED MARSH RESTORATION
DETAILS 1
FOR
GARDINERS PARK WETLAND (EAST)

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	-
CADD:	GARDINERS-ACOE-EAST
DRAWING NO.:	C-501
SHEET NO.:	15 OF 21

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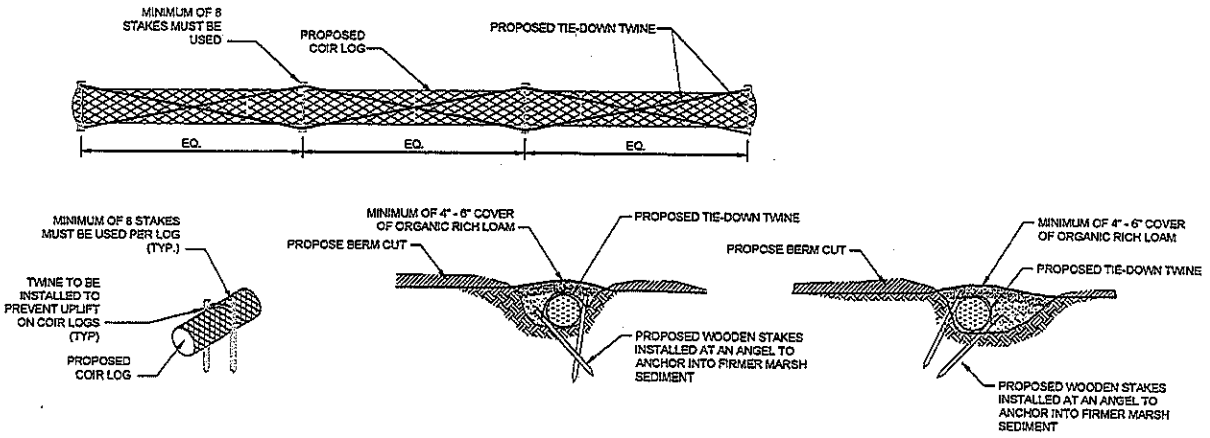
AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM USA NOAA NGS TOPOBATHY LIDAR POST SANDY. PANNE LOCATIONS FROM NPV STAFF OBSERVATIONS. DEM AND AERIAL INFORMATION. WETLAND VEGETATION FROM 2008 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.



TYPICAL COIR LOG DETAIL

N.T.S.

COIR LOG SPECIFICATIONS

COIR LOGS SHALL BE 12-INCH, 16-INCH AND 20-INCH DIAMETER CYLINDRICAL MODULES OF COCONUT

FIBER ENCASED IN A HAND-KNOTTED COIR NETTING. EACH COIR LOG SHALL BE 10 FT IN LENGTH. THE OUTER NETTING OF THE COIR LOG SHALL BE CONSTRUCTED FROM 3-PLY HIGH STRENGTH COIR TWINE OR YARN. THE NETTING SHALL HAVE 2" X 2" RHOMBIC OPENINGS WITH HAND-KNOTTED JUNCTIONS. THE INNER CORE SHALL BE 100% UNSORTED, WELL-CLEANED, COCONUT FIBER UNIFORMLY DISTRIBUTED ALONG THE LENGTH OF THE LOG. THE STUFFED DENSITY OF THE COIR FIBER SHALL BE A MINIMUM OF 8 LBS/CU.FT. COCONUT FIBER SHALL BE OBTAINED FROM FRESHWATER CURED COCONUT HUSKS.

EACH COIR LOG SHALL HAVE HIGH STRENGTH COIR ROPE LOOPS ATTACHED TO BOTH ENDS. THE COIR ROPE LOOPS SHALL BE INTEGRALLY CONNECTED TO THE ENDS OF THE COIR LOGS IN A MANNER THAT DISTRIBUTES THE LOAD UNIFORMLY ACROSS THE OUTER COIR NETTING. THE COIR ROPE SHALL BE MADE FROM THREE 2-PLY COIR YARNS BRAIDED TOGETHER.

WOOD STAKES SHALL BE 2-INCH X 2-INCH, NOMINAL SIZE WITH PENCIL POINT ON ONE END AND SQUARE CUT AT THE OTHER END. TO ENSURE MINIMUM EMBEDMENT LENGTH INTO THE GROUND, THE STAKE LENGTH SHALL BE AS FOLLOWS DEPENDING ON THE SIZE OF THE COIR LOG:

COIR LOG SIZE	MINIMUM STAKE LENGTH
12" Ø	36"
16" Ø	40"
20" Ø	48"

COIR LOG INSTALLATION

COIR LOGS SHALL BE INSTALLED IN THE AREAS AS SHOWN ON THE PLANS. INSTALLATION SHALL FOLLOW THE STEPS OUTLINED BELOW AND AS DIRECTED BY THE ENVIRONMENTAL SUPERVISOR.

1. LOGS SHALL BE PLACED AS SHOWN ON THE PLANS. IMMEDIATELY STABILIZE ROLLS WITH WOOD STAKES AND COIR TWINE ACCORDING TO THE DETAILS SHOWN ON THE PLANS.
2. PLACE WOOD STAKES ON BOTH SIDES ANGLED INWARD AS IF TO FORM AN "X" BELOW THE COIR LOG (IF POSSIBLE), ONE FOOT FROM EACH AND ONE MID LENGTH OR AT AN ANGEL TO ANCHOR INTO FIRMER MARSH SEDIMENT AS SHOWN ABOVE. SECURE AND TIE COIR TWINE TIGHTLY ACROSS EACH ROLL. THE TWINE SHOULD BE WOUND AROUND EACH STAKE AND OVER EACH ROLL SO THAT EACH TIED SECTION HAS A MINIMUM OF 4 STRANDS OF TWINE SECURING THE ROLL DOWN. ONCE THE TWINE IS TIED TIGHTLY, DRIVE STAKES TO THE FINAL DEPTH SO THAT TOP OF THE STAKE IS BELOW TOP OF THE LOGS. FOUR SETS OF STAKES WILL BE INSTALLED PER 10FOOT COIR LOG.
3. ENDS OF ADJACENT LOGS SHALL BE TIED TOGETHER WITH COIR TWINE. AT LEAST 3 PASSES WITH THE TWINE SHALL BE MADE IN THE END NETTING BETWEEN ADJACENT LOGS.
4. THE ENVIRONMENTAL SUPERVISOR MAY REQUIRE ADJUSTMENTS IN THE STAKING AND/OR TYING REQUIREMENTS TO FIT INDIVIDUAL SITE CONDITIONS.

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PROPOSED MARSH RESTORATION DETAILS 2
FOR
GARDINERS PARK WETLAND (EAST)

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	-
CADD:	GARDINERS-ACOE-EAST
DRAWING NO.:	C-502
SHEET NO.:	16 OF 21

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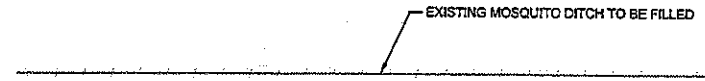
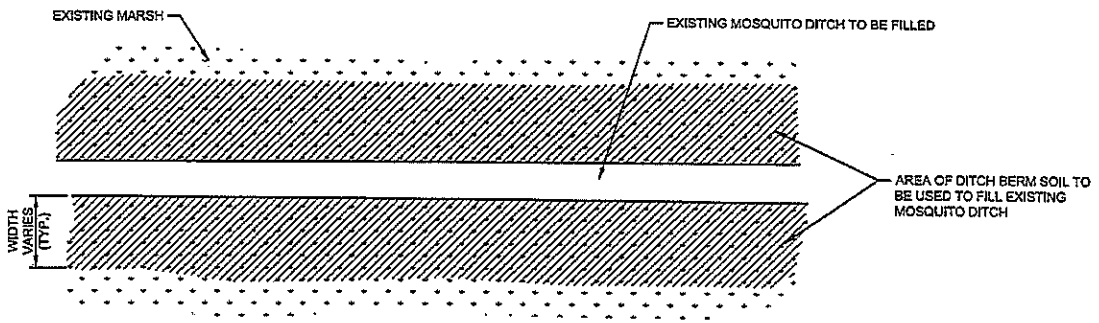
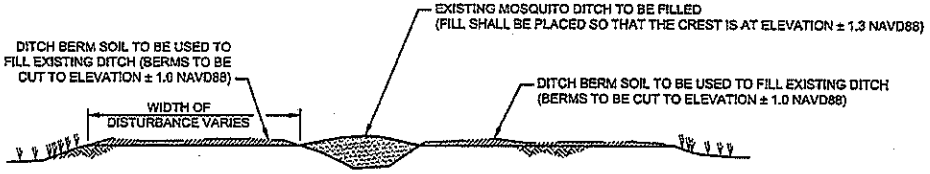


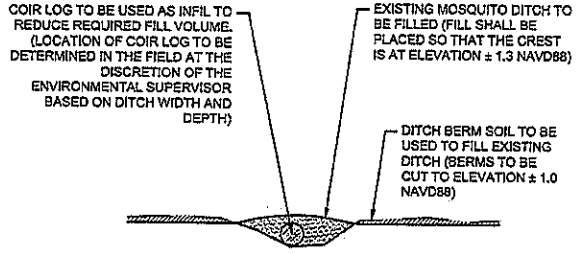
MAP SYMBOL



PLAN DETAIL



SECTION VIEW



SECTION VIEW ALTERNATE

NOTE: SEE TYPICAL COIR LOG DETAIL

PROPOSED DITCH FILL DETAIL

NTS

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

PROPOSED MARSH RESTORATION DETAILS 3

FOR

GARDINERS PARK WETLAND (EAST)

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PROJECT NO.:	16154
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DATE:	1-23-17
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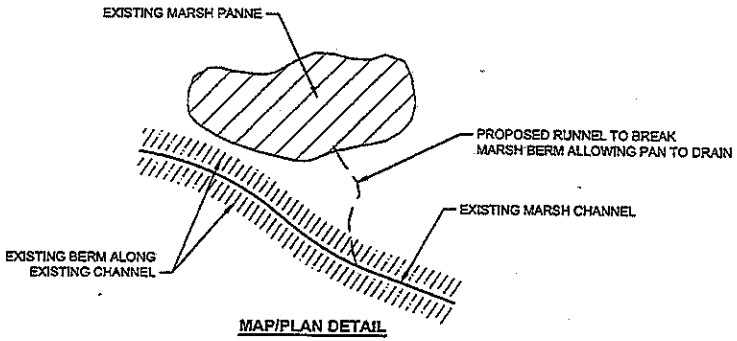
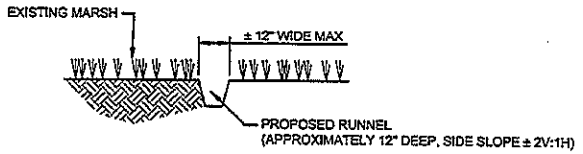
FILE NO.:	-
CADD:	GARDINERS-ACOE-EAST
DRAWING NO.:	C-503
SHEET NO.:	17 OF 21

AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NOAA NGS TOPOBATHY LIDAR/POST SANDY, PANEL LOCATIONS FROM NPV STAFF OBSERVATIONS, DEM AND AERIAL INFORMATION, WETLAND VEGETATION FROM 2003 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.



MAP/PLAN DETAIL



SECTION DETAIL

PROPOSED RUNNEL DETAIL

NTS

NOTES:
1. RUNNELS ARE PROPOSED TO BE CONSTRUCTED BOTH BY HAND AND BY MACHINE.
2. MATERIAL REMOVAL FROM RUNNEL CONSTRUCTION PERFORMED BY MACHINERY IS NEGLIGIBLE AND/OR BROADCAST IN THE AREA OF WORK, THEREFORE IT WILL NOT BE USED AS PROPOSED FILL.
3. MACHINE CONSTRUCTION RUNNEL IS A "V" SHAPED CROSS SECTION THAT MEETS THE DIMENSIONS SHOWN IN THE DETAIL.

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PROPOSED MARSH RESTORATION DETAILS 4
FOR
GARDINERS PARK WETLAND (EAST)

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CADD:	GARDINERS-ACOE-EAST
DRAWING NO.:	C-504
SHEET NO.:	18 OF 21

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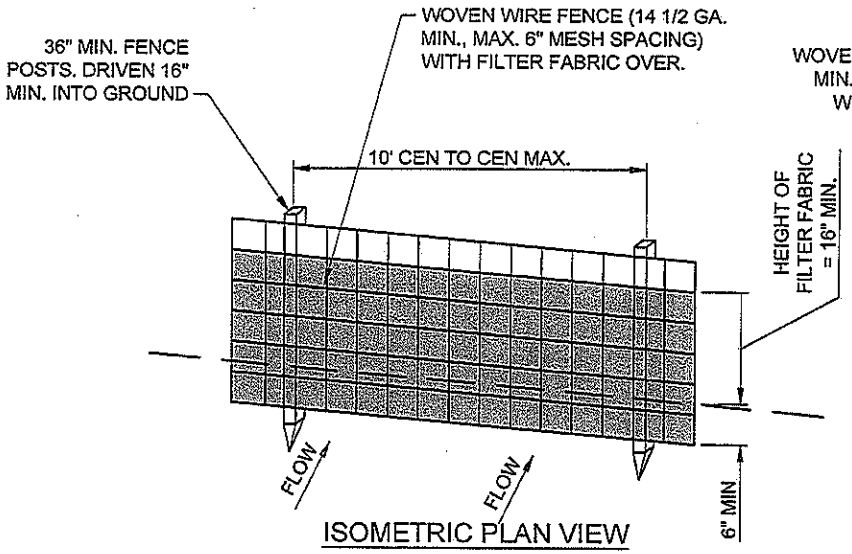
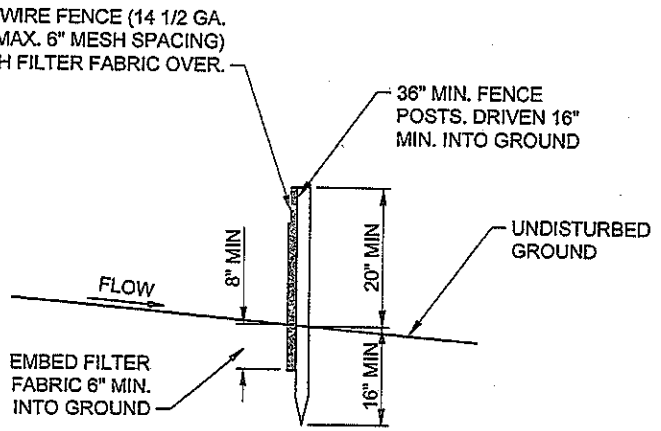


ISOMETRIC PLAN VIEW



SECTION

SILT FENCE DETAIL

NOT TO SCALE

NOTES

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
5. POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD.
6. FENCE: WOVEN WIRE, 14 1/2 GA. 6" MAX.MESH OPENING.
7. FILTER CLOTH SHALL BE A WOVEN GEOTEXTILE COMPOSED OF POLYPROPYLENE CONFORMING TO AASHTO M288.

STANDARD SYMBOL

——— SF ———

NO.	DATE:	REVISIONS:	BY:
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PROPOSED MARSH RESTORATION DETAILS 5

FOR

GARDINERS PARK WETLAND (EAST)

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DRAWING NO.:	C-505
SHEET NO.:	19 OF 21

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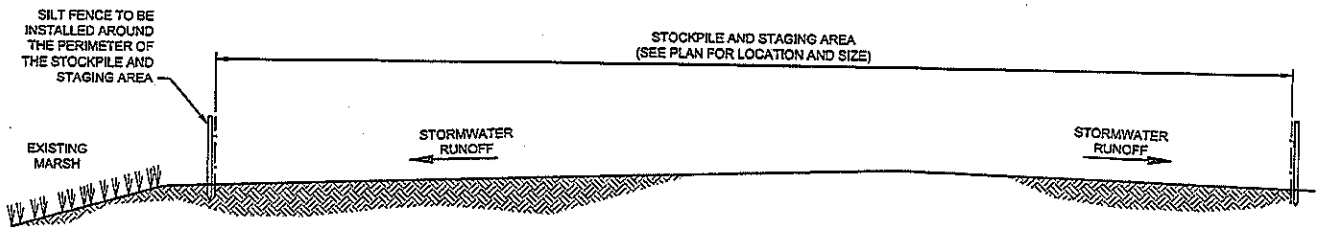

PROPOSED STAGING AND STOCKPILE AREA DETAIL

NTS

AERIAL PHOTOGRAPHY FROM NYS GITHO IMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NOAA NOS TOPOBATHY LIDAR/ POST SANDY, PANDE LOCATIONS FROM NPV STAFF OBSERVATIONS, DEM, AND AERIAL INFORMATION. WETLAND VEGETATION FROM 2008 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.

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P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION DETAILS 6
FOR
GARDINERS PARK WETLAND (EAST)

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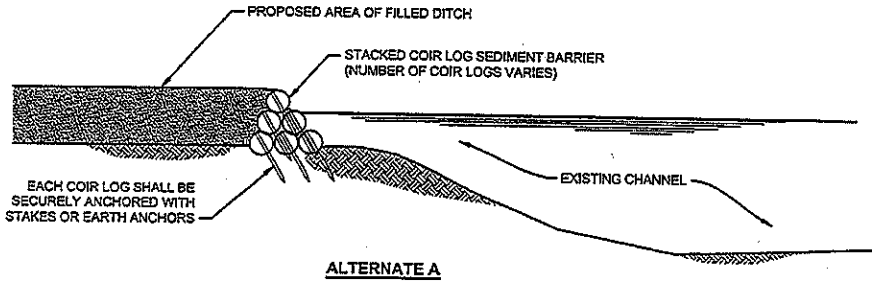
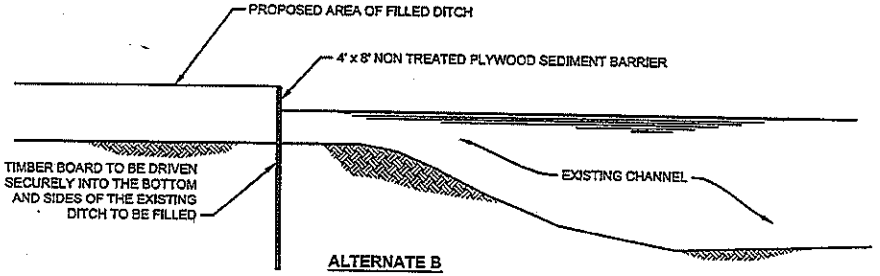
CADD:	GARDINERS-ACOE-EAST
DRAWING NO.:	C-506
SHEET NO.:	20 OF 21



ALTERNATE A



ALTERNATE B

SEDIMENT BARRIER DETAIL

NTS

NOTE: SEDIMENT BARRIER IS TO BE USED TO TERMINATE A DITCH FILLING OPERATION AND PREVENT THE LOSS OF FILL SEDIMENT.

NO.	DATE:	REVISIONS:	BY:
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P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION
DETAILS 7
FOR
GARDINERS PARK WETLAND (EAST)

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SCALE:	AS SHOWN
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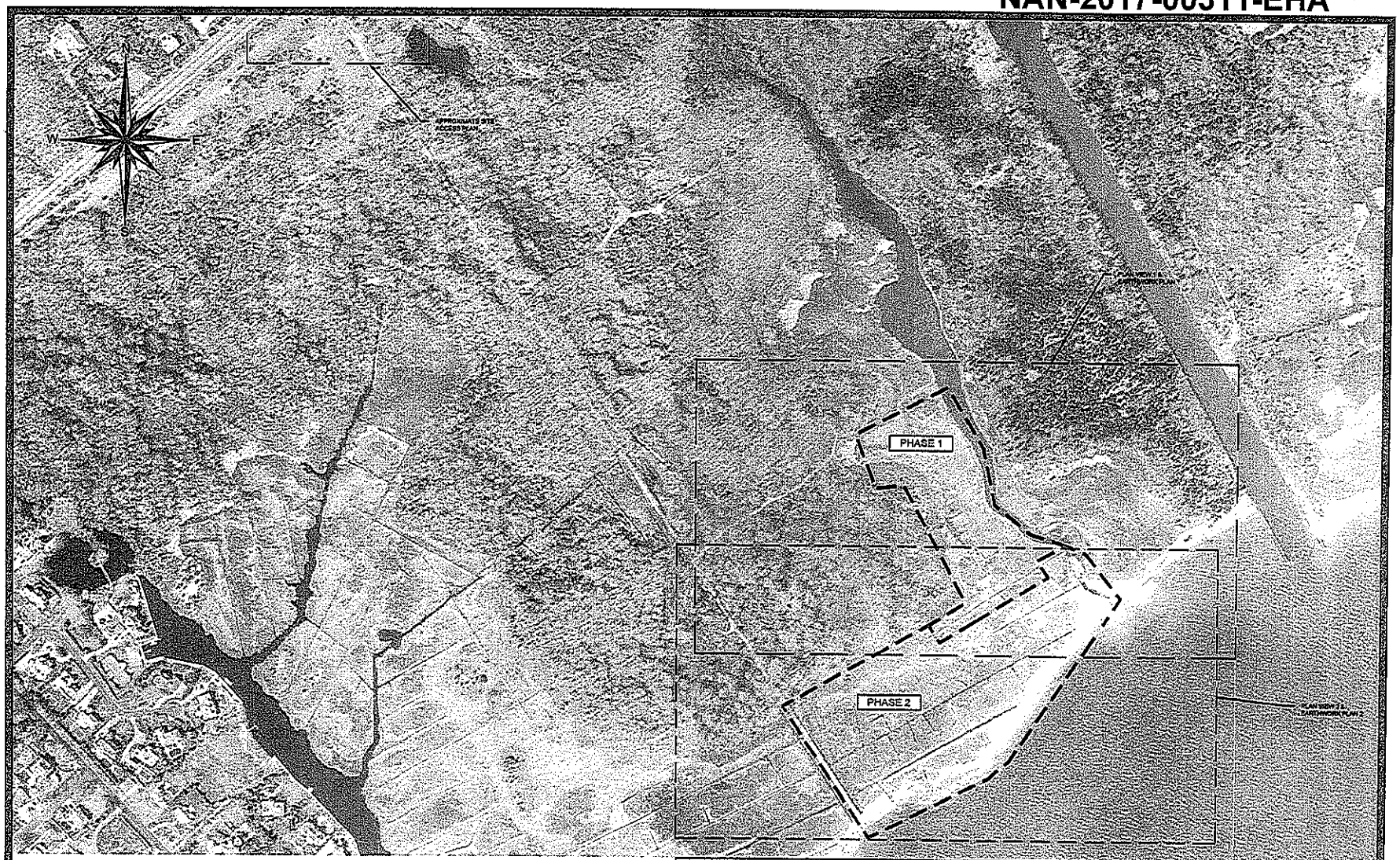
CADD:	GARDINERS-ACOE-EAST
DRAWING NO.:	C-507
SHEET NO.:	21 OF 21

AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NOAA NGS TOPOBATHY LIDAR; POST SANDY, MARINE LOCATIONS FROM NPV STAFF OBSERVATIONS, DEM AND AERIAL INFORMATION, WETLAND VEGETATION FROM 2008 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.



NO.	DATE:	REVISIONS:	BY:
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P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION OVERALL LOCATION PLAN

FOR

GARDINERS PARK WETLAND (EAST)

PROJECT NO.:	16154
DRAWN BY:	CCV
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DATE:	1-23-17
SCALE:	1" = 500'
FILE NO.:	-
CADD:	GARDINERS-ACOE-EAST
DRAWING NO.:	C-101
SHEET NO.:	1 OF 21

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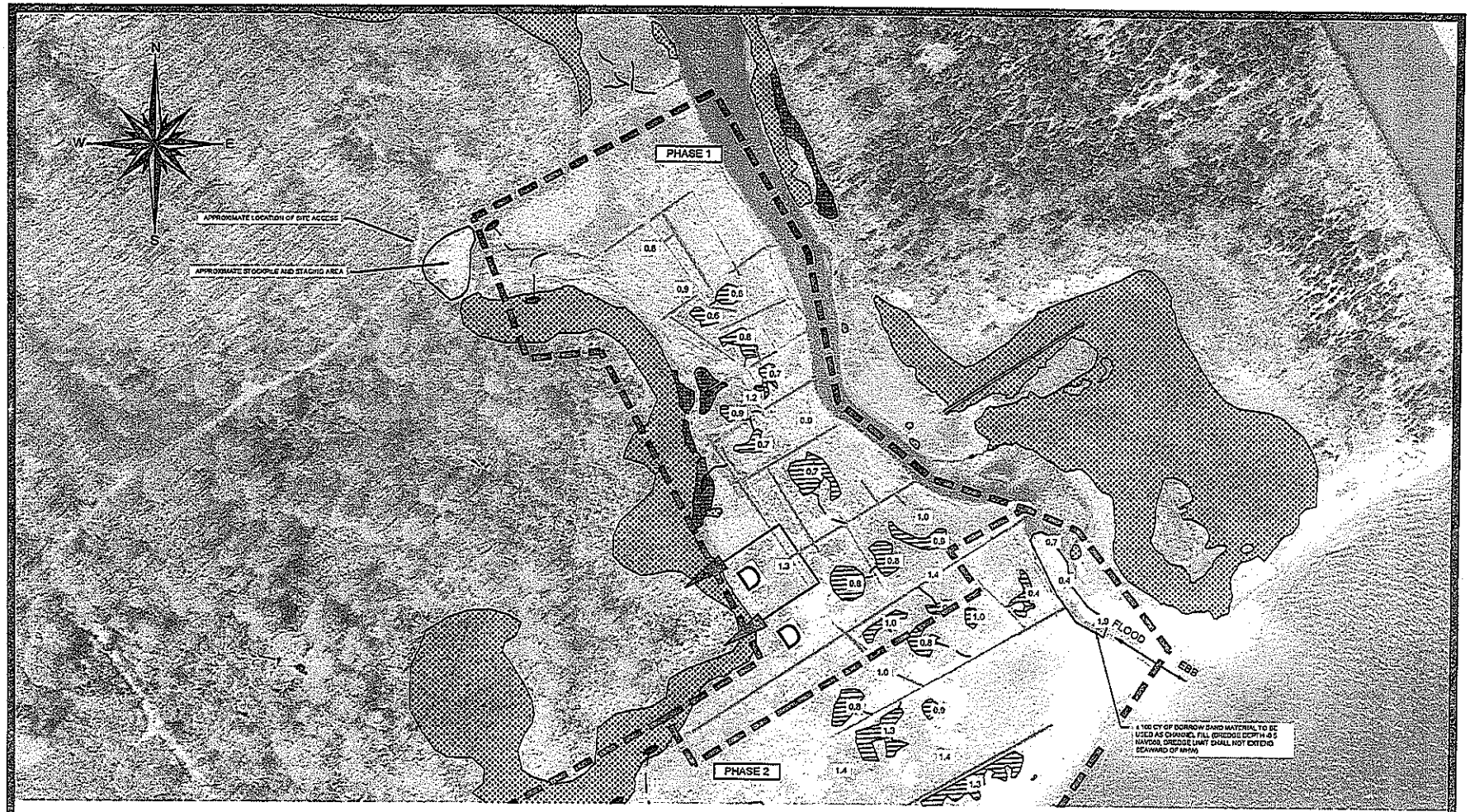
MAY 31 2018



GENERAL NOTES:

1) TO THE GREATEST EXTENT PRACTICAL, CONSTRUCTION VEHICLES AND CONSTRUCTION CREWS WILL AVOID TRAVERSING THE SAME PATH TO REDUCE THE COMPACTION WITHIN THE MARSH
2) THE TERMINI OF ALL EXISTING DITCHES TO BE FILLED WILL BE STAKED OUT PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
3) THE LOCATION OF MARKERS INTENDED TO ALLOW FOR THE DRAWING OR PAINTING WITHIN THE GRID CELLS IS SUBJECT TO THE DISCRETION OF THE PROJECT SUPERVISOR AS DETERMINED BY FIELD OBSERVATIONS PRIOR TO CONSTRUCTION.
4) IN ORDER TO LIMIT DISTURBANCE TO DESIRABLE MARSH VEGETATION, PROPOSED MICROPOOLS WILL BE LOCATED WITHIN EXISTING PANNES OR MONOCULTURES OF INVASIVE *PHRAGMITES AUSTRALIS* WHENEVER POSSIBLE.
5) TO ENSURE THE SAFETY OF THE PUBLIC AS WELL AS THE SAFETY OF THE CONSTRUCTION CREW, THE PROJECT SITE WILL BE "POSTED" DURING THE CONSTRUCTION PERIOD.
6) CONSTRUCTION ACCESS TO THE MARSH COMPLEX WILL OCCUR ONLY IN THE LOCATIONS IDENTIFIED ON THE "PROPOSED RESTORATION PLANS"
7) EXISTING MOSQUITO DITCHES THAT ARE NOT PROPOSED TO BE REFAUSHED MAY BE CLEANED OF SEDIMENT AND DEBRIS. THIS MATERIAL WOULD BE USED AS FILL.

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LEGEND

- EXISTING MOSQUITO DITCH TO BE FILLED (±3,994 FT / ±1,332 YD)
- PROPOSED RUNNEL (±1,950 LF / ±650 YD)
- PROPOSED MICRO POOL (18 POOLS)
- EXISTING PHRAGMITES
- EXISTING IVA / LOW PHRAG
- EXISTING MARSH PAN AREAS
- 1.0 EXISTING SPOT ELEVATION

NO.	DATE:	REVISIONS:	BY:
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PROPOSED MARSH RESTORATION PLAN VIEW 1

FOR

GARDINERS PARK WETLAND (EAST)

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PROJECT NO.:	16154
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SCALE:	1" = 200'
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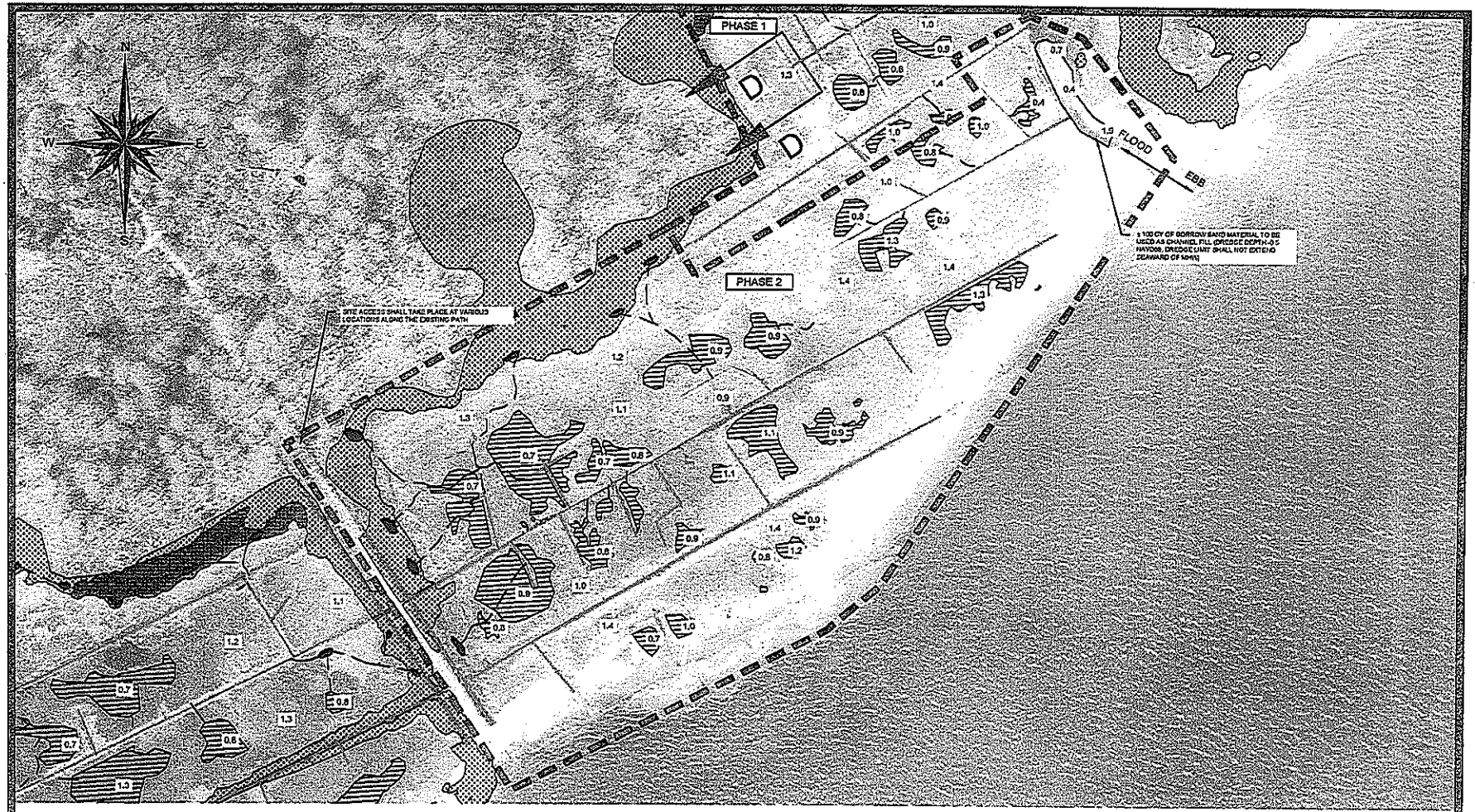
DRAWING NO.:	C-102
SHEET NO.:	2 OF 21



GENERAL NOTES:

1) TO THE GREATEST EXTENT PRACTICAL, CONSTRUCTION VEHICLES AND CONSTRUCTION CREWS WILL AVOID TRAVERSING THE SAME PATH TO REDUCE THE COMPACTION WITHIN THE MARSH
2) THE TERMINI OF ALL EXISTING DITCHES TO BE FILLED WILL BE STAKED OUT PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
3) THE LOCATION OF RUNNELS INTENDED TO ALLOW FOR THE DRAINING OF PONDS WITHIN THE GRID CELLS IS SUBJECT TO THE DISCRETION OF THE PROJECT SUPERVISOR AS DETERMINED BY FIELD OBSERVATIONS PRIOR TO CONSTRUCTION.
4) IN ORDER TO LIMIT DISTURBANCE TO DESIRABLE MARSH VEGETATION, PROPOSED MICROPOOLS WILL BE LOCATED WITHIN EXISTING PANNES OR MONOCULTURES OF INVASIVE PHRAGMITES AUSTRALIS WHENEVER POSSIBLE.
5) TO ENSURE THE SAFETY OF THE PUBLIC AS WELL AS THE SAFETY OF THE CONSTRUCTION CREW, THE PROJECT SITE WILL BE "POSTED" DURING THE CONSTRUCTION PERIOD
6) CONSTRUCTION ACCESS TO THE MARSH COMPLEX WILL OCCUR ONLY IN THE LOCATIONS IDENTIFIED ON THE "PROPOSED RESTORATION PLAN"
7) EXISTING MOSQUITO DITCHES THAT ARE NOT PROPOSED TO BE REALIGNED MAY BE CLEANED OF SEDIMENT AND DEBRIS. THIS MATERIAL WOULD BE USED AS FILL.

LEGEND

- EXISTING MOSQUITO DITCH TO BE FILLED (43,904 FT / 51,332 YD)
- PROPOSED RUNNEL (17,950 LF / 6650 TD)
- PROPOSED MICRO POOL (10 POOLS)
- EXISTING PHRAGMITES
- EXISTING IVA / LOW PHRAG.
- EXISTING MARSH PAN AREAS
- 1.0 EXISTING SPOT ELEVATION

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P.E. SEAL AND SIGNATURE

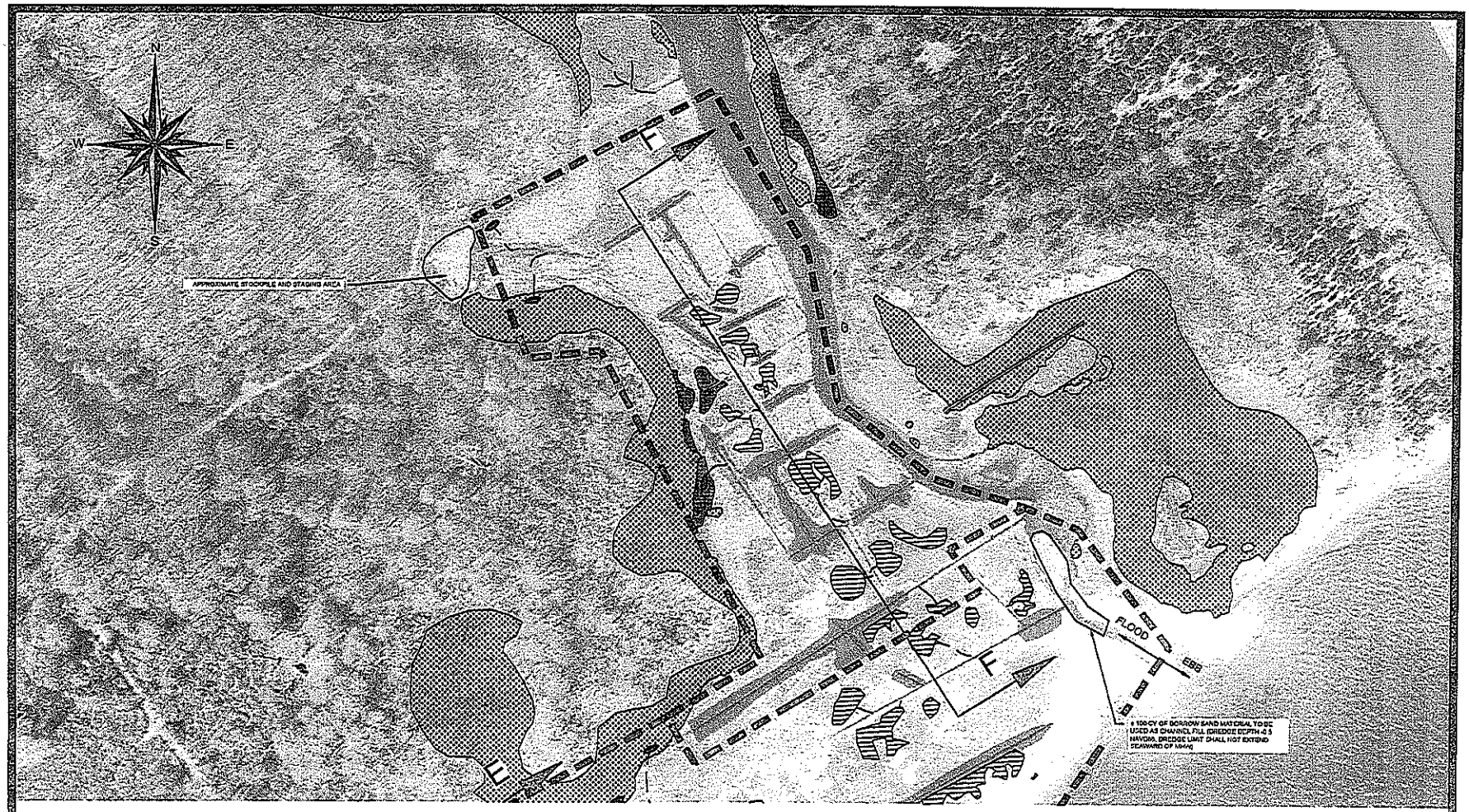
PROPOSED MARSH RESTORATION PLAN VIEW 2

FOR

GARDINERS PARK WETLAND (EAST)

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	-
CADD:	GARDINERS-ACOE-EAST
DRAWING NO.:	C-103
SHEET NO.:	3 OF 21



LEGEND

- EXISTING MOSQUITO DITCH TO BE FILLED (±3,934 FT / ±1,332 YD)
- PROPOSED RIVULET (±1550 LF / ±550 YD)
- PROPOSED MICRO POOL (10 POOLS)
- EXISTING PHRAGMITES
- EXISTING IVA / LOW PHRAG.
- EXISTING MARSH PAN AREAS
- AREA OF PROPOSED BERM CUT FOR USE AS BORROW FILL

AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2012) TOPOGRAPHIC INFORMATION FROM 2014 NOAA NGS TOPOBATHY LIDAR; POST SANDY. PANNE LOCATIONS FROM NPV STAFF OBSERVATIONS, GEM AND AERIAL INFORMATION. WETLAND VEGETATION FROM 2008 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.

IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLES 145, PROFESSIONAL ENGINEERING AND LAND SURVEYING, SECTION 7209 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND SPECIFIC DESCRIPTION OF THE ALTERATION

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION EARTHWORK PLAN VIEW 1

FOR

GARDINERS PARK WETLAND (EAST)

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
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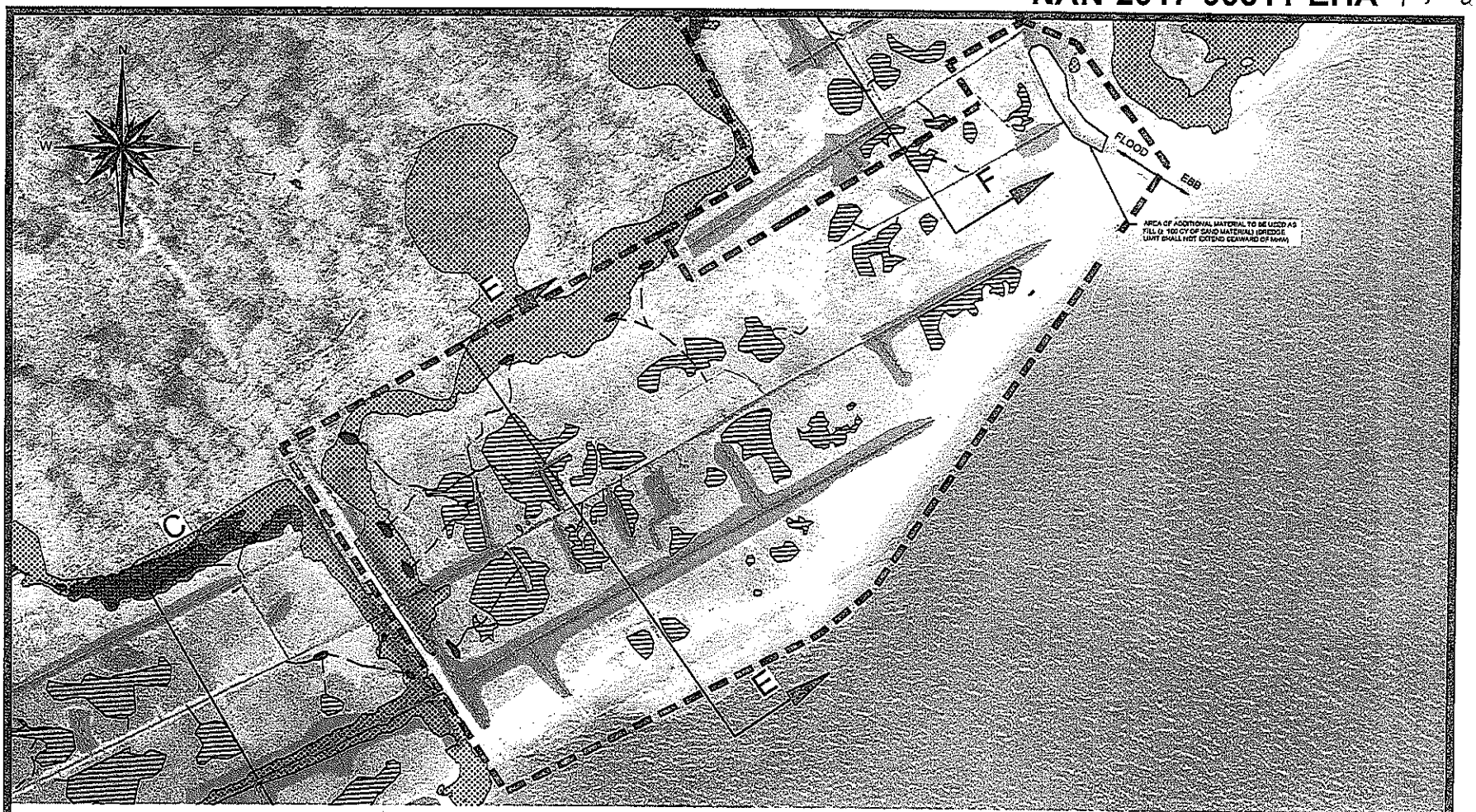
CADD:	GARDINERS-ACOE-EAST
DRAWING NO.:	C-107
SHEET NO.:	7 OF 21



LEGEND

- EXISTING MOSQUITO DITCH TO BE FILLED (±3,994 FT / ±1,332 YD)
- PROPOSED RUNNEL (±1,850 LF / ±556 YD)
- PROPOSED MICRO POOL (10 POOLS)
- EXISTING PHRAGMITES
- EXISTING IVA FLOW PHRAG
- EXISTING MARSH PAN AREAS
- AREA OF PROPOSED BERM CUT FOR USE AS BORROW FILL

AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NOAA NOS TOPOBATHY LIDAR; POST SANDY, PARCEL LOCATIONS FROM NPV STAFF OBSERVATIONS, DEM AND AERIAL INFORMATION, WETLAND VEGETATION FROM 2008 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION EARTHWORK PLAN VIEW 2

FOR

GARDINERS PARK WETLAND (EAST)

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

PROJECT NO.:	16154
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DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	-
CADD:	GARDINERS-ACOE-EAST
DRAWING NO.:	C-108
SHEET NO.:	8 OF 21

Federal Interagency Comment Form

Applicant: Suffolk County Department of Public Works

Appl. Number: NAN-2017-00311

Commenting Agency: NOAA Fisheries / Habitat Conservation Division

Project Manager: McCathern

Waterway/Location: Gardiner County Park, Bay Shore, Suffolk County, NY

Activity: Tidal marsh restoration: removal of material from the existing man-made berms and use of that material to fill approx. 6,770 lf of existing mosquito ditches within Gardiner West and 3,994 lf within Gardiner East, the creation of runnels, naturalization of channels, and the creation of micropools. Total impact is 12.2 acres (Gardiner East = 4.5 acres, Gardiner West = 7.7 acres).

ESSENTIAL FISH HABITAT (EFH)

Project may adversely affect EFH.

ESSENTIAL FISH HABITAT CONSERVATION RECOMMENDATIONS

Note: EFH CRs require a response from the federal action agency within 30 days of receipt or 10 days before a permit is issued if CRs are not included as a special condition of the permit. In addition, a distinct and further EFH consultation must be reinitiated pursuant to 50 CFR 600.920 (j) if new information becomes available, or if the project is revised in such a manner that affects the basis of the EFH determination or EFH conservation recommendations.

1. A five year monitoring plan should be developed for the restored wetland. Copies of the monitoring reports should be sent to our office.
2. If fill is imported to the site, it should be of compatible grain size and characteristics to the sediment at the site.

FISH AND WILDLIFE COORDINATION ACT CONSERVATION RECOMMENDATIONS

1. Use best management practices to minimize the release of suspended sediments into waterways.

ENDANGERED SPECIES ACT

Threatened or endangered species under the jurisdiction of NMFS may be present in the project area. The federal action agency will be responsible for determining whether the proposed action may affect listed species. If they determine that the proposed action may affect a listed species, they should submit their determination of effects, along with justification and a request for concurrence to the attention of the Section 7 Coordinator, NMFS, Greater Atlantic Regional Fisheries Office, Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930 or nmfs.gar.esa.section7@noaa.gov. Please be aware that we have recently provided on our website guidance and tools to assist action agencies with their description of the action and analysis of effects to support their determination. See http://www.greateratlantic.fisheries.noaa.gov/section7. After receiving a complete, accurate comprehensive request for consultation, in accordance to the guidance and instructions on our website, we would then be able to conduct a consultation under section 7 of the ESA. Should project plans change or new information become available that changes the basis for this determination, further coordination should be pursued. If you have any questions regarding these comments, please contact Edith Carson (978-282-8490; Edith.Carson@noaa.gov).

OTHER

1. Send NMFS a copy of the permit when issued.

SIGNATURE: Ursula Howson DATE: 11/15/17

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING
572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620
npv@nelsonpope.com

March 6, 2017

U.S. Army Corps of Engineers
ATTN: Ronald R. Pinzon
Chief, Eastern Section
Jacob Javits Federal Building
Room 1937
26 Federal Plaza
New York, N.Y. 10278-0090

Re: Application for Coverage Under
Nationwide Permit #27
Timber Point
SCTM# 0500-45100-100-2000
NP&V #16154

Dear Mr. Pinzon:

Nelson, Pope & Voorhis (NP&V)/Nelson & Pope (N&P) has been retained by Suffolk County Department of Public Works, Division of Vector Control (c/o Tom Iwanejko) to obtain the necessary permits for the improvements proposed at the above referenced site. The applicant is requesting confirmation of coverage under US Army Corps of Engineers Nationwide Permit #27. The proposed project involves the restoration of marsh habitat and associated reduction of mosquito breeding areas through the use of integrated marsh management techniques.

Timber Point is the site of historic grid ditching which has contributed to the long-term degradation of the marsh system. When originally constructed, the linear ditches were arbitrarily placed and consideration was not given to the typical scour and sediment deposition processes that occur along a naturally flowing channel. The linear ditches run perpendicular or parallel to each other and create small panels between the grid-like ditches. As a result, a significant loss in marsh habitat has occurred at this site. In addition to the marsh loss, berms have formed along the edges of the ditches contributing to the change in the tidal flow through the marsh system, ultimately creating ideal mosquito breeding habitat. The proposed project seeks to return the marsh to a more natural system to ameliorate the impacts the marsh has experienced over time.

The project consists of five main components; removal of material from the existing berms and utilization of that material in the filling of historic grid ditching, the creation of runnels, naturalization of channels and the creation of micro-pools. The project proposes filling of approximately 9,031 linear feet (FT) of existing mosquito ditches. To fill these ditches, material from the berms located along the banks of the ditches will be utilized. Capturing material from the berms will help create a more level marsh surface that more closely resembles natural conditions. Revegetation across the filled ditches and in the disturbed area associated with berm removal will occur naturally from existing seed stock present in the soil and through encroachment from the vegetation along the edges of the disturbance. Coir logs will be utilized to help fill the mosquito ditches, as sufficient volume to fill the ditches is not available within the berms. Coir logs are biodegradable coconut fiber rolls that can be placed in the

existing mosquito ditches, secured and covered with material captured from the berms. It is expected that the coir logs will slowly degrade and be replaced by sediment over time through natural sediment deposition processes that occur within the marsh system.

Narrow, shallow channels (called runnels) are proposed to connect existing pannes to the naturalized channels. This will allow the standing water to drain from pannes and prevent future standing water from occurring in the existing depressions. Once standing water is no longer present, it is anticipated that natural sediment deposition and associated revegetation of the pannes will occur in subsequent growing seasons.

The majority of the remaining ditches will be naturalized in order to achieve a function that more closely mimics natural marsh conditions. Naturalized channels will utilize the same general layout of the remaining mosquito ditches, however, they will be altered to create more meandering channels to aid in slowing the water velocity within the ditches during tide inflow and outflow. As illustrated on the Proposed Marsh Restoration Details, ditch berm soil will be moved from the berm to the inner bank of the existing ditch in select locations. This will create small curves throughout the existing ditch that mimics natural channel conditions. It is expected that scour will occur on the outside of the curve created within the ditch and sediment deposition will occur on the inside of the created curve. This will prevent sediment from gathering on top of the banks of the channel and creating new berms, which currently exacerbates marsh loss. Approximately ±4,088 LF of naturalized channel will be created through the re-alignment of ±2,200 FT of existing mosquito ditches.

Finally, 9 micropools will be created in the marsh. At a maximum, micropools will be 10' x 5 x 2'. Micropools are designed to create fish habitat within the marsh and will be located in areas where Suffolk County Department of Public Works, Division of Vector Control, has detected mosquito larvae. The proposed micropools will be connected to tidal flow through runnels. Fish are natural predators of mosquitos and the creation of fish habitat in these areas is expected to reduce the overall mosquito population. Furthermore, as these areas are dominated by the invasive reed *Phragmites australis,* the creation of micropools will have limited disturbance to desirable marsh vegetation.

Low ground pressure (<2 psi) machinery will be utilized during construction in order to minimize the impact to the existing healthy marsh areas. Construction access will be from the existing adjacent golf course, and all staging and equipment storage will occur in the upland area.

Enclosed please find the following required materials for your review:

1. Joint Application Form
2. Project Narrative
3. Army Corps Environmental Questionnaire
4. Copy of the Federal Consistency Assessment Form (FCAF) sent to NYSDOS and attachment for discussion of applicable State Coastal Management Policies
5. Essential Fish Habitat Assessment Worksheet
6. Location Map
7. Photographs showing existing conditions of the wetland and waterway
8. Aerial photograph with picture index
9. Proposed Project Plan

Please let me know if you will need any additional information for your review. Thank you.

Sincerely,

NELSON, POPE & VOORHIS

Hannah Emouna
Environmental Scientist

cc: Tom Iwanejko, SCDPW
File

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

REGULATORY BRANCH

MAY 3 1 2018

SUBJECT: Permit Application File Number NAN-2017-00313-EHA by Suffolk County Department of Public Works for marsh restoration in Connetquot River tributary of Great South Bay at Great River, Town of Islip, Suffolk County, New York

1. PERMITTEE:
Suffolk County Department of Public Works - Vector Control
Attn: Tom Iwanejko
335 Yaphank Avenue
Yaphank, New York 11980
631-852-4010

2. On March 8, 2017, the New York District of the U.S. Army Corps of Engineers received a request for Department of the Army authorization to fill approximately 1,646 cubic yards of mosquito ditches and restore marshes off of Connetquot River tributary of Great South Bay. The proposed restoration consists of removal of material from the existing berms and utilization of that material and coir logs in the filling of historic grid ditching, the creation of runnels, and the creation of micro-pools impacting approximately 15 acres. The project is located in Connetquot River tributary of Great South Bay at Timber Point Park, Great River, Town of Islip, Suffolk County, New York.

3. The specific applicant–provided details are as shown on the enclosed dated permit drawings, titled "Proposed Marsh Restoration...Timber Point Wetland," dated February 14, 2018, prepared by Nelson and Pope.

This determination covers only the work described in the submitted material. Any major changes in the regulated work may require additional authorizations from the New York District of the U.S. Army Corps of Engineers.

5. Based on the information submitted to this office and accomplishment of any required notification in accordance with the applicable federal requirements, our review of the subject work indicates that an individual Department of the Army permit is not required. It appears that the activities within the jurisdiction of this office could be accomplished under Department of the Army Nationwide General Permit Number 27 AQUATIC HABITAT RESTORATION, ENHANCEMENT AND ESTABLISHMENT ACTIVITIES in accordance with Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344). The nationwide permits are prescribed at Reissuance of Nationwide Permits in the Federal Register dated January 6, 2017 (82 FR 1860). The subject work may be performed without further authorization from this office provided it complies with Sections A through D, Number 27 AQUATIC HABITAT RESTORATION, ENHANCEMENT

REGULATORY BRANCH

SUBJECT: Permit Application File Number NAN-2017-00313-EHA by Suffolk County Department of Public Works for marsh restoration in Connetquot River tributary of Great South Bay at Great River, Town of Islip, Suffolk County, New York

AND ESTABLISHMENT ACTIVITIES; New York District regional conditions; the following work-specific Special Conditions listed below; and any applicable regional conditions added by the State of New York.

6. Other than the work-specific Special Conditions listed below, the 2017 nationwide general permits in the State of New York, including their final regional conditions, water quality certifications, and coastal zone concurrence statements are available at:

New York Public Notice –
http://www.nan.usace.army.mil/Portals/37/docs/regulatory/publicnotices/Regional%20Gen%20Permit/PN-LRB%20NAN%20FinalRegionalConditionsWQC%20CZMforNYdated%2021-MAR-2017.pdf

If you require a specific paper copy, please contact our Regulator-of-the-Day at 917-790-8511 to request one be mailed to you. Please be sure to have the above eighteen-character file number readily available when you call.

7. Work-specific Special Conditions:

(A) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

(B) The permittee shall sign and submit the attached compliance certification form to this office within 30 days of the **COMPLETION** of the regulated activity authorized by this permit and any mitigation work required by Special Condition.

(C) The permittee shall take actions to prevent construction materials, including debris, from entering any waterway to become drift or pollution hazards.

(D) The permittee shall develop and implement a five year monitoring plan for the restored wetland. By November of each year, a copy of the annual monitoring report shall be sent to this office at U.S. Army Corps of Engineers – New York District, ATTN: Regulatory Branch, Room 1937, 26 Federal Plaza, New York, New York, 10278-0090 and to NOAA/NMFS, Habitat Conservation Division, James J. Howard Marine Science Library, ATTN: Dr. Ursula Howson, 74 Magruder Road, Highlands, NJ 07732

MAY 3 1 2018

REGULATORY BRANCH

SUBJECT: Permit Application File Number NAN-2017-00313-EHA by Suffolk County Department of Public Works for marsh restoration in Connetquot River tributary of Great South Bay at Great River, Town of Islip, Suffolk County, New York

.(E) The permittee shall ensure that if fill is imported to the site, it should be of compatible grain size and characteristics to the sediment at the site.

(F) The permittee shall use best management practice to minimize the release of suspended sediments into waterways.

8. Please note that this nationwide permit (NWP) verification is based on a preliminary jurisdictional determination (JD). A preliminary JD is not appealable. If you wish, prior to commencement of the authorized work you may request an approved JD, which may be appealed, by contacting the New York District, U.S. Army Corps of Engineers for further instruction. To assist you in this decision and address any questions you may have on the differences between preliminary and approved jurisdictional determinations, please review U.S. Army Corps of Engineers Regulatory Guidance Letter No. 16-01, which can be found at:

http://www.usace.army.mil/Portals/2/docs/civilworks/RGLS/rgl_6-01_app1-2.pdf

9. This verification is valid until March 18, 2022, unless the nationwide permit is modified, reissued, or revoked. This verification will remain valid until March 18, 2022, if the activity complies with the terms of any subsequent modifications of the nationwide permit authorization. If the nationwide permits are suspended, revoked, or modified in such a way that the activity would no longer comply with the terms and conditions of a nationwide permit, and the proposed activity has commenced, or is under contract to commence, the permittee shall have 12 months from the date of such action to complete the activity.

10. In order for us to better serve you and others, please complete our Customer Service Survey located at:

http://www.nan.usace.army.mil/Missions/Regulatory/CustomerSurvey.aspx

11. Any inquiries should be directed to Courtney McCathern at 917-790-8091. Please be sure to have the above eighteen-character file number readily available when you call.

Ronald R. Pinzon
Chief, Eastern Section

MAY 3 1 2018

REGULATORY BRANCH

SUBJECT: Permit Application File Number NAN-2017-00313-EHA by Suffolk County Department of Public Works for marsh restoration in Connetquot River tributary of Great South Bay at Great River, Town of Islip, Suffolk County, New York

Encls
1. Dated Permit Drwgs
2. Completion Form
CF: w/o encls
NYDOS
NYSDEC **Region 1**
Hannah Emouna
Nelson, Pope & Voorhis
572 Walt Whitman Road
Melville New York 11747

NATIONWIDE GENERAL PERMIT COMPLIANCE CERTIFICATION AND REPORT FORM

Permit File Number: NAN-2017-00313-EHA
Permittee: Suffolk County Dept of Public Works - Vector Control
Location: Timber Point Park, south of Grandview Drive, Great River, Town of Islip, Suffolk County New York 11706
Date Permit Letter Issued: MAY 31 2018

Within 30 days of the completion of the activity authorized by this nationwide general permit and any mitigation required in the verification letter, please sign this certification and return it to the address at the bottom of this form.

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the permit's terms and conditions you are subject to permit suspension, modification or revocation.

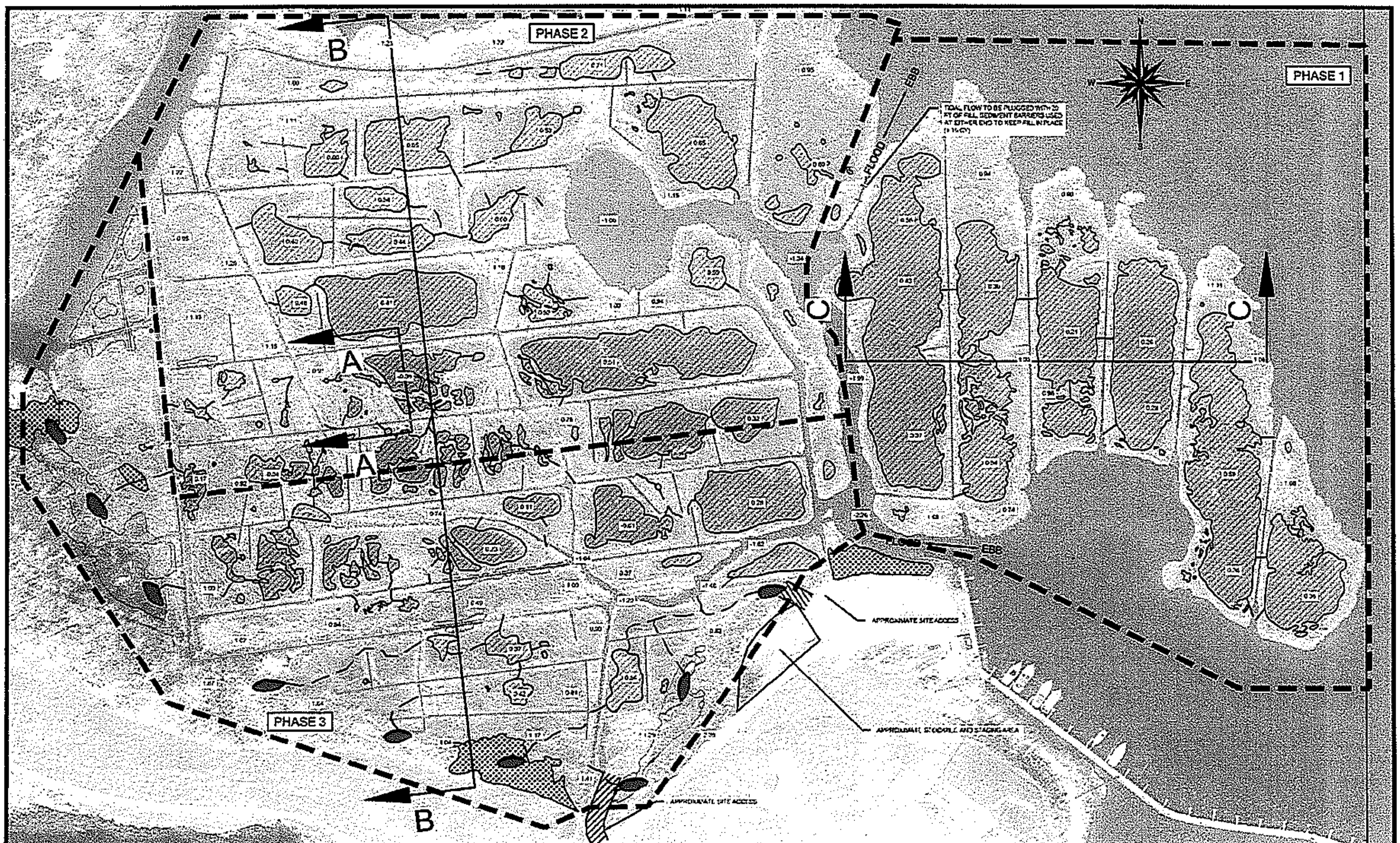
I hereby certify that the work authorized by the above referenced nationwide general permit has been completed in accordance with the terms and conditions of said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee _____ Date _____

FOLD THIS FORM INTO THIRDS, WITH THE BOTTOM THIRD FACING OUTWARD. TAPE IT TOGETHER AND MAIL TO THE ADDRESS BELOW OR FAX (212) 264-4260.

PLACE STAMP HERE

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
ATTN: CENAN-OP-RE
NEW YORK, NEW YORK 10278



GENERAL NOTES:

1) TO THE GREATEST EXTENT PRACTICAL, CONSTRUCTION VEHICLES AND CONSTRUCTION CREWS WILL AVOID ... PATH TO REDUCE THE COMPACTION ... MARSH.

2) ... [illegible]

3) ... [illegible]

4) ... [illegible]

5) ... [illegible]

6) CONSTRUCTION ACCESS TO THE MARSH ... [illegible]

7) ... [illegible]

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- PROPOSED RUNNEL
- PROPOSED MICRO POOL
- EXISTING PHRAGMITES
- EXISTING MARSH PANNE AREAS
- EXISTING SPOT ELEVATION

NO.	DATE:	REVISIONS:	BY:
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P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION
PLAN VIEW
FOR
TIMBER POINT WETLAND

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
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SHEET NO.:	1 OF 17

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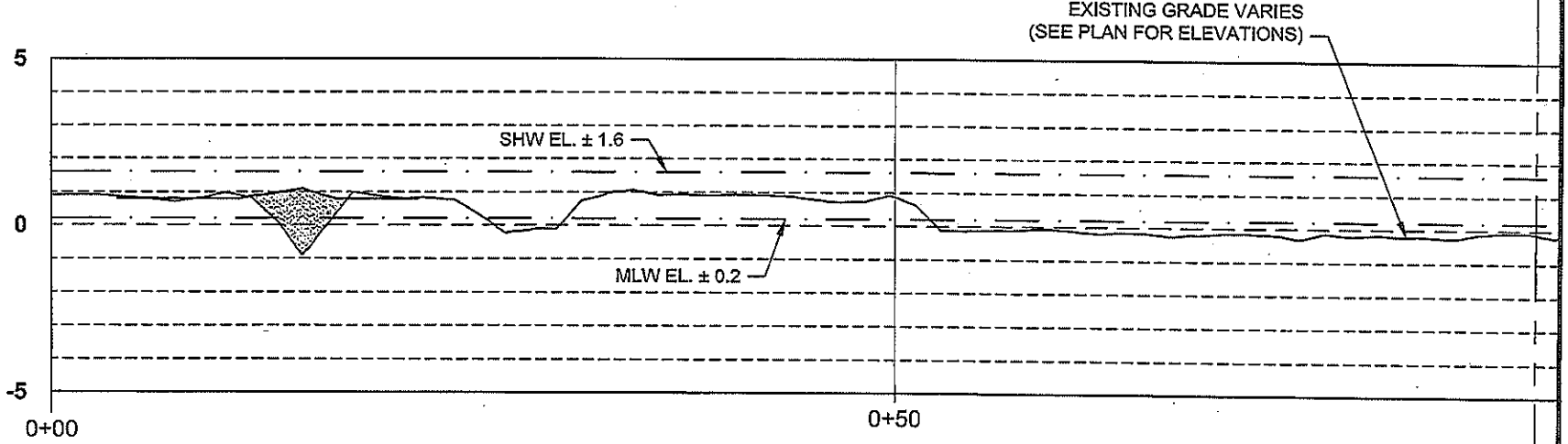
MAY 31 2018



SECTION 'A-A'
SCALE: 1" = 5' (VERT.)
1" = 10' (HORIZ.)

LEGEND

SHW	SPRING HIGH WATER LEVEL
MLW	MEAN LOW WATER LEVEL

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PROPOSED MARSH RESTORATION
SECTION A1
FOR
TIMBER POINT WETLAND

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
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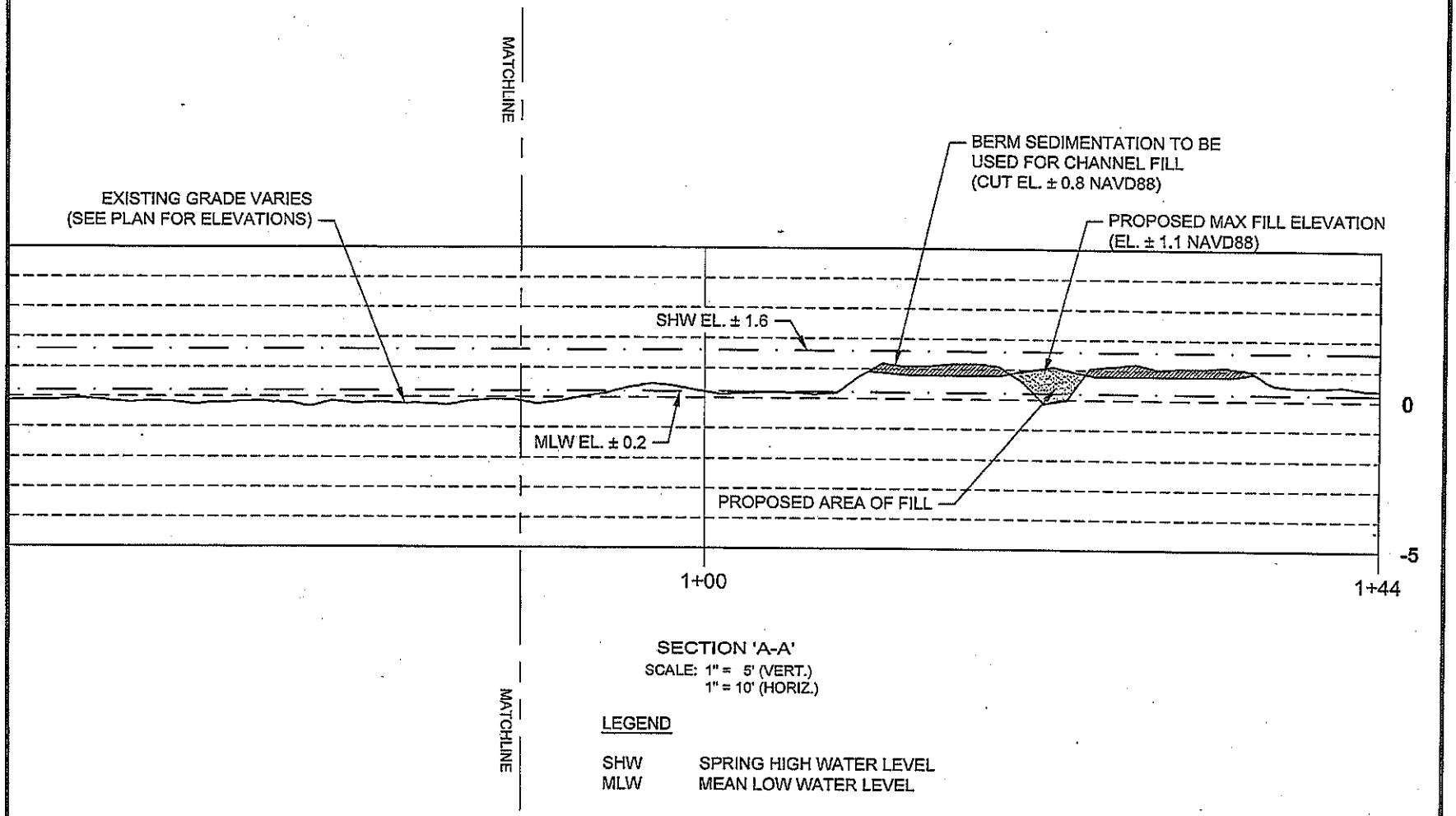
CADD:	16154-TIMBER-AC0E
DRAWING NO.:	C-102
SHEET NO.:	2 OF 17

MAY 31 2018



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LEGEND

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PROPOSED MARSH RESTORATION
SECTION A2
FOR
TIMBER POINT WETLAND

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
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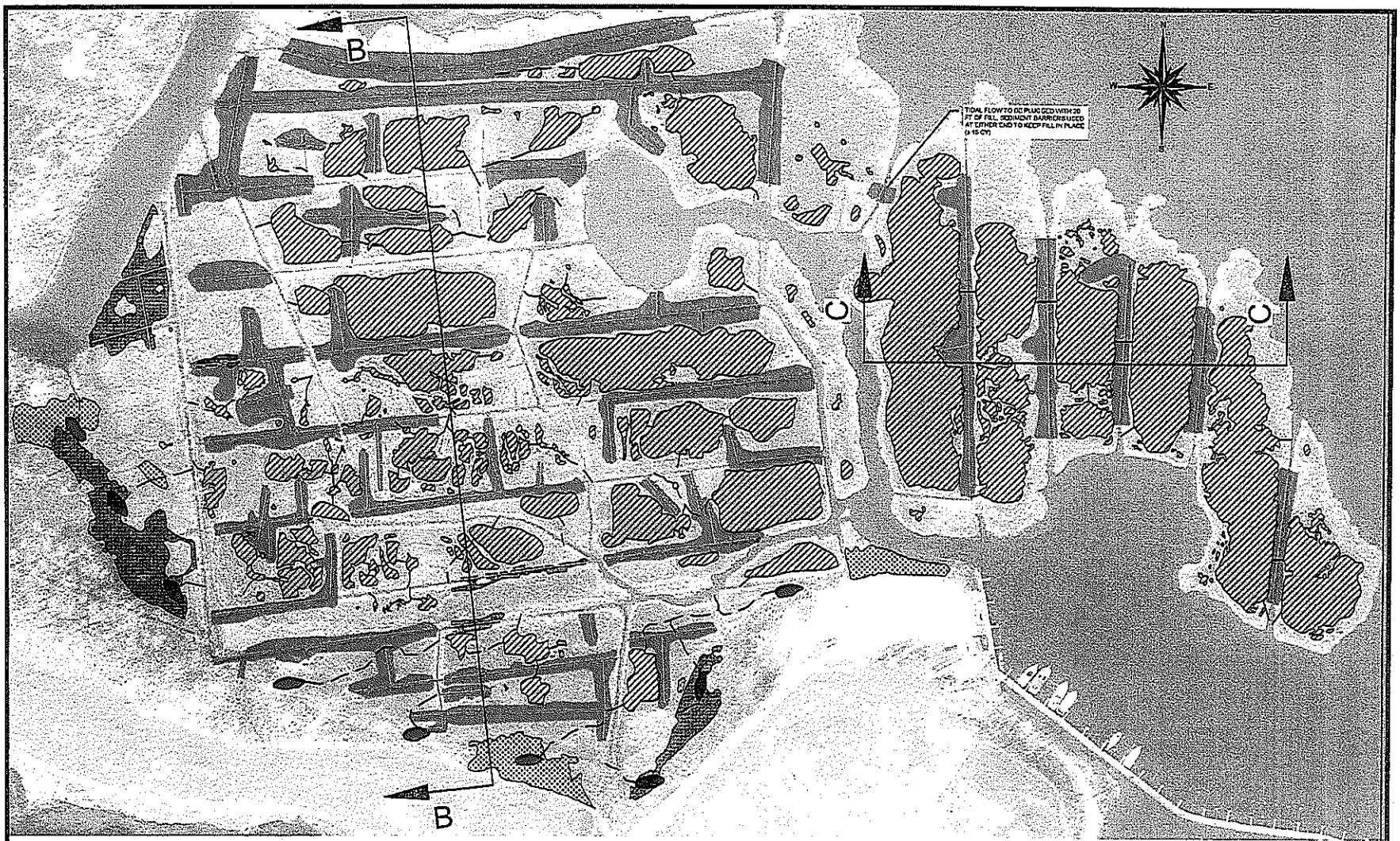
PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LV / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	-
CADD:	16154-TIMBER-ACOE
DRAWING NO.:	C-103
SHEET NO.:	3 OF 17



LEGEND

- EXISTING MOSQUITO DITCH TO BE FILLED (±8,031 FT / ±3,010 YD)
- PROPOSED RUNNEL (±3,335 LF / ±1,111 YD)
- PROPOSED MICRO POOL (9 POOLS)
- EXISTING PHRAGMITES
- EXISTING IVA / LOW PHRAG
- EXISTING MARSH PAN AREAS
- AREA OF PROPOSED BERM CUT FOR USE AS BORROW FILL

AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NOAA AND TOPOBATHYLIDAR; POST SANDY FIXING LOCATIONS FROM NPV STAFF OBSERVATIONS, DEM AND AERIAL INFORMATION, WETLAND VEGETATION FROM 2008 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION EARTHWORK ANALYSIS

FOR

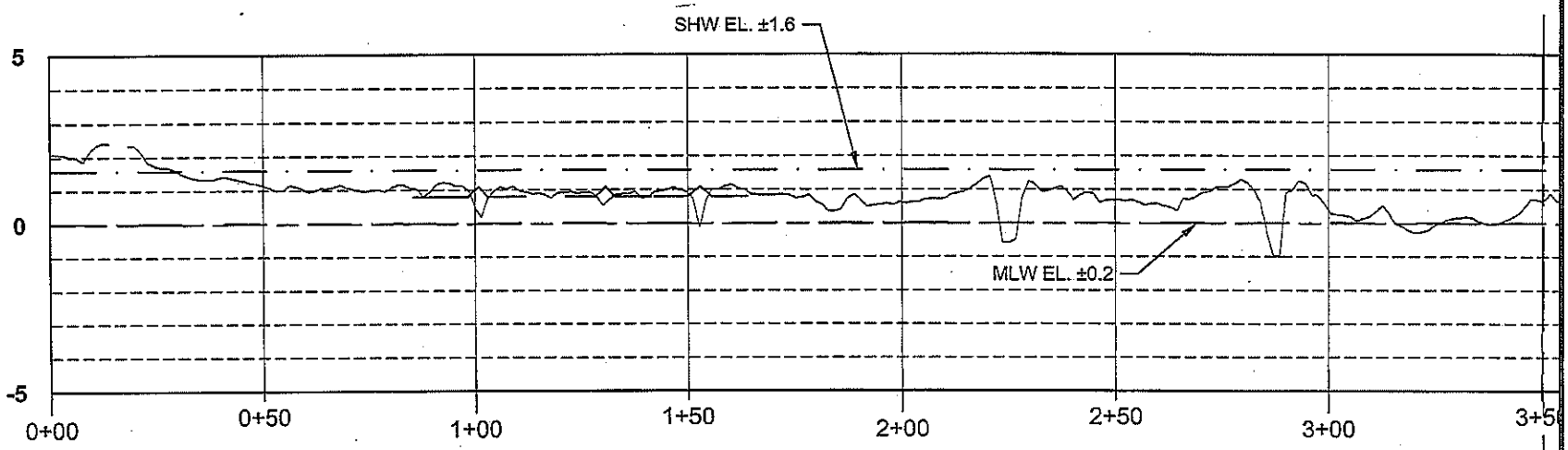
TIMBER POINT WETLAND

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-6665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	-
CADD:	16154-TIMBER-ACOE
DRAWING NO.:	C-104
SHEET NO.:	4 OF 17

MAY 31 2018

MATCHLINE



MATCHLINE

SECTION 'B-B'
SCALE: 1" = 5' (VERT.)
1" = 40' (HORIZ.)

LEGEND

SHW	SPRING HIGH WATER LEVEL
MLW	MEAN LOW WATER LEVEL

NO.	DATE	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

PROPOSED MARSH RESTORATION
SECTION B1
FOR
TIMBER POINT WETLAND

P.E. SEAL AND SIGNATURE

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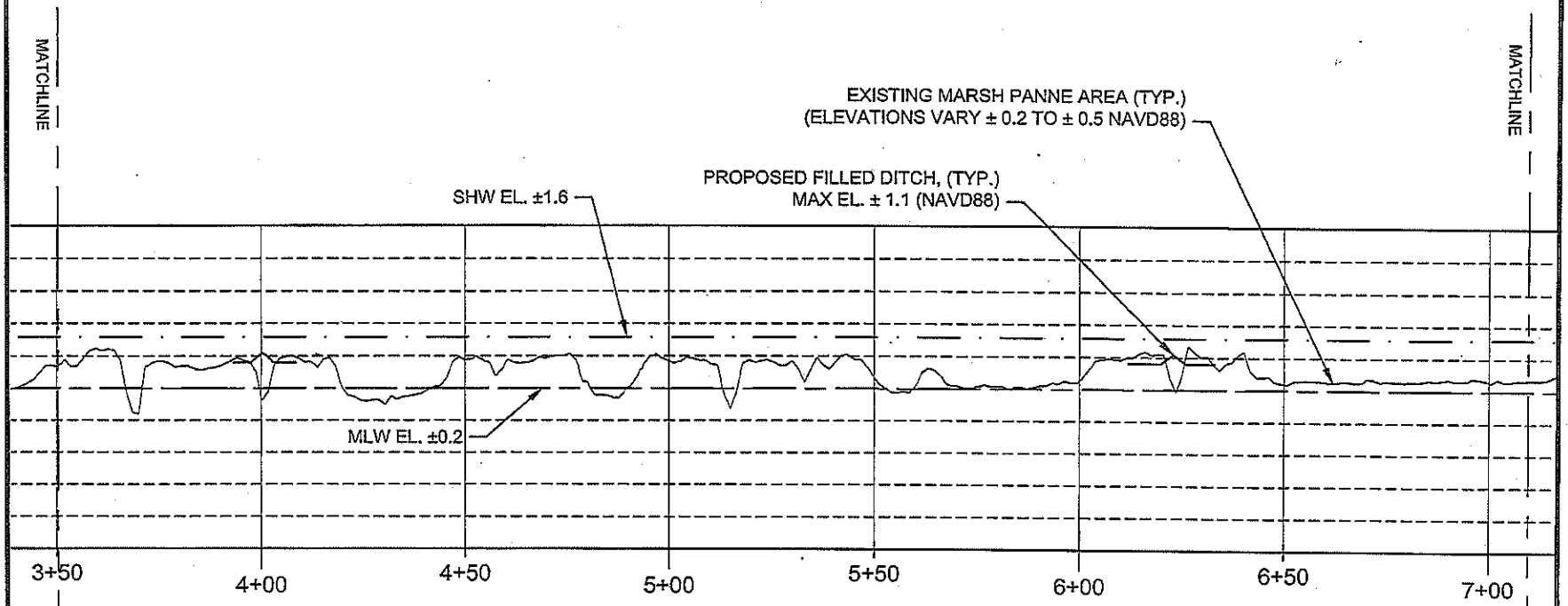
PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	-
CADD:	16154-TIMBER-ACOE
DRAWING NO.:	C-106
SHEET NO.:	6 OF 17

AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NOAA NGS TOPOBATHY LIDAR; POST SANDY. PANNE LOCATIONS FROM NPV STAFF OBSERVATIONS, DEM AND AERIAL INFORMATION. WETLAND VEGETATION FROM 2008 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.



SECTION 'B-B'

SCALE: 1" = 5' (VERT.)
1" = 40' (HORIZ.)

LEGEND

SHW	SPRING HIGH WATER LEVEL
MLW	MEAN LOW WATER LEVEL

AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NOAA NOS TOPOBATHY LIDAR POST SANDY, PANNE LOCATIONS FROM NPV STAFF OBSERVATIONS, DEM AND AERIAL INFORMATION, WETLAND VEGETATION FROM 2008 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION
SECTION B2
FOR
TIMBER POINT WETLAND

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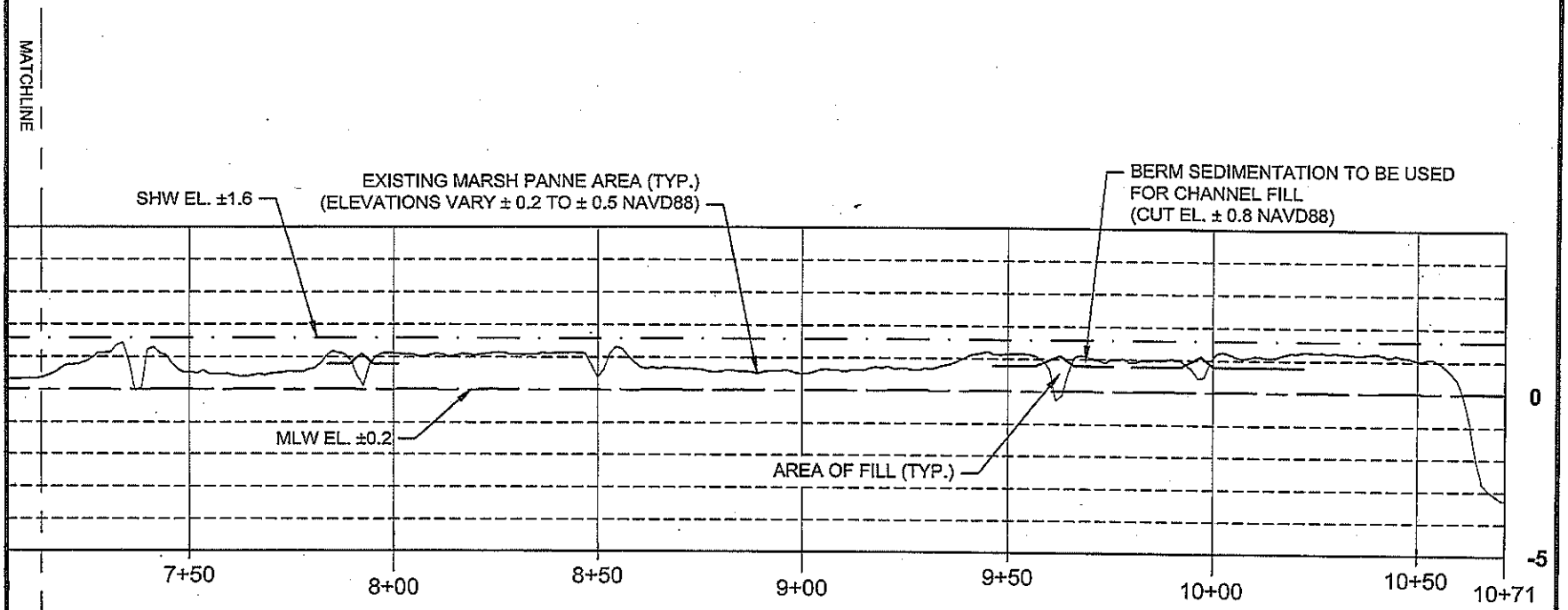
PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	
CADD:	16154-TIMBER-ACOE
DRAWING NO.:	C-107
SHEET NO.:	7 OF 17



SECTION 'B-B'
SCALE: 1" = 5' (VERT.)
1" = 40' (HORIZ.)

LEGEND

SHW	SPRING HIGH WATER LEVEL
MLW	MEAN LOW WATER LEVEL

AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NOAA NGS TOPOBATHY LIDAR POST SANDY, PANNE LOCATIONS FROM NPV STAFF OBSERVATIONS, DEM AND AERIAL INFORMATION, WETLAND VEGETATION FROM 2008 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION
SECTION B3
FOR
TIMBER POINT WETLAND

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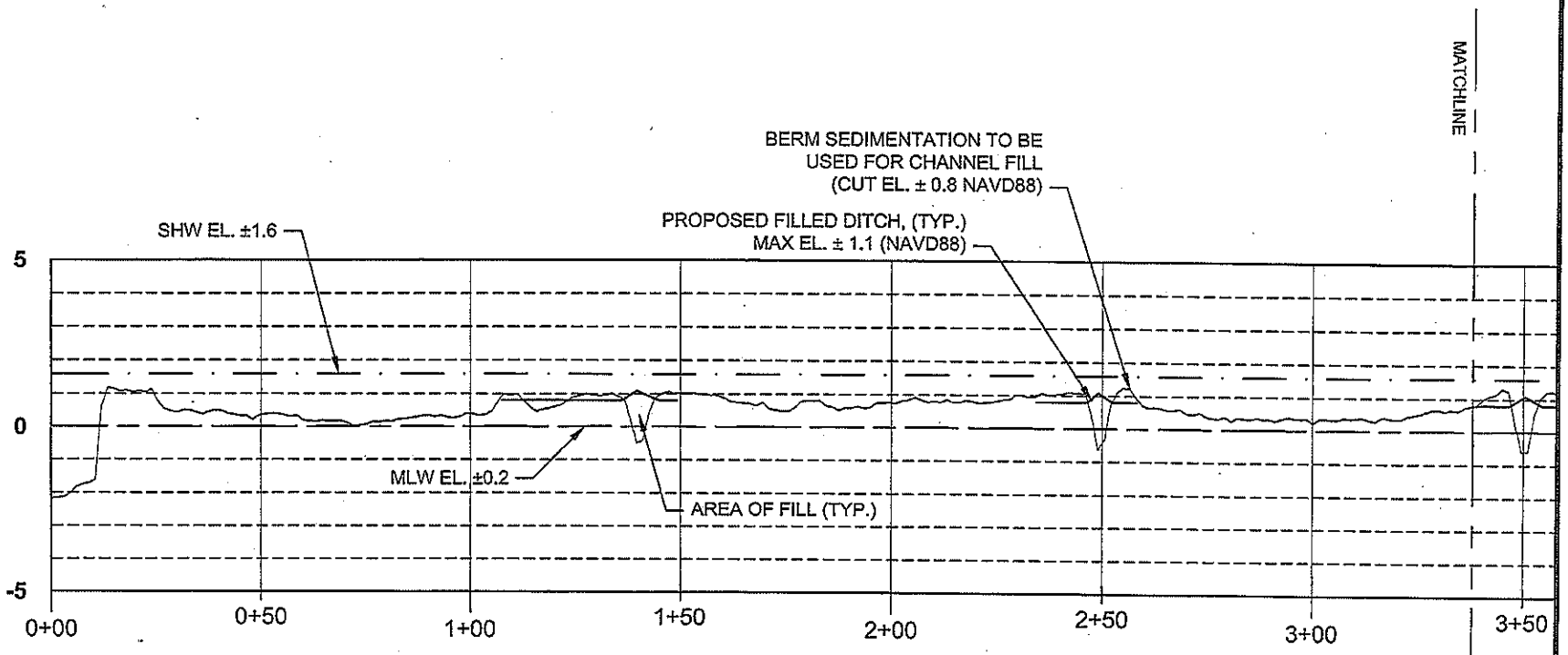
PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	
CADD:	16154-TIMBER-ACOE
DRAWING NO.:	C-108
SHEET NO.:	8 OF 17



SECTION 'C-C'
SCALE: 1" = 5' (VERT.)
1" = 40' (HORIZ.)

LEGEND

SHW	SPRING HIGH WATER LEVEL
MLW	MEAN LOW WATER LEVEL

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

PROPOSED MARSH RESTORATION
SECTION C1
FOR
TIMBER POINT WETLAND

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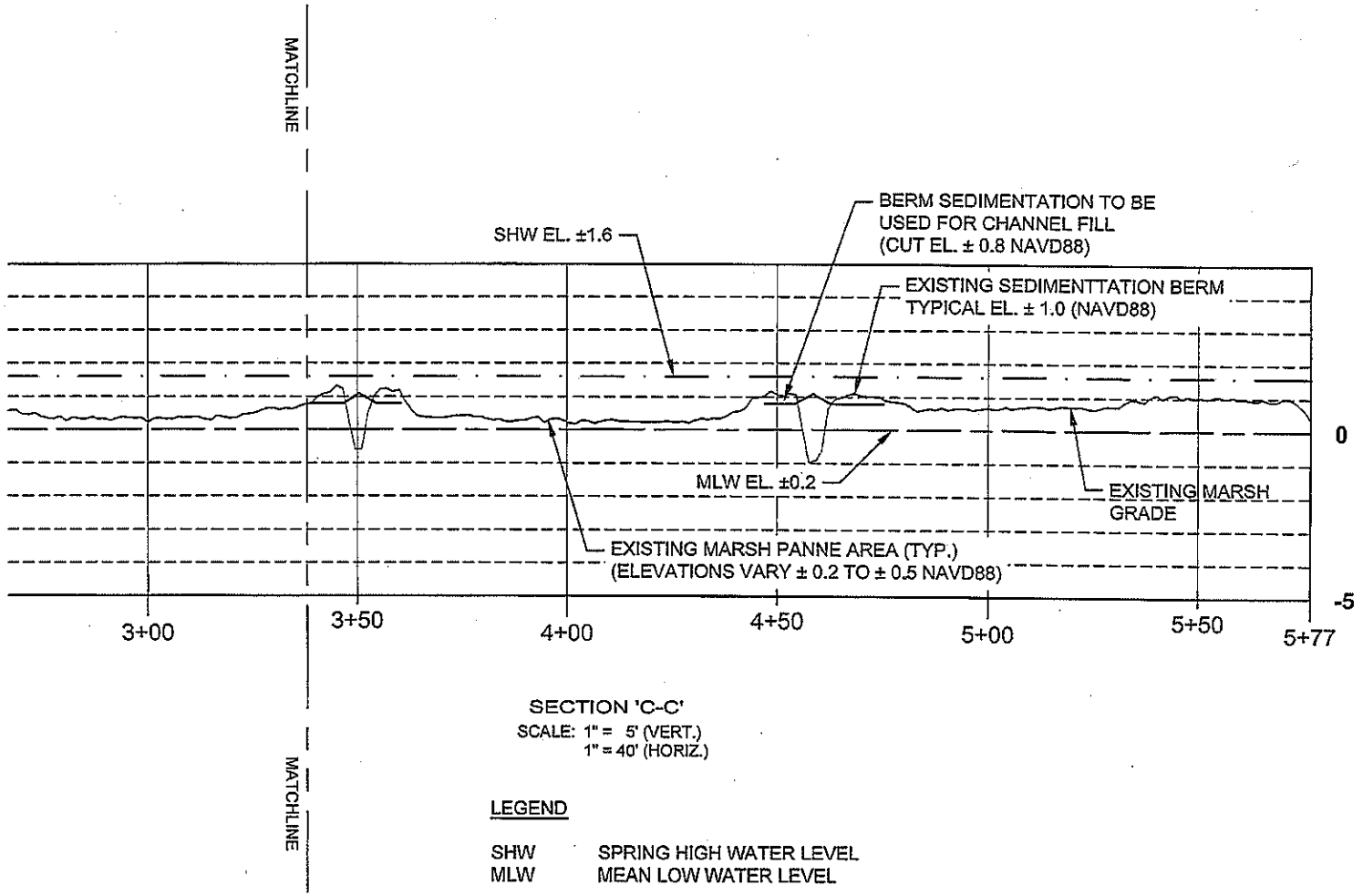
PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	
CADD:	16154-TIMBER-ACOE
DRAWING NO.:	C-109
SHEET NO.:	9 OF 17

AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NOAA NOS TOPOBATHY LIDAR; POST SANDY, FAIRWAY LOCATIONS FROM NPV STAFF OBSERVATIONS, DOS AND AERIAL INFORMATION. WETLAND VEGETATION FROM 2005 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.



SECTION 'C-C'
SCALE: 1" = 5' (VERT.)
1" = 40' (HORIZ.)

LEGEND

SHW	SPRING HIGH WATER LEVEL
MLW	MEAN LOW WATER LEVEL

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

PROPOSED MARSH RESTORATION
SECTION C2
FOR
TIMBER POINT WETLAND

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	-
CADD:	16154-TIMBER-ACOE
DRAWING NO.:	C-110
SHEET NO.:	10 OF 17

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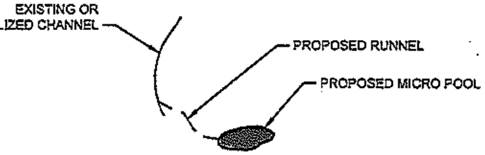
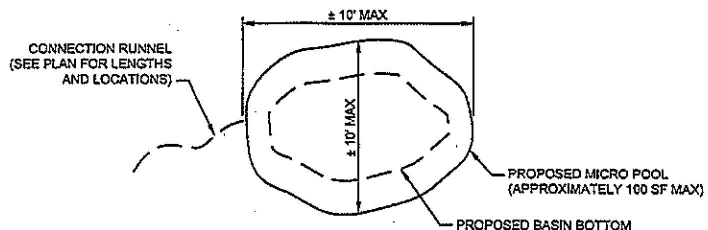
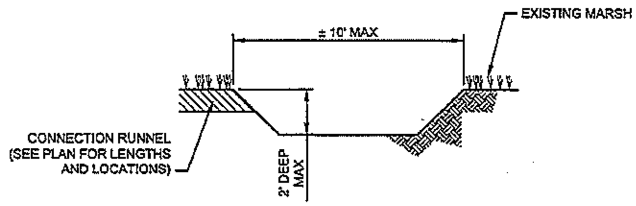
IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, PROFESSIONAL ENGINEERING AND LAND SURVEYING, SECTION 7209 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND SPECIFIC DESCRIPTION OF THE ALTERATION



MAP SYMBOL



PLAN DETAIL



SECTION DETAIL

PROPOSED MICRO POOL DETAIL

NTS

NOTE:
1. MICRO POOLS ARE CREATED TO PROVIDE FISH HABITAT FOR BIOLOGICAL MOSQUITO CONTROL.
2. LOCATIONS OF POOLS ARE TO BE WITHIN AREAS OF PHRAGMITES OR EXISTING WATER LOGGED AREAS THAT ARE DEVOID OF NATURAL VEGETATION.

AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NOAA NGS TOPOBATHY LIDAR: POST SANDY.
PANNE LOCATIONS FROM NPV STAFF OBSERVATIONS, DEM AND AERIAL INFORMATION.
WETLAND VEGETATION FROM 2008 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION
DETAILS 1
FOR
TIMBER POINT WETLAND

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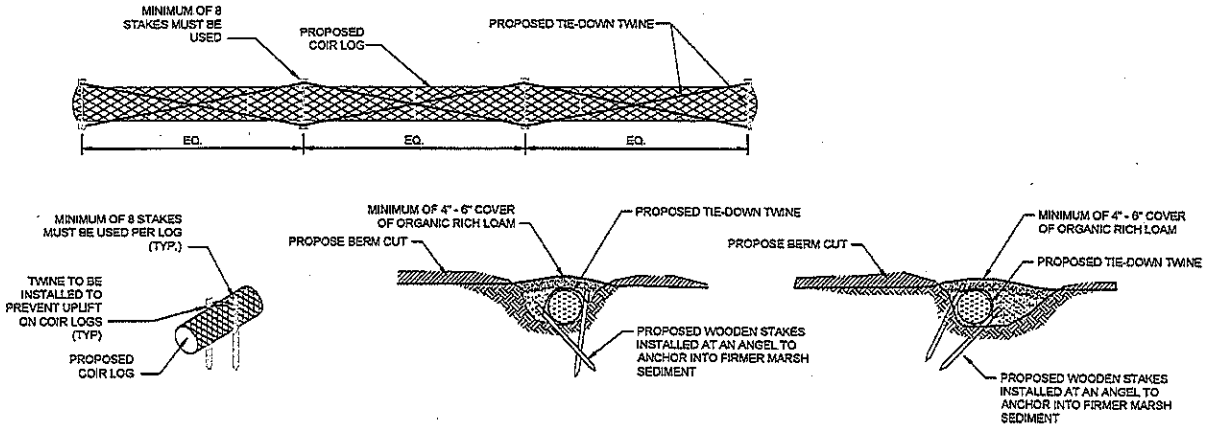
PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	-
CADD:	16154-TIMBER-ACOE
DRAWING NO.:	C-501
SHEET NO.:	11 OF 17

MAY 3 1 2018



TYPICAL COIR LOG DETAIL

N.T.S.

COIR LOG SPECIFICATIONS

COIR LOGS SHALL BE 12-INCH, 16-INCH AND 20-INCH DIAMETER CYLINDRICAL MODULES OF COCONUT

FIBER ENCASED IN A HAND-KNOTTED COIR NETTING. EACH COIR LOG SHALL BE 10 FT IN LENGTH. THE OUTER NETTING OF THE COIR LOG SHALL BE CONSTRUCTED FROM 3-PLY HIGH STRENGTH COIR TWINE OR YARN. THE NETTING SHALL HAVE 2" X 2" RHOMBIC OPENINGS WITH HAND-KNOTTED JUNCTIONS. THE INNER CORE SHALL BE 100% UNSORTED, WELL-CLEANED, COCONUT FIBER UNIFORMLY DISTRIBUTED ALONG THE LENGTH OF THE LOG. THE STUFFED DENSITY OF THE COIR FIBER SHALL BE A MINIMUM OF 8 LBS/CU.FT. COCONUT FIBER SHALL BE OBTAINED FROM FRESHWATER CURED COCONUT HUSKS.

EACH COIR LOG SHALL HAVE HIGH STRENGTH COIR ROPE LOOPS ATTACHED TO BOTH ENDS. THE COIR ROPE LOOPS SHALL BE INTEGRALLY CONNECTED TO THE ENDS OF THE COIR LOGS IN A MANNER THAT DISTRIBUTES THE LOAD UNIFORMLY ACROSS THE OUTER COIR NETTING. THE COIR ROPE SHALL BE MADE FROM THREE 2-PLY COIR YARNS BRAIDED TOGETHER.

WOOD STAKES SHALL BE 2-INCH X 2-INCH, NOMINAL SIZE WITH PENCIL POINT ON ONE END AND SQUARE CUT AT THE OTHER END. TO ENSURE MINIMUM EMBEDMENT LENGTH INTO THE GROUND, THE STAKE LENGTH SHALL BE AS FOLLOWS DEPENDING ON THE SIZE OF THE COIR LOG:

COIR LOG SIZE	MINIMUM STAKE LENGTH
12" Ø	36"
16" Ø	40"
20" Ø	48"

COIR LOG INSTALLATION

COIR LOGS SHALL BE INSTALLED IN THE AREAS AS SHOWN ON THE PLANS. INSTALLATION SHALL FOLLOW THE STEPS OUTLINED BELOW AND AS DIRECTED BY THE ENVIRONMENTAL SUPERVISOR.

1. LOGS SHALL BE PLACED AS SHOWN ON THE PLANS. IMMEDIATELY STABILIZE ROLLS WITH WOOD STAKES AND COIR TWINE ACCORDING TO THE DETAILS SHOWN ON THE PLANS.
2. PLACE WOOD STAKES ON BOTH SIDES ANGLED INWARD AS IF TO FORM AN "X" BELOW THE COIR LOG (IF POSSIBLE), ONE FOOT FROM EACH AND ONE MID LENGTH OR AT AN ANGEL TO ANCHOR INTO FIRMER MARSH SEDIMENT AS SHOWN ABOVE. SECURE AND TIE COIR TWINE TIGHTLY ACROSS EACH ROLL. THE TWINE SHOULD BE WOUND AROUND EACH STAKE AND OVER EACH ROLL SO THAT EACH TIED SECTION HAS A MINIMUM OF 4 STRANDS OF TWINE SECURING THE ROLL DOWN. ONCE THE TWINE IS TIED TIGHTLY, DRIVE STAKES TO THE FINAL DEPTH SO THAT TOP OF THE STAKE IS BELOW TOP OF THE LOGS. FOUR SETS OF STAKES WILL BE INSTALLED PER 10FOOT COIR LOG.
3. ENDS OF ADJACENT LOGS SHALL BE TIED TOGETHER WITH COIR TWINE. AT LEAST 3 PASSES WITH THE TWINE SHALL BE MADE IN THE END NETTING BETWEEN ADJACENT LOGS.
4. THE ENVIRONMENTAL SUPERVISOR MAY REQUIRE ADJUSTMENTS IN THE STAKING AND/OR TYING REQUIREMENTS TO FIT INDIVIDUAL SITE CONDITIONS.

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

PROPOSED MARSH RESTORATION DETAILS 2
FOR
TIMBER POINT WETLAND

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LDJ / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	
CADD:	16154-TIMBER-ACOE
DRAWING NO.:	C-502
SHEET NO.:	12 OF 17

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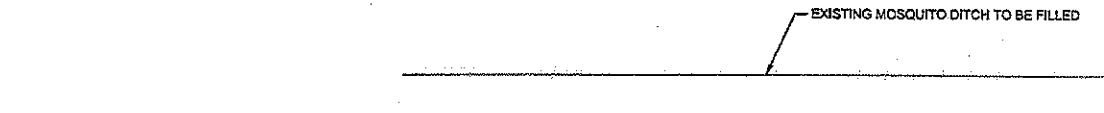
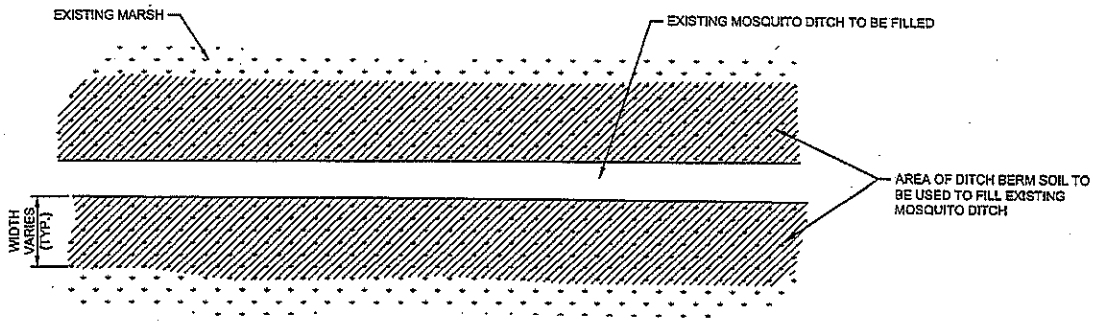
P.E. SEAL AND SIGNATURE

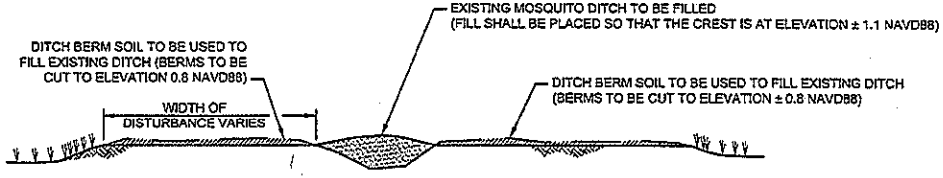
AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2007) TOPOGRAPHIC INFORMATION FROM 2014 NOAA NGS TOPOBATHY LIDAR; POST SANDY, PRE/WE LOCATIONS FROM NPV STAFF OBSERVATIONS, DEM AND AERIAL INFORMATION. WETLAND VEGETATION FROM 2008 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.



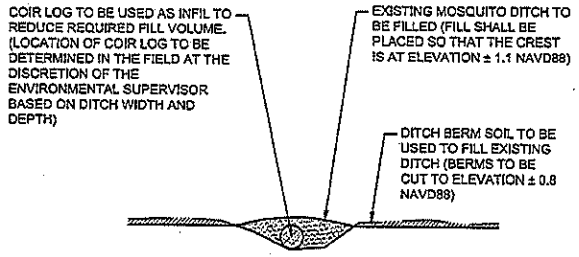
MAP SYMBOL



PLAN DETAIL



SECTION VIEW



SECTION VIEW ALTERNATE

NOTE: SEE TYPICAL COIR LOG DETAIL

PROPOSED DITCH FILL DETAIL

NTS

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

PROPOSED MARSH RESTORATION DETAILS 3

FOR

TIMBER POINT WETLAND

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	
CADD:	16154-TIMBER-ADDE
DRAWING NO.:	C-503
SHEET NO.:	13 OF 17

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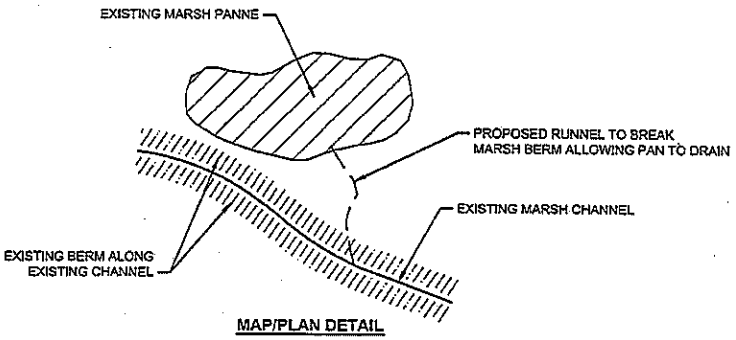
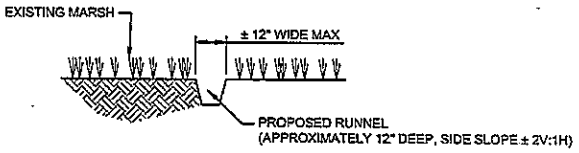


MAP/PLAN DETAIL



SECTION DETAIL

PROPOSED RUNNEL DETAIL

NTS

NOTES:
1. RUNNELS ARE PROPOSED TO BE CONSTRUCTED BOTH BY HAND AND BY MACHINE.
2. MATERIAL REMOVAL FROM RUNNEL CONSTRUCTION PERFORMED BY MACHINERY IS NEGLIGIBLE AND/OR BROADCAST IN THE AREA OF WORK, THEREFORE IT WILL NOT BE USED AS PROPOSED FILL.
3. MACHINE CONSTRUCTION RUNNEL IS A "V" SHAPED CROSS SECTION THAT MEETS THE DIMENSIONS SHOWN IN THE DETAIL.

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

PROPOSED MARSH RESTORATION DETAILS 4
FOR
TIMBER POINT WETLAND

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	-
CADD:	16154-TIMBER-ACOE
DRAWING NO.:	C-504
SHEET NO.:	14 OF 17

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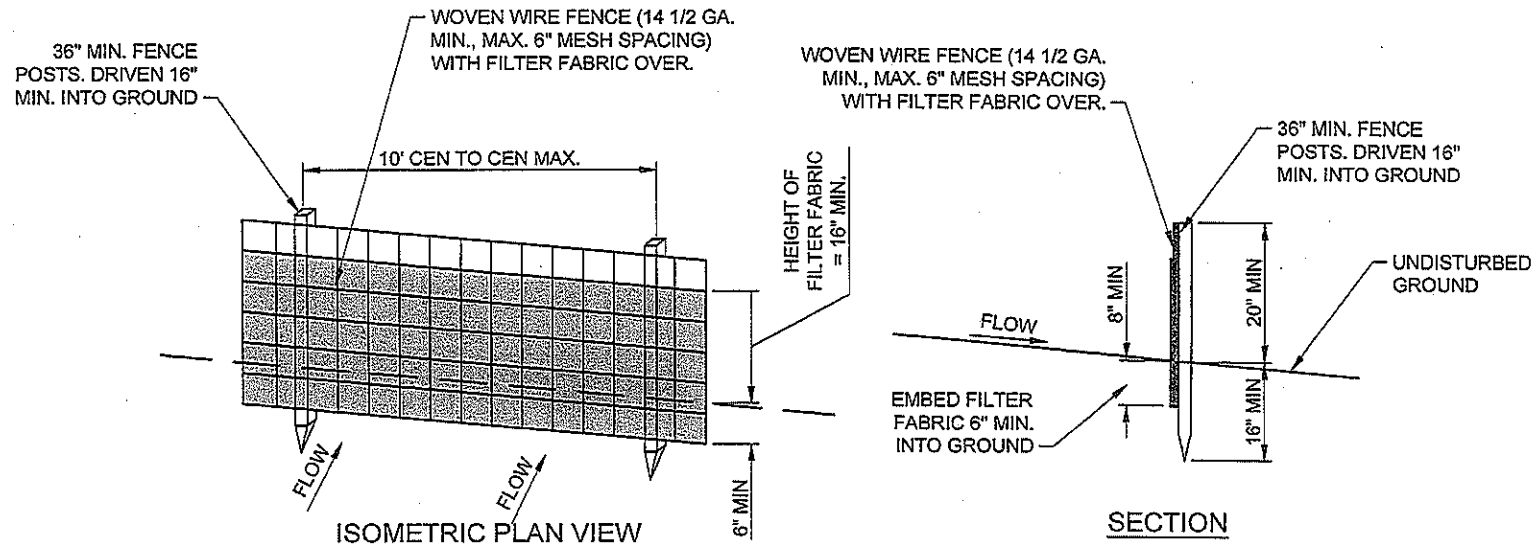

SILT FENCE DETAIL

NOT TO SCALE

NOTES

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
5. POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD.
6. FENCE: WOVEN WIRE, 14 1/2 GA. 6" MAX.MESH OPENING.
7. FILTER CLOTH SHALL BE A WOVEN GEOTEXTILE COMPOSED OF POLYPROPYLENE CONFORMING TO AASHTO M288.

STANDARD SYMBOL

——— SF ———

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

PROPOSED MARSH RESTORATION DETAILS 5

FOR

TIMBER POINT WETLAND

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	
CADD:	16154-TIMBER-ACOE
DRAWING NO.:	C-505
SHEET NO.:	15 OF 17

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PHONE (631) 427-5665 FAX (631) 427-5620
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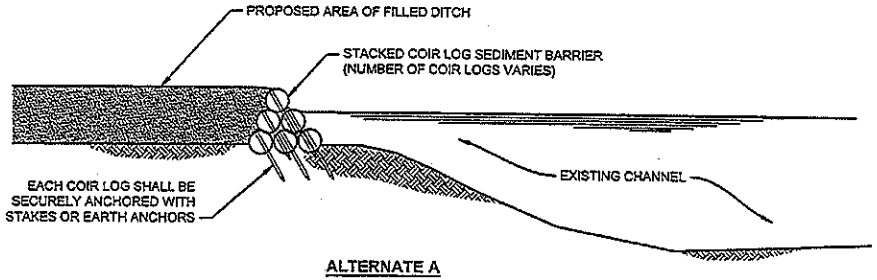
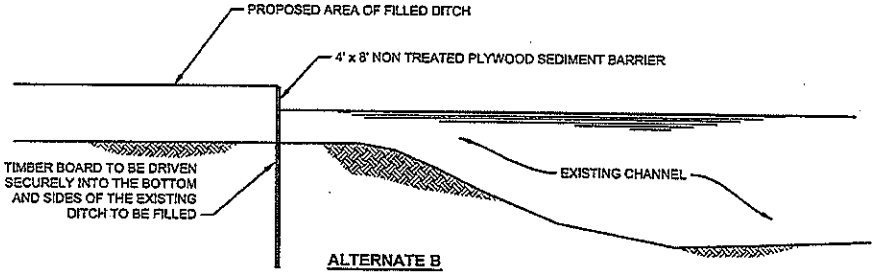
P.E. SEAL AND SIGNATURE

AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NOAA NGS TOPOBATHY LIDAR; POST SANDY. PANEL LOCATIONS FROM NPV STAFF OBSERVATIONS. DEM AND AERIAL INFORMATION. WETLAND VEGETATION FROM 2008 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.



ALTERNATE A



ALTERNATE B

SEDIMENT BARRIER DETAIL

NTS

NOTE: SEDIMENT BARRIER IS TO BE USED TO TERMINATE A DITCH FILLING OPERATION AND PREVENT THE LOSS OF FILL SEDIMENT.

AERIAL PHOTOGRAPHY FROM NYS ORTHOIMAGERY PROGRAM (2013) TOPOGRAPHIC INFORMATION FROM 2014 NOAA NGS TOPOGRAPHY LIDAR POST SANDY. PANNE LOCATIONS FROM NPV STAFF OBSERVATIONS, DEM AND AERIAL INFORMATION. WETLAND VEGETATION FROM 2005 TIDAL WETLAND TREND ANALYSIS DATA AND SUPPLEMENTAL WITH NPV FIELD OBSERVATIONS.

IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, PROFESSIONAL ENGINEERING AND LAND SURVEYING, SECTION 7209 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENCED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND SPECIFIC DESCRIPTION OF THE ALTERATION

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION DETAILS 7

FOR

TIMBER POINT WETLAND

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	LU / TCD
DATE:	1-23-17
SCALE:	1" = 200'
FILE NO.:	-
CADD:	16154-TIMBER-ACOE
DRAWING NO.:	C-507
SHEET NO.:	17 OF 17

Federal Interagency Comment Form

Applicant: Suffolk County Department of Public Works

Appl. Number: NAN-2017-00313

Commenting Agency: NOAA Fisheries / Habitat Conservation Division

Project Manager: McCathern

Waterway/Location: Timber Point, Great River, Suffolk County, NY

Activity: Tidal marsh restoration: removal of material from existing man-made berms and use of that material to fill 9,031 feet lf of existing mosquito ditches, the creation of runnels, naturalization of channels and the creation of micropools. Total impact is 15 acres.

ESSENTIAL FISH HABITAT (EFH)

Project may adversely affect EFH.

ESSENTIAL FISH HABITAT CONSERVATION RECOMMENDATIONS

Note: EFH CRs require a response from the federal action agency within 30 days of receipt or 10 days before a permit is issued if CRs are not included as a special condition of the permit. In addition, a distinct and further EFH consultation must be reinitiated pursuant to 50 CFR 600.920 (j) if new information becomes available, or if the project is revised in such a manner that affects the basis of the EFH determination or EFH conservation recommendations.

1. A five year monitoring plan should be developed for the restored wetland. Copies of the monitoring reports should be sent to our office.
2. If fill is imported to the site, it should be of compatible grain size and characteristics to the sediment at the site.

FISH AND WILDLIFE COORDINATION ACT CONSERVATION RECOMMENDATIONS

1. Use best management practices to minimize the release of suspended sediments into waterways.

ENDANGERED SPECIES ACT

Threatened or endangered species under the jurisdiction of NMFS may be present in the project area. The federal action agency will be responsible for determining whether the proposed action may affect listed species. If they determine that the proposed action may affect a listed species, they should submit their determination of effects, along with justification and a request for concurrence to the attention of the Section 7 Coordinator, NMFS, Greater Atlantic Regional Fisheries Office, Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930 or nmfs.gar.esa.section7@noaa.gov. Please be aware that we have recently provided on our website guidance and tools to assist action agencies with their description of the action and analysis of effects to support their determination. See http://www.greateratlantic.fisheries.noaa.gov/section7. After receiving a complete, accurate comprehensive request for consultation, in accordance to the guidance and instructions on our website, we would then be able to conduct a consultation under section 7 of the ESA. Should project plans change or new information become available that changes the basis for this determination, further coordination should be pursued. If you have any questions regarding these comments, please contact Edith Carson (978-282-8490; Edith.Carson@noaa.gov).

OTHER

1. Send NMFS a copy of the permit when issued.

SIGNATURE: Ursula Howson DATE: 11/15/17

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING
572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620
npv@nelsonpope.com

July 7, 2017

U.S. Army Corps of Engineers
ATTN: Ronald R. Pinzon
Chief, Eastern Section
Jacob Javits Federal Building
Room 1937
26 Federal Plaza
New York, N.Y. 10278-0090

Re: Application for Coverage Under
Nationwide Permit #27
West Sayville Wetland
SCTM# 0500-40500-200-7000
NP&V #16154

Dear Mr. Pinzon:

Nelson, Pope & Voorhis (NP&V)/Nelson & Pope (N&P) has been retained by Suffolk County Department of Public Works, Division of Vector Control (c/o Tom Iwanejko) to obtain the necessary permits for the improvements proposed at the above referenced site. The proposed project involves the restoration of marsh habitat and associated reduction of mosquito breeding areas through the use of integrated marsh management techniques.

West Sayville is the site of historic grid ditching which has contributed to the long-term degradation of the marsh system. When originally constructed, the linear ditches were arbitrarily placed and consideration was not given to the typical scour and sediment deposition processes that occurs along a naturally flowing channel. The linear ditches run perpendicular or parallel to each other and create small panels between the grid-like ditches. As a result, a significant loss in marsh habitat has occurred at this site. In addition to the marsh loss, berms have formed along the edges of the ditches contributing to the change in the tidal flow through the marsh system, and ultimately creating ideal mosquito breeding habitat. The proposed project seeks to return the marsh to a more natural system to ameliorate the impacts the marsh has experienced over time.

The project consists of five main components; removal of material from the existing berms and utilization of that material in the filling of historic grid ditching, the creation of runnels, naturalization of channels and the creation of micro-pools. The project proposes filling of approximately ±760 linear feet (FT) of existing mosquito ditches. To fill these ditches, material from the berms located along the banks of the ditches will be utilized. Capturing material from the berms will help create a more level marsh surface that more closely resembles natural conditions. Revegetation across the filled ditches and in the disturbed area associated with berm removal will occur naturally from existing seed stock present in the soil and through encroachment from the vegetation along the edges of the disturbance. Coir logs will be utilized to help fill the mosquito ditches, as sufficient volume to fill the ditches is not available within the berms. coir logs are biodegradable coconut fiber rolls that can be placed in the existing mosquito ditches, secured and covered with material captured from the berms. It is expected

that the coir logs will slowly degrade and be replaced by sediment over time through natural sediment deposition processes that occur within the marsh system.

Narrow, shallow channels (called runnels) are proposed to connect existing pannes to the naturalized channels. This will allow the standing water to drain from pannes and prevent future standing water from occurring in the existing depressions. Once standing water is no longer present, it is anticipated that natural sediment deposition and associated revegetation of the pannes will occur in subsequent growing seasons.

A portion of the remaining ditches will be naturalized in order to achieve a function that more closely mimics natural marsh conditions. Naturalized channels will utilize the same general layout of the remaining mosquito ditches, however, they will be altered to create more meandering channels to aid in slowing the water velocity within the ditches during tide inflow and outflow. As illustrated on the Proposed Marsh Restoration Details, ditch berm soil will be moved from the berm to the inner bank of the existing ditch in select locations. This will create small curves throughout the existing ditch that mimics natural channel conditions. It is expected that scour will occur on the outside of the curve created within the ditch and sediment deposition will occur on the inside of the created curve. This will prevent sediment from gathering on top of the banks of the channel and creating new berms, which currently exacerbates marsh loss. Approximately ±1,760 LF of naturalized channel will be created through the re-alignment of ±1,190 FT of existing mosquito ditches.

Finally, 11 micropools will be created in the marsh. At a maximum, micropools will be 10' x 5 x 2'. Micropools are designed to create fish habitat within the marsh and will be located in areas where Suffolk County Department of Public Works, Division of Vector Control, has detected mosquito larvae. The proposed micropools will be connected to tidal flow through runnels. Fish are natural predators of mosquitos and the creation of fish habitat in these areas is expected to reduce the overall mosquito population. Furthermore, as these areas are dominated by the invasive reed *Phragmites australis,* the creation of micropools will have limited disturbance to desirable marsh vegetation.

Low ground pressure (<2 psi) machinery will be utilized during construction in order to minimize the impact to the existing healthy marsh areas. Construction access will be from the existing adjacent golf course, and all staging and equipment storage will occur in the upland area.

I have enclosed all of the required application materials for your review:

1. Joint Application Form
2. Project Narrative
3. Army Corps Environmental Questionnaire
4. Copy of the Federal Consistency Assessment Form (FCAF) sent to NYSDOS and attachment for discussion of applicable State Coastal Management Policies
5. Essential Fish Habitat Assessment Worksheet
6. Location Map
7. Photographs showing existing conditions of the wetland and waterway
8. Aerial photograph with picture index
9. Proposed Project Plan

Please let me know if you will need any additional information for your review. Thank you.

Sincerely,

NELSON, POPE & VOORHIS

Hannah Emouna
Environmental Scientist

cc: Tom Iwanejko, SCDPW
File

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

MAY 3 1 2018

REGULATORY BRANCH

SUBJECT: Permit Application File Number NAN-2017-01029-EHA by Suffolk County Department of Public Works for marsh restoration in Great South Bay at West Sayville, Town of Islip, Suffolk County, New York

1. PERMITTEE:
Suffolk County Department of Public Works - Vector Control
Attn: Tom Iwanejko
335 Yaphank Avenue
Yaphank, New York 11980
631-852-4010

2. On August 18, 2017, the New York District of the U.S. Army Corps of Engineers received a request for Department of the Army authorization to fill approximately 74 cubic yards of mosquito ditches and restore marshes off of Great South Bay. The proposed restoration consists of removal of material from the existing berms and utilization of that material and coir logs in the filling of historic grid ditching, the creation of runnels, and the creation of micro-pools impacting approximately 7.2 acres. The project is located in Great South Bay and south of Montauk Highway, West Sayville, Town of Islip, Suffolk County, New York.

3. The specific applicant–provided details are as shown on the enclosed dated permit drawings, titled "Proposed Marsh Restoration...West Sayville Wetland," dated February 14, 2018, prepared by Nelson and Pope.

4. This determination covers only the work described in the submitted material. Any major changes in the regulated work may require additional authorizations from the New York District of the U.S. Army Corps of Engineers.

5. Based on the information submitted to this office and accomplishment of any required notification in accordance with the applicable federal requirements, our review of the subject work indicates that an individual Department of the Army permit is not required. It appears that the activities within the jurisdiction of this office could be accomplished under Department of the Army Nationwide General Permit Number 27 AQUATIC HABITAT RESTORATION, ENHANCEMENT AND ESTABLISHMENT ACTIVITIES in accordance with Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344). The nationwide permits are prescribed at Reissuance of Nationwide Permits in the Federal Register dated January

6, 2017 (82 FR 1860). The subject work may be performed without further authorization from this office provided it complies with Sections A through D, Number 27 AQUATIC HABITAT RESTORATION, ENHANCEMENT AND ESTABLISHMENT ACTIVITIES; New York District regional conditions; the following work-specific Special Conditions listed below; and any applicable regional conditions added by the State of New York.

6. Other than the work-specific Special Conditions listed below, the 2017 nationwide general permits in the State of New York, including their final regional conditions, water quality certifications, and coastal zone concurrence statements are available at:

New York Public Notice –
http://www.nan.usace.army.mil/Portals/37/docs/regulatory/publicnotices/Regional%20Gen%20Permit/PN-LRB%20NAN%20FinalRegionalConditionsWQC%20CZMforNYdated%2021-MAR-2017.pdf

If you require a specific paper copy, please contact our Regulator-of-the-Day at 917-790-8511 to request one be mailed to you. Please be sure to have the above eighteen-character file number readily available when you call.

7. Work-specific Special Conditions:

(A) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

(B) The permittee shall sign and submit the attached compliance certification form to this office within 30 days of the **COMPLETION** of the regulated activity authorized by this permit and any mitigation work required by Special Condition.

(C) The permittee shall take actions to prevent construction materials, including debris, from entering any waterway to become drift or pollution hazards.

SUBJECT: Permit Application File Number NAN-2017-01029-EHA by Suffolk County Department of Public Works for marsh restoration in Great South Bay at West Sayville, Town of Islip, Suffolk County, New York

(D) The permittee shall develop and implement a five year monitoring plan for the restored wetland. By November of each year, a copy of the annual monitoring report shall be sent to this office at U.S. Army Corps of Engineers – New York District, ATTN: Regulatory Branch, Room 1937, 26 Federal Plaza, New York, New York, 10278-0090 and to NOAA/NMFS, Habitat Conservation Division, James J. Howard Marine Science Library, ATTN: Dr. Ursula Howson, 74 Magruder Road, Highlands, NJ 07732.

(E) The permittee shall ensure that if fill is imported to the site, it should be of compatible grain size and characteristics to the sediment at the site.

(F) The permittee shall use best management practices to minimize the release of suspended sediments into waterways.

8. Please note that this nationwide permit (NWP) verification is based on a preliminary jurisdictional determination (JD). A preliminary JD is not appealable. If you wish, prior to commencement of the authorized work you may request an approved JD, which may be appealed, by contacting the New York District, U.S. Army Corps of Engineers for further instruction. To assist you in this decision and address any questions you may have on the differences between preliminary and approved jurisdictional determinations, please review U.S. Army Corps of Engineers Regulatory Guidance Letter No. 16-01, which can be found at:

http://www.usace.army.mil/Portals/2/docs/civilworks/RGLS/rgl_6-01_app1-2.pdf

9. This verification is valid until March 18, 2022, unless the nationwide permit is modified, reissued, or revoked. This verification will remain valid until March 18, 2022, if the activity complies with the terms of any subsequent modifications of the nationwide permit authorization. If the nationwide permits are suspended, revoked, or modified in such a way that the activity would no longer comply with the terms and conditions of a nationwide permit, and the proposed activity has commenced, or is under contract to commence, the permittee shall have 12 months from the date of such action to complete the activity.

10. In order for us to better serve you and others, please complete our Customer Service Survey located at:

http://www.nan.usace.army.mil/Missions/Regulatory/CustomerSurvey.aspx

REGULATORY BRANCH

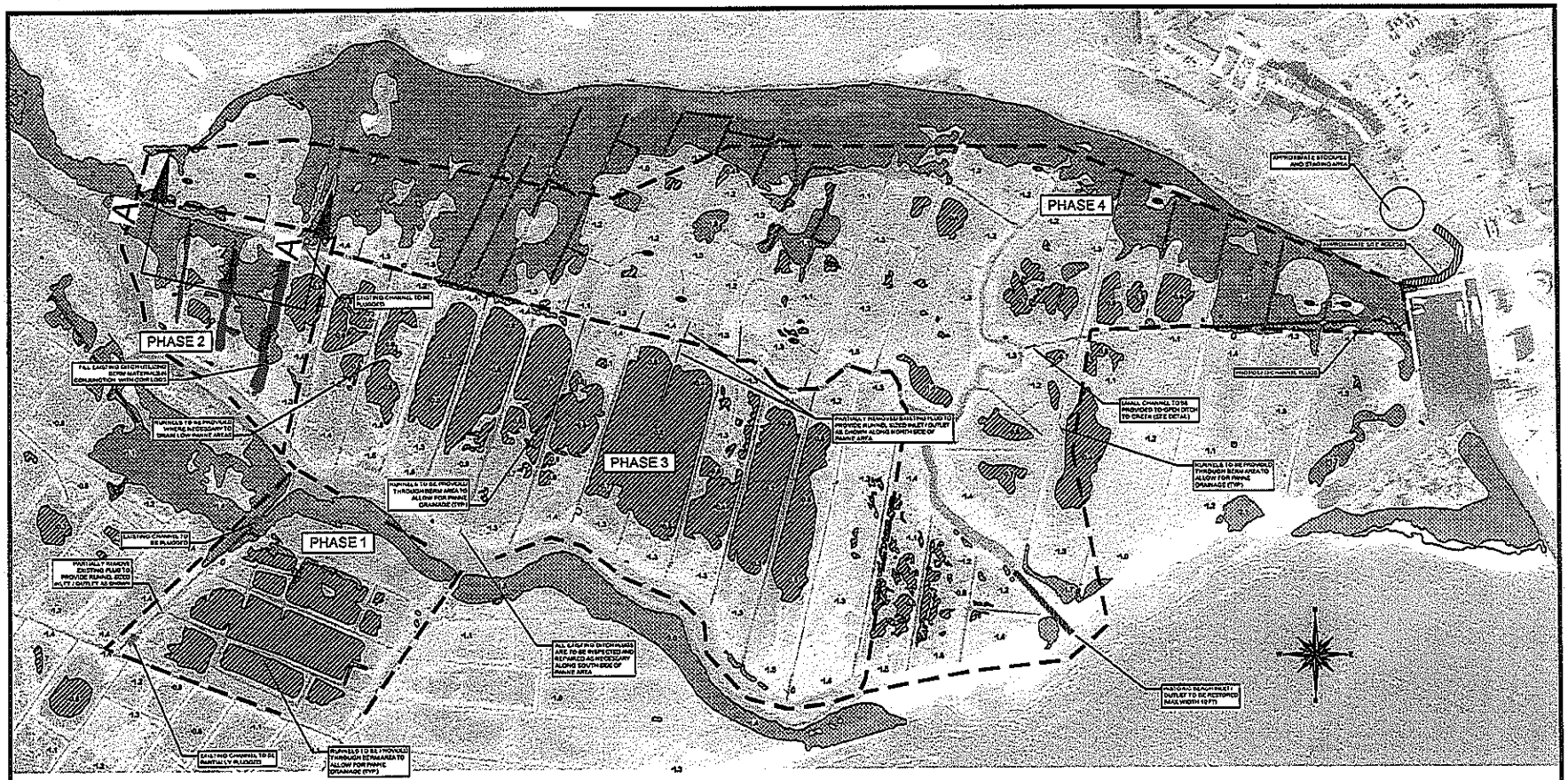
MAY 3 1 2018

SUBJECT: Permit Application File Number NAN-2017-01029-EHA by Suffolk County Department of Public Works for marsh restoration in Great South Bay at West Sayville, Town of Islip, Suffolk County, New York

11. Any inquiries should be directed to Courtney McCathern at 917-790-8091. Please be sure to have the above eighteen-character file number readily available when you call.

Ronald R. Pinzon
Chief, Eastern Section

Encls
1. Dated Permit Drwgs
2. Completion Form
CF: w/o encls
NYDOS
NYSDEC **Region 1**
Hannah Emouna
Nelson, Pope & Voorhis
572 Walt Whitman Road
Melville New York 11747



GENERAL NOTES:

1) TO THE GREATEST EXTENT PRACTICAL, CONSTRUCTION VEHICLES AND CONSTRUCTION CREWS WILL AVOID TRAVERSING THE SAME PATH TO REDUCE THE COMPACTION WITHIN THE MARSH.

2) THE TEARING OF ALL EXISTING DITCHES TO BE FILLED WILL BE STAKED OUT PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

3) THE LOCATION OF RUNNELS INTENDED TO ALLOW FOR THE DRAINING OF PANNES WITHIN THE GRID CELLS IS SUBJECT TO THE DISCRETION OF THE PROJECT SUPERVISOR AS DETERMINED BY FIELD OBSERVATIONS PRIOR TO CONSTRUCTION.

4) IN ORDER TO LIMIT DISTURBANCE TO DESIRABLE MARSH VEGETATION, PROPOSED RUNNELS WILL BE LOCATED WITHIN EXISTING PANNES OR MONOCULTURES OF INVASIVE PHRAGMITES AUSTRALIS WHENEVER POSSIBLE.

5) TO ENSURE THE SAFETY OF THE PUBLIC AS WELL AS THE SAFETY OF THE CONSTRUCTION CREW, THE PROJECT SITE WILL BE "POSTED" DURING THE CONSTRUCTION PERIOD.

6) CONSTRUCTION ACCESS TO THE MARSH COMPLEX WILL OCCUR ONLY IN THE LOCATIONS IDENTIFIED ON THE "PROPOSED RESTORATION PLAN".

7) EXISTING MOSQUITO DITCHES THAT ARE NOT PROPOSED TO BE REALIGNED MAY BE CLEANED OF SEDIMENT AND DEBRIS. THIS MATERIAL WOULD BE USED AS FILL.

IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, PROFESSIONAL ENGINEERING AND LAND SURVEYING, SECTION 7209 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND SPECIFIC DESCRIPTION OF THE ALTERATION.

LEGEND

- EXISTING DITCH PLUG TO BE INSPECTED AND REPAIRED (±440 FT)
- EXISTING MOSQUITO DITCH TO BE FILLED (±700 FT / ±250 CY)
- PROPOSED RUNNEL (±2,900 LF / ±927 YD)
- PROPOSED MICRO POOL (11)
- EXISTING PHRAGMITES
- EXISTING IVA / LOW PHRAG
- EXISTING MARSH PAN AREAS
- EXISTING SPOT ELEVATION

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION PLAN VIEW

FOR

WEST SAYVILLE WETLAND

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	HE
DATE:	1-23-17
SCALE:	1" = 300'
FILE NO.:	-
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-101
SHEET NO.:	1 OF 19

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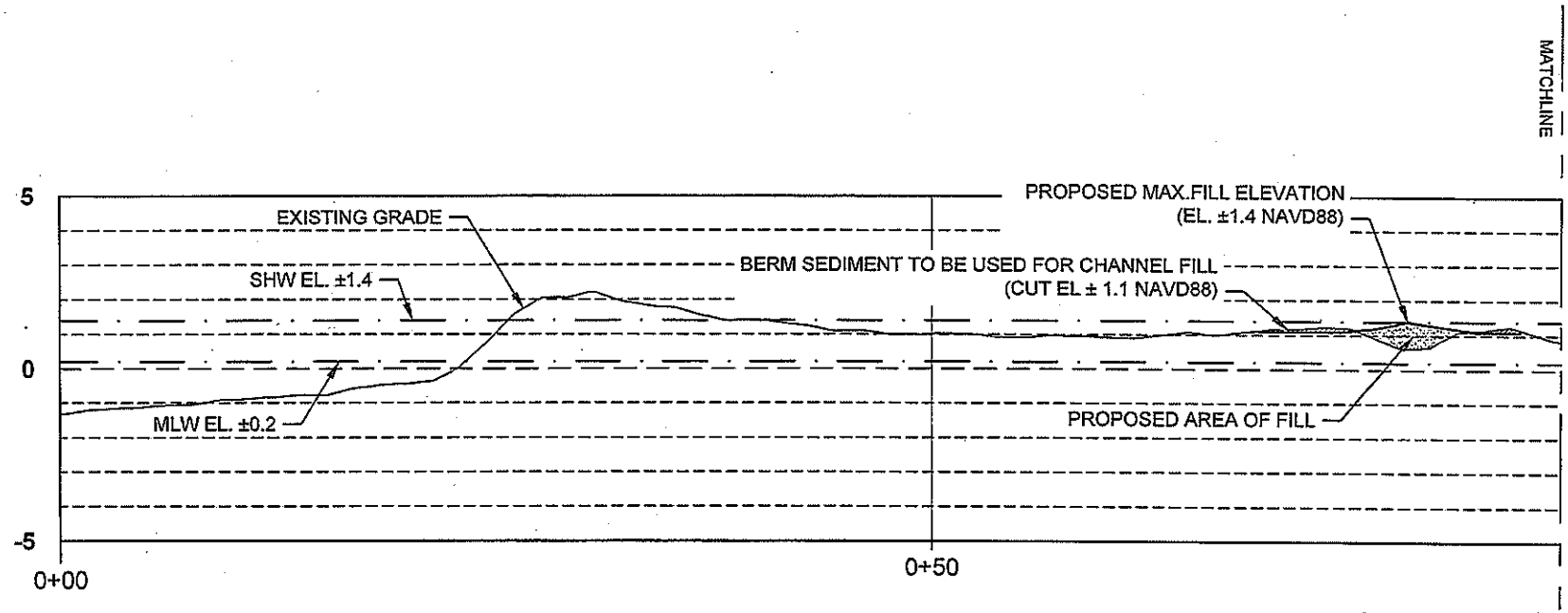

SECTION 'A-A'

SCALE: HORZ.: 1" = 10'
VERT.: 1" = 5'

LEGEND

SHW	SPRING HIGH WATER LEVEL
MLW	MEAN LOW WATER LEVEL

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

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PROPOSED MARSH RESTORATION
SECTION 'A-A'
FOR
WEST SAYVILLE WETLAND

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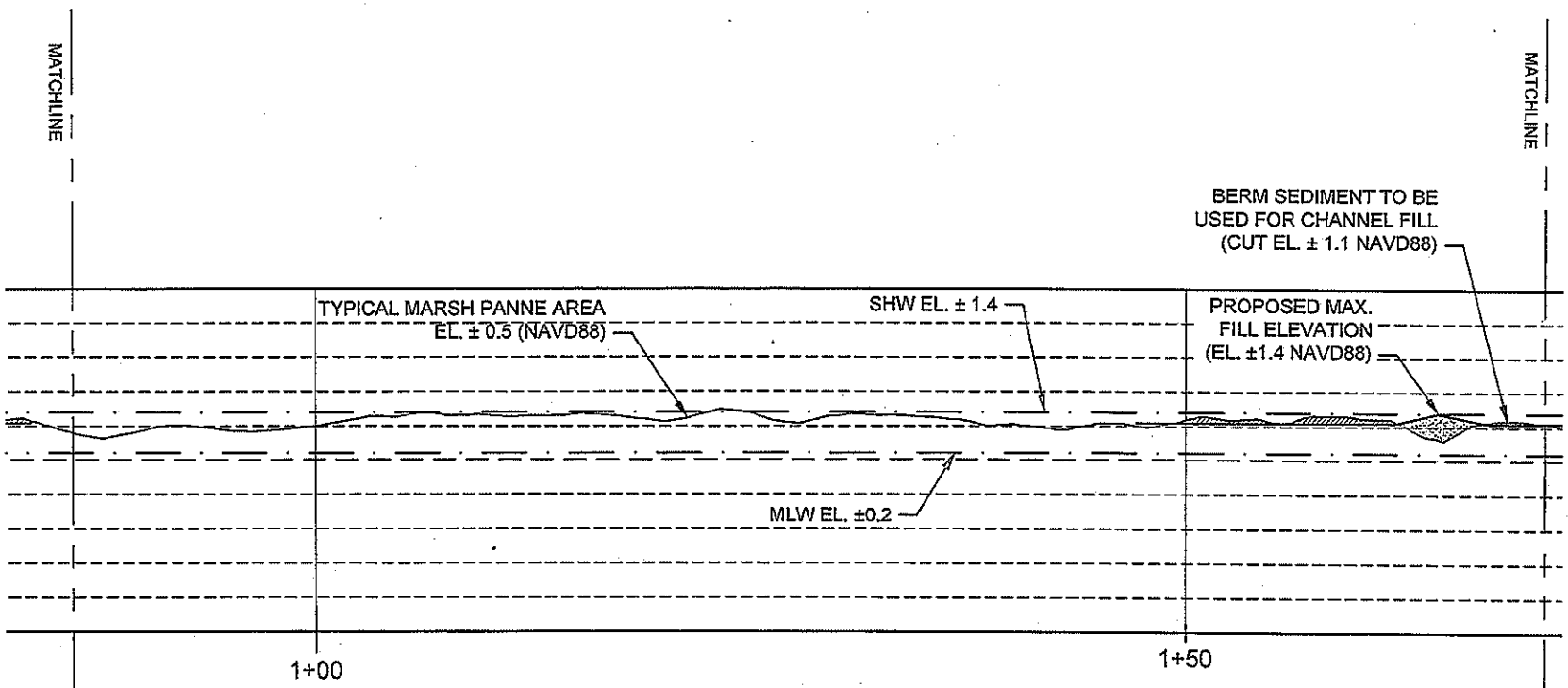
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	-
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-102
SHEET NO.:	2 OF 19

MAY 3 1 2018



SECTION 'A-A'

SCALE: HORZ.: 1" = 10'
VERT.: 1" = 5'

LEGEND

SHW	SPRING HIGH WATER LEVEL
MLW	MEAN LOW WATER LEVEL

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1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

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PROPOSED MARSH RESTORATION
SECTION 'A-A'
FOR
WEST SAYVILLE WETLAND

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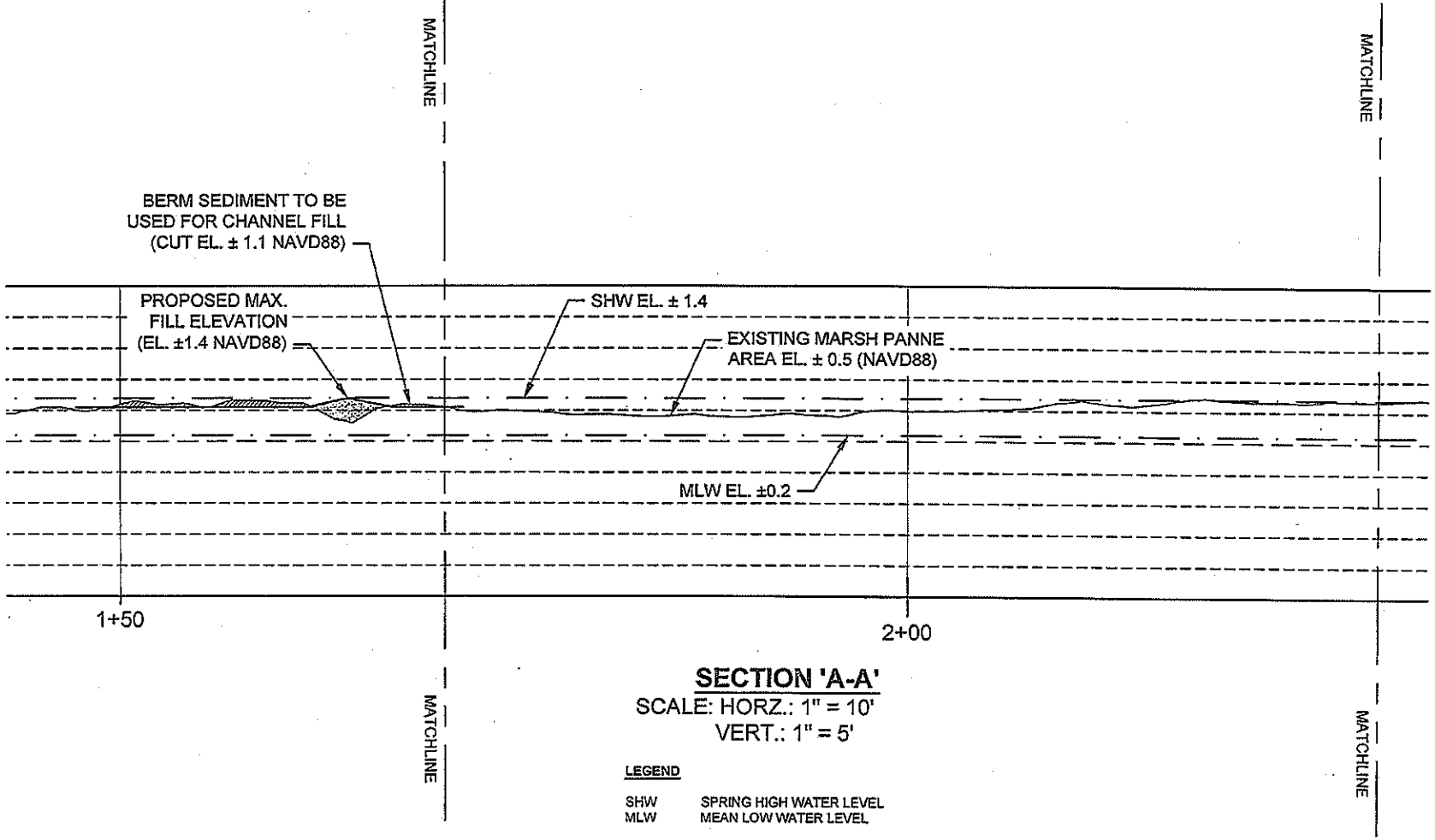
PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	HE
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	-
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-103
SHEET NO.:	3 OF 19



SECTION 'A-A'

SCALE: HORZ.: 1" = 10'
VERT.: 1" = 5'

LEGEND

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MLW	MEAN LOW WATER LEVEL

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1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

PROPOSED MARSH RESTORATION
SECTION 'A-A'
FOR
WEST SAYVILLE WETLAND

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	HE
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	-
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-104
SHEET NO.:	4 OF 19

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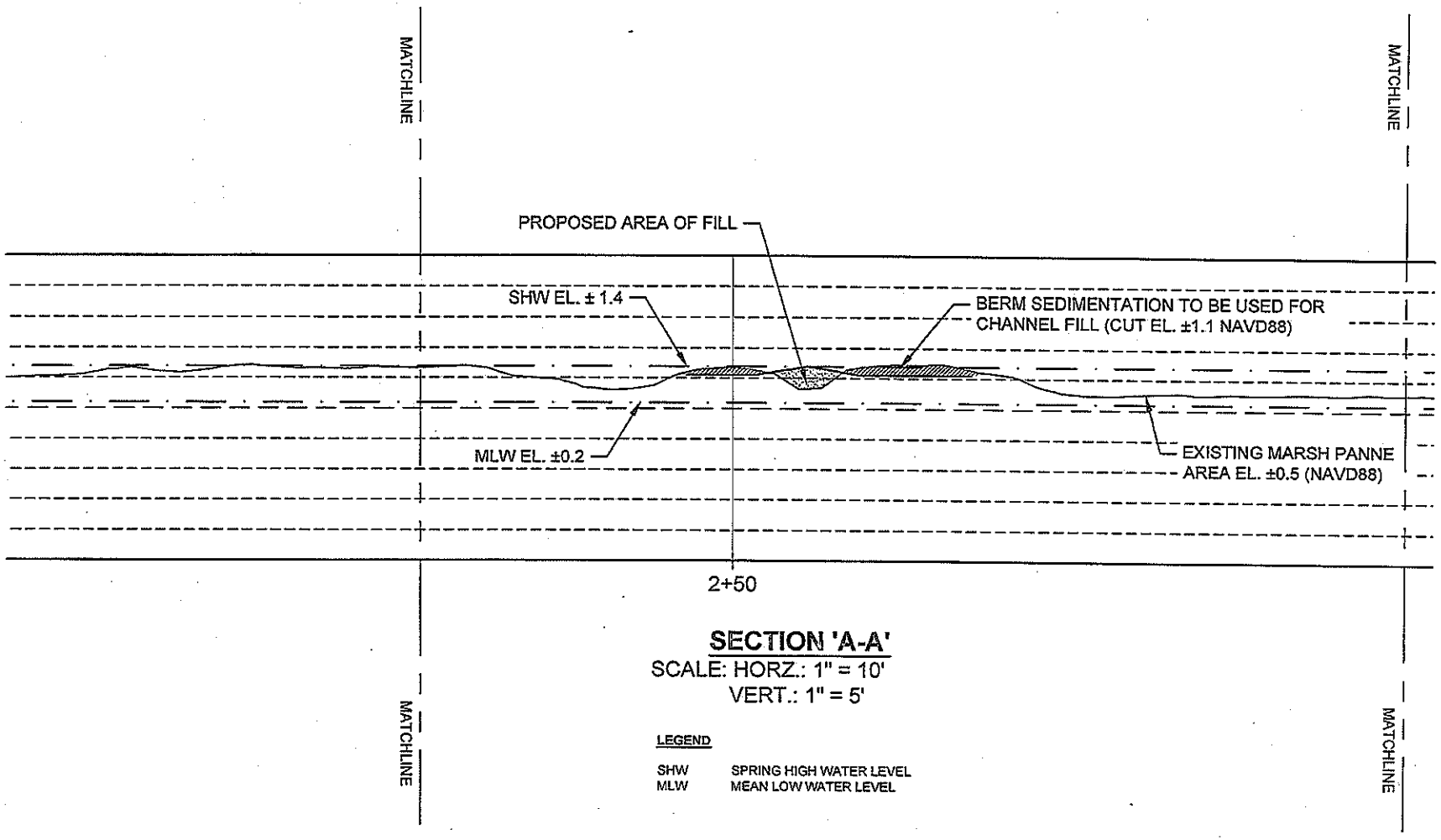

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VERT.: 1" = 5'

LEGEND

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MLW	MEAN LOW WATER LEVEL

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PROPOSED MARSH RESTORATION
SECTION 'A-A'
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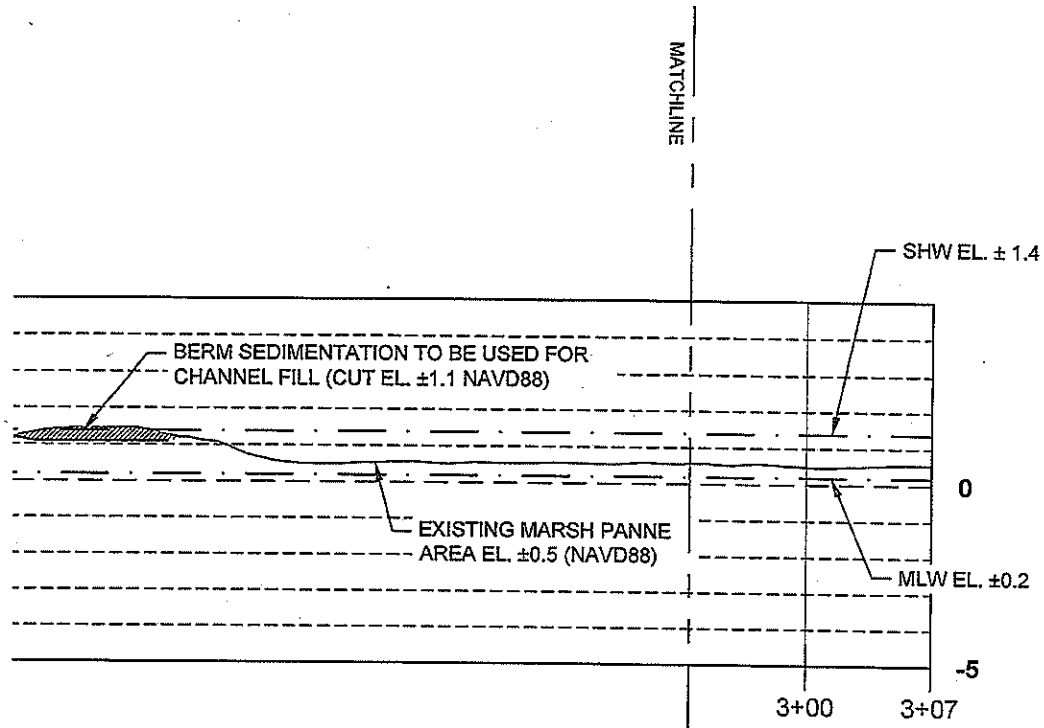
SCALE:	AS SHOWN
FILE NO.:	
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-105
SHEET NO.:	5 OF 19



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WEST SAYVILLE WETLAND

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PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	HS
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	-
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-106
SHEET NO.:	6 OF 19

LEGEND

- EXISTING DITCH PLUG TO BE INSPECTED AND REPAIRED (±450 FT)
- EXISTING MOSQUITO DITCH TO BE FILLED (±700 FT / ±223 CY)
- PROPOSED RUNNEL (±2,050 LF / ±997 YD)
- PROPOSED MICRO POOL (11)
- EXISTING PHRAGMITES
- EXISTING IVA / LOW PHRAG
- EXISTING MARSH PAN AREAS
- AREA OF PROPOSED BERM CUT FOR USE AS BORROW FILL

NOTES:
1. VOLUME CALCULATIONS DEMONSTRATE AN APPROXIMATE VOLUME AND AREA OF EXCAVATION OF BERM (OR LOWER) ADJACENT TO PROPOSED DITCHES TO BE FILLED.
2. THE CALCULATIONS IS BASED ON A LEVEL CUT ABOVE ALL BERMS (WITHIN THE AREA SHOWN) TO AN ELEVATION OF 0.67' (NAVD 88). DUE TO THE VARIABLE NATURE OF THE MARSH SYSTEM THESE AREAS AND CUT ELEVATION MAY VARY, HOWEVER THE TOTAL VOLUME OF REQUIRED FILL WILL REMAIN LESS THAN 1,500 CY MAX.

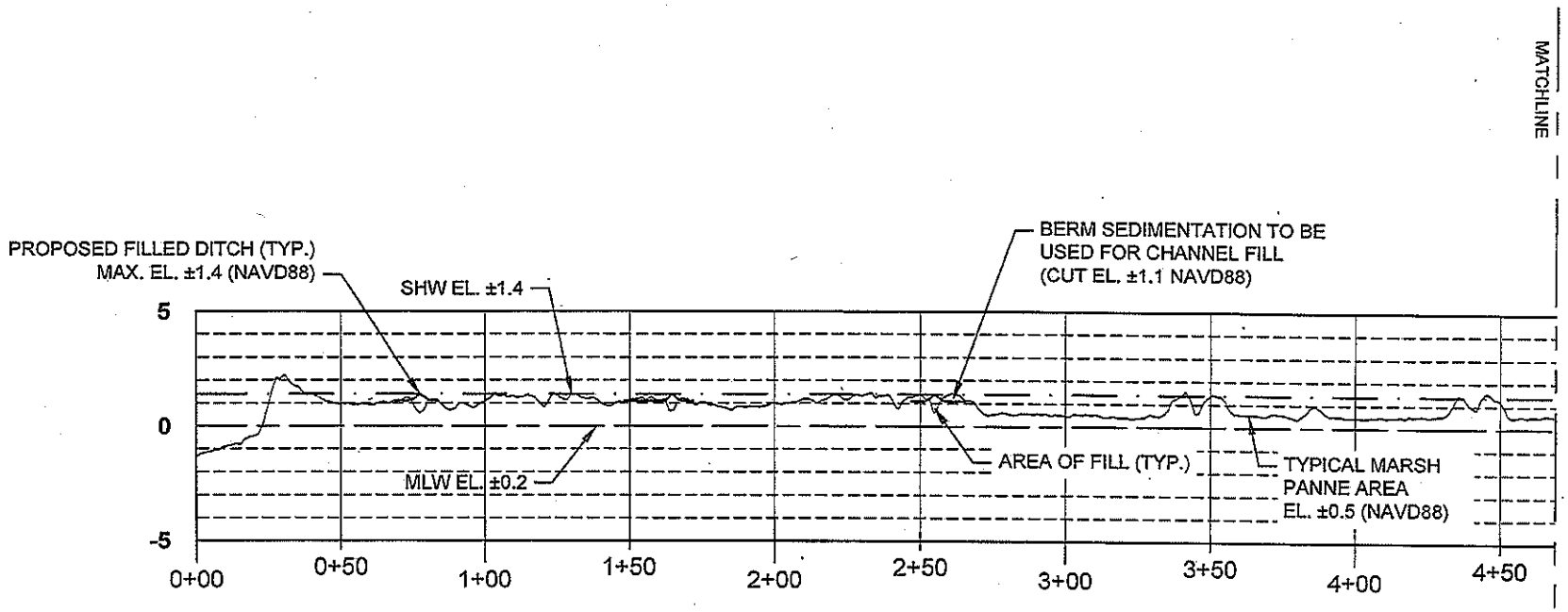
NO.	DATE	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION
EARTHWORK PLAN
FOR
WEST SAYVILLE WETLAND

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	HE
DATE:	1-23-17
SCALE:	1" = 300'
FILE NO.:	
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-107
SHEET NO.:	7 OF 19



SECTION 'B-B'

SCALE: HORZ.: 1" = 60'

LEGEND

SHW	SPRING HIGH WATER LEVEL
MLW	MEAN LOW WATER LEVEL

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION
SECTION 'B-B'
FOR
WEST SAYVILLE WETLAND

NELSON & POPE
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PHONE (631) 427-5665 FAX (631) 427-5620
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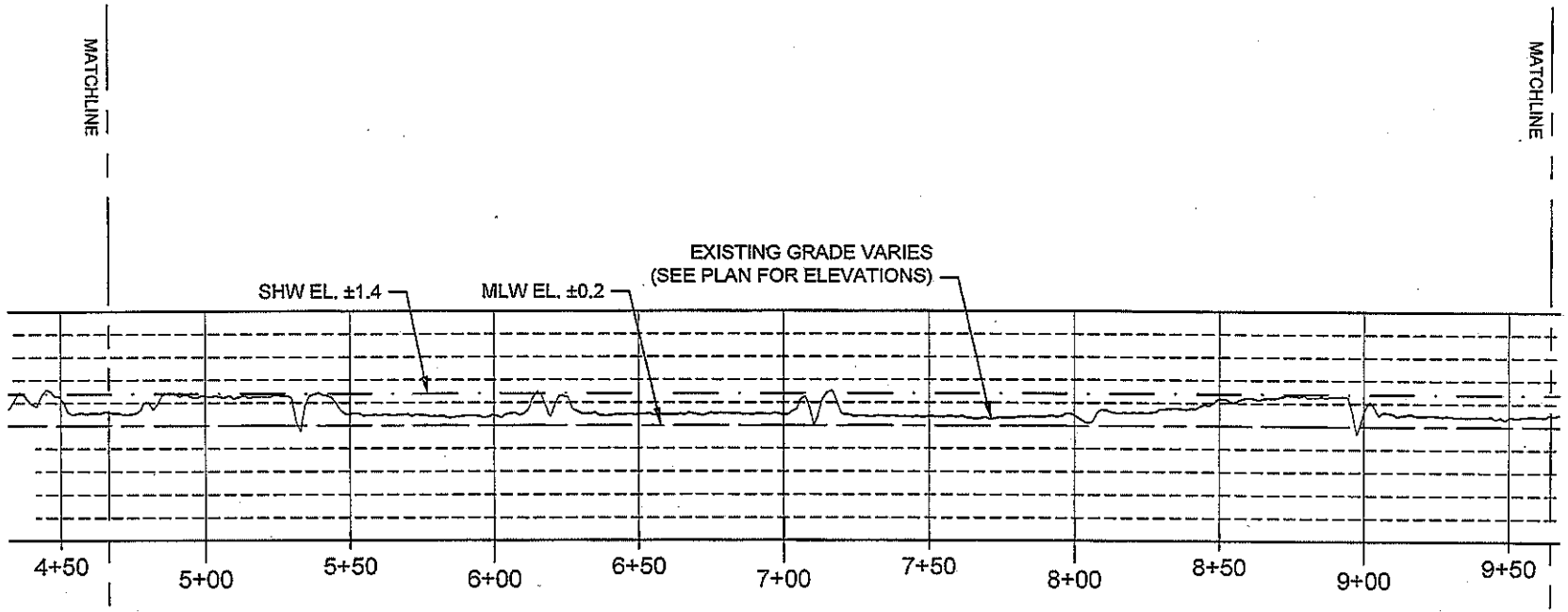
PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	HE
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	-
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-109
SHEET NO.:	9 OF 19



SECTION 'B-B'

SCALE: HORZ.: 1" = 60'

LEGEND

SHW	SPRING HIGH WATER LEVEL
MLW	MEAN LOW WATER LEVEL

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION
SECTION 'B-B'
FOR
WEST SAYVILLE WETLAND

NELSON & POPE
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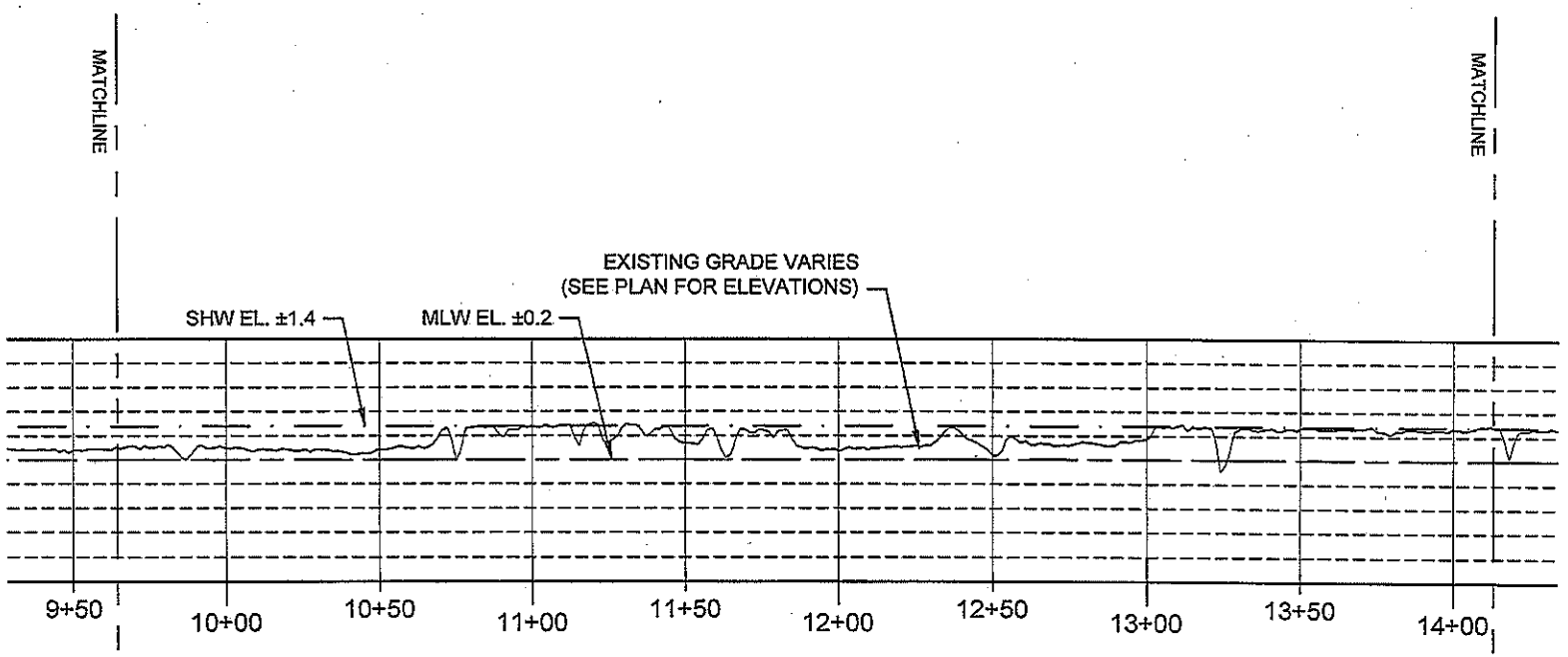
PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	HE
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-110
SHEET NO.:	10 OF 19



SECTION 'B-B'

SCALE: HORZ.: 1" = 60'

LEGEND

SHW	SPRING HIGH WATER LEVEL
MLW	MEAN LOW WATER LEVEL

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION
SECTION 'B-B'
FOR
WEST SAYVILLE WETLAND

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	HE
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	-
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-111
SHEET NO.:	11 OF 19

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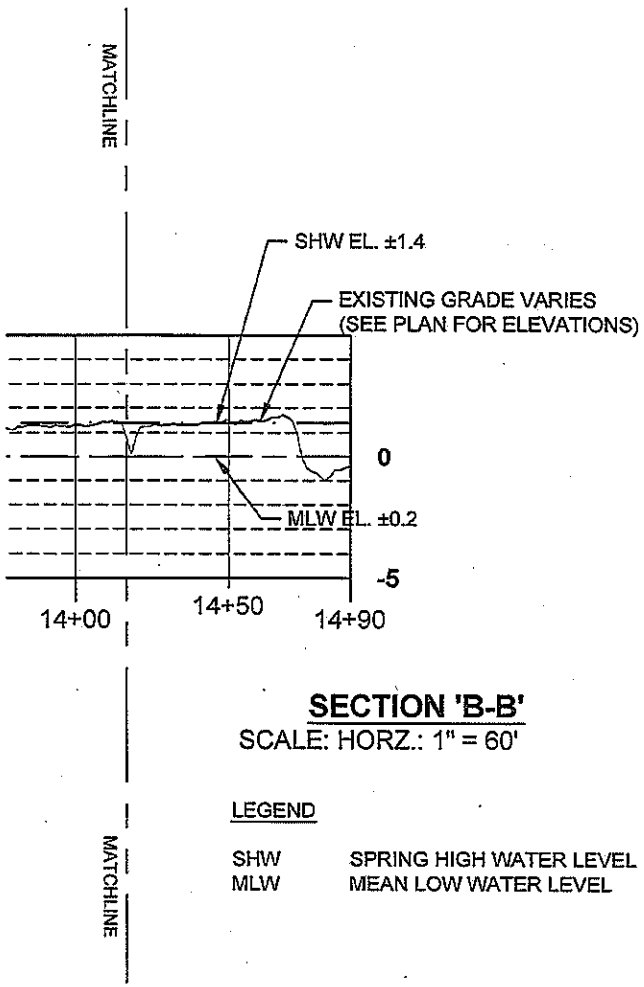

SECTION 'B-B'

SCALE: HORZ.: 1" = 60'

LEGEND

SHW	SPRING HIGH WATER LEVEL
MLW	MEAN LOW WATER LEVEL

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION
SECTION 'B-B'
FOR
WEST SAYVILLE WETLAND

NELSON & POPE
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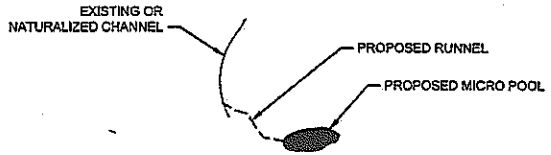
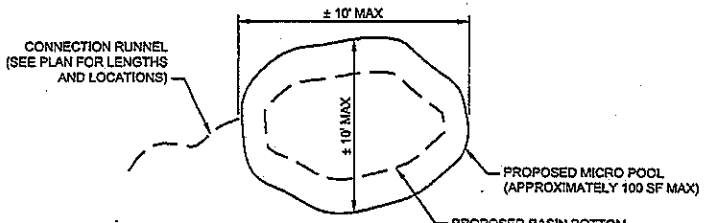
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

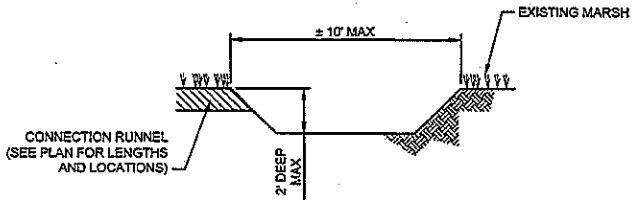
PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	HE
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	-
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-112
SHEET NO.:	12 OF 19



MAP SYMBOL



PLAN DETAIL



SECTION DETAIL

PROPOSED MICRO POOL DETAIL

NTS

NOTE:
1. MICRO POOLS ARE CREATED TO PROVIDE FISH HABITAT FOR BIOLOGICAL MOSQUITO CONTROL.
2. LOCATIONS OF POOLS ARE TO BE WITHIN AREAS OF PHRAGMITES OR EXISTING WATER LOGGED AREAS THAT ARE DEVOID OF NATURAL VEGETATION.

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

PROPOSED MARSH RESTORATION
DETAIL 1
FOR
WEST SAYVILLE WETLAND

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	HE
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	-
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-501
SHEET NO.:	13 OF 19

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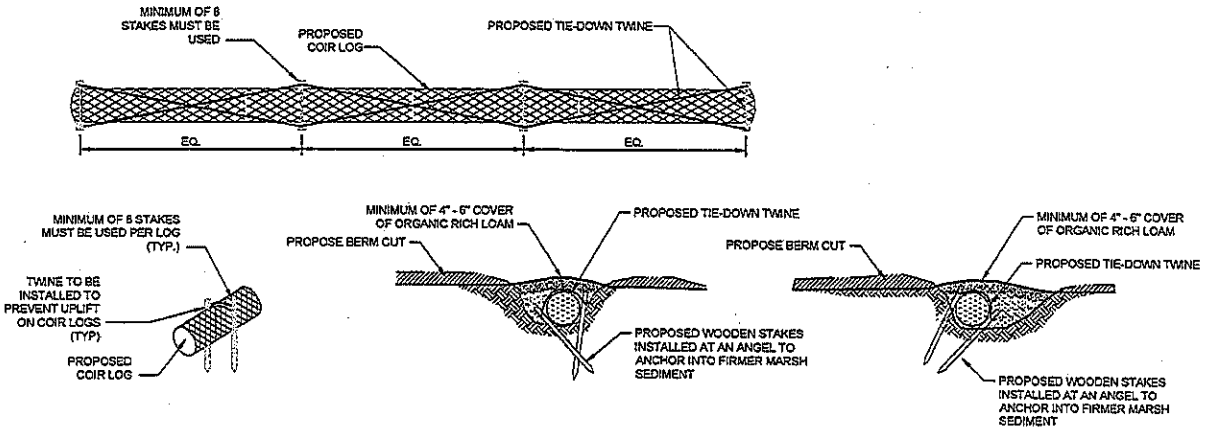
P.E. SEAL AND SIGNATURE



TYPICAL COIR LOG DETAIL

N.T.S.

COIR LOG SPECIFICATIONS

COIR LOGS SHALL BE 12-INCH, 16-INCH AND 20-INCH DIAMETER CYLINDRICAL MODULES OF COCONUT

FIBER ENCASED IN A HAND-KNOTTED COIR NETTING. EACH COIR LOG SHALL BE 10 FT IN LENGTH. THE OUTER NETTING OF THE COIR LOG SHALL BE CONSTRUCTED FROM 3-PLY HIGH STRENGTH COIR TWINE OR YARN. THE NETTING SHALL HAVE 2" X 2" RHOMBIC OPENINGS WITH HAND-KNOTTED JUNCTIONS. THE INNER CORE SHALL BE 100% UNSORTED, WELL-CLEANED, COCONUT FIBER UNIFORMLY DISTRIBUTED ALONG THE LENGTH OF THE LOG. THE STUFFED DENSITY OF THE COIR FIBER SHALL BE A MINIMUM OF 8 LBS/CU.FT. COCONUT FIBER SHALL BE OBTAINED FROM FRESHWATER CURED COCONUT HUSKS.

EACH COIR LOG SHALL HAVE HIGH STRENGTH COIR ROPE LOOPS ATTACHED TO BOTH ENDS. THE COIR ROPE LOOPS SHALL BE INTEGRALLY CONNECTED TO THE ENDS OF THE COIR LOGS IN A MANNER THAT DISTRIBUTES THE LOAD UNIFORMLY ACROSS THE OUTER COIR NETTING. THE COIR ROPE SHALL BE MADE FROM THREE 2-PLY COIR YARNS BRAIDED TOGETHER.

WOOD STAKES SHALL BE 2-INCH X 2-INCH, NOMINAL SIZE WITH PENCIL POINT ON ONE END AND SQUARE CUT AT THE OTHER END. TO ENSURE MINIMUM EMBEDMENT LENGTH INTO THE GROUND, THE STAKE LENGTH SHALL BE AS FOLLOWS DEPENDING ON THE SIZE OF THE COIR LOG:

COIR LOG SIZE	MINIMUM STAKE LENGTH
12" Ø	35"
16" Ø	40"
20" Ø	46"

COIR LOG INSTALLATION

COIR LOGS SHALL BE INSTALLED IN THE AREAS AS SHOWN ON THE PLANS. INSTALLATION SHALL FOLLOW THE STEPS OUTLINED BELOW AND AS DIRECTED BY THE ENVIRONMENTAL SUPERVISOR.

1. LOGS SHALL BE PLACED AS SHOWN ON THE PLANS. IMMEDIATELY STABILIZE ROLLS WITH WOOD STAKES AND COIR TWINE ACCORDING TO THE DETAILS SHOWN ON THE PLANS.
2. PLACE WOOD STAKES ON BOTH SIDES ANGLED INWARD AS IF TO FORM AN "X" BELOW THE COIR LOG (IF POSSIBLE), ONE FOOT FROM EACH AND ONE MID LENGTH OR AT AN ANGEL TO ANCHOR INTO FIRMER MARSH SEDIMENT AS SHOWN ABOVE. SECURE AND TIE COIR TWINE TIGHTLY ACROSS EACH ROLL. THE TWINE SHOULD BE WOUND AROUND EACH STAKE AND OVER EACH ROLL SO THAT EACH TIED SECTION HAS A MINIMUM OF 4 STRANDS OF TWINE SECURING THE ROLL DOWN. ONCE THE TWINE IS TIED TIGHTLY, DRIVE STAKES TO THE FINAL DEPTH SO THAT TOP OF THE STAKE IS BELOW TOP OF THE LOGS. FOUR SETS OF STAKES WILL BE INSTALLED PER 10FOOT COIR LOG.
3. ENDS OF ADJACENT LOGS SHALL BE TIED TOGETHER WITH COIR TWINE. AT LEAST 3 PASSES WITH THE TWINE SHALL BE MADE IN THE END NETTING BETWEEN ADJACENT LOGS.
4. THE ENVIRONMENTAL SUPERVISOR MAY REQUIRE ADJUSTMENTS IN THE STAKING AND/OR TYING REQUIREMENTS TO FIT INDIVIDUAL SITE CONDITIONS.

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION DETAIL 2
FOR
WEST SAYVILLE WETLAND

NELSON & POPE
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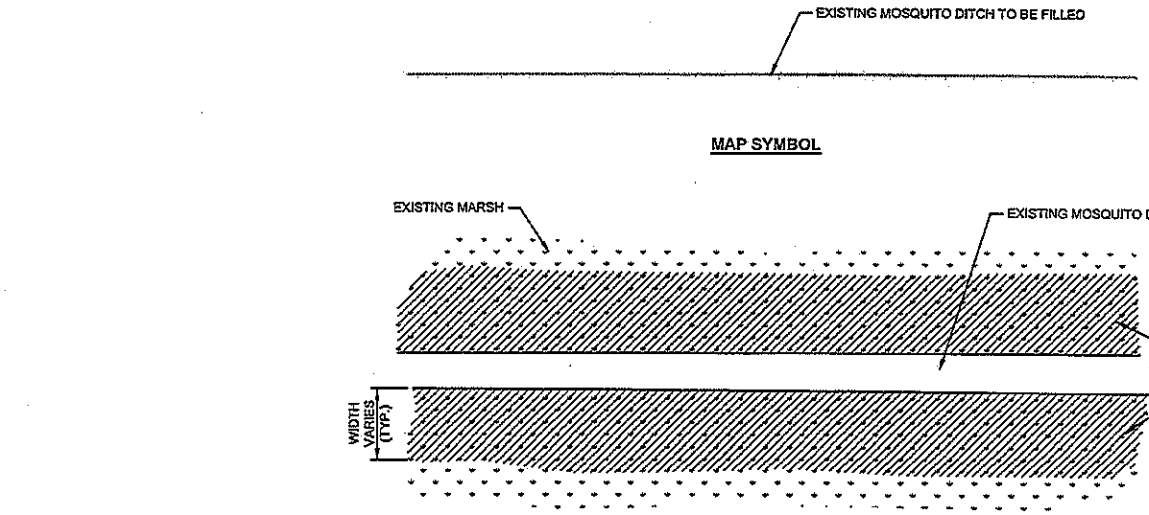
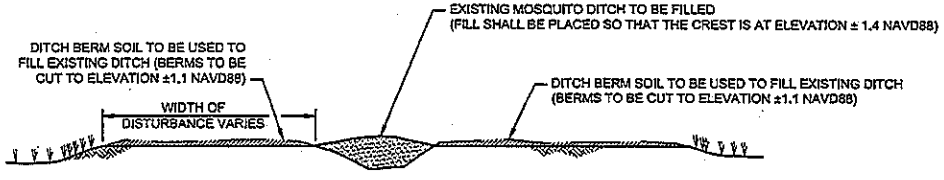
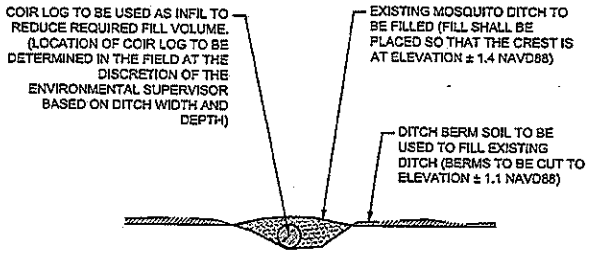
PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	HE
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	-
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-502
SHEET NO.:	14 OF 19







NOTE: SEE TYPICAL COIR LOG DETAIL

PROPOSED DITCH FILL DETAIL

NTS

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

PROPOSED MARSH RESTORATION
DETAIL 3
FOR
WEST SAYVILLE WETLAND

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	HE
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	-
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-503
SHEET NO.:	15 OF 19

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PHONE (631) 427-5665 FAX (631) 427-5620
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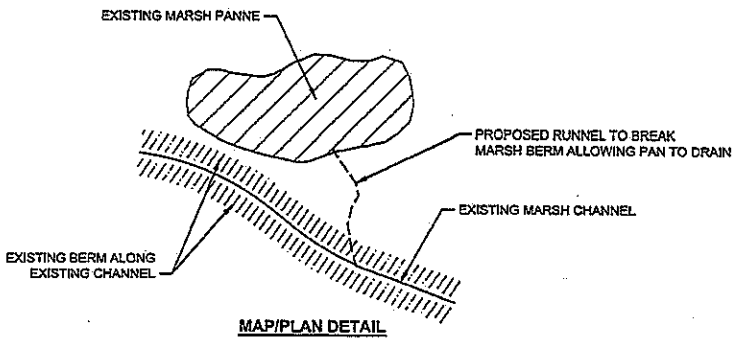
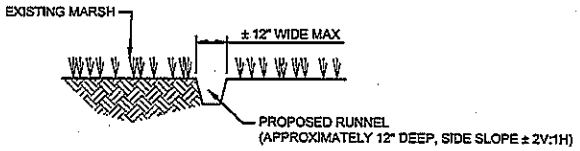
P.E. SEAL AND SIGNATURE



MAP/PLAN DETAIL



SECTION DETAIL

PROPOSED RUNNEL DETAIL

NTS

NOTES:
1. RUNNELS ARE PROPOSED TO BE CONSTRUCTED BOTH BY HAND AND BY MACHINE.
2. MATERIAL REMOVAL FROM RUNNEL CONSTRUCTION PERFORMED BY MACHINERY IS NEGLIGIBLE AND/OR BROADCAST IN THE AREA OF WORK, THEREFORE IT WILL NOT BE USED AS PROPOSED FILL.
3. MACHINE CONSTRUCTION RUNNEL IS A "V" SHAPED CROSS SECTION THAT MEETS THE DIMENSIONS SHOWN IN THE DETAIL.

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

PROPOSED MARSH RESTORATION
DETAIL 4
FOR
WEST SAYVILLE WETLAND

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	HE
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-504
SHEET NO.:	16 OF 19

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PHONE (631) 427-5665 FAX (631) 427-5620
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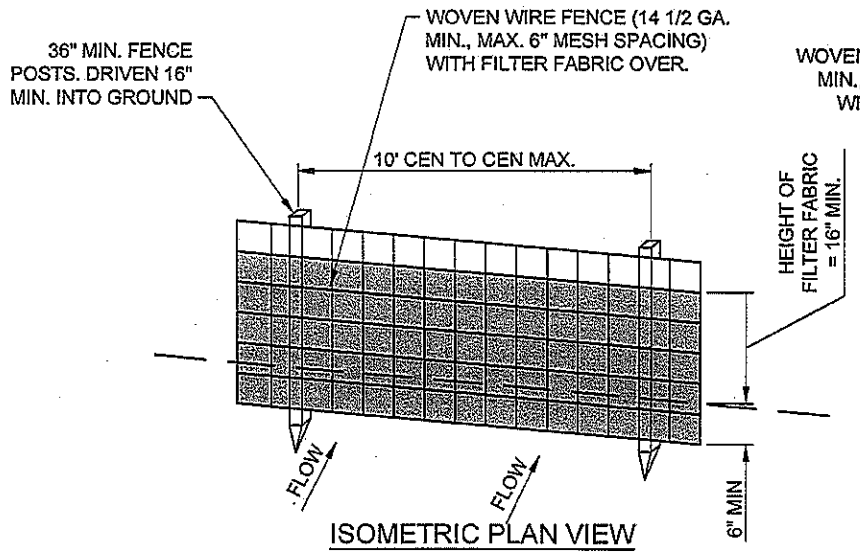
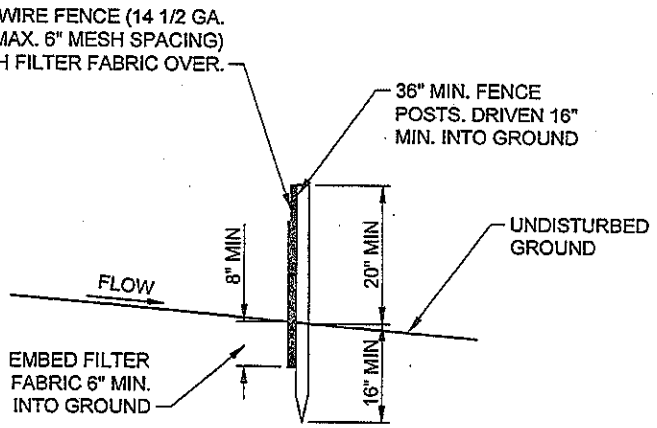
P.E. SEAL AND SIGNATURE



ISOMETRIC PLAN VIEW



SECTION

SILT FENCE DETAIL

NOT TO SCALE

NOTES

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
5. POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD.
6. FENCE: WOVEN WIRE, 14 1/2 GA. 6" MAX.MESH OPENING.
7. FILTER CLOTH SHALL BE A WOVEN GEOTEXTILE COMPOSED OF POLYPROPYLENE CONFORMING TO AASHTO M288.

STANDARD SYMBOL

——— SF ———

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

P.E. SEAL AND SIGNATURE

PROPOSED MARSH RESTORATION
DETAIL 5
FOR
WEST SAYVILLE WETLAND

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	HS
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	-
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-505
SHEET NO.:	17 OF 19

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PHONE (631) 427-5665 FAX (631) 427-5620
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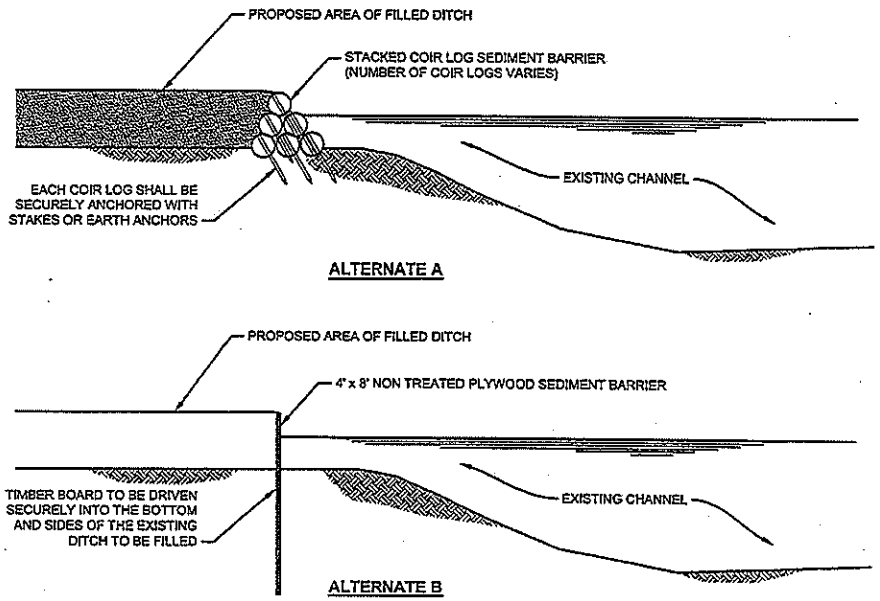

SEDIMENT BARRIER DETAIL

NTS

NOTE: SEDIMENT BARRIER IS TO BE USED TO TERMINATE A DITCH FILLING OPERATION AND PREVENT THE LOSS OF FILL SEDIMENT.

NO.	DATE:	REVISIONS:	BY:
1	2-14-18	REVISED PER DEC AND FEMA COMMENTS	RF

PROPOSED MARSH RESTORATION
DETAIL 7
FOR
WEST SAYVILLE WETLAND

PROJECT NO.:	16154
DRAWN BY:	CCV
CHECKED BY:	HE
DATE:	1-23-17
SCALE:	AS SHOWN
FILE NO.:	-
CADD:	16154 W SAYVILLE-ACOE
DRAWING NO.:	C-507
SHEET NO.:	19 OF 19

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P.E. SEAL AND SIGNATURE

NATIONWIDE GENERAL PERMIT COMPLIANCE CERTIFICATION AND REPORT FORM

Permit File Number: NAN-2017-01029-EHA
Permittee: Suffolk County Dept of Public Works - Vector Control
Location: West Sayville, south of Montauk Highway, West Sayville, Town of Islip, Suffolk County New York 11706

Date Permit Letter Issued: MAY 31 2018

Within 30 days of the completion of the activity authorized by this nationwide general permit and any mitigation required in the verification letter, please sign this certification and return it to the address at the bottom of this form.

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the permit's terms and conditions you are subject to permit suspension, modification or revocation.

I hereby certify that the work authorized by the above referenced nationwide general permit has been completed in accordance with the terms and conditions of said permit, and required mitigation was completed in accordance with the permit conditions.

_____ _____
Signature of Permittee Date

FOLD THIS FORM INTO THIRDS, WITH THE BOTTOM THIRD FACING OUTWARD. TAPE IT TOGETHER AND MAIL TO THE ADDRESS BELOW OR FAX (212) 264-4260.

PLACE STAMP HERE

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
ATTN: CENAN-OP-RE
NEW YORK, NEW YORK 10278

Federal Interagency Comment Form

Applicant: Suffolk County Department of Public Works

Appl. Number: NAN-2017-01029

Commenting Agency: NOAA Fisheries / Habitat Conservation Division

Project Manager: McCathern

Waterway/Location: West Sayville County Park, West Sayville, Suffolk County, NY

Activity: Tidal marsh restoration, including removal of material from existing man-made berms and use of that material to fill 760 lf of existing linear mosquito ditches, the creation of runnels, naturalization of channels and the creation of micropools. Total impact is 7.2 acres.

ESSENTIAL FISH HABITAT (EFH)

Project may adversely affect EFH.

ESSENTIAL FISH HABITAT CONSERVATION RECOMMENDATIONS

Note: EFH CRs require a response from the federal action agency within 30 days of receipt or 10 days before a permit is issued if CRs are not included as a special condition of the permit. In addition, a distinct and further EFH consultation must be reinitiated pursuant to 50 CFR 600.920 (j) if new information becomes available, or if the project is revised in such a manner that affects the basis of the EFH determination or EFH conservation recommendations.

1. A five year monitoring plan should be developed for the restored wetland. Copies of the monitoring reports should be sent to our office.
2. If fill is imported to the site, it should be of compatible grain size and characteristics to the sediment at the site.

FISH AND WILDLIFE COORDINATION ACT CONSERVATION RECOMMENDATIONS

1. Use best management practices to minimize the release of suspended sediments into waterways.

ENDANGERED SPECIES ACT

Threatened or endangered species under the jurisdiction of NMFS may be present in the project area. The federal action agency will be responsible for determining whether the proposed action may affect listed species. If they determine that the proposed action may affect a listed species, they should submit their determination of effects, along with justification and a request for concurrence to the attention of the Section 7 Coordinator, NMFS, Greater Atlantic Regional Fisheries Office, Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930 or nmfs.gar.esa.section7@noaa.gov. Please be aware that we have recently provided on our website guidance and tools to assist action agencies with their description of the action and analysis of effects to support their determination. See http://www.greateratlantic.fisheries.noaa.gov/section7. After receiving a complete, accurate comprehensive request for consultation, in accordance to the guidance and instructions on our website, we would then be able to conduct a consultation under section 7 of the ESA. Should project plans change or new information become available that changes the basis for this determination, further coordination should be pursued. If you have any questions regarding these comments, please contact Edith Carson (978-282-8490; Edith.Carson@noaa.gov).

OTHER

1. Send NMFS a copy of the permit when issued.

SIGNATURE: Ursula Howson DATE: 11/15/17

Summary of Essential Fish Habitat (EFH) Designation

-

10◆ x 10◆ Square Coordinates:

Boundary	North	East	South	West
Coordinate	40° 50.0◆ N	73° 10.0◆ W	40° 40.0◆ N	73° 20.0◆ W

-

Square Description (i.e. habitat, landmarks, coastline markers): Atlantic Ocean waters within the square within Great South Bay, south of East Islip, NY., Islip, NY., Bay Shore, NY., Great Cove, and Babylon, NY., from west of Nicoll Pt. to Bergen Pt.

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Species	Eggs	Larvae	Juveniles	Adults
Atlantic salmon *(Salmo salar)*				X
Atlantic cod *(Gadus morhua)*				
haddock *(Melanogrammus aeglefinus)*				
pollock *(Pollachius virens)*			X	
whiting *(Merluccius bilinearis)*				
offshore hake *(Merluccius albidus)*				
red hake *(Urophycis chuss)*				
white hake *(Urophycis tenuis)*				
redfish *(Sebastes fasciatus)*	n/a			
witch flounder *(Glyptocephalus cynoglossus)*				
winter flounder *(Pseudopleuronectes americanus)*	X	X	X	X
yellowtail flounder *(Limanda ferruginea)*				
windowpane flounder *(Scophthalmus aquosus)*	X	X	X	X
American plaice *(Hippoglossoides platessoides)*				
ocean pout *(Macrozoarces americanus)*				
Atlantic halibut *(Hippoglossus hippoglossus)*				
Atlantic sea scallop *(Placopecten magellanicus)*				
Atlantic sea herring *(Clupea harengus)*			X	X
monkfish *(Lophius americanus)*	X	X		

bluefish *(Pomatomus saltatrix)*			X	X
long finned squid *(Loligo pealeii)*	n/a	n/a		
short finned squid *(Illex illecebrosus)*	n/a	n/a		
Atlantic butterfish *(Peprilus triacanthus)*	X	X	X	X
Atlantic mackerel *(Scomber scombrus)*	X	X	X	X
summer flounder *(Paralichthys dentatus)*			X	X
scup *(Stenotomus chrysops)*	n/a	n/a	X	X
black sea bass *(Centropristis striata)*	n/a			X
surf clam *(Spisula solidissima)*	n/a	n/a		
ocean quahog *(Artica islandica)*	n/a	n/a		
spiny dogfish *(Squalus acanthias)*	n/a	n/a		
tilefish *(Lopholatilus chamaeleonticeps)*				
king mackerel *(Scomberomorus cavalla)*	X	X	X	X
Spanish mackerel *(Scomberomorus maculatus)*	X	X	X	X
cobia *(Rachycentron canadum)*	X	X	X	X
sand tiger shark *(Carcharias taurus)*		X		
blue shark (*Prionace glauca)*				X
dusky shark *(Carcharhinus obscurus)*		X		
sandbar shark *(Carcharhinus plumbeus)*		X	X	X

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Summary of Essential Fish Habitat (EFH) Designation

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10◆ x 10◆ Square Coordinates:

Boundary	North	East	South	West
Coordinate	40° 50.0◆ N	73° 00.0◆ W	40° 40.0◆ N	73° 10.0◆ W

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Square Description (i.e. habitat, landmarks, coastline markers): Atlantic Ocean waters within the square and within Great South Bay, north of Ocean Beach, and south of Sayville, NY. and Boheamia, NY., from Patchogue, NY. and western Patchogue Bay to just west of Nicoll Pt. on Nicoll Bay, southeast of Great River, NY., and the Connetquot River.

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Species	Eggs	Larvae	Juveniles	Adults
Atlantic salmon *(Salmo salar)*				X
Atlantic cod *(Gadus morhua)*				
haddock *(Melanogrammus aeglefinus)*				
pollock *(Pollachius virens)*			X	
whiting *(Merluccius bilinearis)*				
offshore hake *(Merluccius albidus)*				
red hake *(Urophycis chuss)*				
white hake *(Urophycis tenuis)*				
redfish *(Sebastes fasciatus)*	n/a			
witch flounder *(Glyptocephalus cynoglossus)*				
winter flounder *(Pseudopleuronectes americanus)*	X	X	X	X
yellowtail flounder *(Limanda ferruginea)*				
windowpane flounder *(Scophthalmus aquosus)*	X	X	X	X
American plaice *(Hippoglossoides platessoides)*				
ocean pout *(Macrozoarces americanus)*				
Atlantic halibut *(Hippoglossus hippoglossus)*				
Atlantic sea scallop *(Placopecten magellanicus)*				
Atlantic sea herring *(Clupea harengus)*			X	X

monkfish *(Lophius americanus)*				
bluefish *(Pomatomus saltatrix)*			X	X
long finned squid *(Loligo pealeii)*	n/a	n/a		
short finned squid *(Illex illecebrosus)*	n/a	n/a		
Atlantic butterfish *(Peprilus triacanthus)*	X	X	X	X
Atlantic mackerel *(Scomber scombrus)*	X	X	X	X
summer flounder *(Paralichthys dentatus)*			X	X
scup *(Stenotomus chrysops)*	n/a	n/a	X	X
black sea bass *(Centropristis striata)*	n/a			X
surf clam *(Spisula solidissima)*	n/a	n/a		
ocean quahog *(Artica islandica)*	n/a	n/a		
spiny dogfish *(Squalus acanthias)*	n/a	n/a		
tilefish *(Lopholatilus chamaeleonticeps)*				
king mackerel *(Scomberomorus cavalla)*	X	X	X	X
Spanish mackerel *(Scomberomorus maculatus)*	X	X	X	X
cobia *(Rachycentron canadum)*	X	X	X	X
sand tiger shark *(Carcharias taurus)*		X		
blue shark (*Prionace glauca)*				X
dusky shark *(Carcharhinus obscurus)*		X		
sandbar shark *(Carcharhinus plumbeus)*		X	X	X
skipjack tuna *(Katsuwonus pelamis)*				X

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