



**US Army Corps  
of Engineers**  
Philadelphia District

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

# Public Notice

Public Notice No.  
**CENAP-OP-R-2015-0603**

Date

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:** Dave Golden  
New Jersey Department of Environmental Protection:  
Division of Fish and Wildlife  
Mail Code 501-3  
P.O. Box 420  
Trenton, New Jersey 08622

**AGENT:** Princeton Hydro, LLC  
1108 Old York Road, Suite 1  
P.O. Box 720  
Ringoos, New Jersey 08551

**WATERWAY:** Fortescue Creek/Delaware Bay

**LOCATION:** The habitat restoration site is located at Block 61, Lot 1, in Downe Township, Cumberland County, New Jersey; the dredging would occur within the state navigation channel of Fortescue Creek, near Downe Township, Cumberland County, New Jersey.

**ACTIVITY:** The applicant has requested a modification to a Department of the Army permit issued by this office on October 8, 2015. The permit authorized the removal of accumulated sediment from within the state navigation channel, the creation of a dune facing the Delaware Bay, elevating twenty two and four tenths (22.4) acres of low marsh habitat by the placement of hydraulically dredged material on wetland habitat adjacent to the Fortescue Creek Channel, and create an area approximately four and one tenths (4.1) acres of beach habitat upstream of the restoration site. While approved, several storm events eroded away the site where the dune was to be placed. As such, no work on the dune has been performed.

The applicant is now proposing to create a dune at the above referenced site, landward of the previously approved site. The dune would be one hundred (100) foot wide at its base, forty (40) foot wide at its top and approximately seven (7) feet in height. Hydrolically dredged material,

from the previously approved state navigation channel, would be used to construct the dune. Approximately nineteen thousand two hundred (19,200) cubic yards of material, composed of sand with small amounts of silt would be excavated from the state navigation channel and used to form the proposed dune. A spreader attachment on the hydraulic pipeline would be used at the end of the hydraulic pipeline to disperse the material at the site. The dune footprint will be initially confined with longitudinal training dikes on both sides of the footprint. Dredged material will be pumped in place between the training dikes with the excess slurry water being discharged into the marsh area as the dune profile is raised to contain the required fill quantity. Final dune slopes and berm top will be mechanically shaped with conventional earthmoving equipment. Standard construction equipment, with low pressure tracks would be used to move the pipeline and excavated materials at the site. The maximum area of temporary impacts from construction equipment would be approximately six tenths (0.6) of an acre. The dune would impact approximately two and one quarter (2.25) acres of emergent wetlands on the site. These wetlands were previously approved to have dredged material placed as a thin layer application; however, now these wetlands would be uplands, not vegetative wetlands, upon completion of work at the site.

**PURPOSE:** The applicant's stated purpose is to provide protection from seasonal storms to wetlands located on the adjoining site.

A preliminary review of this permit modification request indicates that the proposed work is not likely to adversely affect the red knot (Calidris canutus rufa) or their critical habitat pursuant to Section 7 of the Endangered Species Act as amended. A seasonal restriction was added previously issued permit to ensure impacts to this species will be minimal. As the evaluation of this application continues, additional information may become available which could modify this preliminary determination. It should be noted that the dredging component has not changed from that approved previously. Permit conditions added to the previously issued Department of the Army permit, with respect to threatened and endangered species, would remain in full force and effect regardless of any permit modification rendered by this office.

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

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

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act 1996 (Public Law 104-267), requires all Federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH). A preliminary assessment of the species listed in the "Guide to Essential Fish Habitat Designations in the Northeastern United States, Volume IV: New Jersey and Delaware", dated March 1999, specifically page 49 has determined that the creation of the dune will have no effect on EFH or the species of concern. The dredging proposed during this action has already been addressed during the initial review of the project. All seasonal restriction placed in the original permit for the dredging of the channel will remain in full force and effect.

Compensatory mitigation According to Federal regulation 33 CFR 325.1(d)(7), applicants wishing to discharge 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 dredged material will be placed in a controlled manner such that material will not flow outside of the designated placement area and appropriate sediment control materials will be in place to contain any sediment within the bounds of the designed material placement area. Native plants including herbaceous plants as well as woody plants will be planted along the dune. As the dune vegetation is established the existing vegetation area will provide a greater level of protection to the new dune as well as the existing marsh. The dune creation/enhancement will yield positive ecological benefits in protection of the existing marsh as well as providing general protection and resiliency of the surrounding area from potential erosion resulting from the wind, wake, and wave impacts during coastal storm events and future potential seas level rise. The dune will also provide valuable habitat for wildlife as it will provide a unique habitat element to the Fortescue Wildlife Management Area. As such, the applicant is not proposing to provide compensatory mitigation for the work outlined above.

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 Lawrence Slavitter at 215-656-6734, via email at [lawrence.m.slavitter@usace.army.mil](mailto:lawrence.m.slavitter@usace.army.mil), or writing this office at the above address.

Edward E. Bonner  
Chief, Regulatory Branch

**DUNE MODIFICATION DESIGN SET**  
**FORTESCUE FISH AND WILDLIFE MANAGEMENT AREA**  
**TOWNSHIP OF DOWNE**  
**CUMBERLAND COUNTY, NEW JERSEY**

1. ALL ELEVATIONS AND QUANTITIES ARE BASED ON IN-SITU CONDITIONS. ONCE  
2. DISTURBED, MATERIAL CONDITIONS CAN VARY SIGNIFICANTLY.  
3. THE APPROVAL AND USE OF THESE PLANS ARE FOR THE PROJECT APPLICANT AS  
4. DEPICTED ON THIS SHEET. THIS PLAN IS NOT TO BE UTILIZED IN THE PREPARATION OF  
5. ANY OTHER PROJECTS.  
6. AS FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO PROPOSED TOPOGRAPHIC  
7. ELEVATIONS AND FACILITY LOCATIONS, THESE PLANS ARE NOT TO BE UTILIZED AS  
8. AS-BUILTS.

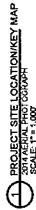
CONTRACTOR TO USE AREAS WITHIN THE LIMIT OF DISTURBANCE ONLY. ALL MATERIALS SHALL CONFORM TO THEIR RESPECTIVE LATEST AMERICAN STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITIES KNOWN AND UNKNOWN WITHIN THE PROJECT LIMIT OF DISTURBANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITIES KNOWN AND UNKNOWN WITHIN THE PROJECT LIMIT OF DISTURBANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL EXISTING STRUCTURES AND NOT IMPROVE EXISTING STRUCTURES. DAMAGE TO EXISTING SERVICES OR ANY OTHER SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S OWN EXPENSE AND THE RESPECTIVE UTILITY COMPANY SHALL BE NOTIFIED IMMEDIATELY. EXCAVATIONS AND STOCKPILES IN NO WAY SHALL HAVE SLOPES STEEPER THAN 2:1 UNLESS ACTIONS HAVE BEEN TAKEN TO STABILIZE THE SLOPE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF THE SCALED AND THE FIGURED DIMENSIONS SHOWN ON THESE PLANS. THE FIGURED DIMENSIONS SHALL APPLY. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY MATERIAL OR METHOD OF CONSTRUCTION DOES NOT MEAN THAT SUCH MATERIAL OR METHOD SHALL NOT BE USED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND REPLACEMENT OF ALL EXISTING UTILITIES AND STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS AND ANY OTHER PROPERTY ITEMS THAT ARE REMOVED OR DAMAGED FOR THE PURPOSES OF THE PROJECT. LOGISTICS AND/OR ACCIDENTS WHICH MAY OCCUR DURING THE CONSTRUCTION OF THE PROJECT SHALL BE THE RESPONSIBILITY OF ALL STOCKPILED SOIL, ROCK, CONSTRUCTION MATERIALS AND DEBRIS AFTER THE COMPLETION OF CONSTRUCTION. ALL DISPOSAL SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE MUNICIPAL, COUNTY, AND STATE REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF ALL LOCATIONS PRIOR TO START OF THE CONSTRUCTION.

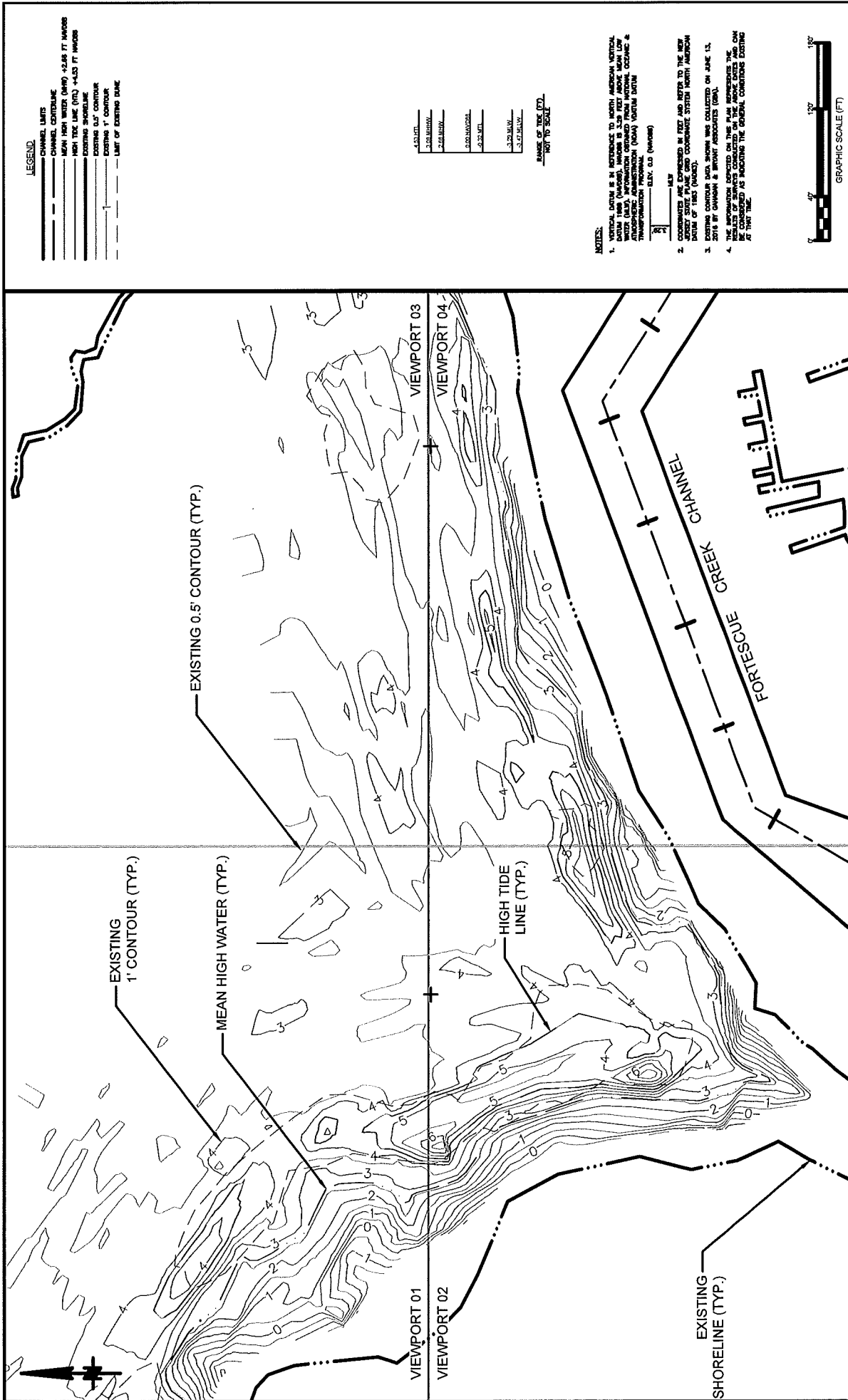
1. ALL CONSTRUCTION SHALL ADHERE TO OSHA STANDARDS AND REGULATIONS.

VERTICAL DATUM IS IN REFERENCE TO NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). NAVD88 IS 3.20 FEET ABOVE MEAN LOW WATER (MLW). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.



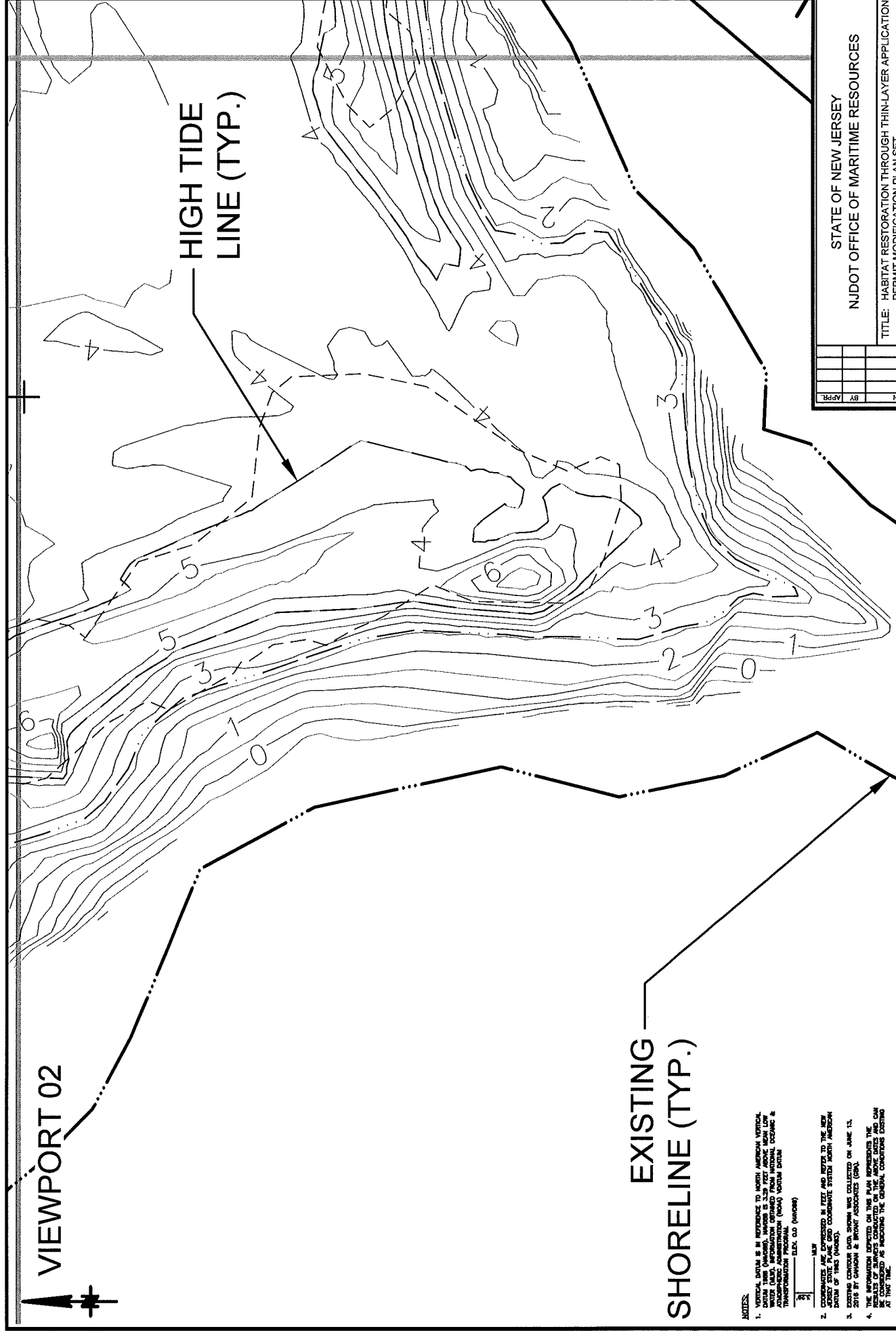
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. ADDITIONAL (AND) CONTIGUOUS DATA SHOWN WAS COLLECTED IN JANUARY, APRIL, & JUNE OF 2013 BY GANNETT & BARTER ASSOCIATES, INC. PERSONS BINDERSHIPP, AND BOWMILL INDUSTRIES, INC. THE DATA WERE OBTAINED FROM THE PLANS AND FIELD SURVEY CONDITIONS EXISTING AT THAT TIME. THE ABOVE DATA AND DATA ARE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
4. NAD 83, NAD 27, & LINE WORK SHOWN WITHIN THIS SHEET FROM FIELD OF SURVEY DATA (SEE NOTE 5).
5. MEAN HIGH WATER, MEAN LOW WATER, MEAN LOW OF LOW TIDE, MEAN LOW OF LOW WATER OF MEAN LOW WATER, PROTECTIVE BULKHEAD OF CANTON, INDIANSHIP, PROPOSED EMERGENCY BREACHING CREDIT PLAN A, DATED OCTOBER 1, 2013.
6. DOTTED SHORDLINE AND DUNE LOCATIONS BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
7. TOWNSHIP AND SELLERSHIP CLASSIFICATION BOUNDARIES OBTAINED FROM NJDEP GIS WEBSITE.
8. DUNES ARE IDENTIFIED BY POINT DATA BASED ON 2013 AERIAL IMAGERY AND SITE SURVEY.
9. THE ELEVATIONS OBTAINED FROM STATE OF NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION, PROTECTIVE BULKHEAD OF CANTON, INDIANSHIP, PROPOSED EMERGENCY BREACHING CREDIT PLAN A, SHEET 2 OF 2, "PROPOSED EMBANKMENT DESIGNATION PORTS OF CALL, TOWNSHIP OF CAMDEN, COUNTY OF CAMDEN, DATED JUNE 12, 2013. DUNE ELEVATIONS WERE CONVERTED TO NAD80.
10. MEAN LOW OF LOW WATER: 3.06  
11. MEAN LOW OF LOW WATER: 3.07  
12. MEAN LOW OF LOW WATER: 3.08  
13. MEAN LOW OF LOW WATER: 3.09  
14. MEAN LOW OF LOW WATER: 3.29
15. NO ADJUTAL AREA IS IDENTIFIED ON THE PLAN AS ENTIRE PROJECT AREA IS ABOVE THIS ZONE MEAN LOW LOWER WATER LINE - 4.71.
16. THE ENTIRE PROJECT SITE FALLS WITHIN THE INTERPOLAR ZONE (SEE ELEV. 3.47 TO 4.53).

[illegible]



STATE OF NEW JERSEY		NJDOT OFFICE OF MARITIME RESOURCES	
DUNE PLACEMENT AREA EXISTING CONDITIONS - OVERVIEW		DUNE PLACEMENT AREA EXISTING CONDITIONS OVERVIEW	
TITLE: HABITAT RESTORATION THROUGH THIN-LAYER APPLICATION PERMIT MODIFICATION PLAN SET		PROJECT: FORTESCUE CREEK, TOWNSHIP OF DOWNE, CUMBERLAND COUNTY, NEW JERSEY	
DRAWN BY: EPD		PROJECT NO. 1583.007	
CHECKED BY: MFG		SHEET 2 OF 24	
SCALE: AS SHOWN		DATE: OCTOBER 2016	
REV. DATE:		DWS. NO. PL-01	
DESCRIPTION		PROJECT NO. 1583.007	
BY: APPR		SHEET 2 OF 24	
DUNE PLACEMENT AREA EXISTING CONDITIONS - OVERVIEW		DATE: OCTOBER 2016	
SCALE: 1"=100'		DWS. NO. PL-01	

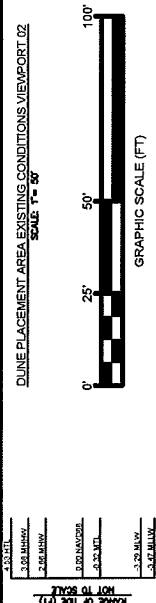




VIEWPORT 02

EXISTING SHORELINE (TYP.)

- NOTES:
1. VERTICAL DATUM IS IN REFERENCE TO NORTH AMERICAN VERTICAL DATUM (NAVD83). HORIZONTAL DATUM IS IN REFERENCE TO NORTH AMERICAN DATUM OF 1983 (NAD83).
  2. COORDINATES ARE EXPRESSED IN FEET AND INCHES TO THE NEAREST 1/4" (0.25').
  3. EXISTING CONTOUR DATA SHOWN WAS COLLECTED ON JUNE 13, 2018 BY GARDNER & BRYANT ASSOCIATES (GBA).
  4. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND CAN BE USED FOR PLANNING PURPOSES ONLY. THE DUNE CONTOURS SHOWN AT THAT TIME.



- LEGEND
- CHANNEL LIMITS
  - CONTOUR LINE
  - EXISTING SHORELINE
  - EXISTING DUNE CONTOUR
  - EXISTING 1' CONTOUR
  - LIMIT OF EXISTING DUNE

STATE OF NEW JERSEY NJDOT OFFICE OF MARITIME RESOURCES	
TITLE: HABITAT RESTORATION THROUGH THIN-LAYER APPLICATION PERMIT MODIFICATION PLAN SET	
PROJECT: PORTSCOLE CREEK TOWNSHIP OF DOVNE, CUMBERLAND COUNTY, NEW JERSEY	
PROJECT NO.	1563.007
DRAWN BY: EPD	PRINCETON HYDRO, LLC
CHECKED BY: MFG	24-07-2018
SCALE: AS SHOWN	MARY T. PAUL-GOLDMAN NEW JERSEY PROFESSIONAL ENGINEER No. 02-00396
DATE: OCTOBER 2018	
REV.	DATE
BY	DESCRIPTION
APPR.	

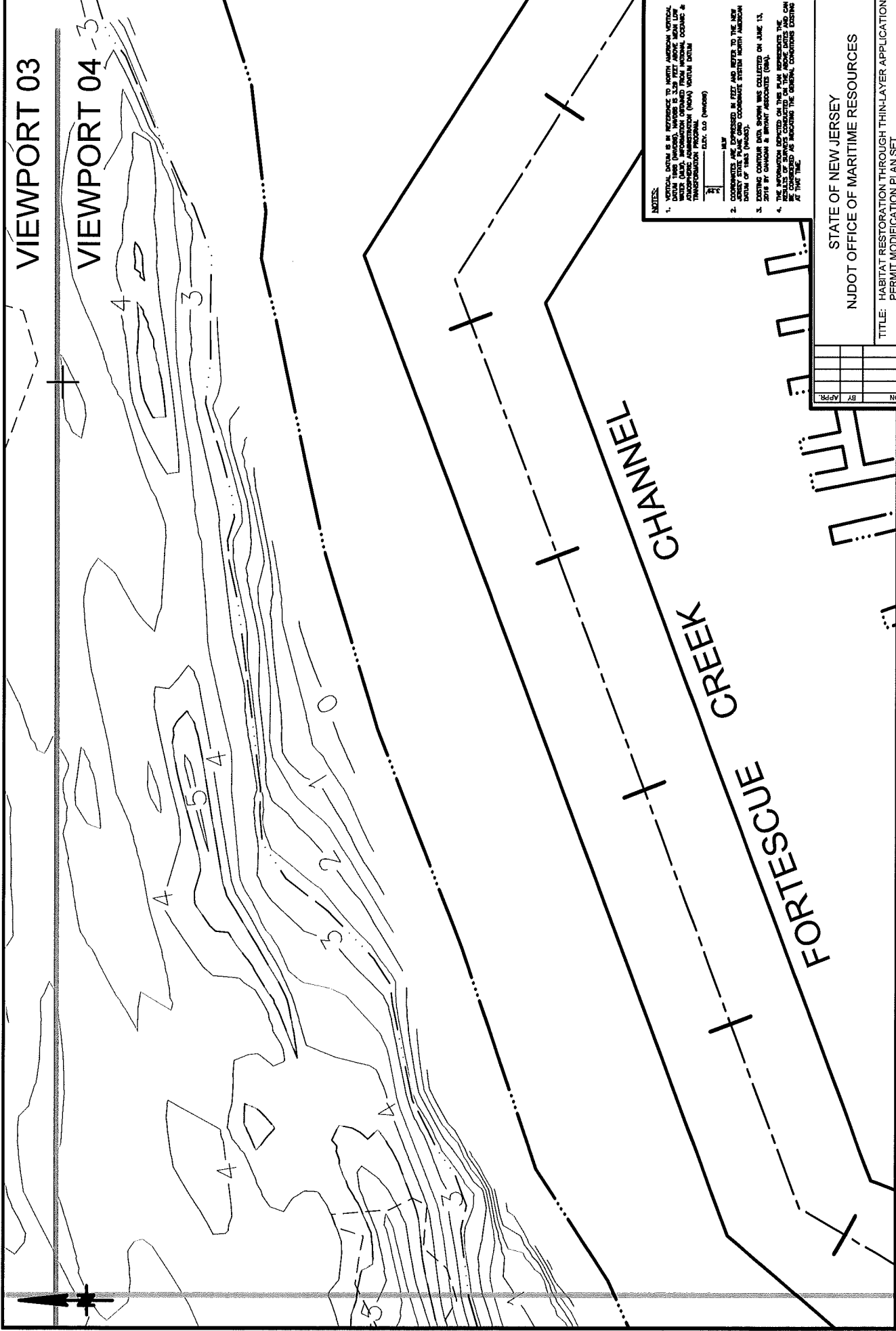
DUNE PLACEMENT AREA EXISTING CONDITIONS VIEWPORT 02  
SCALE: 1" = 50'





VIEWPORT 03

VIEWPORT 04



NOTES:

1. ELEVATION DATA IS IN REFERENCE TO NORTH AMERICAN VERTICAL DATUM (NAVD83). HIGHEST ELEVATION SHOWN IS 5.25 FEET ABOVE MEAN LOW WATER (MLW). INFORMATION DERIVED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) NAD83 DATUM.
2. CONTOUR INTERVAL IS 1.0 FEET. CONTOUR DATA WAS COLLECTED ON JUNE 13, 2018 BY CHAMBERS & BENTLEY ASSOCIATES (C&B).
3. EXISTING CONTOUR DATA SHOWN WAS COLLECTED ON JUNE 13, 2018 BY CHAMBERS & BENTLEY ASSOCIATES (C&B).
4. THE INFORMATION REPORTED ON THIS PLAN REPRESENTS THE CURRENT CONDITIONS OF THE SITE. THE INFORMATION REPORTED ON THIS PLAN IS NOT TO BE CONSIDERED AS A GUARANTEE OF THE GENERAL CONDITIONS EXISTING AT THIS TIME.



DUNE PLACEMENT AREA EXISTING CONDITIONS VIEWPORT 04

SCALE: 1" = 50'

NAME OF TIDE (T)

3.08 MLW	2.00 MLW	1.00 MLW	0.00 MLW	-1.00 MLW	-2.00 MLW	-3.00 MLW
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- LEGEND
- CHANNEL CENTERLINE
  - CHANNEL LIMITS
  - MEAN HIGH WATER (MHW) -2.08 FT MHW
  - MEAN TIDE LINE (MTL) -1.00 FT MHW
  - EXISTING SHORELINE
  - EXISTING 1' CONTOUR
  - EXISTING 1' CONTOUR
  - LIMIT OF EXISTING DUNE

STATE OF NEW JERSEY  
NJDOT OFFICE OF MARITIME RESOURCES

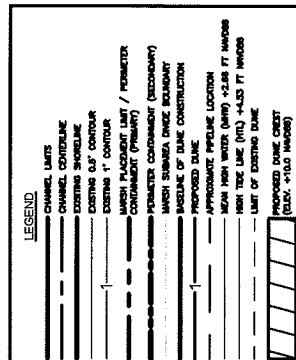
TITLE: HABITAT RESTORATION THROUGH THIN-LAYER APPLICATION  
PERMIT MODIFICATION PLAN SET

DUNE PLACEMENT AREA EXISTING CONDITIONS VP-04

PROJECT: FORTESCUE CREEK  
TOWNSHIP OF DOWNE, CUMBERLAND COUNTY, NEW JERSEY

DRAWN BY: EPD	PROJECT NO. 1503.007
CHECKED BY: MFG	NO. OF SHEETS 24
SCALE: AS SHOWN	DATE: OCTOBER 2016
DATE: OCTOBER 2016	DWG. NO. PL-01

REV.	DATE	DESCRIPTION
BY	APPR.	



4.53 MTL  
3.08 MHW  
2.66 MHW  
0.00 NAVD83  
-0.32 MTL  
-3.29 MHW  
-3.47 MLLW

RANGE OF TIDE (FT)

## NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO NORTH AMERICAN DATUM 1983 (NAD83). HADRON IS 3.29 FEET ABOVE MEAN LOW WATER (MLW). INFORMATION OBTAINED FROM NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) VERTICAL DATUM CONVERSION PROGRAM.
- ELEV. 0.0 (MEANLOW) MLW
2. COORDINATES ARE EXPRESSED IN FEET AND INETER TO THE NEW HADRON COMMERCIAL STATION NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING CATCH BASIN WORK WAS COLLECTED ON JUNE 13, 2016 BY CAHMAN & BENTLEY ASSOCIATES (C&B).
4. THE INFORMATION PROVIDED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND CAN BE USED AS A GUIDE TO THE LOCATION OF THE STRUCTURES TO BE CONSTRUCTED AS INDICATED THE GENERAL CONDITIONS EXISTING



GRAPHIC SCALE (FT)

**DUNE PLACEMENT AREA PROPOSED CONDITIONS - OVERVIEW**  
SCALE: 1"=120'

STATE OF NEW JERSEY  
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: HABITAT RESTORATION THROUGH THIN-LAYER APPLICATION  
PERMIT MODIFICATION PLAN SET

## DUNE PLACEMENT AREA PROPOSED CONDITIONS OVERVIEW

PROJECT: FORTESCUE CREEK  
TOWNSHIP OF DOWNIE, CUMBERLAND COUNTY, NEW JERSEY

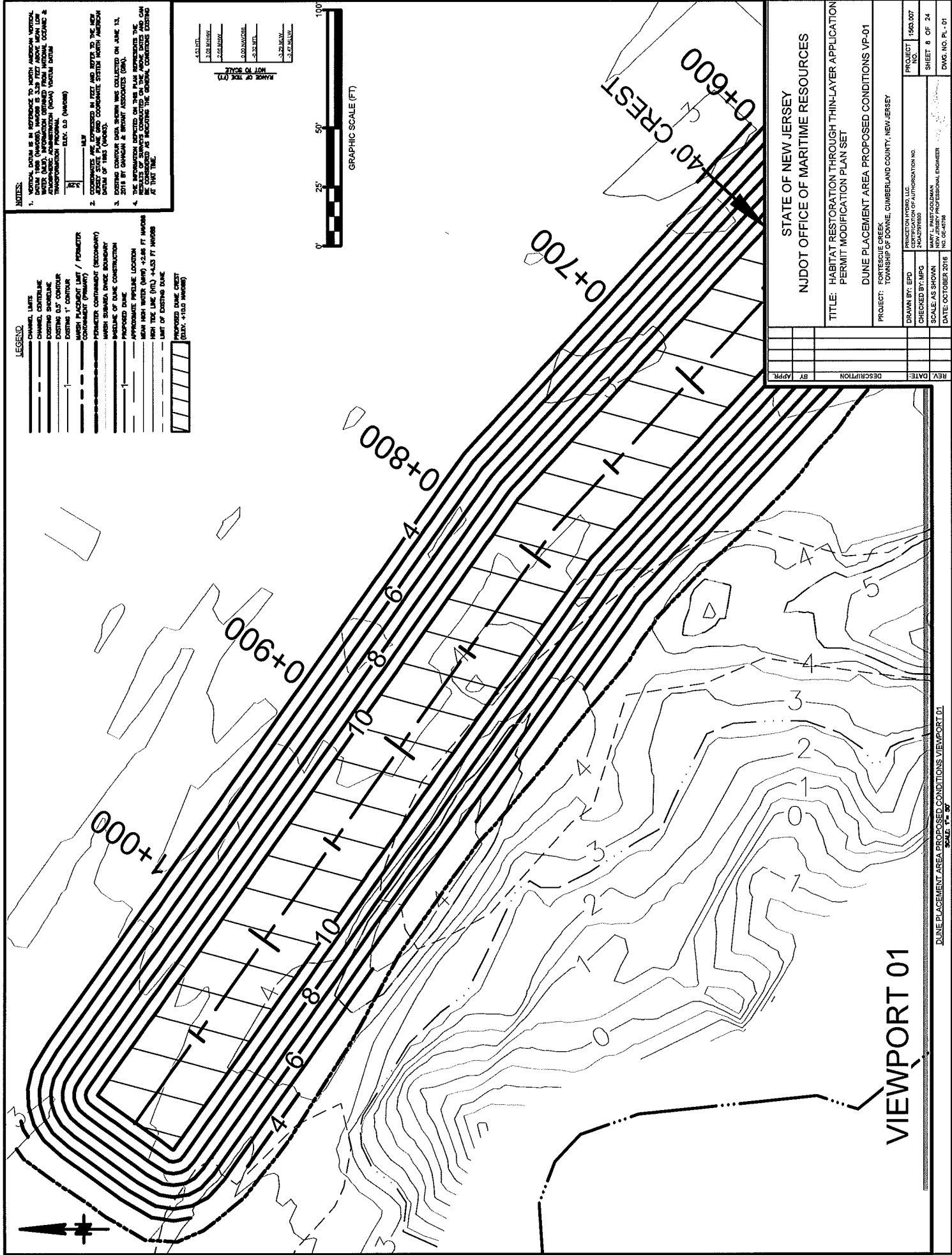
RAWN BY: EPD	PRINCETON HYDRO, LLC. CERTIFICATION OF AUTHORIZATION NO.
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HECKED BY: MPG

DATE: OCTOBER 2016

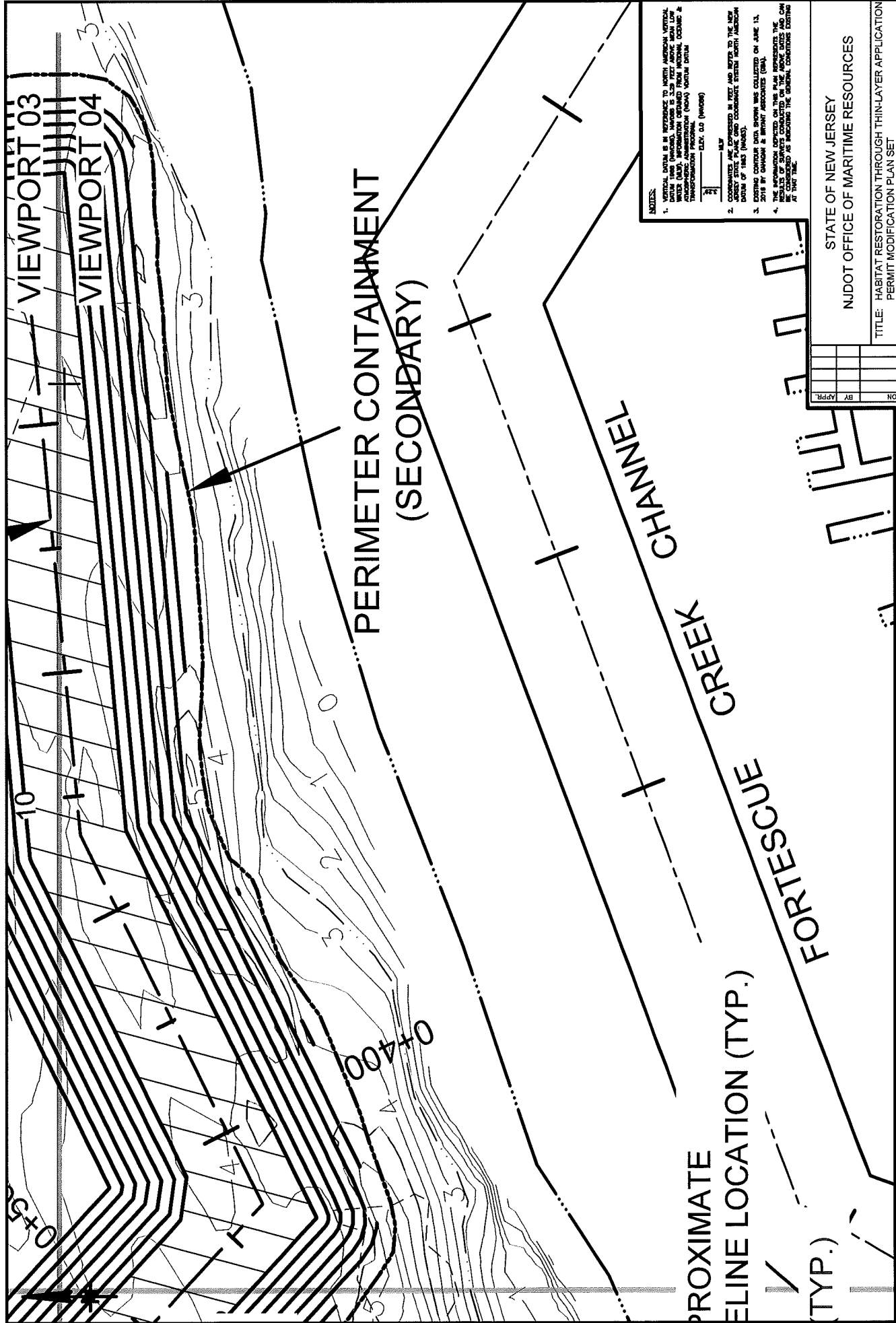
CLASSICAL MECHANICS

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**NOTES:**

- VERTICAL DATUM IS IN REFERENCE TO NORTH AMERICAN DATUM (NAD83). HORIZONTAL DATUM IS IN REFERENCE TO NORTH AMERICAN DATUM (NAD83). ELEVATION INFORMATION OBTAINED FROM INTERPOLATED DATA. ELEVATION INFORMATION OBTAINED FROM INTERPOLATED DATA. ELEVATION INFORMATION OBTAINED FROM INTERPOLATED DATA.
- CONTOUR DATA SHOWN WAS COLLECTED ON JUNE 13, 2018 BY GANNON & BENTLEY ASSOCIATES (GBA).
- THE INFORMATION SHOWN ON THIS PLAN REPRESENTS THE BEST AVAILABLE DATA AND DOES NOT GUARANTEE THE ACCURACY OF THE DATA. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THE DATA AT THAT TIME.

**STATE OF NEW JERSEY**  
**NJDOT OFFICE OF MARITIME RESOURCES**

**TITLE:** HABITAT RESTORATION THROUGH THIN-LAYER APPLICATION  
**PERMIT MODIFICATION PLAN SET**

**PROJECT:** DUNE PLACEMENT AREA PROPOSED CONDITIONS VP-04  
FORTESCUE CREEK  
TOWNSHIP OF DOWNE, CUMBERLAND COUNTY, NEW JERSEY

**DRAWN BY:** EPD  
**CHECKED BY:** MPD  
**SCALE:** AS SHOWN  
**DATE:** OCTOBER 2018

**PROJECT NO.:** 1503.007  
**SHEET NO.:** 11 OF 24  
**DWG. NO.:** PL-01

**LEGEND**

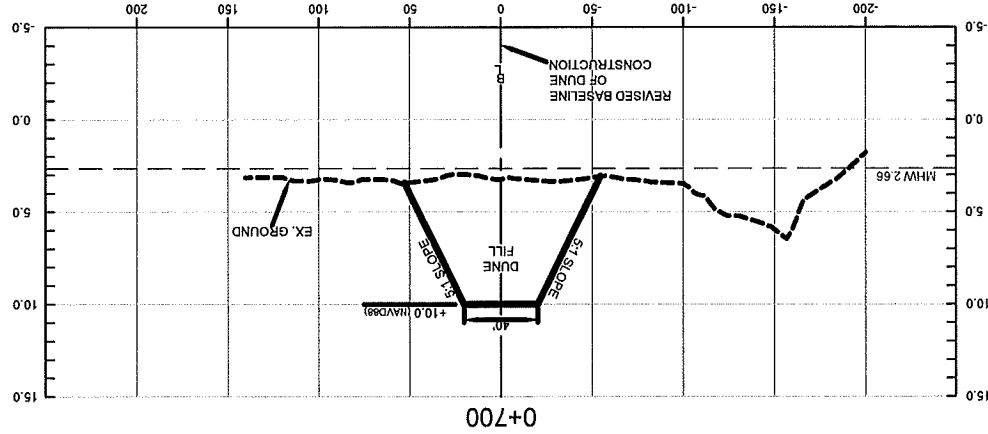
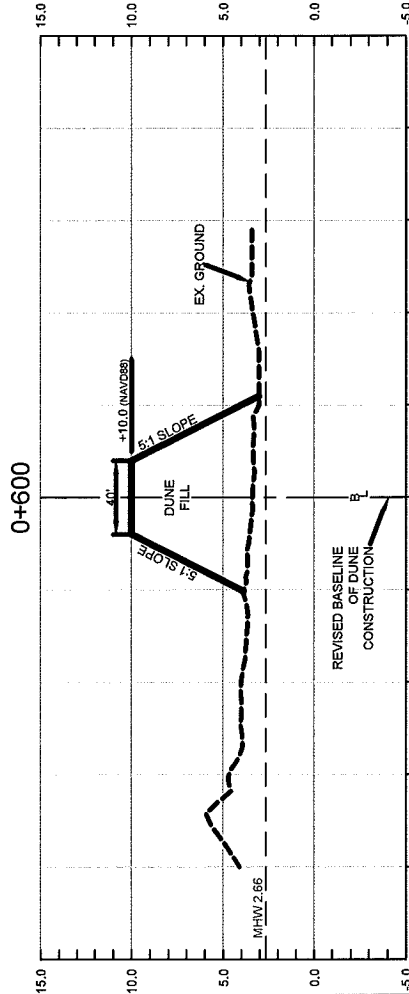
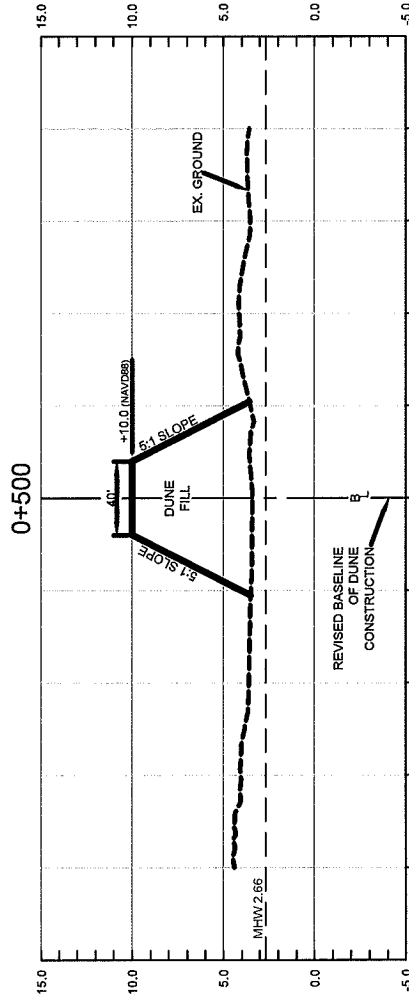
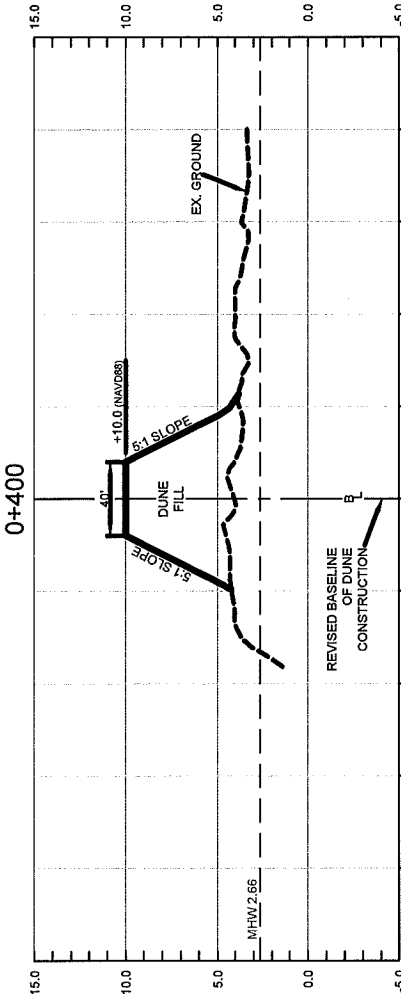
- CHANNEL LIMITS
- CHANNEL CENTERLINE
- EXISTING SHORELINE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- EXISTING 10' CONTOUR
- PERIMETER CONTAINMENT (SECONDARY)
- MARSH BOUNDARY

**DUNE PLACEMENT AREA PROPOSED CONDITIONS VIEWPORT 04**  
SCALE: 1" = 50'

**GRAPHIC SCALE (FT)**  
0' 25' 50' 100'



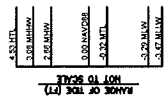




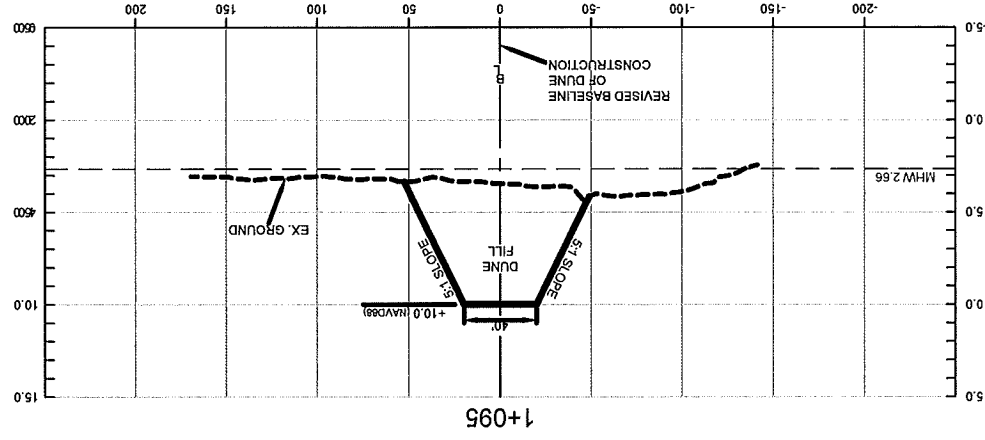
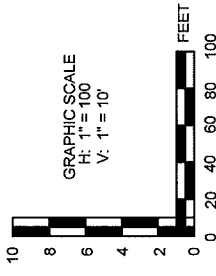
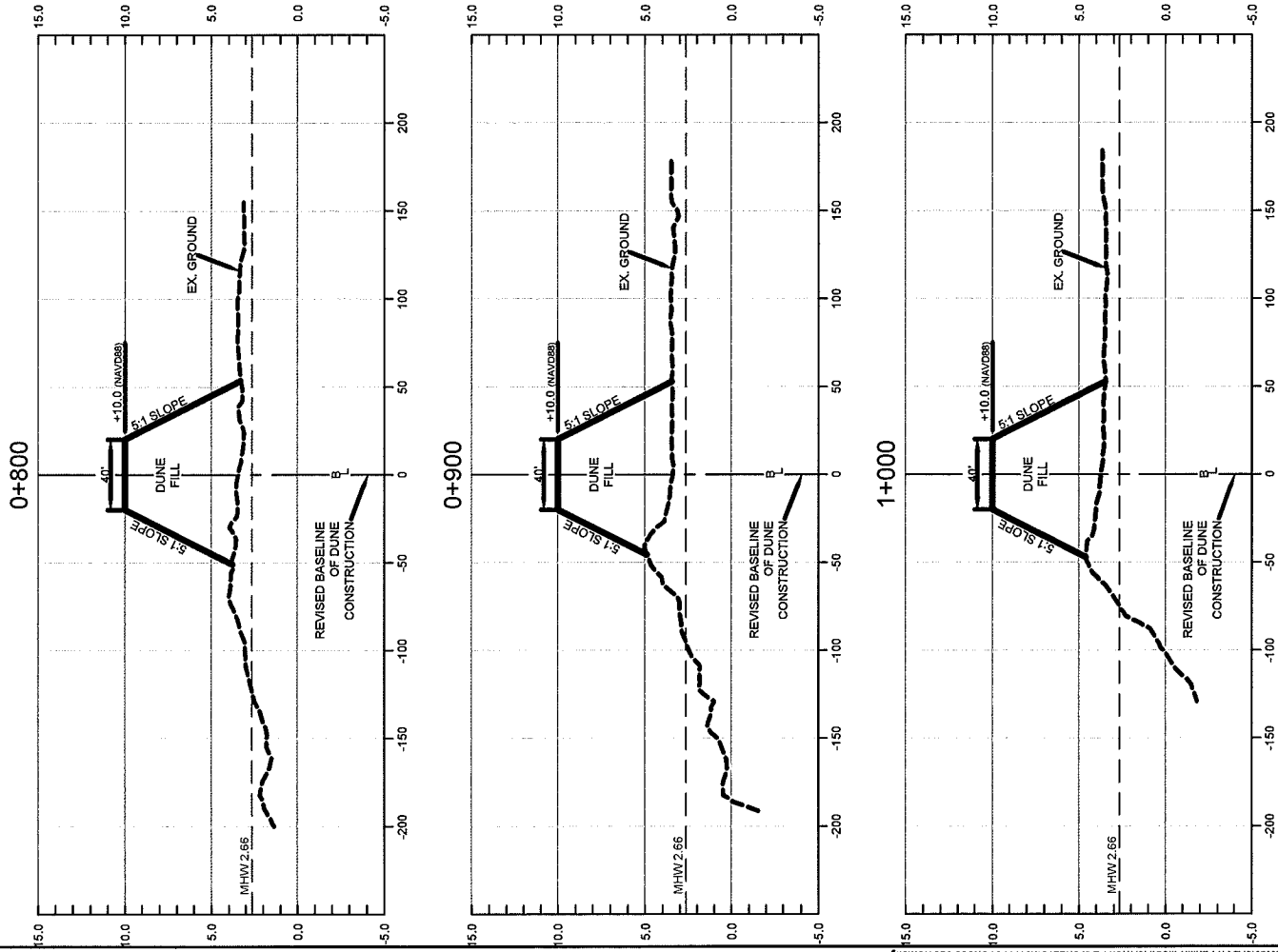
- LEGEND**
- EXISTING GROUND (NAVD83)
  - PROPOSED DUNE CONSTRUCTION TEMPLATE
  - PROPOSED GRADED FILL CONSTRUCTION TEMPLATE
  - BASELINE OF DUNE CONSTRUCTION
  - EXISTING MHW LIMIT
  - REVISED PERIMETER CONTOUR (SECONDARY)

**NOTE:**

- EXISTING GROUND DATA SHOWN WAS COLLECTED ON JUNE 13, 2014 BY GANNAN & BRYANT ASSOCIATES (G&B).
- BEFORE TO BELOW OPERATIONS, DUNE PLACEMENT AREA TO BE BURNED WITH FIRE TO REMOVE VEGETATION AND TO PREPARE FOR DUNE PLACEMENT. AFTER BURNING, DUNE PLACEMENT SHALL BE COMPLETED WITHIN 30 DAYS OF BURNING. (A STA. 0+400) AND PROCEEDS THROUGH STATION 0+700 TO STATION 0+800. DUNE PLACEMENT SHALL BE COMPLETED WITHIN 30 DAYS OF BURNING. DUNE PLACEMENT SHALL BE COMPLETED WITHIN 30 DAYS OF BURNING. PIPE WILL ADVANCE ON FINAL GRADE AS MATERIAL IS PLACED.



STATE OF NEW JERSEY NJDOT OFFICE OF MARITIME RESOURCES	
TITLE: HABITAT RESTORATION THROUGH THIN-LAYER APPLICATION PERMIT MODIFICATION PLAN SET	
DUNE PLACEMENT AREA CROSS SECTIONS (2 OF 3)	
PROJECT: FORTESCUE CREEK TOWNSHIP OF DOWNE, CUMBERLAND COUNTY, NEW JERSEY	
DESIGNED BY: EPD	PROJECT NO. 1563.007
CHECKED BY: MFG	DATE: 10/10/2016
SCALE: AS SHOWN	NEW JERSEY PROFESSIONAL ENGINEER
DATE: OCTOBER 2016	DWG. NO. X-BEET

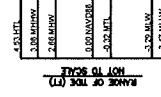


**LEGEND**

--- EXISTING GROUND (HATCHED)  
--- PROPOSED DUNE CONSTRUCTION TEMPLATE  
--- PROPOSED GRADED FILL CONSTRUCTION TEMPLATE  
--- BASELINE OF DUNE CONSTRUCTION  
--- EXISTING MAR LIMIT  
--- REISED FORTIFIER CONFINEMENT (SECONDARY)

**NOTE:**

1. EXISTING GROUND DATA SHOWN WAS COLLECTED ON JUNE 13, 2018 BY GANNON & BRYANT ASSOCIATES (G&B).
2. PRIOR TO INFLOW OPERATIONS, DUNE PLACEMENT AREA TO BE BOUNDED BY TRAINING DICES TO CONTAIN AND ALLOW FOR INFLOW MATERIAL SETTLEMENT. INFLOW TO BE DIRECTED FROM CENTER LANDING POINT (A. STA. 0+5000) AND PROGRESS TOWARDS EAST AND WEST EXTENTS OF DUNE PLACEMENT AREA. DUNE PLACEMENT SHALL BE CONSIDERED COMPLETE WHEN EXISTING ELEVATION WITHIN DUNE PLACEMENT AREA IS EQUAL TO OR GREATER THAN EXISTING ELEVATION ON EXISTING DUNE PLACEMENT AREA. DUNE PLACEMENT SHALL BE CONSIDERED COMPLETE WHEN EXISTING ELEVATION WITHIN DUNE PLACEMENT AREA IS EQUAL TO OR GREATER THAN EXISTING ELEVATION ON EXISTING DUNE PLACEMENT AREA.

STATE OF NEW JERSEY  
NJDOT OFFICE OF MARITIME RESOURCES

**TITLE: HABITAT RESTORATION THROUGH THIN-LAYER APPLICATION  
PERMIT MODIFICATION PLAN SET**

DUNE PLACEMENT AREA CROSS SECTIONS (3 OF 3)

**PROJECT: FORTESCUE CREEK  
TOWNSHIP OF DOWNE CUMBERLAND COUNTY NEW JERSEY**

DRAWN BY: EPD PRINCETON HYDRO, LLC,  
REGISTRATION OF A PROFESSIONAL ENGINEER NO.

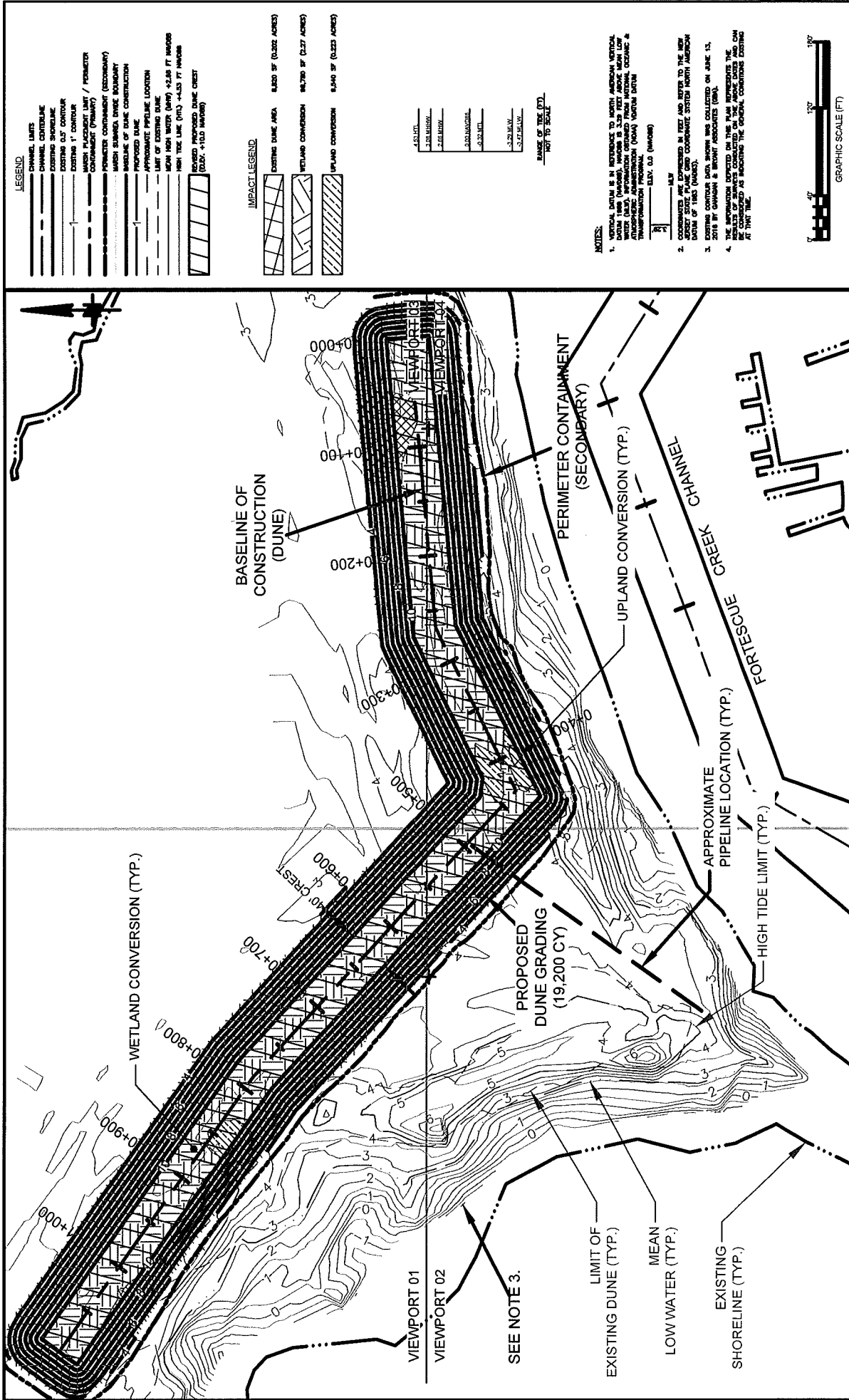
CHECKED BY: MPG	240A27976800	CERTIFICATION OF AUTHORIZATION NO.
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SCALE: AS SHOWN

DATE: OCTOBER 2016

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**LEGEND**

- CHANNEL LIMITS
- CHANNEL CENTERLINE
- EXISTING SHORELINE
- EXISTING 1' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING 3' CONTOUR
- EXISTING 4' CONTOUR
- EXISTING 5' CONTOUR
- EXISTING 6' CONTOUR
- EXISTING 7' CONTOUR
- EXISTING 8' CONTOUR
- EXISTING 9' CONTOUR
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- EXISTING 92' CONTOUR
- EXISTING 93' CONTOUR
- EXISTING 94' CONTOUR
- EXISTING 95' CONTOUR
- EXISTING 96' CONTOUR
- EXISTING 97' CONTOUR
- EXISTING 98' CONTOUR
- EXISTING 99' CONTOUR
- EXISTING 100' CONTOUR

**IMPACT LEGEND**

- EXISTING DUNE AREA 8,620 SF (0.202 ACRES)
- WETLAND CONVERSION 84,760 SF (2.37 ACRES)
- UPLAND CONVERSION 8,640 SF (0.223 ACRES)

1.5' (1.5' HGT)	1.5' (1.5' HGT)
2.0' (2.0' HGT)	2.0' (2.0' HGT)
2.5' (2.5' HGT)	2.5' (2.5' HGT)
3.0' (3.0' HGT)	3.0' (3.0' HGT)
3.5' (3.5' HGT)	3.5' (3.5' HGT)
4.0' (4.0' HGT)	4.0' (4.0' HGT)
4.5' (4.5' HGT)	4.5' (4.5' HGT)
5.0' (5.0' HGT)	5.0' (5.0' HGT)
5.5' (5.5' HGT)	5.5' (5.5' HGT)
6.0' (6.0' HGT)	6.0' (6.0' HGT)
6.5' (6.5' HGT)	6.5' (6.5' HGT)
7.0' (7.0' HGT)	7.0' (7.0' HGT)
7.5' (7.5' HGT)	7.5' (7.5' HGT)
8.0' (8.0' HGT)	8.0' (8.0' HGT)
8.5' (8.5' HGT)	8.5' (8.5' HGT)
9.0' (9.0' HGT)	9.0' (9.0' HGT)
9.5' (9.5' HGT)	9.5' (9.5' HGT)
10.0' (10.0' HGT)	10.0' (10.0' HGT)

BASE OF TIDE PD  
NOT TO SCALE

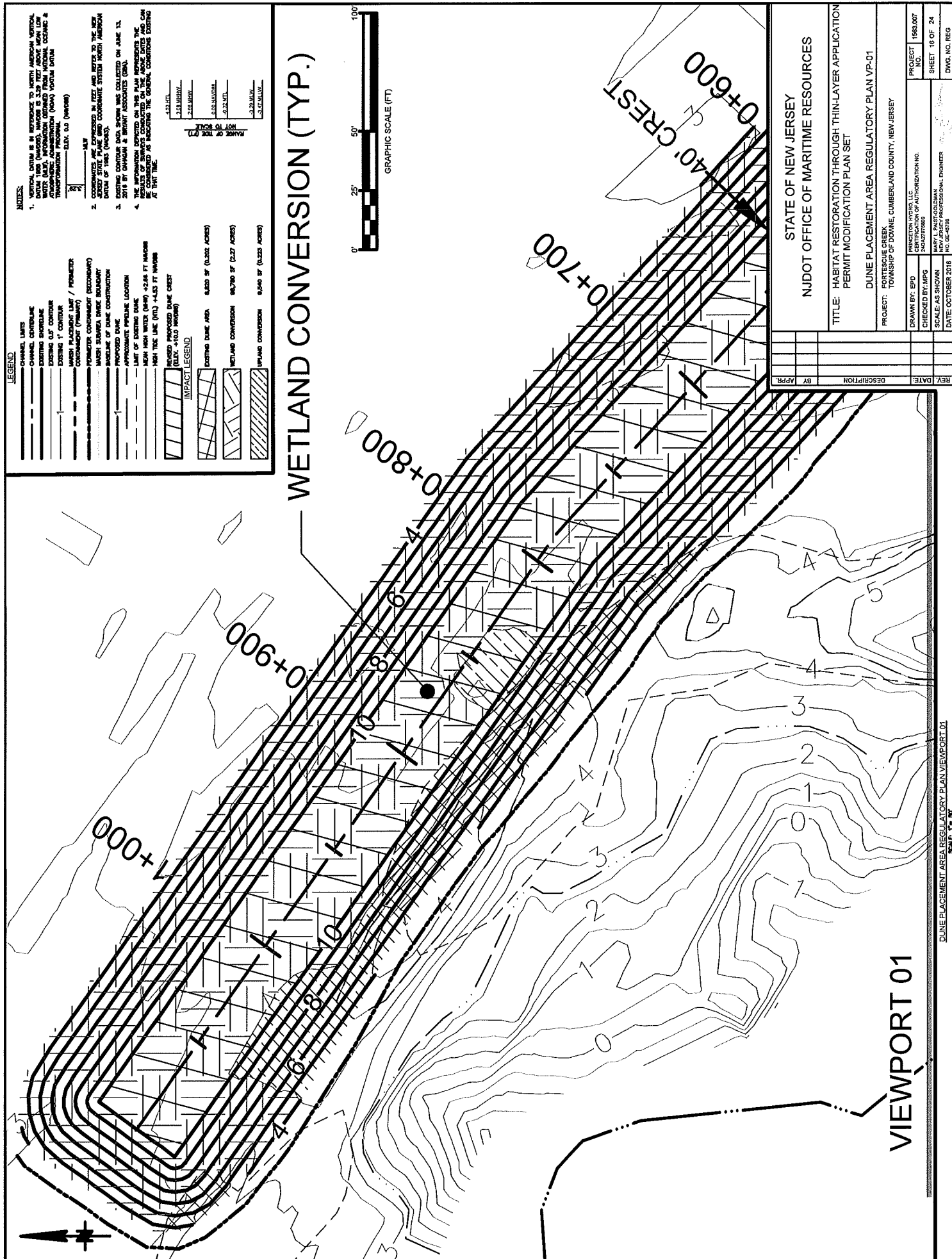
**NOTES:**

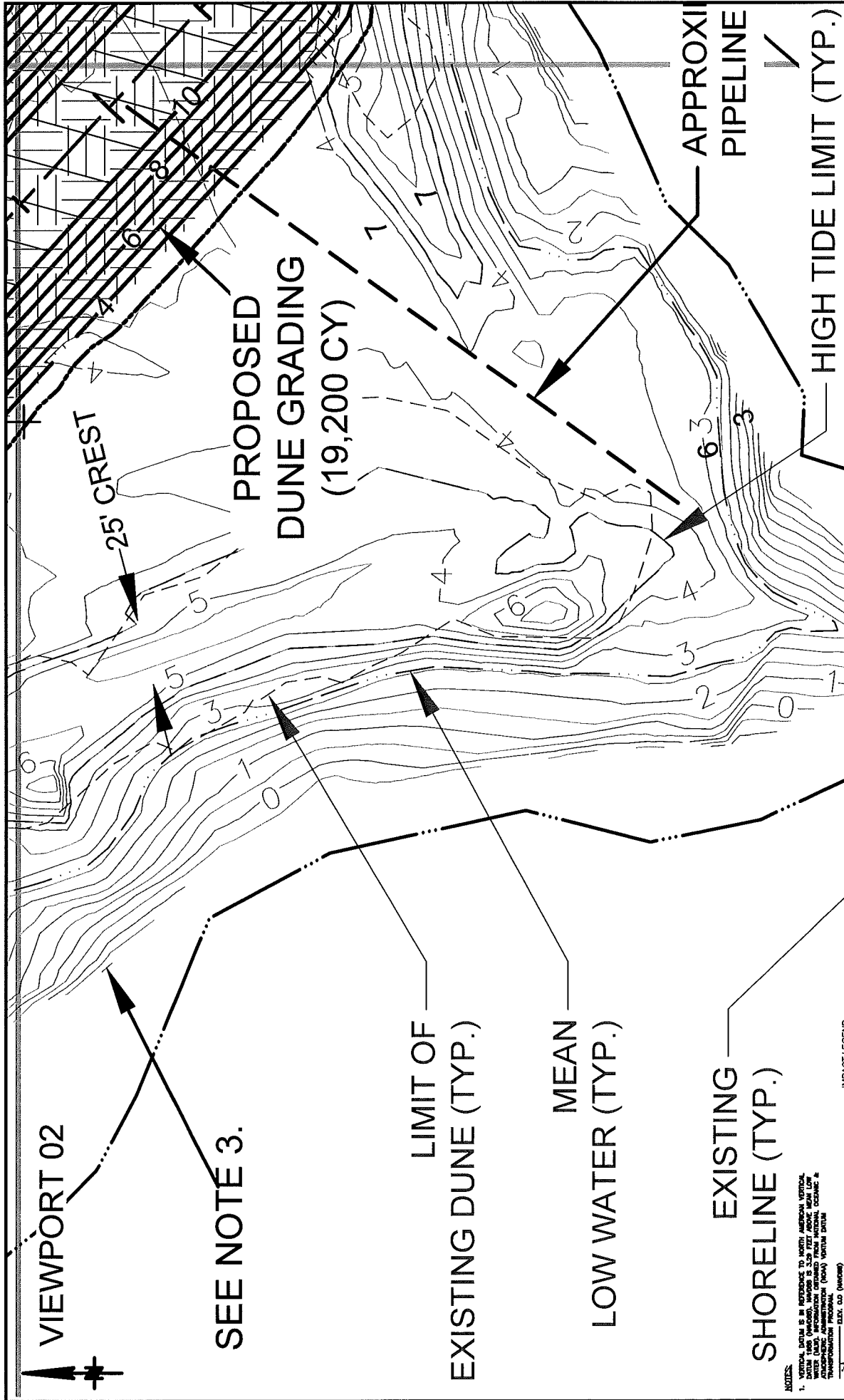
- VERTICAL DATUM IS IN REFERENCE TO NORTH AMERICAN VERTICAL DATUM (NAVD83). HORIZONTAL DATUM IS IN REFERENCE TO NORTH AMERICAN HORIZONTAL DATUM (NAD83). ALL DIMENSIONS ARE IN FEET AND INCHES. DIMENSIONS ARE TO CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE NOTED.
- CONSTRUCTION AREAS ARE SHOWN IN RED AND REFER TO THE LEFT OF THE DUNE LINE. CONSTRUCTION AREAS ARE TO BE COMPLETED BY JANUARY 1, 2018.
- EXISTING CONTOUR DATA SHOWN WAS COLLECTED ON JUNE 15, 2016 BY GANNON & BROWN ASSOCIATES (GBA).
- THE INFORMATION SHOWN ON THIS PLAN REPRESENTS THE INFORMATION PROVIDED BY GANNON & BROWN ASSOCIATES (GBA) AND IS NOT TO BE USED AS A BASIS FOR ANY OTHER CONSTRUCTION OR DESIGN WORK WITHOUT THE CONSULTATION OF GANNON & BROWN ASSOCIATES (GBA) AT THAT TIME.



DUNE PLACEMENT AREA REGULATORY OVERVIEW  
SCALE: 1"=100'

STATE OF NEW JERSEY NJDOT OFFICE OF MARITIME RESOURCES	
TITLE: HABITAT RESTORATION THROUGH THIN-LAYER APPLICATION PERMIT MODIFICATION PLAN SET	
PROJECT: FORTESCUE CREEK TOWNSHIP OF DOANE, CUMBERLAND COUNTY, NEW JERSEY	
DRAWN BY: EPD	PROJECT NO: 1563.007
CHECKED BY: MPG	DATE: 10/10/2016
SCALE: AS SHOWN	SHEET: 15 OF 24
DATE: OCTOBER 2016	DWG. NO. REG





STATE OF NEW JERSEY NJDOT OFFICE OF MARITIME RESOURCES	
TITLE: HABITAT RESTORATION THROUGH THIN-LAYER APPLICATION PERMIT MODIFICATION PLAN SET	
PROJECT: FORTESCUE CREEK TOWNSHIP OF DUNELAND COUNTY, NEW JERSEY	
DRAWN BY: EPD	PROJECT NO.: 1503.007
CHECKED BY: WPG	DATE OF MODIFICATION: 24-02-2016
SCALE: AS SHOWN	SHEET 17 OF 24
DATE: OCTOBER 2016	DWG. NO. REG.

**IMPACT LEGEND**

EXISTING DUNE AREA	8,820 SF (0.202 ACRES)
WETLAND CONVERSION	94,790 SF (2.17 ACRES)
UPLAND CONVERSION	9,540 SF (0.223 ACRES)

**LEGEND**

CHANNEL LIMITS	CHANNEL CENTERLINE
EXISTING SHORELINE	EXISTING DUNE CREST
PROPOSED DUNE CREST	PROPOSED DUNE CREST
PROPOSED DUNE CREST	PROPOSED DUNE CREST
PROPOSED DUNE CREST	PROPOSED DUNE CREST

**NOTES**

- VERTICAL DATUM IS IN REFERENCE TO NORTH AMERICAN VERTICAL DATUM 1985 (NAVD83). HIGHER IS 3.29 FEET ABOVE MEAN LOW WATER (MLW). HIGHER IS 3.29 FEET ABOVE MEAN LOW WATER (MLW). HIGHER IS 3.29 FEET ABOVE MEAN LOW WATER (MLW).
- COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAVD83).
- EXISTING CHANNEL DATA SHOWN WAS OBTAINED ON JUNE 15, 2016. THE CHANNEL DATA WAS OBTAINED ON JUNE 15, 2016.
- THE INFORMATION IS BASED ON THE DATA PROVIDED BY THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATED AND CAN BE USED AS A GUIDE TO THE GENERAL CONDITIONS EXISTING AT THE TIME.

**DUNE PLACEMENT AREA REGULATORY PLAN VIEWPORT 02**

SCALE: 1" = 50'

GRAPHIC SCALE (FT)

0' 25' 50' 100'

- NOTES:**
- VERTICAL DATUM IS IN REFERENCE TO NORTH AMERICAN DATUM 1983 (NAD83). HIGHER IS 3.28 FEET ABOVE MEAN LOW WATER (MLW). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) DATUM TRANSFORMATION PROGRAM.
  - EXISTING CONTOUR DATA SHOWN WAS COLLECTED ON JUNE 13, 2016 BY CHAMBER & BENTLEY ASSOCIATES (C&B).
  - THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE BEST AVAILABLE INFORMATION. THE ENGINEER HAS CONDUCTED VISUAL INSPECTIONS OF THE PROJECT AREA AND HAS BEEN CONSIDERED AS INCLUDING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

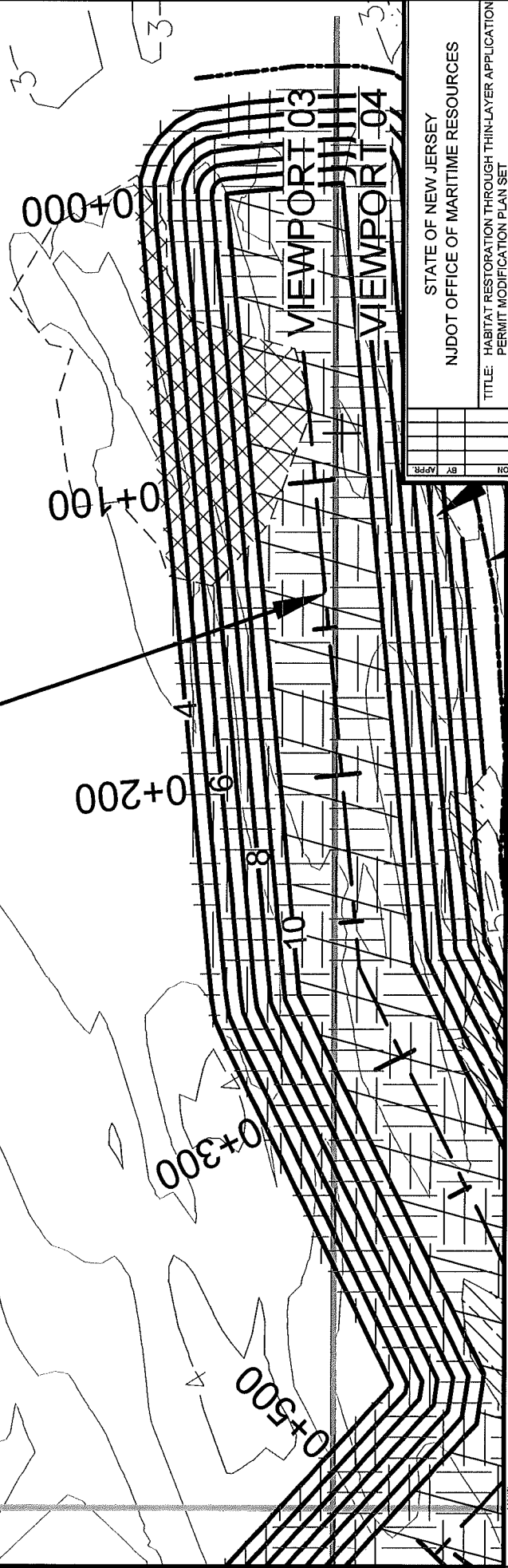
**IMPACT LEGEND**

	EXISTING DUNE AREA	8,820 SF (0.202 ACRES)
	WETLAND CONVERSION	96,780 SF (2.27 ACRES)
	UPLAND CONVERSION	9,540 SF (0.223 ACRES)

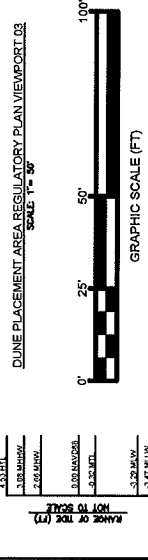
**LEGEND**

	CHANNEL LIMITS
	CHANNEL CENTERLINE
	EXISTING SHORELINE
	EXISTING 0.5' CONTOUR
	EXISTING 1' CONTOUR
	PROPOSED DUNE CONSTRUCTION
	MARSH SEAWARD DIKE BOUNDARY
	PROPOSED DUNE
	APPROXIMATE PIPELINE LOCATION
	LIMIT OF EXISTING DUNE
	MEAN HIGH WATER (MHW) +2.08 FT NAVD83
	MEAN TIDE LINE (MTL) +4.53 FT NAVD83
	REVISED PROPOSED DUNE CREST (ELEV. +10.0 MHW83)

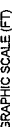
# BASELINE OF CONSTRUCTION (DUNE)



STATE OF NEW JERSEY NJDOT OFFICE OF MARITIME RESOURCES	
TITLE: HABITAT RESTORATION THROUGH THIN-LAYER APPLICATION PERMIT MODIFICATION PLAN SET	
PROJECT: DUNE PLACEMENT AREA REGULATORY PLAN VP-03 TOWNSHIP OF DOWNE, CUMBERLAND COUNTY, NEW JERSEY	
DRAWN BY: EPD	PROJECT NO. 1563.007
CHECKED BY: MPD	DATE OF AUTHORIZATION: 2/24/2017
SCALE: AS SHOWN	DATE: OCTOBER 2016
DATE: OCTOBER 2016	DWG. NO. REG





DATE: OCTOBER 2016  
NEW JERSEY PROFESSIONAL ENGINEER  
NO. 0E-45796







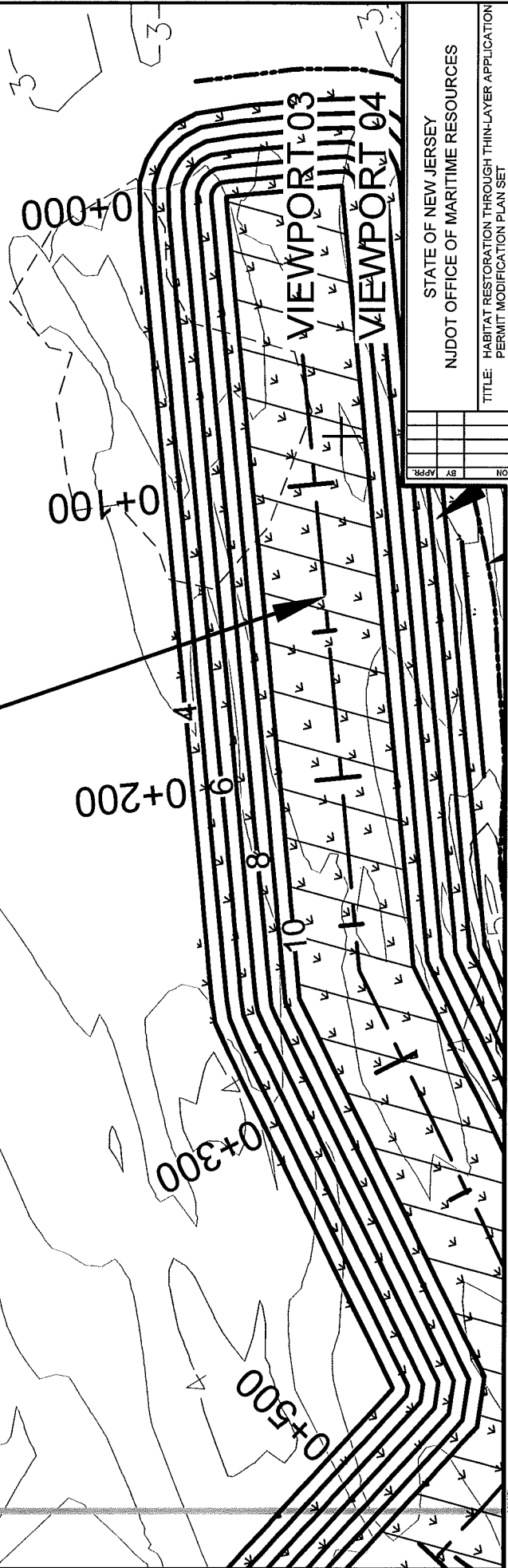
- LEGEND**
- CHANNEL LIMITS
  - CHANNEL CENTERLINE
  - EXISTING SHOULDER
  - EXISTING 0.5' CONTOUR
  - EXISTING 1' CONTOUR
  - DUNE PLACEMENT LIMIT / PERIMETER
  - PROPOSED DUNE
  - PROPOSED DUNE CONSTRUCTION
  - PROPOSED DUNE
  - APPROXIMATE PIPELINE LOCATION
  - LIMIT OF EXISTING DUNE
  - MEAN HIGH WATER (MHW) +2.08 FT NAVD83
  - MEAN TIDE LINE (MTL) +4.53 FT NAVD83
  - REVISED PROPOSED DUNE CREST (ELEV. +10.0 NAVD83)

- PLANTING LEGEND**
- PRIMARY FOREDUNE PLANTING AREA
  - WELL ESTABLISHED VEGETATION AREA

**NOTES:**

- VERTICAL DATUM IS IN REFERENCE TO NORTH AMERICAN VERTICAL DATUM 1988 (NAVD83). NAVD83 IS 3.29 FEET ABOVE MEAN LOW WATER (MLW). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VERTICAL DATUM TRANSFORMATION PROGRAM.
- CONSTRUCTION SHALL BE COMPLETED BY JUNE 15, 2016. THE NEW FOREDUNE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NEW JERSEY STATE PLANT AND COORDINATE SYSTEM (NJS-PCS) DATUM OF 1988 (NAVD83).
- EXISTING CONTOUR DATA SHOWN WAS COLLECTED ON JUNE 13, 2016 BY GARDNER & BROWN ASSOCIATES (GBA).
- THE AREA SHOWN IS BASED ON THE DATA PROVIDED BY GBA. THE DATA WAS OBTAINED FROM A FIELD SURVEY. THE DATA WAS OBTAINED AS INCLUDING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

# BASELINE OF CONSTRUCTION (DUNE)



DUNE PLACEMENT AREA PLANTING PLAN VIEWPORT 03  
SCALE 1" = 50'



GRAPHIC SCALE (FT)

RANGE OF TIDE (FT)	NOT TO SCALE
3.28 MHW	
2.08 MHW	
0.00 MTL	
-3.29 MLLW	

STATE OF NEW JERSEY NJDOT OFFICE OF MARITIME RESOURCES	
TITLE: HABITAT RESTORATION THROUGH THIN-LAYER APPLICATION PERMIT MODIFICATION PLAN SET	
PROJECT: FORTESCUE CREEK TOWNSHIP OF DOWNE, CUMBERLAND COUNTY, NEW JERSEY	
DRAWN BY: EPO	PROJECT NO.: 15SL007
CHECKED BY: MGS	SHEET 23 OF 24
SCALE: AS SHOWN	DATE: OCTOBER 2016
DNR NO. PLANT	

