US Army Corps of Engineers
Philadelphia District
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390
ATTN: CENAP-OP-R

Public Notice

Public Notice No.	Date
CENAP-OP-R-2017-00755	**January 18, 2018**
Application No.	File No.
In Reply Refer to: **REGULATORY BRANCH**	

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

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

APPLICANT: Virginia Rettig
United States Fish and Wildlife Service
Edwin B Forsythe National Wildlife Refuge
P.O. Box 72
Oceanville, New Jersey 08231

AGENT: Charles R. Harman
Amec Foster Wheeler
285 Davidson Avenue, Suite 405
Somerset, New Jersey 08873

WATERWAY: Barnegat Bay/ Metedeconk River

LOCATION: The sediment enrichment site is located at Block 26 Lots 24, 26, 27, 28, 28.01, 29, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 50, and 50.01 and Block 68.02 Lot 7, 8, 9, Brick Township, Ocean County, New Jersey.

ACTIVITY: The applicant proposes to perform thin layer deposition of sediment across a degraded tidal salt marsh. This thin layer deposition will be conducted by spreading approximately 68,487 cubic yards (CY) of suitable dredged sediment into a series of eight (8) cells. The eight (8) cells are identified as follows: “BRA-2” at 4.3 acres, “BRA-3A” at 2.6 acres, “BRA-3B” at 3.5 acres, “BRA-4” at 3.0 acres, “BRA-5” at 4.9 acres, “BRA-8” at 4.8 acres, “BRA-9” at 1.2, and “BRA-10” at 3.3 acres. The total area of impacts is 27.6 acres.

The proposed height of layered deposit will vary depending on the initial elevation within each of the project cells. Biological target elevations (BTE) for five (5) of eight of the cells, BRA-2, BRA-3A, BRA-3B, BRA-4 and BRA-8, was determined to be 0.66 feet above mean sea level (MSL) for optimal high salt marsh growth. BTE for the other three (3) cells, BRA-5, BRA-9 and BRA-10, was determined to be 0.33 feet above MSL.

To achieve the desired elevation, within each cell, dredging barges will pump sediment from the bottom of the designated dredge channel through secure welded pipelines. The pipeline will be floated over water except where it crosses over navigation channels, where it will be sunk in order to avoid interference with vessel and watercraft traffic. Within the Project Area, the pipe will be hand-placed directly onto the marsh surface. The end of the pipeline where sediment is discharged will have a diffuser to evenly distribute the pressure of the water and sediment mixture. Once an area reaches the desired elevation it will be moved by hand to another area within the same cell. This phased approach will ensure that one cell will have reached its desired elevation somewhat evenly and in its entirety before moving onto another cell.

In order to provide protection from nearby channels and watercourses protective measures, such as filter block, coir fiber logs, or other materials, will be placed at some distance from the edge of the watercourse. The distance may vary from 10 to 50 feet depending upon site-specific conditions.

The sediment provided should consist of fine to medium grain sands mixed with finer grained silts and clays. This would provide geotechnically suitable materials for the proposed sediment enrichment cells.

The United States Fish and Wildlife Service is expected to obtain dredge material provided by New Jersey Department of Transportation, which The Service shall determine whether or not the material is suitable this project before sending report to the Corps for approval. The amount of dredge material will be determined by USFWS and NJDOT. The Corps will review this along with sediment sample results for grain size and any contaminants before any work has commenced.

PURPOSE: The stated purpose of the project is to build marsh elevations with sediment from nearby dredging projects in order to create, restore, and maintain vital coastal marsh habitat and to help slow or reverse losses of salt marsh due to sea level rise while increasing the resiliency of a system that has been degraded by centuries of anthropogenic impacts.

A preliminary review for this application will need to be completed by United State Fish and Wildlife Service to make an effects determination on species listed on the Endangered Species (ESA) List. The determination will also have to be coordinated with National Marine Fisheries Service.

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

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

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

The permit action may have the potential to impact historic properties eligible for or listed on the National Register of Historic Places. The USACE Cultural Resource Specialist will consult with the New Jersey Historic Preservation Office and make a determination on potential impacts to historic properties.

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

Analysis of the Effects: The United Stated Fish and Wildlife Service will need to initiate consultation with the National Marine Fisheries Service to ensure that any action taken will not have a substantial effect on EFH.

Compensatory mitigation according to Federal regulation 33 CFR 325.1(d)(7), applicants wishing to discharge dredged and fill material into waters of the U.S. must include a statement on how they have avoided and minimized impacts as well as how they intend to compensate for unavoidable impacts. The applicant has avoided/minimized impacts to the aquatic environment by incorporating engineering/construction procedures into the process that will substantially reduce impacts to aquatic resources. Additionally, the applicant states that the underlying intent of this project is to enhance the marsh at this site using clean material taken from an adjacent navigation channel. The thin layer placement of material is one of the techniques that will be used to enhance marsh functions by raising the elevation of the marsh platform and increasing the marsh’s resiliency, however, wetlands will not be converted to uplands through this technique. Different portions of the marsh will respond differently to sediment enrichment and such responses may change from year to year. By having the United States Fish and Wildlife Service commit to an adaptive management approach, the techniques to manage the vegetation community can be tailored to the specific area during that particular season.

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

In accordance with Section 401 of the Clean Water Act, a Water Quality Certificate is necessary from the State government in which the work is located. Any comments concerning the work described above which relate to Water Quality considerations should be sent to this office with a copy to the State.

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

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

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

Edward E. Bonner
Chief, Regulatory Branch

E. B. FORSYTHE RESILIENCY PROJECT #37C
MARSH ENHANCEMENT AND TELEPHONE POLE ARRAY REMOVAL PROJECT
BRICK PROJECT AREA A
GALLOWAY, NEW JERSEY
100% DESIGN PLAN

PREPARED FOR:

U.S. FISH & WILDLIFE SERVICE
EDWIN B. FORSYTHE NATIONAL WILDLIFE REFUGE
800 GREAT CREEK ROAD
GALLOWAY, NEW JERSEY 08205
TEL. (609) 652-1665

PREPARED BY:

amec foster wheeler
PRIME CONTRACTOR

AMEC FOSTER WHEELER
285 DAVIDSON AVENUE, SUITE 405
SOMERSET, NEW JERSEY 08873
TEL. (732) 302-9500
PROJECT NUMBER: 3559-15-0001

EA Engineering, Science, and Technology, Inc., PBC
SUBCONTRACTOR

EA ENGINEERING, SCIENCE & TECHNOLOGY, INC., PBC.
HUNT VALLEY CENTER
225 SCHILLING CIRCLE
HUNT VALLEY, MARYLAND 21031
TEL. (410) 584-7000

BRICK PROJECT A LOCATION MAP
SCALE: 1" = 2,000 FEET

VICINITY MAP
NOT TO SCALE

INDEX OF DRAWINGS

SHEET NUMBER	SHEET TITLE	DRAWING TITLE
1	C-000	TITLE SHEET
2	C-001	GENERAL NOTES
3	C-100	BRICK PROJECT AREA A KEY SHEET
4	C-301	BRICK PROJECT AREA A PROPOSED CONDITIONS PLAN 1
5	C-302	BRICK PROJECT AREA A PROPOSED CONDITIONS PLAN 2
6	C-303	BRICK PROJECT AREA A SECTIONS
7	C-304	PRIMARY PERIMETER COORDINATE TABLES
8	C-800	DETAILS

UNITED STATES FISH AND WILDLIFE SERVICE
MARSH ENHANCEMENT AND TELEPHONE POLE ARRAY REMOVAL PROJECT
GALLOWAY, NEW JERSEY
TITLE SHEET

amec foster wheeler
AMEC PROJECT NO.: 3559-15-0001

EA Engineering, Science, and Technology, Inc., PBC.

DATE: NOVEMBER 2017
PROJECT NO.: 62943.02
C-000
SHEET 1 OF 8

100% DESIGN PLAN - NOT FOR CONSTRUCTION

MAP NOTES AND REFERENCES:

1. ALL ELEVATIONS IN FEET ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) ELEVATIONS CAN BE CONVERTED FROM NAVD88 TO NGVD29 BY SUBTRACTING 1.05 FEET.
2. THESE PLANS ARE REFERENCED TO HORIZONTAL UNIVERSAL TRANSVERSE MERCATOR (UTM) ZONE 18N, NORTH AMERICAN DATUM OF 1983 (NAD83) AND VERTICAL NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). THESE PLANS INCLUDE BASELINE DATA FOR THE PROJECT LIMITS OF WORK.
3. EXISTING SITE FEATURES AS SHOWN ARE BASED ON SURVEY AND LIDAR DATA COLLECTED BY QUANTUM SPATIAL INC. ON 27 MARCH 2015 AND GPS SURVEY DATA COLLECTED BY EA ENGINEERING, SCIENCE, AND TECHNOLOGY INC., PBC BETWEEN 20 JULY AND 7 AUGUST.
4. REFUGE BOUNDARY TRANSMITTED TO EA ON AUGUST 22, 2017 FROM US FISH AND WILDLIFE SERVICE (USFWS).
5. AERIAL PHOTOGRAPHS WERE COLLECTED BY QUANTUM SPATIAL INC. ON 8 AND 14 MAY 2015.
6. ELEVATIONS BELOW -0.5' ARE APPROXIMATE AND BASED ON FIELD MEASUREMENTS BY U.S. FISH AND WILDLIFE AND EA ENGINEERING, SCIENCE, AND TECHNOLOGY INC., PBC.
7. BATHYMETRY DATA WAS NOT COLLECTED FOR POOLS IN CELLS A-05, A-08, OR A-10. DEPTHS ARE ESTIMATED BASED ON INFORMATION PROVIDED BY USFWS. THE CONTRACTOR SHALL PROVIDE A BATHYMETRIC SURVEY AND PROVIDE THIS INFORMATION TO THE ENGINEER AS PART OF THIS SCOPE OF WORK. THE ENGINEER WILL CONFIRM CELL VOLUME CAPACITIES WITH THIS INFORMATION.
8. BIOLOGICAL TARGET ELEVATIONS FOR CELLS PROVIDED BY USFWS.

GENERAL CONSTRUCTION NOTES:

1. THIS DRAWING SET IS FOR SEDIMENT ENRICHMENT PLANS FOR BRICK A.
2. THE CONTRACTOR SHALL VERIFY THE PROPOSED LAYOUT OF THE WORK AND PERFORM PRE-CONSTRUCTION SURVEYS, TOPOGRAPHIC, AND BATHYMETRIC SURVEYS OF AREAS TO RECEIVE SEDIMENT TO CONFIRM EXISTING ELEVATIONS. THE CONTRACTOR SHALL ALSO VERIFY ALL DIMENSIONS, DEPTHS, SITE CONDITIONS, AND MATERIAL SPECIFICATIONS AND SHALL NOTIFY THE OWNER (UNITED STATES FISH & WILDLIFE SERVICE (USFWS)) AND ENGINEER OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE COMMENCING OR PROCEEDING WITH WORK.
3. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE SYSTEM OF ANY CONSTRUCTION LAYOUT BENCHMARKS AND BASELINES FOR THE DURATION OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE HORIZONTAL AND VERTICAL ACCURACY DURING ALL CONSTRUCTION ACTIVITIES.
4. ALL EQUIPMENT USED ON THE MARSH SHALL BE LOW GROUND PRESSURE (I.E. 2 PSI MAXIMUM), UNLESS APPROVED BY THE USFWS PRIOR TO MOBILIZATION.
5. DEVIATIONS OR CHANGES FROM THESE PLANS WILL NOT BE ALLOWED UNLESS APPROVED BY THE PRIME CONTRACTOR, ENGINEER, AND USFWS.
6. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE SITE THROUGH THE ENTIRE PERIOD OF CONSTRUCTION.
7. CONTRACTOR SHALL PROTECT OTHER STRUCTURES WITHIN OR ADJACENT TO THE PROJECT AREAS WHICH ARE SCHEDULED TO REMAIN. ANY DAMAGE TO SUCH STRUCTURES SHALL BE REPAIRED BY THE CONTRACTOR, AT THEIR OWN COST, TO THE SATISFACTION OF THE ENGINEER AND OWNER.
8. SEE THE CONTRACT DOCUMENTS FOR ADDITIONAL SPECIFICATIONS FOR CONTRACTOR SUBMITTALS FOR:
   - ACCESS AND MOBILIZATION PLAN
   - SEDIMENT PLACEMENT PLAN
   - QUALITY ASSURANCE PLAN
   - SPILL PREVENTION PLAN
   - RESTORATION PLAN
   - HEALTH AND SAFETY PLAN

   THE CONTRACTOR SHALL PROCEED IN ACCORDANCE WITH THE ABOVE REFERENCED SUBMITTALS UPON APPROVAL FROM USFWS.
9. THE CONTRACTOR SHALL NOTIFY THE E.B. FORSYTHE NWR
   A. ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE,
   B. ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY,
   C. AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
10. CONTRACTOR SHALL CONTINUOUSLY MONITOR TIDE LEVELS AND FILL PLACEMENT TO ENSURE THAT THE MARSH FILL LEVEL IS NOT EXCEEDED DURING THE FILLING OF EACH CELL. THE CONTRACTOR SHALL HAVE ADEQUATE PERSONNEL ONSITE WITH THE ABILITY OF SETTING ACCURATE CONTROL FOR THE PLANNED OPERATIONS. ALLOWABLE TOLERANCE SHALL BE +0.10'. BIOLOGICAL TARGET ELEVATIONS SHALL NOT BE EXCEEDED.
11. DISTURBANCE OF SOIL SURFACES IS REGULATED BY STATE LAW AND LOCAL ORDINANCE. ALL WORK SHALL COMPLY WITH THE FOLLOWING CRITERIA AND ISSUED PERMIT CONDITIONS TO PREVENT OR MINIMIZE SOIL EROSION.
12. THE INSTALLATION AND MAINTENANCE OF EROSION CONTROL DEVICES IS THE RESPONSIBILITY OF THE CONTRACTOR. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLANS. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED IN EFFECTIVE CONDITION DURING CONSTRUCTION.
13. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY (7TH EDITION, JANUARY 2014), AND SHALL BE INSTALLED IN PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT STABILIZATION IS ESTABLISHED.
14. WASTE DISPOSAL: MATERIALS WHICH COULD BE A POTENTIAL SOURCE OF STORMWATER POLLUTION SUCH AS GASOLINE, DIESEL FUEL, HYDRAULIC OIL, ETC., SHALL BE STORED AT THE END OF EACH DAY IN A STORAGE TRAILER OR COVERED LOCATION. ALL TYPES OF WASTE GENERATED AT THIS SITE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH STATE LAW AND/OR REGULATIONS.
15. CONTRACTOR SHALL FOLLOW THE SEQUENCE OF SOIL EROSION AND SEDIMENT CONTROL MEASURES ON THIS PAGE.

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE OCEAN COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY LAND DISTURBANCE.
2. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
3. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
4. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
5. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A STONE PAD AT ALL CONSTRUCTION DRIVEWAYS WHERE VEHICLES WILL ACCESS PAVED ROADWAYS FROM UNPAVED AREAS OF THE SITE.
6. ALL SEDIMENT WASHED, DROPPED, SPILLED, OR TRACKED ONTO ROADWAYS (PUBLIC OR PRIVATE) OR OTHER IMPERVIOUS SURFACES WILL BE REMOVED IMMEDIATELY.
7. UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING.
8. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.

SEDIMENT PLACEMENT:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACED SEDIMENT STABILITY WITHIN THE CONTAINMENT AREAS DURING CONSTRUCTION. FILL OPERATIONS SHALL BE CONDUCTED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS.
2. SEDIMENT PLACED WITHIN THE PLACEMENT LOCATIONS SHALL NOT EXCEED A HEIGHT GREATER THAN SPECIFIED FOR THE TARGET ELEVATION AT EACH CELL, AS SHOWN ON THE PROPOSED CONDITIONS PLANS.
3. IF DEVIATIONS OR CHANGES IN THE IDENTIFIED PLACEMENT LOCATIONS ARE NEEDED, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER AND USFWS FOR APPROVAL OF ALTERNATIVE PLACEMENT LOCATIONS (HORIZONTAL LIMIT OR HEIGHT).
4. THE MORE COARSE GRAINED MATERIAL SHALL BE PLACED IN POND AREAS. THE CONTRACTOR'S PLACEMENT PLAN SHALL SHOW THE GRAIN SIZE BEING DREDGED AND IN WHICH CELL THAT MATERIAL WILL BE PLACED.
5. THE PURPOSE OF THE HIGHLIGHTED OR IDENTIFIED SEDIMENT PLACEMENT AREAS ON THE PLANS IS TO SHOW WHERE MATERIAL CAN ACTUALLY BE PLACED FOR THE PROJECT. THESE ARE THE AGREED UPON LOCATIONS (BY USFWS AND THE REGULATORY COMMUNITY). IF THE CONTRACTOR DESIRES ADDITIONAL OR DIFFERENT AREAS, OTHER THAN WHAT HAS BEEN IDENTIFIED, THEN USFWS CAN DIRECT THE OPERATION AT THAT TIME. DURING THE OPERATIONS, USFWS WILL BE MONITORING OR OBSERVING THE SEDIMENT PLACEMENT AND MAKING DECISIONS (BASED UPON REAL-WORLD CONDITION (I.E. SEDIMENT TYPE, WIND CONDITIONS, WATER-LEVELS, BATHYMETRY)) THAT COULD ALTER THE PLACEMENT. THE 100% DESIGN IS INTENDED TO BE USED AS A GUIDE FOR MATERIAL PLACEMENT.

UTILITIES:

1. THE CONTRACTOR SHALL CONFIRM THAT NO UTILITIES EXIST WITHIN THE LIMITS OF WORK.
2. NOTIFY DIGSAFE AND/OR PUBLIC UTILITIES AT LEAST 3 BUSINESS DAYS PRIOR TO SITEWORK ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD LOCATION/VERIFICATION AND PROTECTION OF ALL SUBSURFACE AND OVERHEAD UTILITIES.
3. NO KNOWN UNDERGROUND UTILITIES HAVE BEEN DOCUMENTED WITHIN THE LIMITS OF WORK. SHOULD UNCHARTED UTILITIES BE IDENTIFIED PRIOR TO EARTHWORK ACTIVITIES, OR ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, CONSULT ENGINEER FOR DIRECTION.
4. PRIOR TO ANY CONSTRUCTION ACTIVITIES:
   A. LOCATE ANY UTILITIES WITHIN THE LIMITS OF WORK AND DETERMINE WHETHER UTILITIES ARE ACTIVE.
   B. PERFORM A PRE-CONSTRUCTION GROUND SURVEY WITHIN THE LIMITS OF WORK.
   C. LAYOUT WORK LIMIT STATIONS.
   D. INSTALL EROSION AND SEDIMENTATION CONTROL MEASURES.

SPILL PREVENTION AND RESPONSE PLAN:

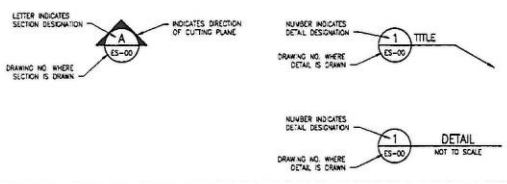
1. CONTRACTOR SHALL FOLLOW PROCEDURES DESCRIBED IN SPILL PREVENTION AND RESPONSE PLAN PREPARED BY CONTRACTOR AND APPROVED BY USFWS (TO BE SUBMITTED).

SEQUENCE OF SOIL EROSION AND SEDIMENT CONTROL MEASURES:

THE CONTRACTOR SHALL FOLLOW THE SEQUENCING PLAN DESCRIBED BELOW. CHANGES ARE PERMITTED WITH THE WRITTEN APPROVAL OF THE OWNER AND ENGINEER.

1. THE OCEAN COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY LAND DISTURBANCE. THE E.B FORSYTHE N.W.R. SHALL BE NOTIFIED ONE WEEK IN ADVANCE OF ANY LAND DISTURBANCE.
2. ESTABLISH SEDIMENT AND EROSION CONTROL MEASURES FOR STAGING AREA(S), STABILIZED CONSTRUCTION ENTRANCES (SCE), PRIMARY AND SECONDARY PERIMETER CONTAINMENT LIMITS, AND CHANNEL DRAINAGE BLOCKS FOR THE PROJECT AREA AND CELL TO BE FILLED.
3. FILL OPERATIONS SHALL BE LIMITED TO ONE CELL AT A TIME. FILL MATERIAL SHALL BE TRANSPORTED TO THE SITE(S) BY SUITABLE MEANS, IN AN EFFORT TO MINIMIZE DISTURBANCE, OR RELEASE OF SEDIMENT INTO OPEN WATER.
4. FILL WITHIN SPECIFIED CONTAINMENT LIMITS TO THE MAXIMUM FILL LEVEL/TARGET ELEVATION, AS SPECIFIED FOR EACH CELL.
5. REPAIR/STABILIZE ANY DISTURBED AREAS USED TO ACCESS THE CELL.
6. CONTACT THE OCEAN COUNTY SOIL CONSERVATION DISTRICT AND E.B. FORSYTHE N.W.R. ONE WEEK IN ADVANCE OF FINAL INSPECTION.
7. SOIL EROSION AND SEDIMENT CONTROL SHALL REMAIN IN PLACE UNTIL ALL WORK IS COMPLETED. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF THE SITE UNTIL ALL WORK IS COMPLETE AND THE USFWS SHALL BE RESPONSIBLE FOR REMOVING THE SOIL EROSION AND SEDIMENT CONTROLS.
8. ALL SOIL EROSION AND SEDIMENTATION STRUCTURES SHALL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS AND AFTER EVERY STORM EVENT.
9. PROCEED TO NEXT CELL FOR FILL OPERATIONS, REPEATING STEPS 1. THROUGH 6. OF THIS SEQUENCE UNTIL ALL CELLS IN THE PROJECT AREA(S) ARE COMPLETE.
10. UPON STABILIZATION OF THE SITE(S) AND WITH APPROVAL OF OCEAN COUNTY SOIL CONSERVATION DISTRICT, REMOVE ANY SEDIMENT AND EROSION CONTROL MEASURES NOT INTENDED TO BE PERMANENT, AND STABILIZE ALL AREAS DISTURBED BY THIS PROCESS.

REFERENCE SYMBOLS



UNITED STATES FISH AND WILDLIFE SERVICE
MARSH ENHANCEMENT AND TELEPHONE TIDAL MARSH RESTORATION
OCEAN COUNTY, NEW JERSEY

GENERAL NOTES

amec foster wheeler

AMEC PROJECT NO.: 3559-15-0001

EA Engineering, Science, and Technology, Inc., PBC.

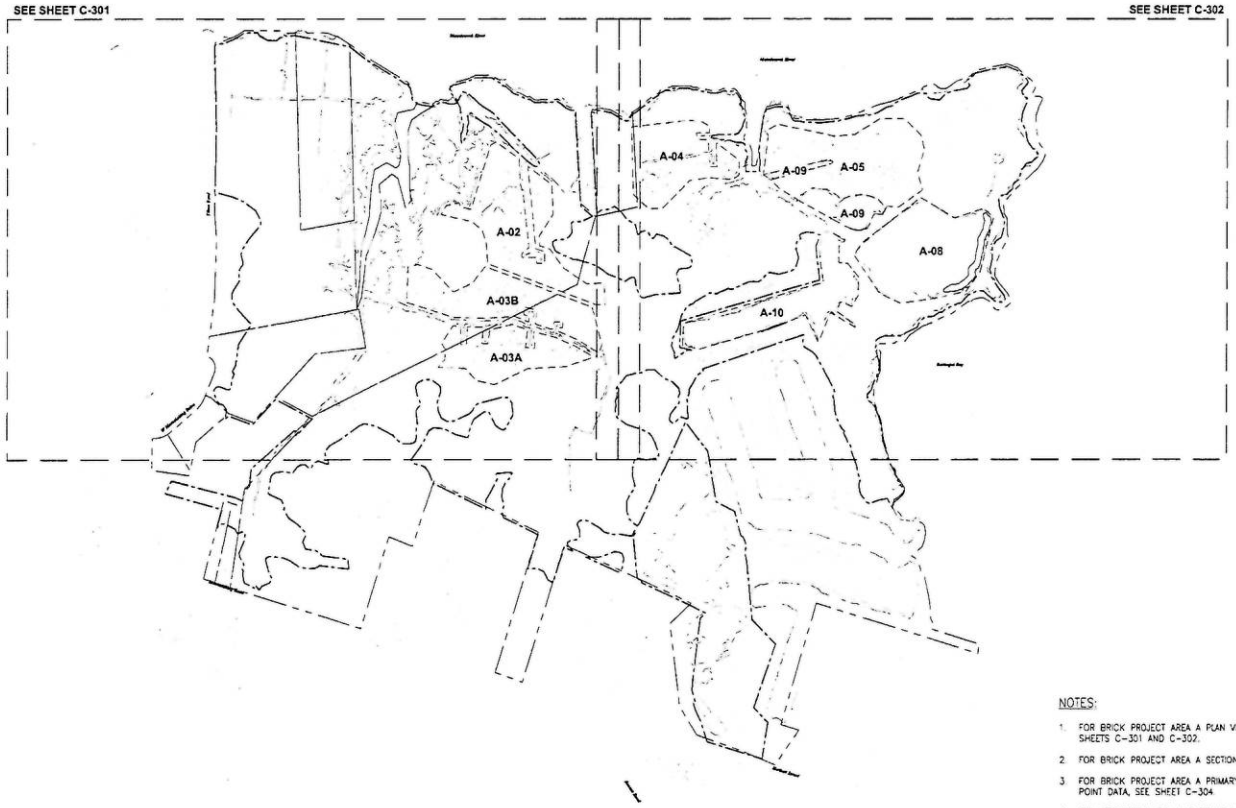
DATE: NOVEMBER 2017

PROJECT NO.: 62843.02

C-001

SHEET: 2 OF 8

100% DESIGN PLAN - NOT FOR CONSTRUCTION



BRICK PROJECT AREA A KEY SHEET
1" = 250'

NOTES:

1. FOR BRICK PROJECT AREA A PLAN VIEWS (1" = 100'), SEE SHEETS C-301 AND C-302.
2. FOR BRICK PROJECT AREA A SECTION DATA, SEE SHEET C-303.
3. FOR BRICK PROJECT AREA A PRIMARY PERIMETER CONTAINMENT POINT DATA, SEE SHEET C-304.
4. CELL BOUNDARY AREA AND PRIMARY PERIMETER CONTAINMENT ARE CONCURRENT, AND ARE ONLY SHOWN SEPARATE ON THE PLAN FOR CLARITY.

LEGEND:

- EXISTING PARCEL BOUNDARY
- EXISTING SITE LIMITS
- EXISTING EDGE OF WATER
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- CELL BOUNDARY
- PRIMARY PERIMETER CONTAINMENT
- SECONDARY PERIMETER CONTAINMENT

UNITED STATES FISH AND WILDLIFE SERVICE
MARSH ENHANCEMENT AND TELEPHONE POLE ARRAY REMOVAL PROJECT
GALLOWAY, NEW JERSEY

BRICK PROJECT AREA A
KEY SHEET

amec foster wheeler

AMEC PROJECT NO.: 3559-15-0001

EA Engineering, Science, and Technology, Inc., PBC.

DATE: NOVEMBER 2017

PROJECT NO.: 62943.02

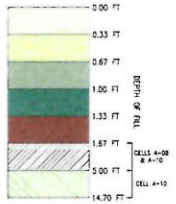
C-300

SHEET: 3 OF 8

100% DESIGN PLAN - NOT FOR CONSTRUCTION

NOTES:

1. FOR BRICK PROJECT AREA A SECTION DATA, SEE SHEET C-303
2. FOR BRICK PROJECT AREA A PRIMARY PERIMETER CONTAINMENT POINT DATA, SEE SHEET C-304.
3. CELL BOUNDARY AREA AND PRIMARY PERIMETER CONTAINMENT ARE CONCURRENT, AND ARE ONLY SHOWN SEPARATE ON THE PLAN FOR CLARITY.



MARSH FILL LEGEND
NOT TO SCALE

LEGEND:

- EXISTING PARCEL BOUNDARY
- EXISTING SITE LIMITS
- EXISTING EDGE OF WATER
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- CELL BOUNDARY
- PRIMARY PERIMETER CONTAINMENT
- SECONDARY PERIMETER CONTAINMENT
- PRIMARY PERIMETER POINT

BRICK PROJECT AREA A PROPOSED CONDITIONS PLAN 1
1" = 100'

UNITED STATES FISH AND WILDLIFE SERVICE
MARSH ENHANCEMENT AND TELEPHONE POLE ARRAY REMOVAL PROJECT
OCEAN COUNTY, NEW JERSEY

BRICK PROJECT AREA A
PROPOSED CONDITIONS PLAN 1

amec foster wheeler
AMEC PROJECT NO.: 3559-15-0001

EA Engineering, Science, and Technology, Inc., PBC

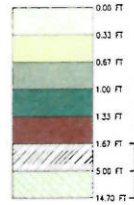
DATE: NOVEMBER 2017
PROJECT NO: 62943.02

C-301
SHEET: 4 OF 8

100% DESIGN PLAN - NOT FOR CONSTRUCTION

NOTES:

1. FOR BRICK PROJECT AREA A SECTION DATA, SEE SHEET C-303
2. FOR BRICK PROJECT AREA A PRIMARY PERIMETER CONTAINMENT POINT DATA, SEE SHEET C-304
3. CELL BOUNDARY AREA AND PRIMARY PERIMETER CONTAINMENT ARE CONCURRENT, AND ARE ONLY SHOWN SEPARATE ON THE PLAN FOR CLARITY



MARSH FILL LEGEND
NOT TO SCALE

LEGEND:

- EXISTING PARCEL BOUNDARY
- EXISTING SITE LIMITS
- EXISTING EDGE OF WATER
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- CELL BOUNDARY
- PRIMARY PERIMETER CONTAINMENT
- SECONDARY PERIMETER CONTAINMENT
- (1) PRIMARY PERIMETER POINT

BRICK PROJECT AREA A PROPOSED CONDITIONS PLAN 2
1" = 100'

UNITED STATES FISH AND WILDLIFE SERVICE
MARSH ENHANCEMENT AND TELEPHONE POLE ARRAY REMOVAL PROJECT
GALLOWAY, NEW JERSEY

BRICK PROJECT AREA A
PROPOSED CONDITIONS PLAN 2

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AMEC PROJECT NO.: 3559-15-0001

EA Engineering, Science, and Technology, Inc., PBC.

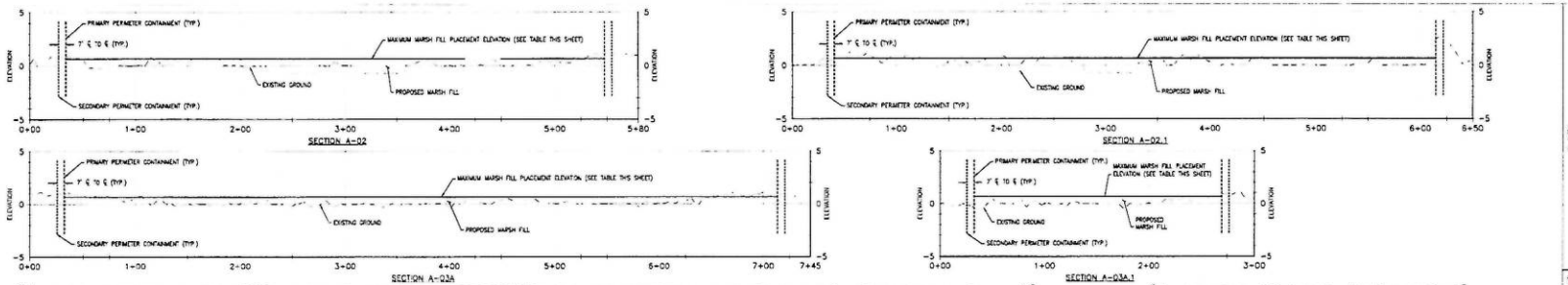
DATE: NOVEMBER 2017

PROJECT NO.: 62943.02

C-302

SHEET: 5 OF 8

100% DESIGN PLAN - NOT FOR CONSTRUCTION



BRICK A MAXIMUM MARSH FILL PLACEMENT ELEVATIONS (NAVD88)	
CELL	ELEVATION (FT)
A-02	0.66
A-03A	0.66
A-03B	0.66
A-04	0.66
A-05	0.33
A-08	0.66
A-10	0.33

NOTES:

1. FOR BRICK POINT PROJECT AREA A PLAN DATA, SEE SHEETS C-301 AND C-302.

HORIZONTAL SCALE IN FEET

VERTICAL SCALE IN FEET

UNITED STATES FISH AND WILDLIFE SERVICE
MARSH ENHANCEMENT AND TELEPHONE POLE ARRAY REMOVAL PROJECT
GALLOWAY, NEW JERSEY

BRICK PROJECT AREA A SECTIONS

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AMEC PROJECT NO.: 3559-15-0001

EA Engineering, Science, and Technology, Inc., PBC

DATE: NOVEMBER 2017

PROJECT NO.: 62943.02

C-303

SHEET: 5 OF 8

100% DESIGN PLAN - NOT FOR CONSTRUCTION

PRIMARY PERIMETER POINT TABLE - CELL A-02

PRIMARY PERIMETER POINT TABLE		
POINT NO.	NORTHING	EASTING
1	1454612.8	1901678.2
2	1454613.1	1901701.3
3	1454606.0	1901809.0
4	1454594.3	1901815.3
5	1454589.3	1901818.3
6	1454644.6	1901806.9
7	1454681.9	1901822.5
8	1454690.4	1901821.6
9	1454680.8	1901891.1
10	1454573.4	1901891.1
11	1454573.0	1901928.8
12	1454582.8	1901927.0
13	1454584.5	1901888.2
14	1454602.3	1901810.5
15	1454594.4	1901951.5
16	1454604.3	1901969.6
17	1454589.7	1901963.1
18	1454553.2	1901905.6
19	1454538.9	1901954.2
20	1454550.7	1902017.3

PRIMARY PERIMETER POINT TABLE		
POINT NO	NORTHING	EASTING
21	1454476.4	1902125.8
22	1454483.1	1902206.6
23	1454582.7	1902206.5
24	1454583.4	1902164.1
25	1454571.9	1901861.7
26	1454592.7	1901836.9
27	1454727.8	1901637.9
28	1454766.9	1901561.2
29	1454801.4	1901444.0
30	1454842.4	1901468.4
31	1454856.3	1901527.9
32	1454635.0	1901540.4
33	1454625.0	1901585.3

PRIMARY PERIMETER POINT TABLE - CELL A-03A

PRIMARY PERIMETER POINT TABLE		
POINT NO	NORTHING	EASTING
34	1454528.5	1901501.0
35	1454528.5	1901536.4
36	1454520.0	1901539.4
37	1454519.8	1901564.5
38	1454530.8	1901568.7
39	1454528.4	1901843.8
40	1454520.8	1901836.0
41	1454520.5	1901663.3
42	1454528.7	1901672.8
43	1454529.6	1901779.3
44	1454529.7	1901850.2
45	1454518.7	1901845.9
46	1454518.0	1901884.2
47	1454520.4	1901883.8
48	1454521.9	1901873.0
49	1454529.7	1901851.0
50	1454532.9	1901980.5
51	1454518.6	1902011.9
52	1454514.9	1902147.5
53	1454538.9	1902147.0

PRIMARY PERIMETER POINT TABLE		
POINT NO	NORTHING	EASTING
54	1454508.5	1902329.6
55	1454528.0	1901850.2
56	1454501.8	1901554.9
57	1454502.4	1901511.2
58	1454508.4	1901557.7
59	1454505.0	1901431.2
60	1454513.9	1901464.3
61	1454517.8	1901457.7
62	1454520.7	1901448.8

PRIMARY PERIMETER POINT TABLE - CELL A-03B

PRIMARY PERIMETER POINT TABLE		
POINT NO	NORTHING	EASTING
63	1454555.1	1901283.5
64	1454556.9	1901338.5
65	1454534.7	1901403.7
66	1454541.2	1901502.8
67	1454540.6	1901536.2
68	1454558.4	1901631.8
69	1454537.1	1902149.4
70	1454519.8	1902195.0
71	1454516.7	1902150.8
72	1454521.9	1902087.3
73	1454526.3	1901991.2
74	1454527.4	1901939.0
75	1454527.9	1902013.8
76	1454530.3	1903019.0
77	1454530.8	1901874.4
78	1454528.9	1901952.7
79	1454529.0	1901885.9
80	1454538.8	1901884.4
81	1454537.8	1901825.6
82	1454538.3	1901830.4

PRIMARY PERIMETER POINT TABLE		
POINT NO	NORTHING	EASTING
83	1454533.0	1901858.8
84	1454530.4	1901854.7
85	1454529.3	1901788.3
86	1454529.0	1901552.2
87	1454526.1	1901560.3
88	1454539.5	1901288.1

PRIMARY PERIMETER POINT TABLE - CELL A-04

PRIMARY PERIMETER POINT TABLE		
POINT NO	NORTHING	EASTING
89	1454629.9	1902331.2
90	1454629.2	1902653.1
91	1454627.6	1902987.3
92	1454208.9	1902837.1
93	1454617.8	1902837.4
94	1454617.4	1902837.4
95	1454618.4	1902842.7
96	1454614.5	1902692.5
97	1454602.9	1902702.2
98	1454602.7	1902733.5
99	1454612.3	1902730.7
100	1454605.3	1902838.8
101	1454584.1	1902836.8
102	1454584.2	1902806.7
103	1454597.4	1902694.4
104	1454585.3	1902608.7
105	1454583.8	1902478.8
106	1454585.9	1902413.5
107	1454582.8	1902338.8

PRIMARY PERIMETER POINT TABLE - CELL A-05

PRIMARY PERIMETER POINT TABLE		
POINT NO	NORTHING	EASTING
108	1454619.6	1902877.3
109	1454627.4	1903028.4
110	1454632.7	1903284.6
111	1454617.3	1903379.0
112	1454624.4	1903492.7
113	1454624.5	1903606.4
114	1454616.5	1903680.3
115	1454612.7	1903598.3
116	1454597.2	1903666.5
117	1454595.8	1903689.3
118	1454585.1	1903579.1
119	1454583.4	1903526.4
120	1454580.4	1903506.5
121	1454583.3	1903468.1
122	1454736.4	1903436.9
123	1454574.9	1903398.2
124	1454732.8	1903363.0
125	1454583.2	1903131.0
126	1454529.9	1903026.1
127	1454590.9	1902985.1

PRIMARY PERIMETER POINT TABLE		
POINT NO	NORTHING	EASTING
128	1454588.4	1902853.5

PRIMARY PERIMETER POINT TABLE - CELL A-08

PRIMARY PERIMETER POINT TABLE		
POINT NO	NORTHING	EASTING
129	1454567.1	1903412.4
130	1454579.4	1903581.2
131	1454584.6	1903840.5
132	1454628.3	1903976.5
133	1454788.7	1904024.8
134	1454536.1	1903961.8
135	1454544.5	1903893.0
136	1454411.7	1903748.5
137	1454536.1	1903567.8
138	1454434.1	1903492.1
139	1454612.0	1903375.8

REV	DES	CAT	ACN

UNITED STATES FISH AND WILDLIFE SERVICE
MARSH ENHANCEMENT AND TELEPHONE POLE ARRAY REMOVAL PROJECT
GALLOWAY, NEW JERSEY

PRIMARY PERIMETER COORDINATE TABLES

amec foster wheeler

AMEC PROJECT NO.: 3559-15-3001

EA Engineering, Science, and Technology, Inc., PBC

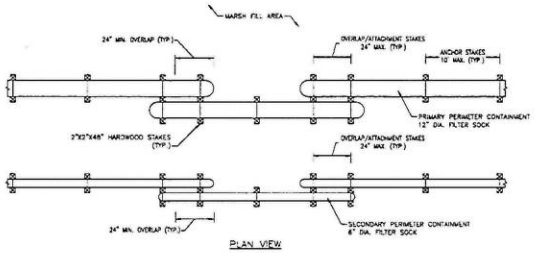
DATE: NOVEMBER 2017

PROJECT NO.: 62943.02

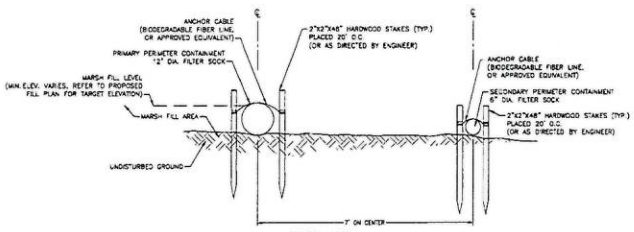
C-304

SHEET: 7 OF 8

100% DESIGN PLAN - NOT FOR CONSTRUCTION

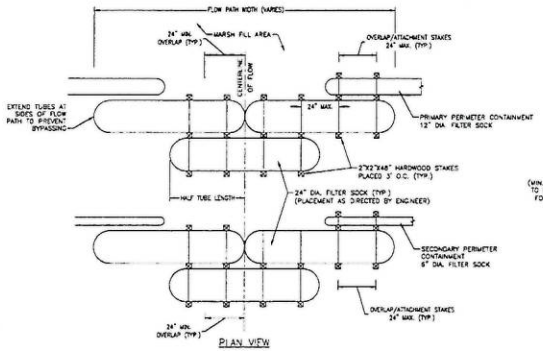


PLAN VIEW

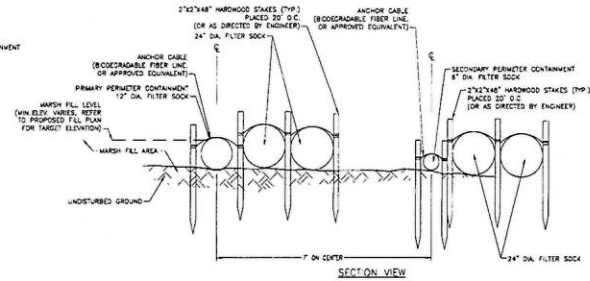


SECTION VIEW

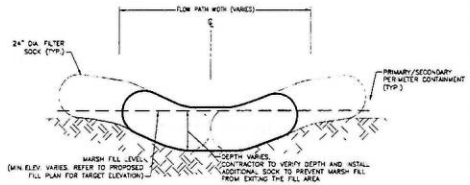
1 PRIMARY & SECONDARY PERIMETER CONTAINMENT
NOT TO SCALE



PLAN VIEW

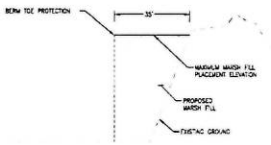


SECTION VIEW



LONGITUDINAL SECTION VIEW

2 DRAINAGE CHANNEL BLOCK
NOT TO SCALE



3 BERM TOE PROTECTION
NOTE:

1. INSTALL BERM TOE CONTAINMENT (E. SILT FENCE, FILTER SOCKS, OR OTHER ACCEPTABLE CONTAINMENT STRUCTURE) 35 FEET OUT AND FILL IN 1-FOOT LIFTS, ALLOWING MATERIAL TO SETTLE IN CONTAINED CELLS BEFORE ADDING NEW MATERIAL.

NOTES:

1. ALL CONTAINMENT SYSTEMS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. THE CONTRACTOR WILL BE RESPONSIBLE FOR SUBMITTING A CONTAINMENT SYSTEM SUITABLE FOR THE APPLICATION OF SEDIMENT MATERIAL.
2. CONTAINMENT SYSTEMS SHALL INCLUDE DRAINAGE CHANNEL BLOCK, PRIMARY & SECONDARY CONTAINMENT, AND BERM TOE PROTECTION.
3. FILTER SOCKS SHALL CONSIST OF 99.9% WEED-FREE BIODEGRADABLE MATERIAL. FILTER SOCK SHALL BE MADE OUT OF NON-WOVEN PHOTODEGRADABLE HDPE (HIGH DENSITY POLYPROPYLENE) WITH A ONE YEAR MAXIMUM UV INHIBITOR. COIR FIBER SHALL NOT BE USED.

UNITED STATES FISH AND WILDLIFE SERVICE
MARSH ENHANCEMENT AND TELEPHONE POLE ARRAY REMOVAL PROJECT
GALLOWAY, NEW JERSEY

DETAILS

amec foster wheeler

AMEC PROJECT NO.: 3559-15-0001

EA Engineering, Science, and Technology, Inc., PBC.

DATE: NOVEMBER 2017

PROJECT NO.: 62943.02

C-800

SHEET: 8 OF 8

100% DESIGN PLAN - NOT FOR CONSTRUCTION