

DIRECTIONAL DRILL DATA		
DESCRIPTION	STATION (ft)	ELEVATION (ft)
ENTRY POINT @ 10"	0+00.00	6.52
PC 1 (1,500' R)	0+60.31	-4.11
PT 1 @ 1"	2+94.60	-26.67
PC 2 (1,500' R)	20+30.63	-56.97
PT 2	22+13.61	-48.98
EXIT POINT @ 6"	25+00.00	-18.88
HORIZONTAL DISTANCE (ft) = 2,500.00		
DIRECTIONAL DRILL PIPE LENGTH (ft) = 2,504.39		

- GENERAL NOTES**
- NORTHINGS AND EASTINGS ARE IN US SURVEY FEET REFERENCED TO NAD83 (2011), NEW JERSEY STATE PLANE, US FOOT.
 - ALL ELEVATIONS ARE REFERENCE TO THE MEAN LOWER LOW (MLLW) LEVEL.
 - AERIAL IMAGERY PROVIDED BY GOOGLE EARTH.
 - TOPOGRAPHIC SURVEY WAS PROVIDED BY ØRSTED.
 - BASE FILE(S) PROVIDED BY ØRSTED.
 - BATHYMETRIC SURVEY DATA PROVIDED BY ØRSTED 2021 AND BASED ON SITE INVESTIGATION HIGH RESOLUTION GEOPHYSICAL FIELD STUDIES CONDUCTED FROM 2019 THROUGH 2021. SUPPLEMENTAL BATHYMETRY FOR BARNEGAT BAY PROVIDED BY NOAA 2014 POST SANDY TOPOBATHY LIDAR.
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 - DEPICTED WATER LEVEL INFORMATION SOURCED FROM NOAA VDATUM.
 - LOCATION OF HDD RIG, OFFSHORE MARINE EQUIPMENT AND SUPPORT STRUCTURES ARE NOT FIXED BY DESIGNATION OF HDD ENTRY OR EXIT POINT AND ARE LIKELY TO CHANGE DURING CONSTRUCTION.
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- CONTRACTOR MUST REVIEW AND APPROVE ALL IN-WATER STRUCTURES AND COMPONENTS REQUIRED FOR CONSTRUCTION IN ORDER TO CONFIRM WITH SAFETY REQUIREMENTS, WATER DEPTH UNCERTAINTY, POSSIBILITY OF EXTREME WAVES AND ANY OTHER CONCERNS FOR THE SAFE AND SUCCESSFUL INSTALLATION OF CROSSING IN THE OFFSHORE ENVIRONMENT.
- OFFSHORE CONTRACTOR TO ENSURE CARRIER PIPE STRING IS FREE OF DEBRIS AND SILT-IN PRIOR TO PULLBACK.
- VERTICAL DIMENSIONS OF EQUIPMENT NOT TO SCALE.
- GEOTECHNICAL DATA AND INFORMATION IS PRESENTED FOR REFERENCE ONLY. REVIEW THE ASSOCIATED GEOTECHNICAL REPORT FOR ALL INTERPRETATIONS AND DETERMINATIONS REGARDING SUBSURFACE CONDITIONS.
- USACE BEACH NOURISHMENT CONSTRUCTION/DESIGN TEMPLATE SHOWN PER US ARMY CORPS OF ENGINEERS PHILADELPHIA DISTRICT DRAWING C-305 TYPICAL SECTION - 35TH STREET OCEAN CITY. ISSUED/SUBMITTAL DATE: 100% RTA - 13 JUNE 2019.
- CONCRETE MATTRESSES WILL BE USED TO STABILIZE THE PIPE WITHIN THE HDD EXIT PIT UPON INSTALLATION. MATTRESSES WILL BE LEFT IN PLACE AND HDD EXIT PITS WILL BE ALLOWED TO BACKFILL THROUGH NATURAL PROCESSES. OCEAN WIND WILL NOTIFY USACE/USCG WITH LOCATIONS OF HDD EXIT PITS FOLLOWING FINAL DESIGN AND CONSTRUCTION.

TIDAL DATUMS (NAVD88 FT ELEVATIONS)	BL ENGLAND ATLANTIC SHORELINE
MHHW	1.96
MHW	1.56
MTL	-0.37
MLW	-2.32
MLLW	-2.47

LEGEND

- PROPOSED DRILL PATH
- PROPOSED WORKSPACE
- TEMPORARY EASEMENT
- PERMANENT EASEMENT
- PROPOSED EXCAVATION
- CABLE ROUTE
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- WATER LEVEL
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- COHESIVE SOILS, UCS, TONS/FT² BLOWS/FT
- WATER LEVEL AFTER SAMPLING
- WATER LEVEL DURING SAMPLING

NJ CERTIFICATE OF AUTHORIZATION 24GA28010700

REILLY J. SCHOO
NJ PROFESSIONAL ENGINEER
No. 24GE05344300

NOTES:

- HORIZONTAL DATUM: NAD83 NEW JERSEY STATE PLANE, U.S. FOOT
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FOR PERMITTING APPROVAL

Ocean Wind
An Ørsted & PSEG project

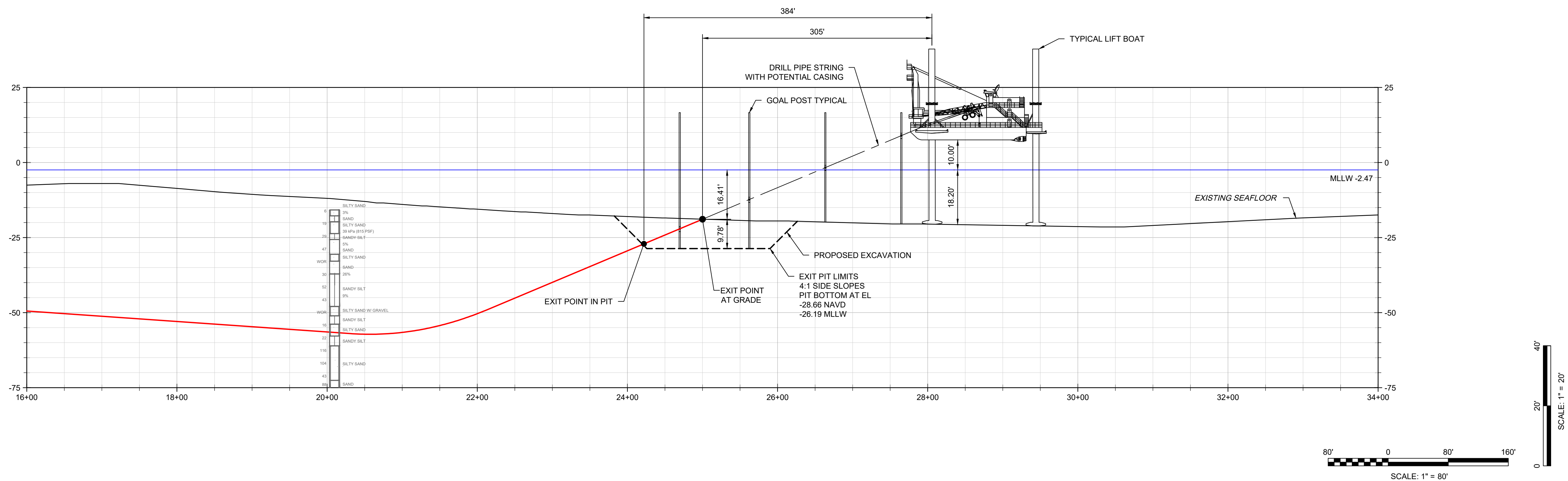
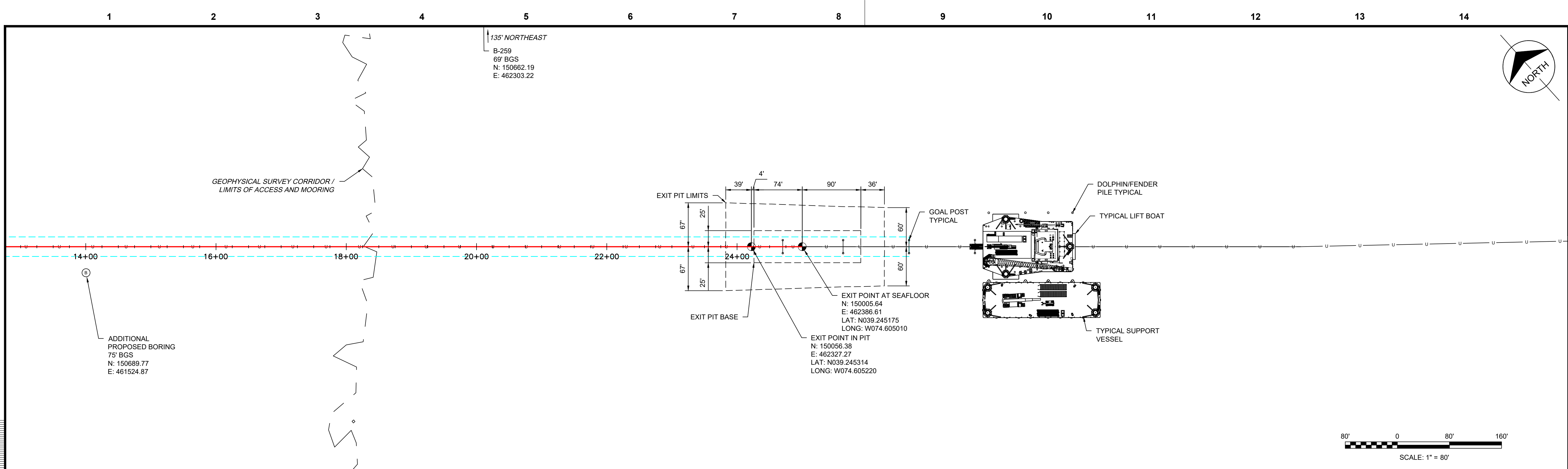
HDR
HDR ENGINEERING, INC.
1 INTERNATIONAL BOULEVARD, SUITE 1000
MAHWAH, NJ 07495

date	07/29/22	detailed	T. VONBERGE
designed	R. SCHOO	checked	D. BEARDEN

CAPE MAY COUNTY, NEW JERSEY

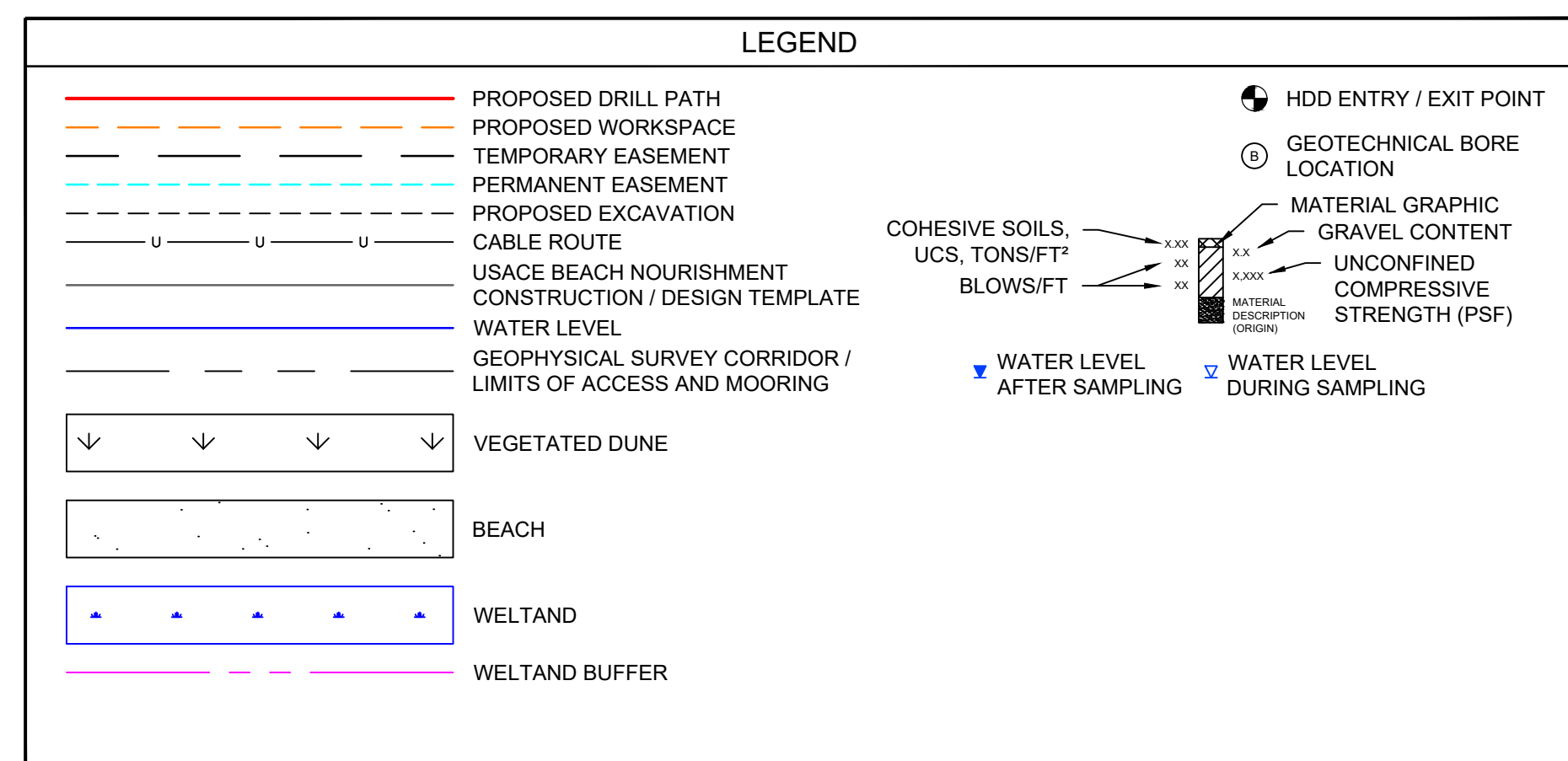
32" OC3_A CROSSING
BL ENGLAND / 35TH STREET CROSSING
HORIZONTAL DIRECTIONAL DRILL
PLAN AND PROFILE

project	RDS-PP CODE
drawing	HDD-OF-BLE-01T-5-001
sheet	of sheets
file	HDD-OF-BLE-01T-5-001



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NJ CERTIFICATE OF
AUTHORIZATION 24GA28010700

REILLY J. SCHOO
NJ PROFESSIONAL ENGINEER
No. 24GE05344300

no.	date	by	ckd	description
A	07/29/22	TV	RS	ISSUED FOR PERMIT

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APPROVAL**

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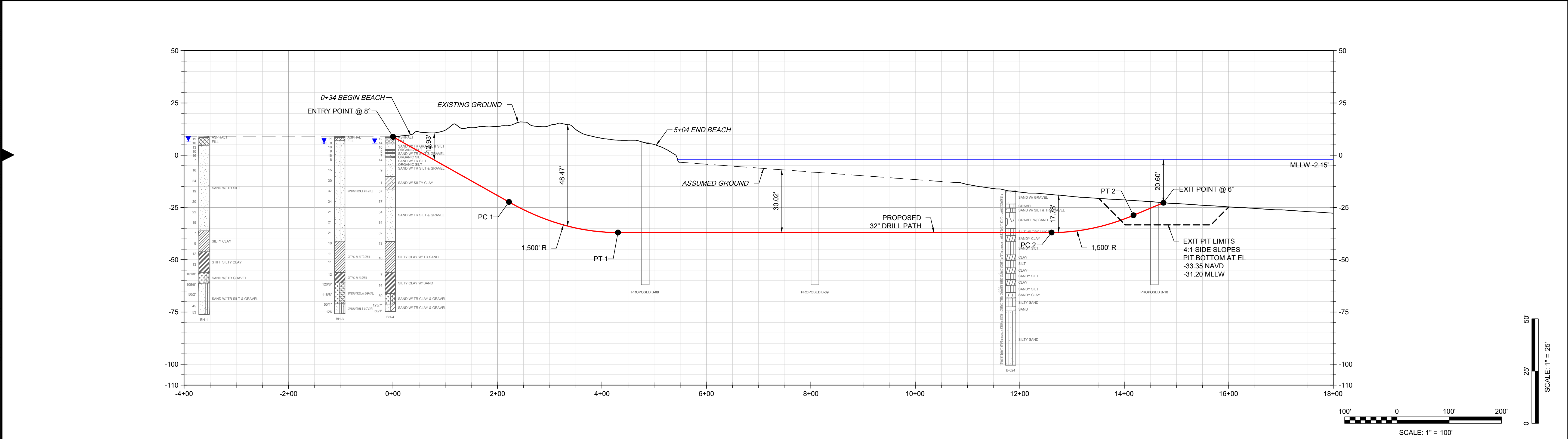
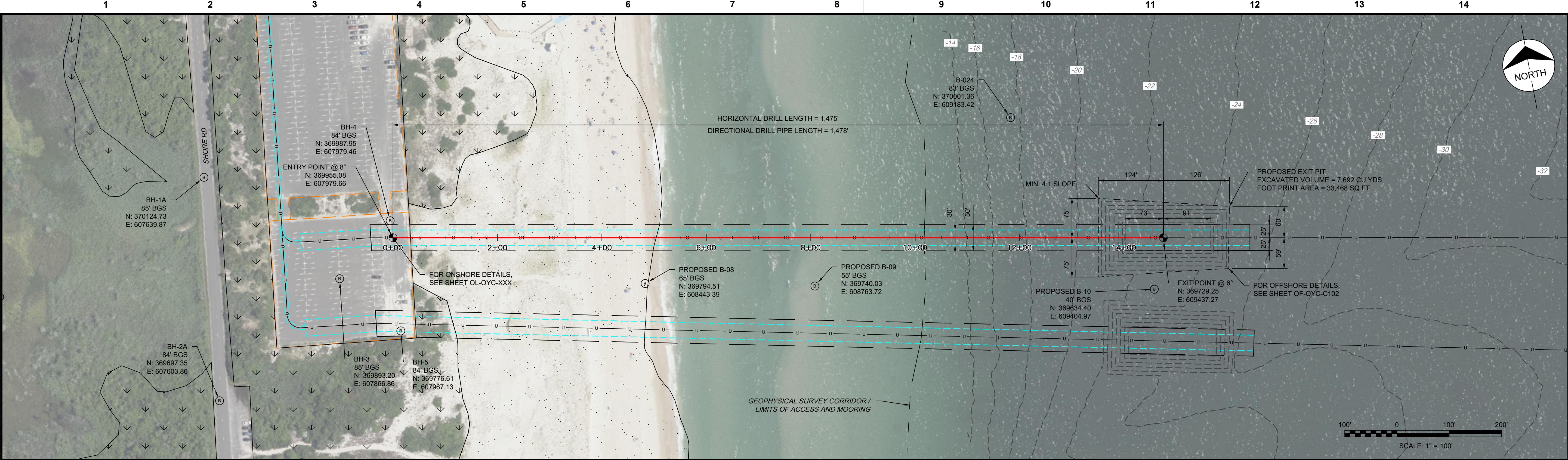
HDR
HDR ENGINEERING, INC.
1 INTERNATIONAL BOULEVARD, SUITE 1000
MAHWAH, NJ 07495

date 07/29/22	detailed T. VONBERGE
designed R. SCHOO	checked D. BEARDEN

CAPE MAY COUNTY, NEW JERSEY

32" OC3_A CROSSING
BL ENGLAND / 35TH STREET CROSSING
OFFSHORE WORKSPACE
PLAN AND PROFILE

project	RDS-PP CODE
-	-
drawing	rev.
HDD-OF-BLE-01T-4-002	A
sheet	of sheets
file HDD-OF-BLE-01T-4-002	



DIRECTIONAL DRILL DATA		
DESCRIPTION	STATION (ft)	ELEVATION (ft)
ENTRY POINT @ 8°	0+00.00	8.79
PC 1 (1,500' R)	2+21.92	-22.40
PT 1	4+30.68	-37.00
PC 2 (1,500' R)	12+60.77	-37.00
PT 2	14+17.56	-28.78
EXIT POINT @ 6°	14+75.00	-22.75
HORIZONTAL DISTANCE (ft) = 1,475.00		
DIRECTIONAL DRILL PIPE LENGTH (ft) = 1,478.46		

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TIDAL DATUMS (NAVD88 FT ELEVATIONS)	IBSP ATLANTIC SHORELINE
MHHW	2.17
MHW	1.84
MTL	-0.19
MLW	-2.01
MLLW	-2.15

LEGEND

- PROPOSED DRILL PATH
- PROPOSED WORKSPACE
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NJ CERTIFICATE OF AUTHORIZATION 24GA28010700

OCEAN COUNTY, NEW JERSEY

32" OC1_C SHORE APPROACH
IBSP EAST CROSSING (NORTH)
HORIZONTAL DIRECTIONAL DRILL
PLAN AND PROFILE

project: RDS-PP CODE: -

drawing: **HDD-OF-OYC-04T-5-001** rev: **A**

sheet: of sheets

file: HDD-OF-OYC-04T-5-001

REILLY J. SCHOO
NJ PROFESSIONAL ENGINEER
No. 24GE05344300

NOTES:

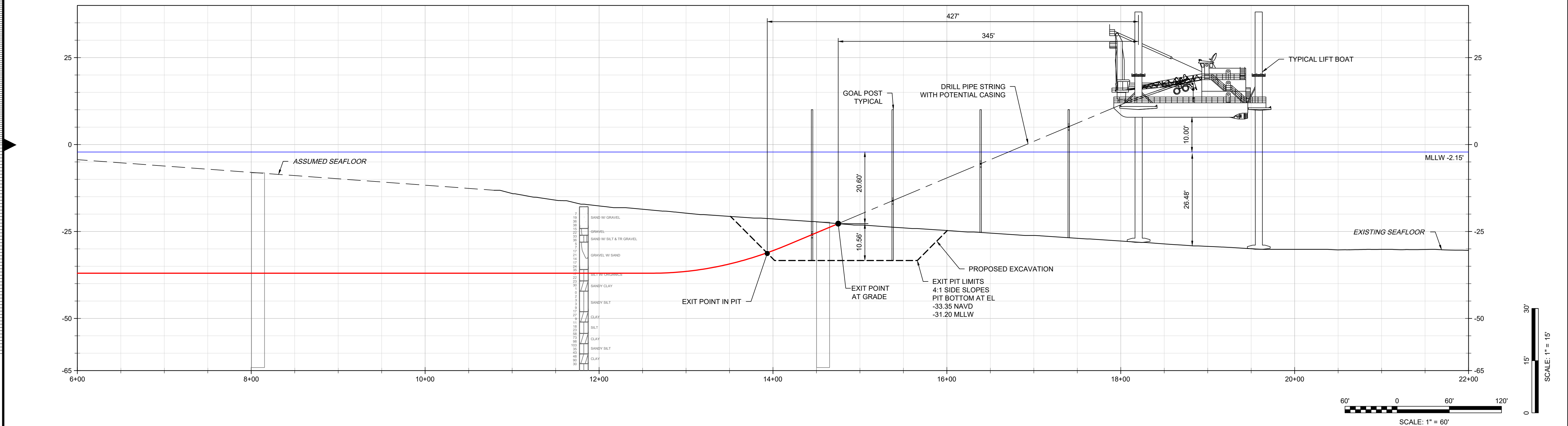
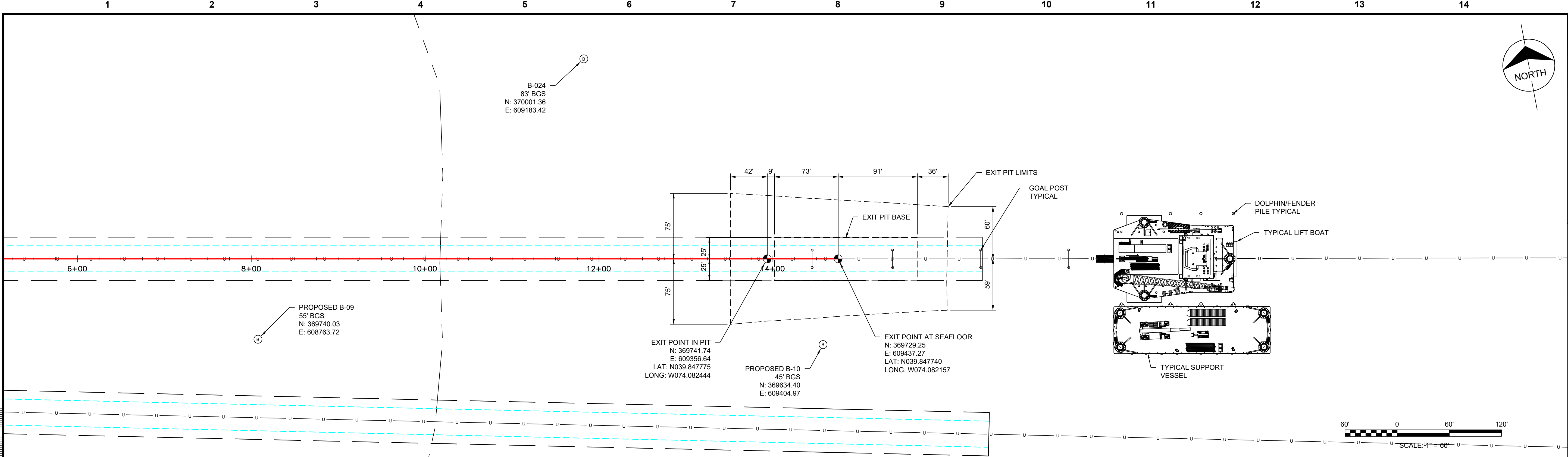
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FOR PERMITTING APPROVAL

Ocean Wind
An Ørsted & PSEG project

HDR
HDR ENGINEERING, INC.
1 INTERNATIONAL BOULEVARD, SUITE 1000
MAHWAH, NJ 07495

date	07/29/22	detailed	T. VONBERGE
designed	R. SCHOO	checked	D. BEARDEN



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LEGEND

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REILLY J. SCHOO
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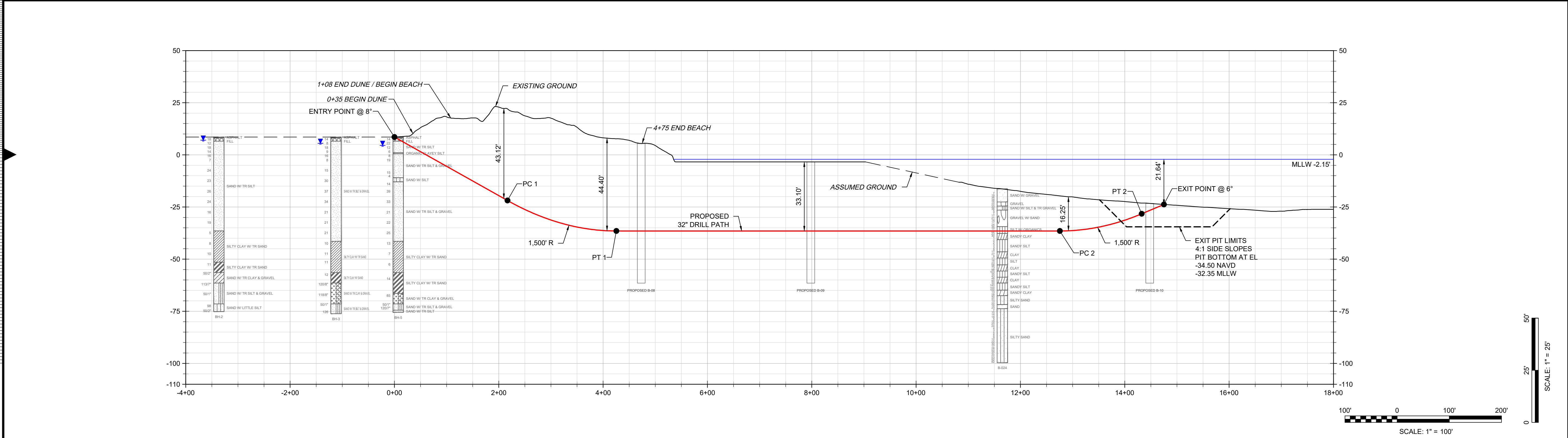
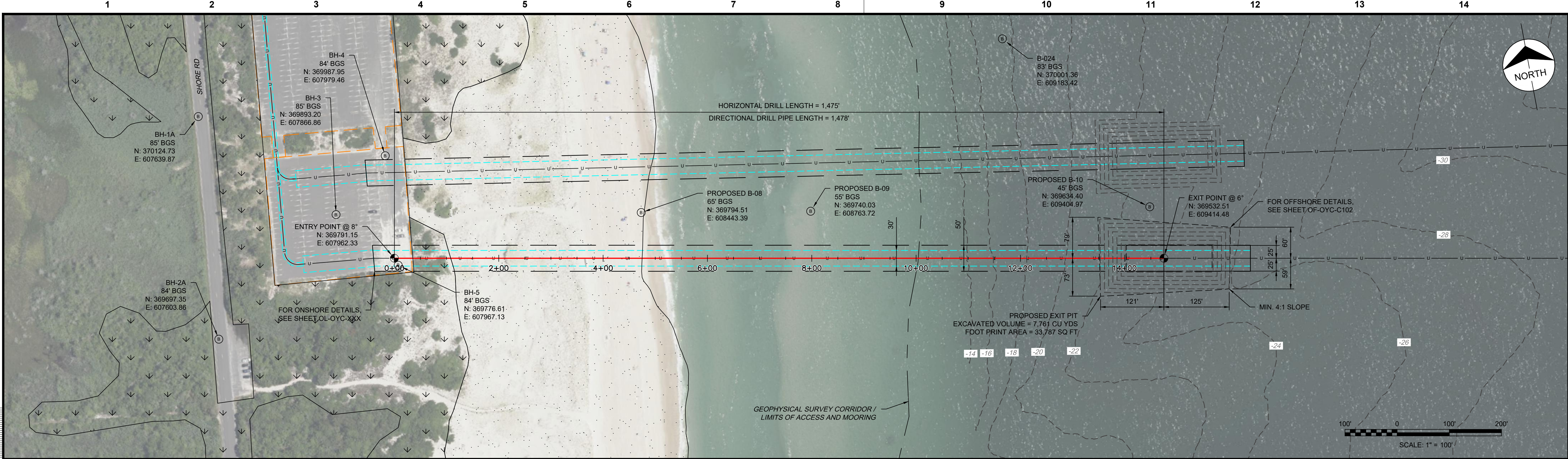
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OCEAN COUNTY, NEW JERSEY

32" OC1_C SHORE APPROACH
IBSP EAST CROSSING (NORTH)
OFFSHORE WORKSPACE
PLAN AND PROFILE

project	-	RDS-PP CODE	-
drawing	HDD-OF-OYC-04T-5-002	rev.	A
sheet	of	sheets	
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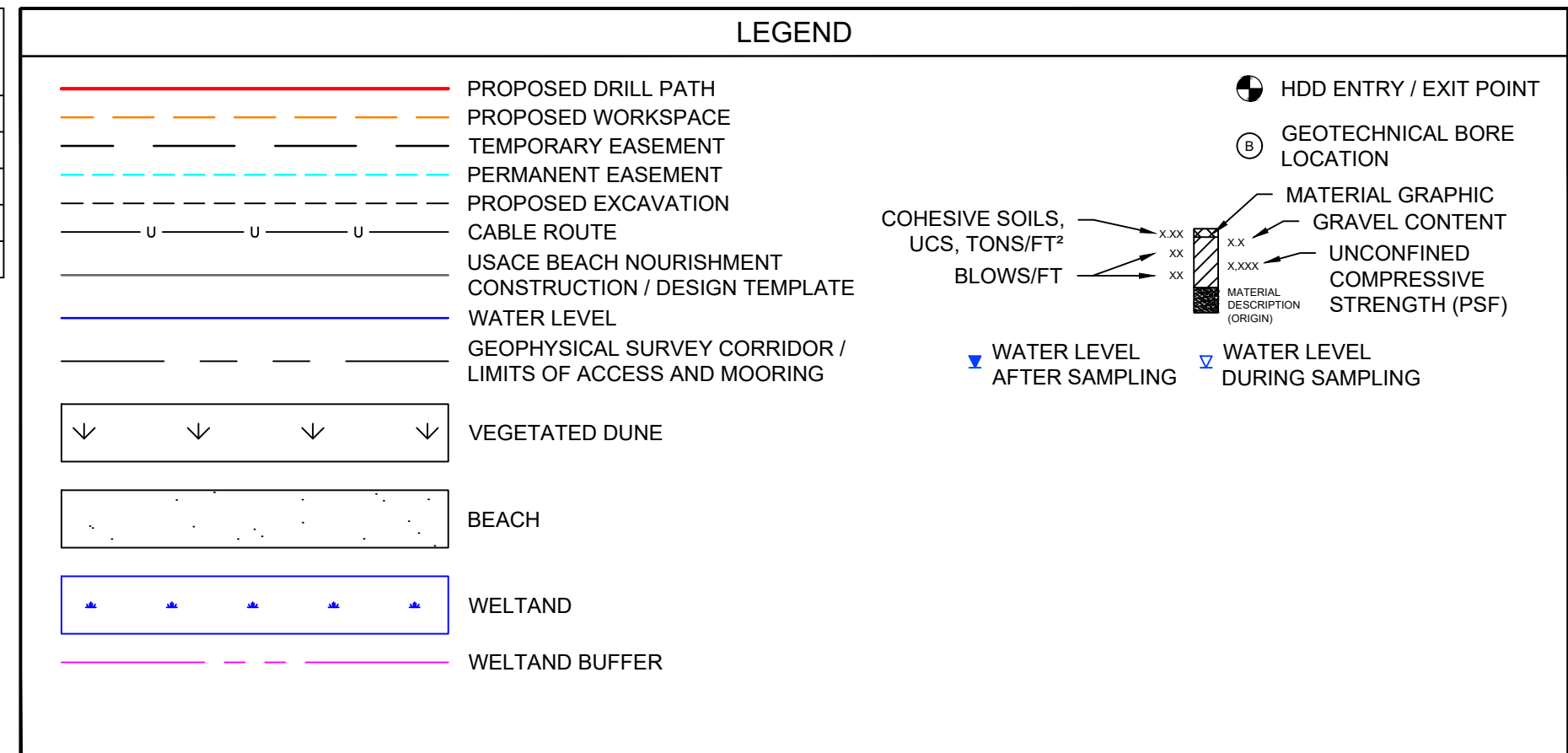


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TIDAL DATUMS (NAVD88 FT ELEVATIONS)	IBSP ATLANTIC SHORELINE
MHHW	2.17
MHW	1.84
MTL	-0.19
MLW	-2.01
MLLW	-2.15



NJ CERTIFICATE OF AUTHORIZATION 24GA28010700

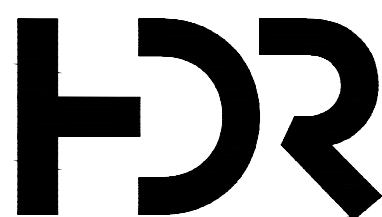
REILLY J. SCHOO
NJ PROFESSIONAL ENGINEER
No. 24GE05344300

no.	date	by	ckd	description
A	07/29/22	TV	RS	ISSUED FOR PERMIT

- NOTES:
- HORIZONTAL DATUM: NAD83 NEW JERSEY STATE PLANE, U.S. FOOT
 - VERTICAL DATUM CONVERSION OYSTER CREEK: NGVD29 = NAVD88 + 1.385 FT
VERTICAL DATA CONVERSION BL ENGLAND: NGVD29 = NAVD88 + 1.263 FT
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 - FOR DETAILS ON WETLAND AND WETLAND BUFFER IMPACTS PLEASE SEE ONSHORE PLAN SET.
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FOR PERMITTING APPROVAL

Ocean Wind
An Ørsted & PSEG project



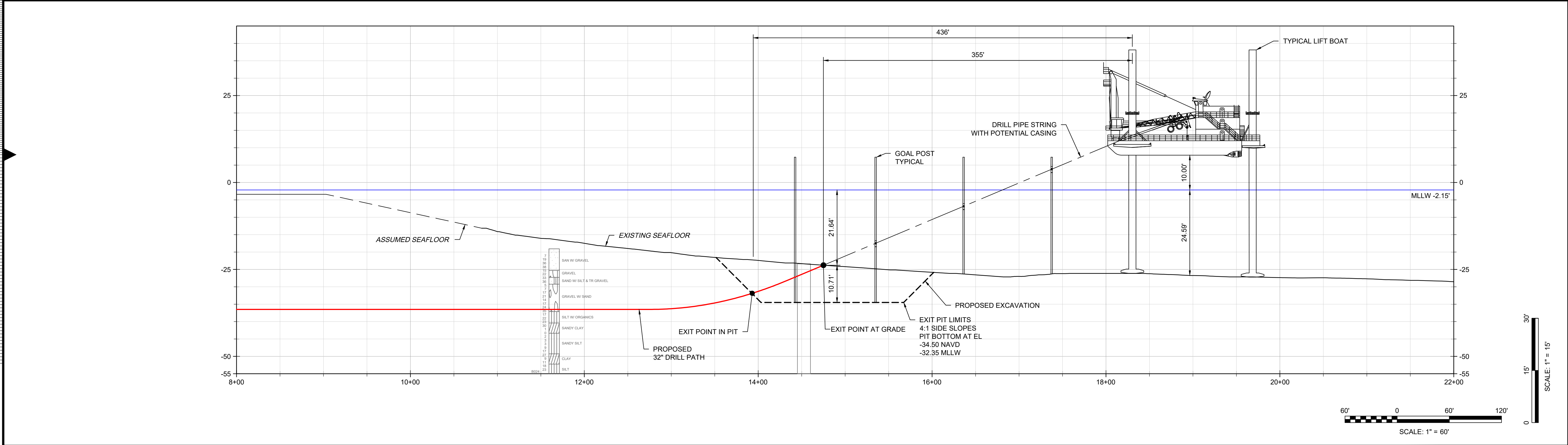
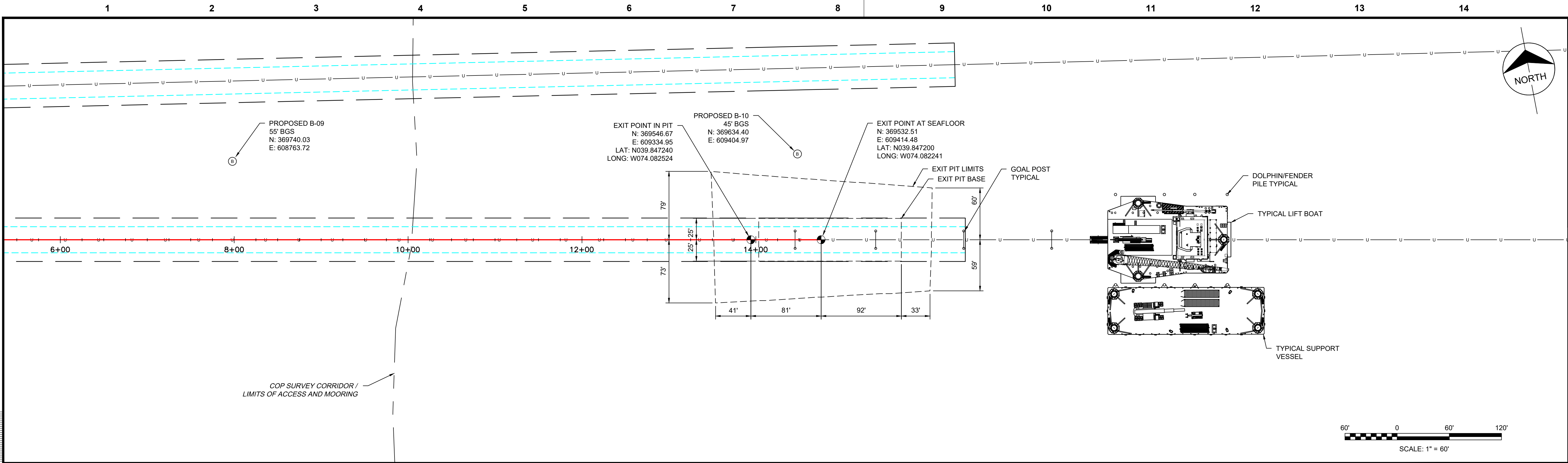
HDR ENGINEERING, INC.
1 INTERNATIONAL BOULEVARD, SUITE 1000
MAHWAH, NJ 07495

date	07/29/22	detailed	T. VONBERGE
designed	R. SCHOO	checked	D. BEARDEN

OCEAN COUNTY, NEW JERSEY

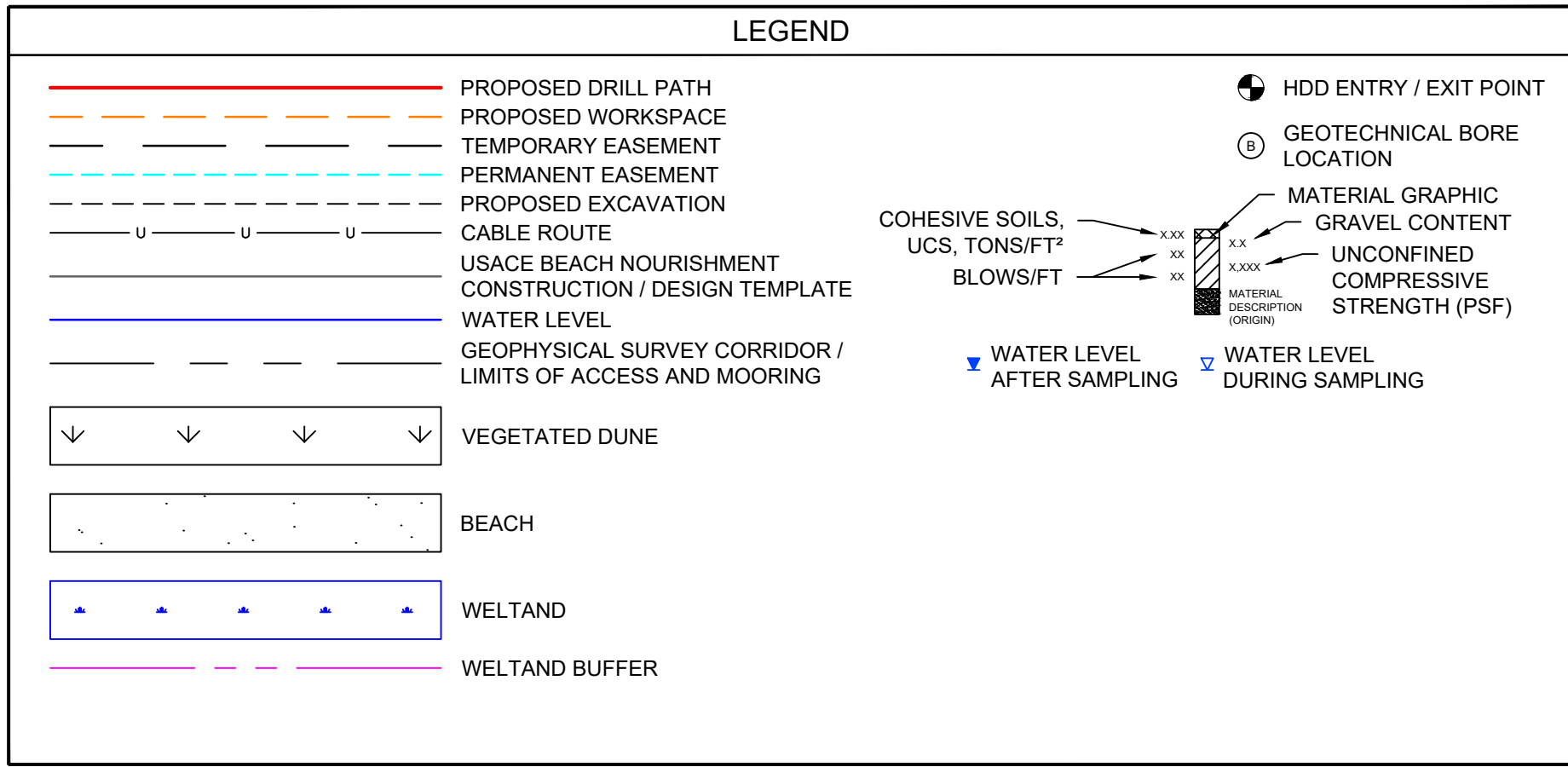
32" OC2_C SHORE APPROACH
IBSP EAST CROSSING (SOUTH)
HORIZONTAL DIRECTIONAL DRILL
PLAN AND PROFILE

project	-	RDS-PP CODE	-
drawing	HDD-OF-OYC-05T-5-001	rev.	A
sheet	of	sheets	
file	HDD-OF-OYC-05T-5-001		



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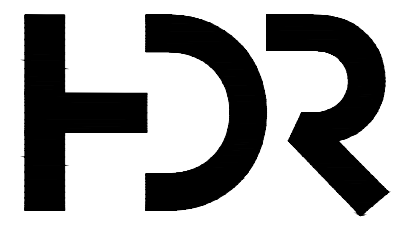
REILLY J. SCHOO
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No. 24GE05344300

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APPROVAL**

Ocean Wind
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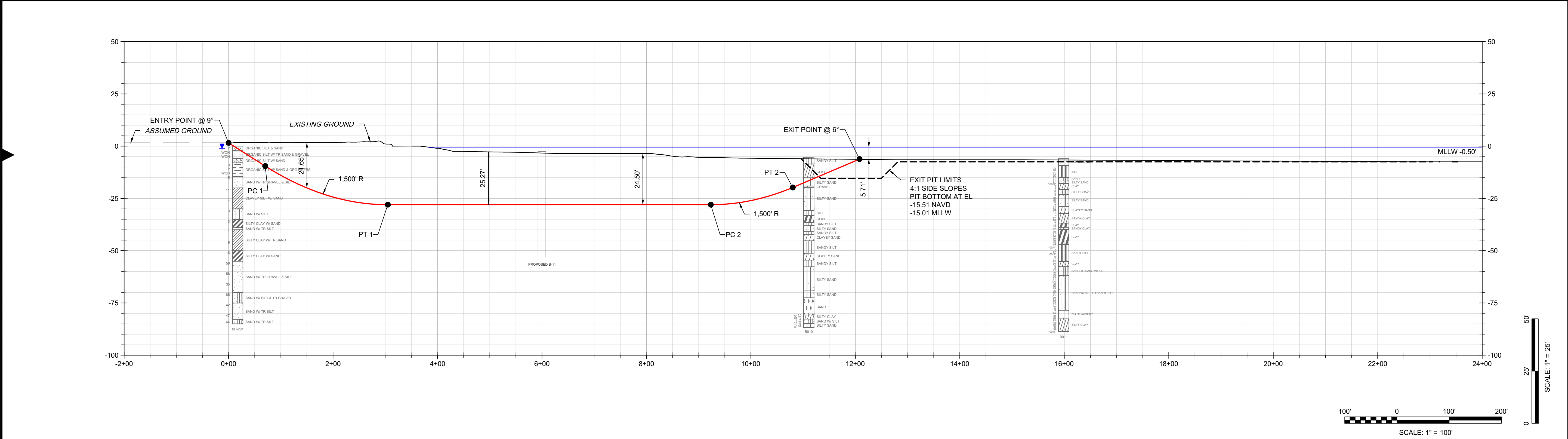
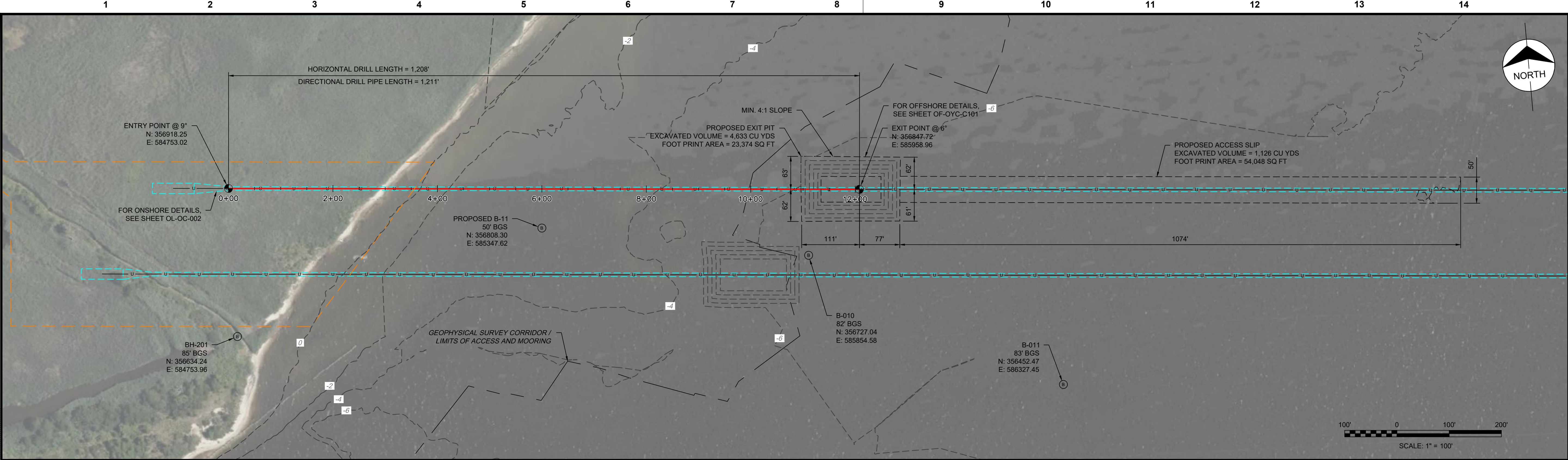
HDR ENGINEERING, INC.
1 INTERNATIONAL BOULEVARD, SUITE 1000
MAHWAH, NJ 07495

date	07/29/22	detailed	T. VONBERGE
designed	R. SCHOO	checked	D. BEARDEN

OCEAN COUNTY, NEW JERSEY

32" OC2_C SHORE APPROACH
IBSP EAST CROSSING (SOUTH)
OFFSHORE WORKSPACE
PLAN AND PROFILE

project	-	RDS-PP CODE	-
drawing	HDD-OF-OYC-05T-4-001	rev.	A
sheet	of	sheets	
file	HDD-OF-OYC-05T-4-001		



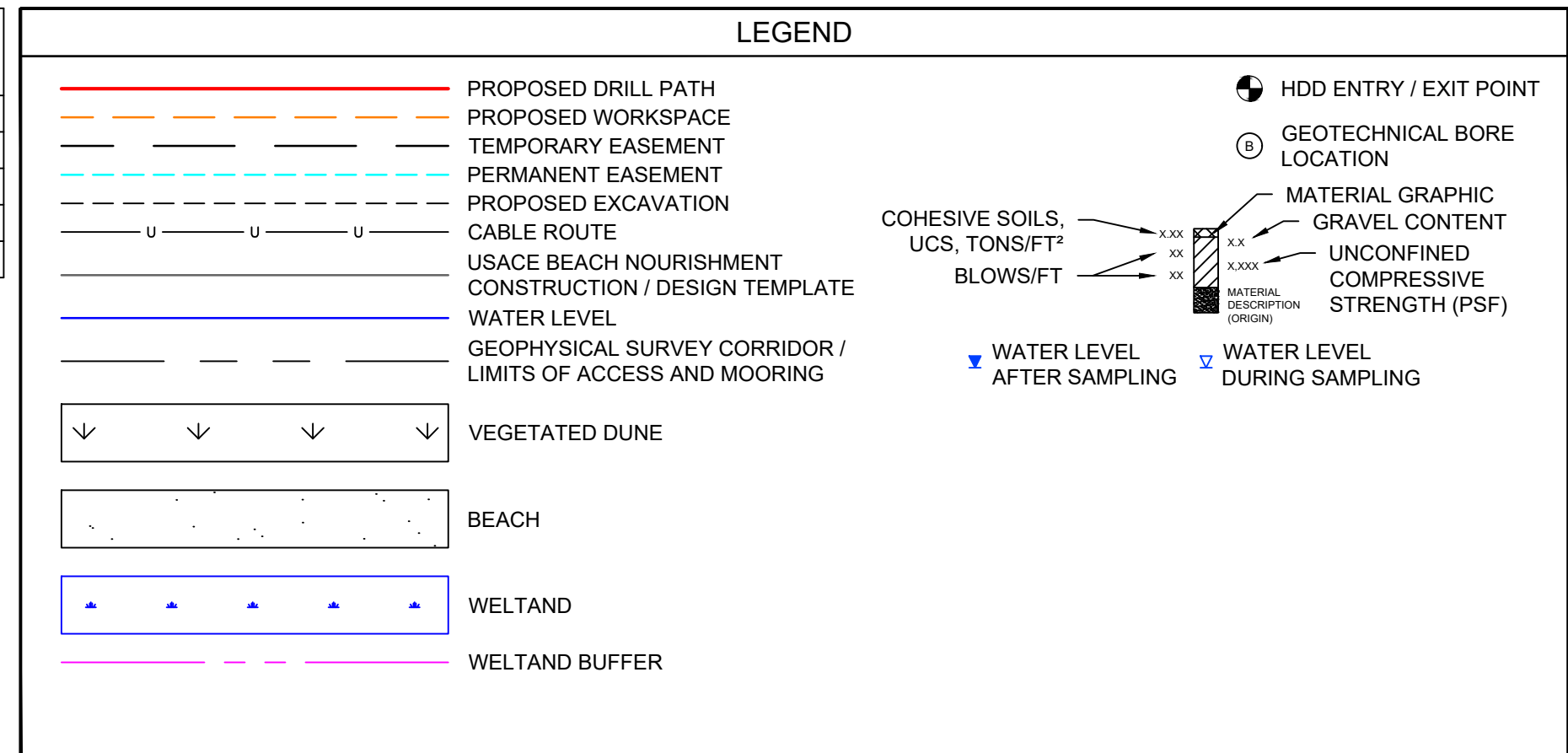
DIRECTIONAL DRILL DATA		
DESCRIPTION	STATION (ft)	ELEVATION (ft)
ENTRY POINT @ 9°	0+00.00	1.57
PC 1 (1,500' R)	0+70.10	-9.53
PT 1	3+04.75	-28.00
PC 2 (1,500' R)	9+23.12	-28.00
PT 2	10+79.92	-19.78
EXIT POINT @ 6°	12+08.00	-6.21
HORIZONTAL DISTANCE (ft) = 1,208.00		
DIRECTIONAL DRILL PIPE LENGTH (ft) = 1,210.83		

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TIDAL DATUMS (NAVD88 FT ELEVATIONS)	BARNEGAT BAY HOLTEC FARMS LANDING
MHHW	0.40
MHW	0.27
MTL	-0.05
MLW	-0.42
MLLW	-0.50



NJ CERTIFICATE OF AUTHORIZATION 24GA28010700

REILLY J. SCHOO
NJ PROFESSIONAL ENGINEER
No. 24GE05344300

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A	07/29/22	TV	RS	ISSUED FOR PERMIT

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Ocean Wind
An Ørsted & PSEG project

HDR

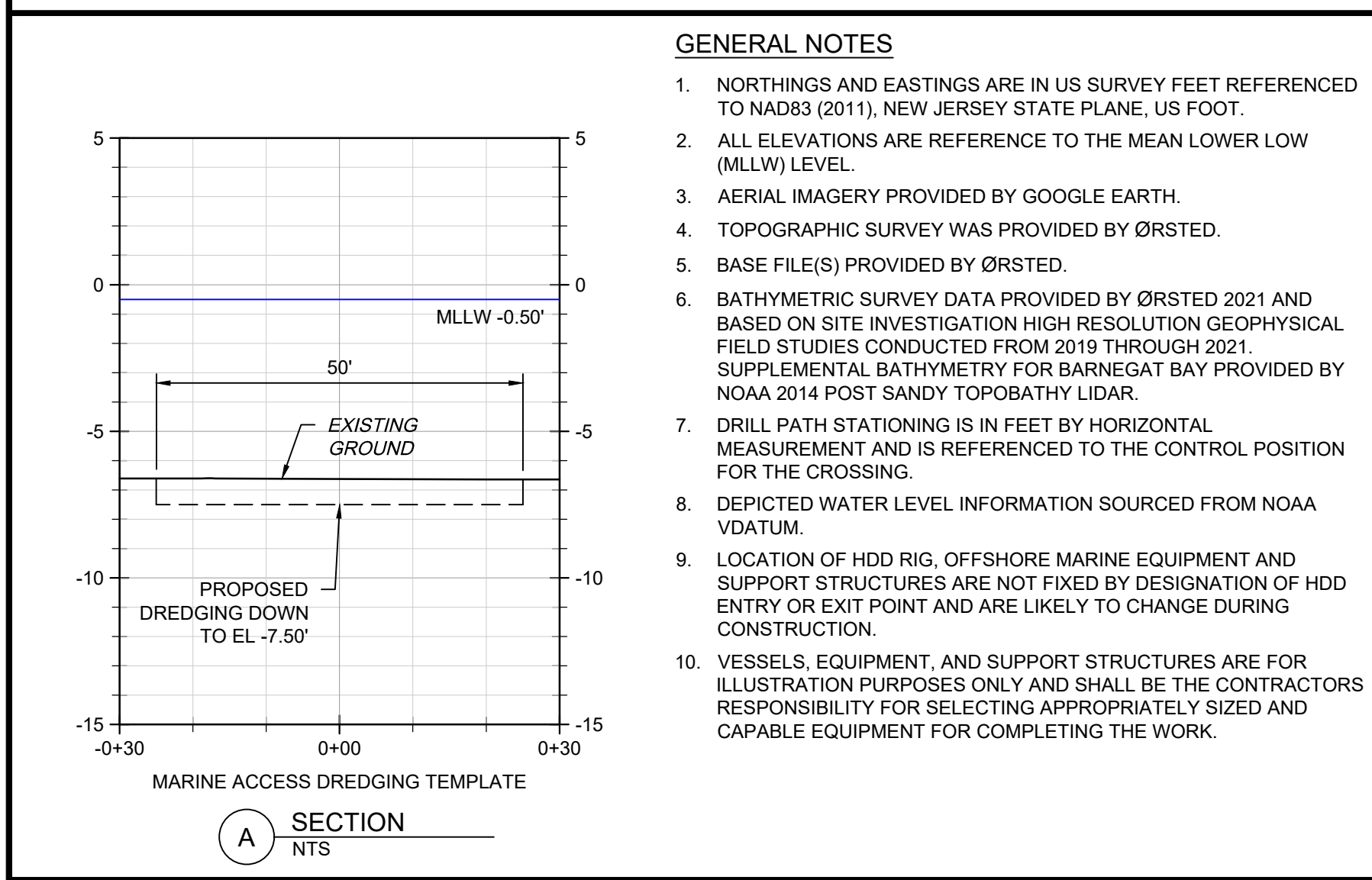
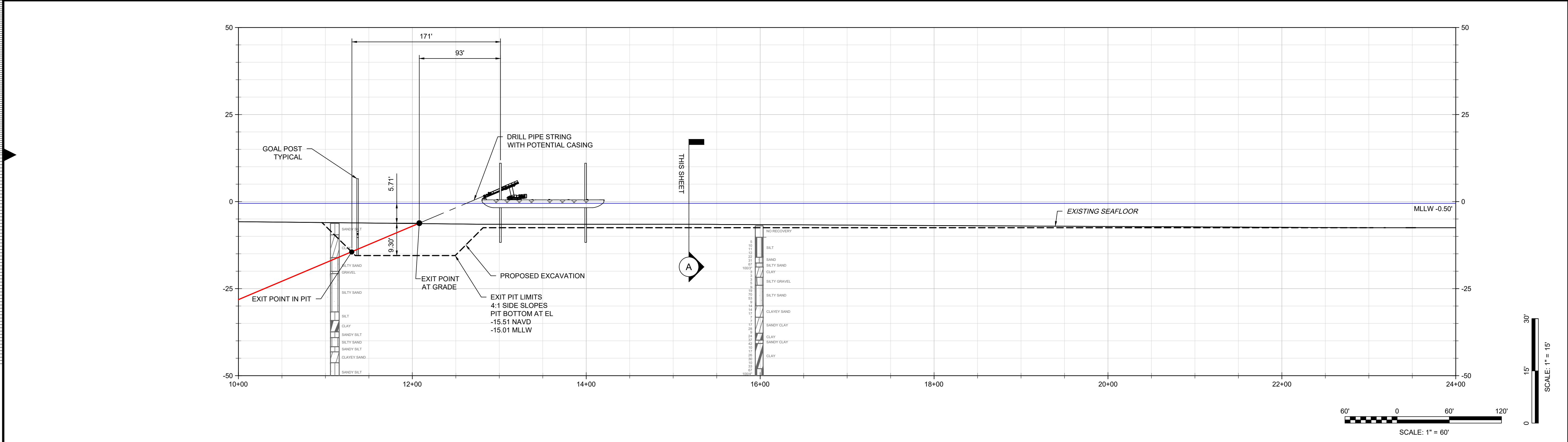
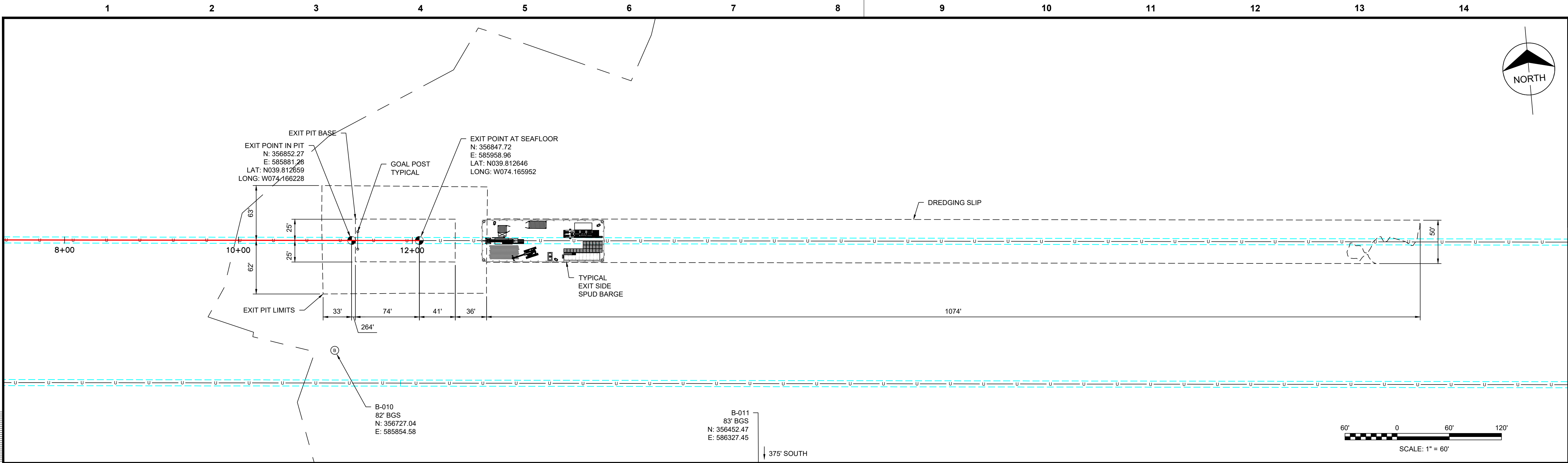
HDR ENGINEERING, INC.
1 INTERNATIONAL BOULEVARD, SUITE 1000
MAHWAH, NJ 07495

date	07/29/22	detailed	T. VONBERGE
designed	R. SCHOO	checked	D. BEARDEN

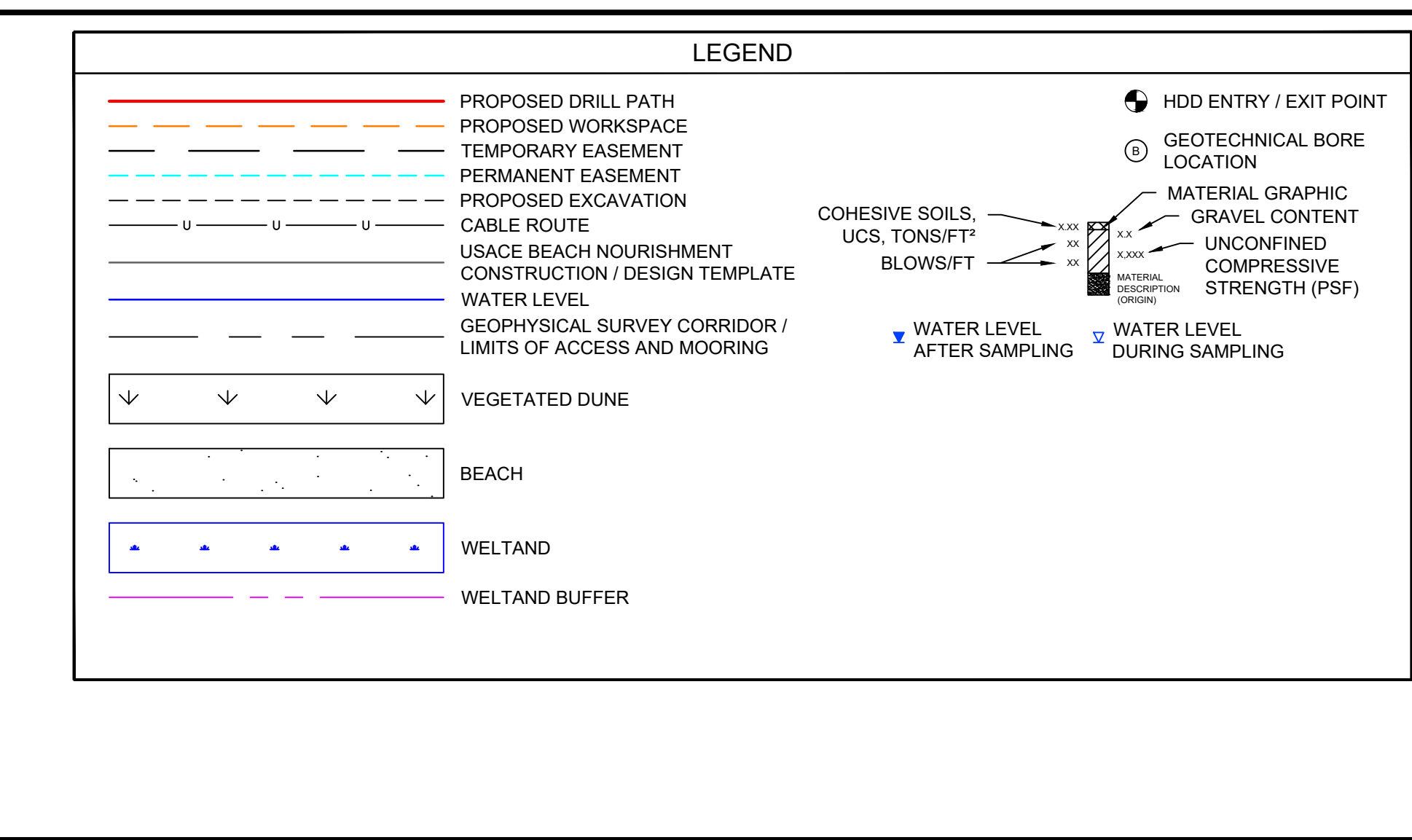
OCEAN COUNTY, NEW JERSEY

32" OC1_A SHORE APPROACH
HOLTEC FARM CROSSING (NORTH)
HORIZONTAL DIRECTIONAL DRILL
PLAN AND PROFILE

project	-	RDS-PP CODE	-
drawing	HDD-OF-OYC-06T-5-001	rev.	A
sheet	of	sheets	
file	HDD-OF-OYC-06T-5-001		



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NJ CERTIFICATE OF AUTHORIZATION 24GA28010700

OCEAN COUNTY, NEW JERSEY

32" OC1_A SHORE APPROACH
HOLTEC FARM CROSSING (NORTH)
OFFSHORE WORKSPACE
PLAN AND PROFILE

project: RDS-PP CODE

drawing: **HDD-OF-OYC-06T-4-001** rev. **A**

sheet of sheets

file: HDD-OF-OYC-06T-4-001

Reilly J. Schoo
NJ PROFESSIONAL ENGINEER
No. 24GE05344300

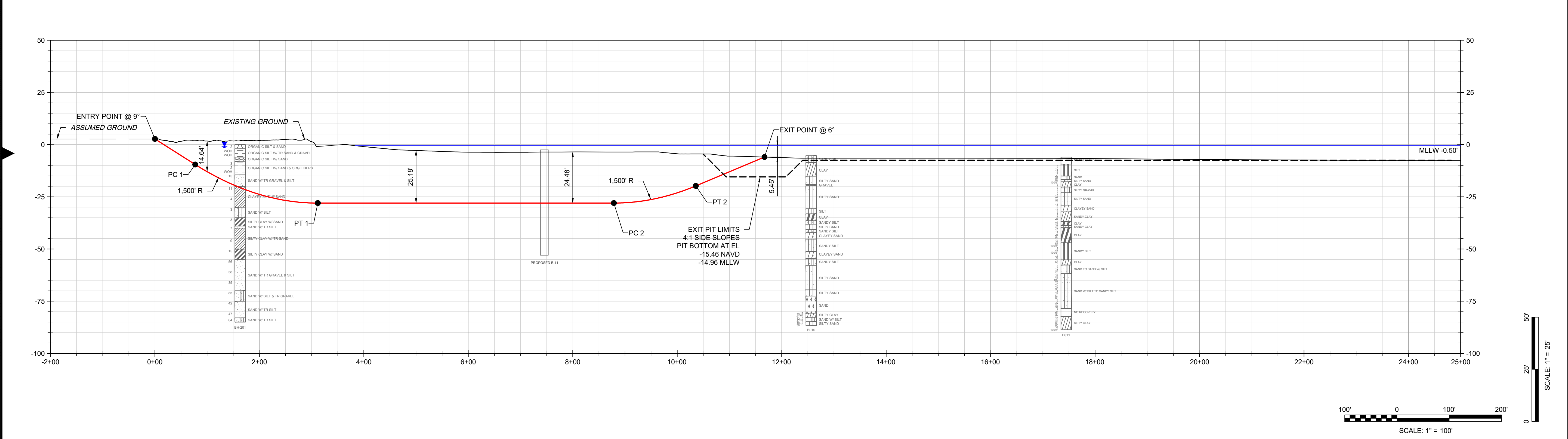
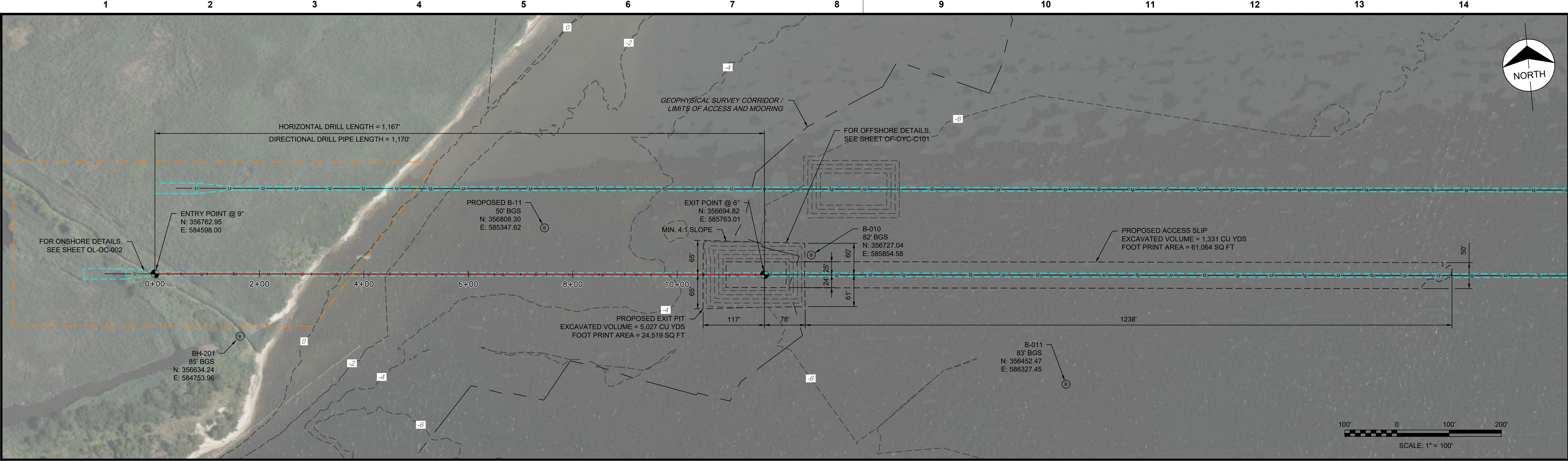
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Ocean Wind
An Ørsted & PSEG project

HDR
HDR ENGINEERING, INC.
1 INTERNATIONAL BOULEVARD, SUITE 1000
MAHWAH, NJ 07495



DIRECTIONAL DRILL DATA		
DESCRIPTION	STATION (ft)	ELEVATION (ft)
ENTRY POINT @ 9°	0+00.00	2.71
PC 1 (1,500' R)	0+77.30	-9.53
PT 1	3+11.95	-28.00
PC 2 (1,500' R)	8+71.20	-28.00
PT 2	10+35.43	-19.78
EXIT POINT @ 6°	11+67.00	-5.95
HORIZONTAL DISTANCE (ft) = 1,167.00		
DIRECTIONAL DRILL PIPE LENGTH (ft) = 1,169.94		

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MLW	-0.42
MLLW	-0.50

LEGEND

- PROPOSED DRILL PATH
- PROPOSED WORKSPACE
- TEMPORARY EASEMENT
- PERMANENT EASEMENT
- PROPOSED EXCAVATION
- CABLE ROUTE
- USACE BEACH NOURISHMENT CONSTRUCTION / DESIGN TEMPLATE
- WATER LEVEL
- GEOPHYSICAL SURVEY CORRIDOR / LIMITS OF ACCESS AND MOORING
- VEGETATED DUNE
- BEACH
- WELTAND
- WELTAND BUFFER
- HDD ENTRY / EXIT POINT
- GEOTECHNICAL BORE LOCATION
- MATERIAL GRAPHIC
- GRAVEL CONTENT
- UNCONFINED COMPRESSIVE STRENGTH (PSF)
- COHESIVE SOILS, UCS, TONS/FT² BLOWS/FT
- WATER LEVEL AFTER SAMPLING
- WATER LEVEL DURING SAMPLING

NJ CERTIFICATE OF AUTHORIZATION 24GA28010700

REILLY J. SCHOO
NJ PROFESSIONAL ENGINEER
No. 24GE05344300

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 - THESE DRAWINGS ARE FOR DESIGN AND PERMITTING PURPOSES ONLY AND NOT INTENDED FOR CONSTRUCTION. FINAL LOCATION OF PROPOSED IMPROVEMENTS WILL BE COORDINATED WITH ENGINEER UPON AWARD OF CONTRACT.
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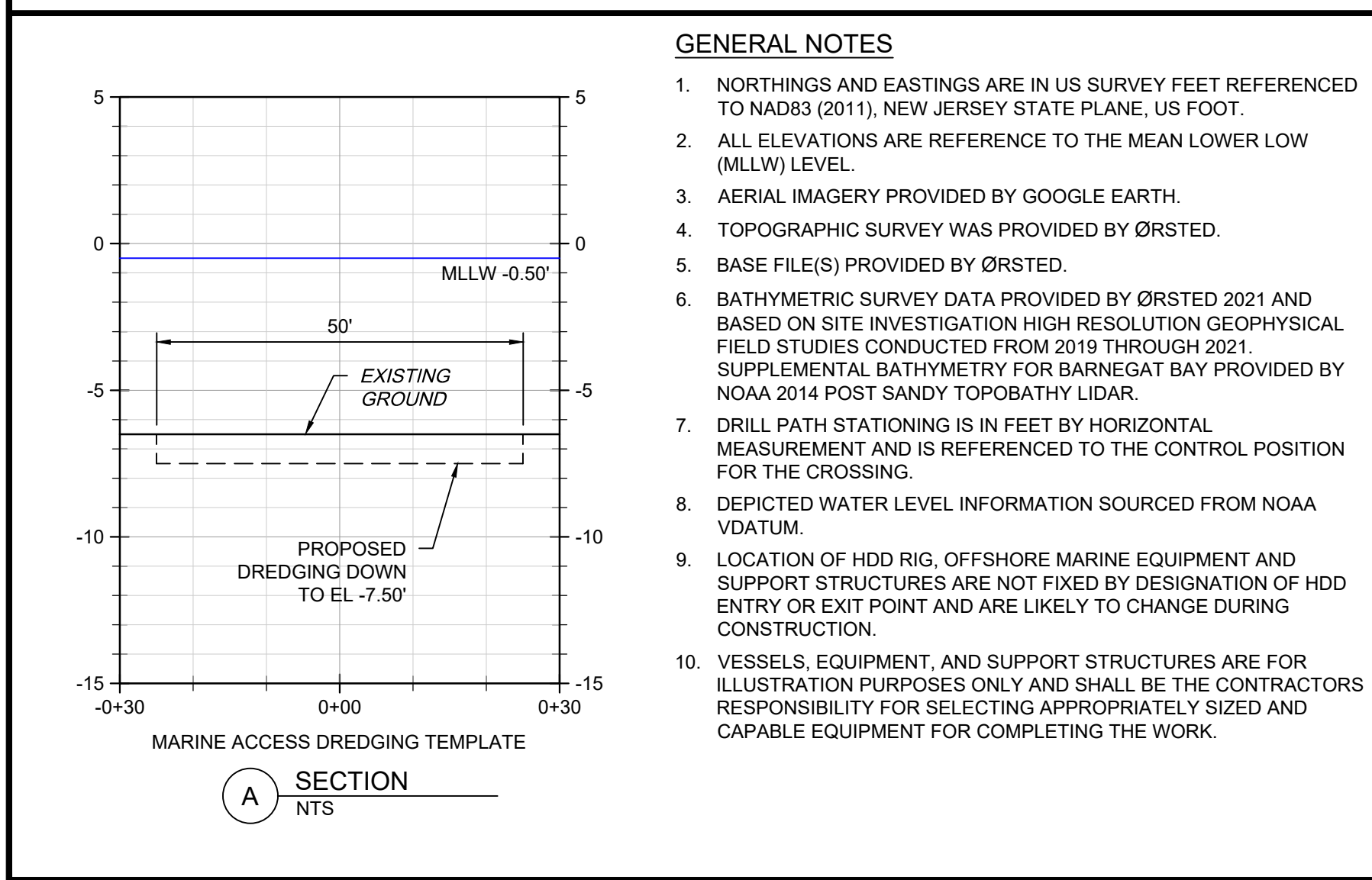
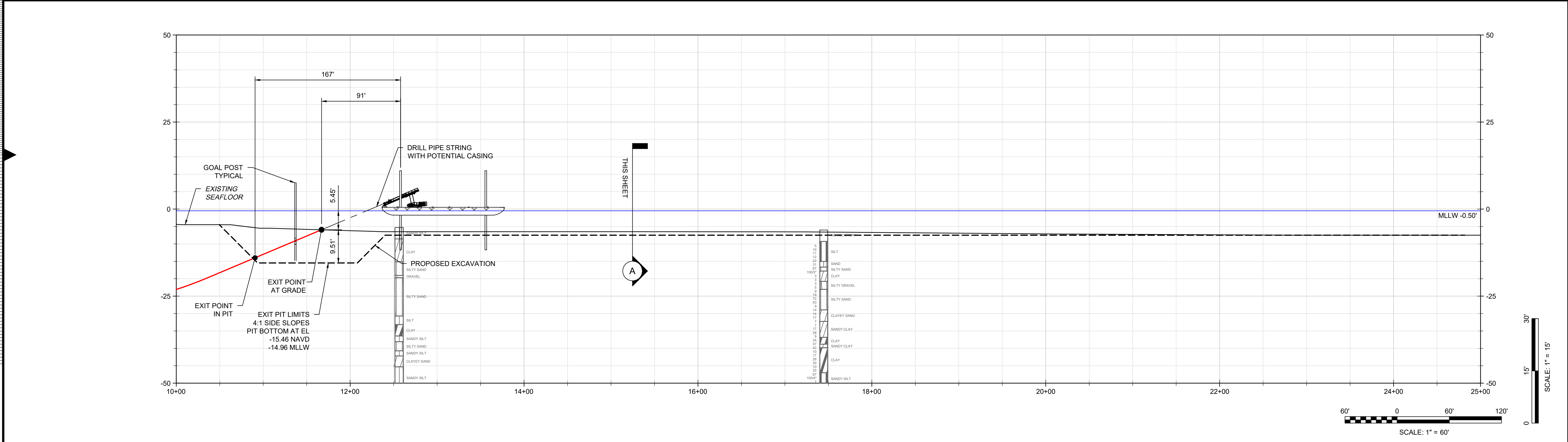
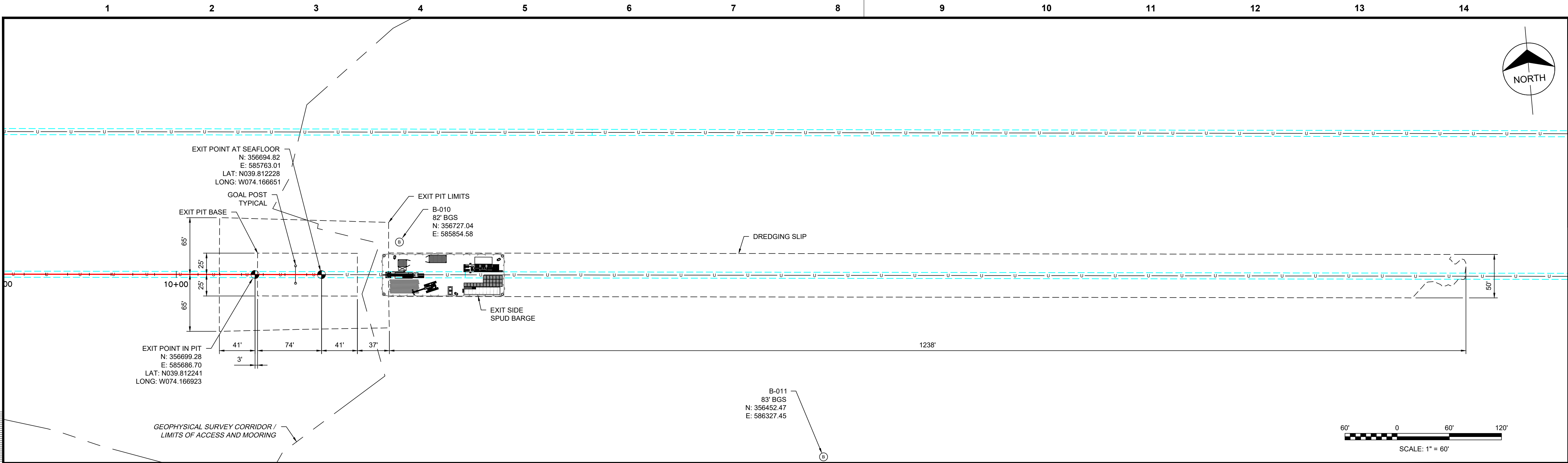
FOR PERMITTING APPROVAL

Ocean Wind
An Ørsted & PSEG project

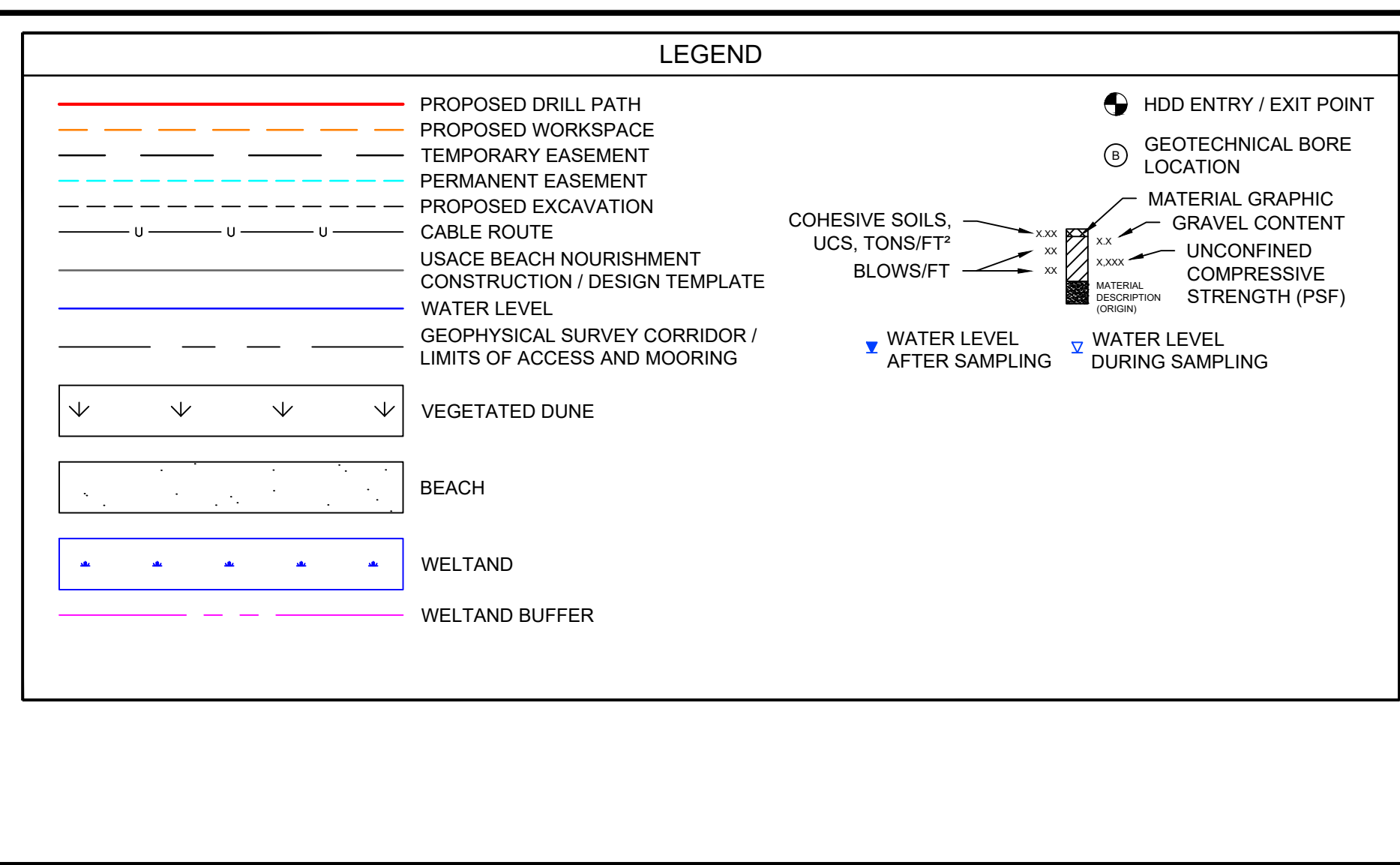
HDR
HDR ENGINEERING, INC.
1 INTERNATIONAL BOULEVARD, SUITE 1000
MAHWAH, NJ 07495

date	07/29/22	detailed	T. VONBERGE
designed	R. SCHOO	checked	D. BEARDEN

OCEAN COUNTY, NEW JERSEY	
32" OC2_A SHORE APPROACH HOLTEC FARM CROSSING (SOUTH) HORIZONTAL DIRECTIONAL DRILL PLAN AND PROFILE	
project	RDS-PP CODE
drawing	HDD-OF-OYC-07T-5-001
sheet	of sheets
file	HDD-OF-OYC-07T-5-001



- CONTRACTOR MUST REVIEW AND APPROVE ALL IN-WATER STRUCTURES AND COMPONENTS REQUIRED FOR CONSTRUCTION IN ORDER TO CONFIRM WITH SAFETY REQUIREMENTS, WATER DEPTH UNCERTAINTY, POSSIBILITY OF EXTREME WAVES AND ANY OTHER CONCERNS FOR THE SAFE AND SUCCESSFUL INSTALLATION OF CROSSING IN THE OFFSHORE ENVIRONMENT.
- OFFSHORE CONTRACTOR TO ENSURE CARRIER PIPE STRING IS FREE OF DEBRIS AND SILT-IN PRIOR TO PULLBACK.
- VERTICAL DIMENSIONS OF EQUIPMENT NOT TO SCALE.
- GEOTECHNICAL DATA AND INFORMATION IS PRESENTED FOR REFERENCE ONLY. REVIEW THE ASSOCIATED GEOTECHNICAL REPORT FOR ALL INTERPRETATIONS AND DETERMINATIONS REGARDING SUBSURFACE CONDITIONS.
- DRILLING FLUID AND CUTTINGS CAPTURED IN OFFSHORE EXCAVATION AT EXIT TO BE LEFT IN PLACE AND COVERED WITH AN APPROPRIATE LAYER OF NATIVE AND/OR COMPATIBLE MATERIAL.
- CONCRETE MATTRESSES WILL BE USED TO STABILIZE THE PIPE WITHIN THE HDD EXIT PIT UPON INSTALLATION. MATTRESSES WILL BE LEFT IN PLACE AND HDD EXIT PITS WILL BE ALLOWED TO BACKFILL THROUGH NATURAL PROCESSES. OCEAN WIND WILL NOTIFY USACE/USCG WITH LOCATIONS OF HDD EXIT PITS FOLLOWING FINAL DESIGN AND CONSTRUCTION.



NJ CERTIFICATE OF AUTHORIZATION 24GA28010700

OCEAN COUNTY, NEW JERSEY

32" OC2_A SHORE APPROACH

HOLTEC FARM CROSSING (SOUTH) OFFSHORE WORKSPACE PLAN AND PROFILE

project: RDS-PP CODE

drawing: HDD-OF-OYC-07T-4-001 rev. A

sheet: of sheets

file: HDD-OF-OYC-07T-4-001

date: 07/29/22 designed: R. SCHOO detailed: T. VONBERGE checked: D. BEARDEN

REILLY J. SCHOO
NJ PROFESSIONAL ENGINEER
No. 24GE05344300

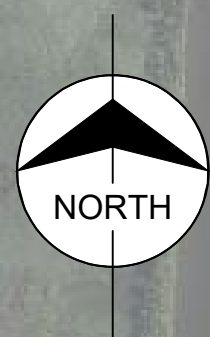
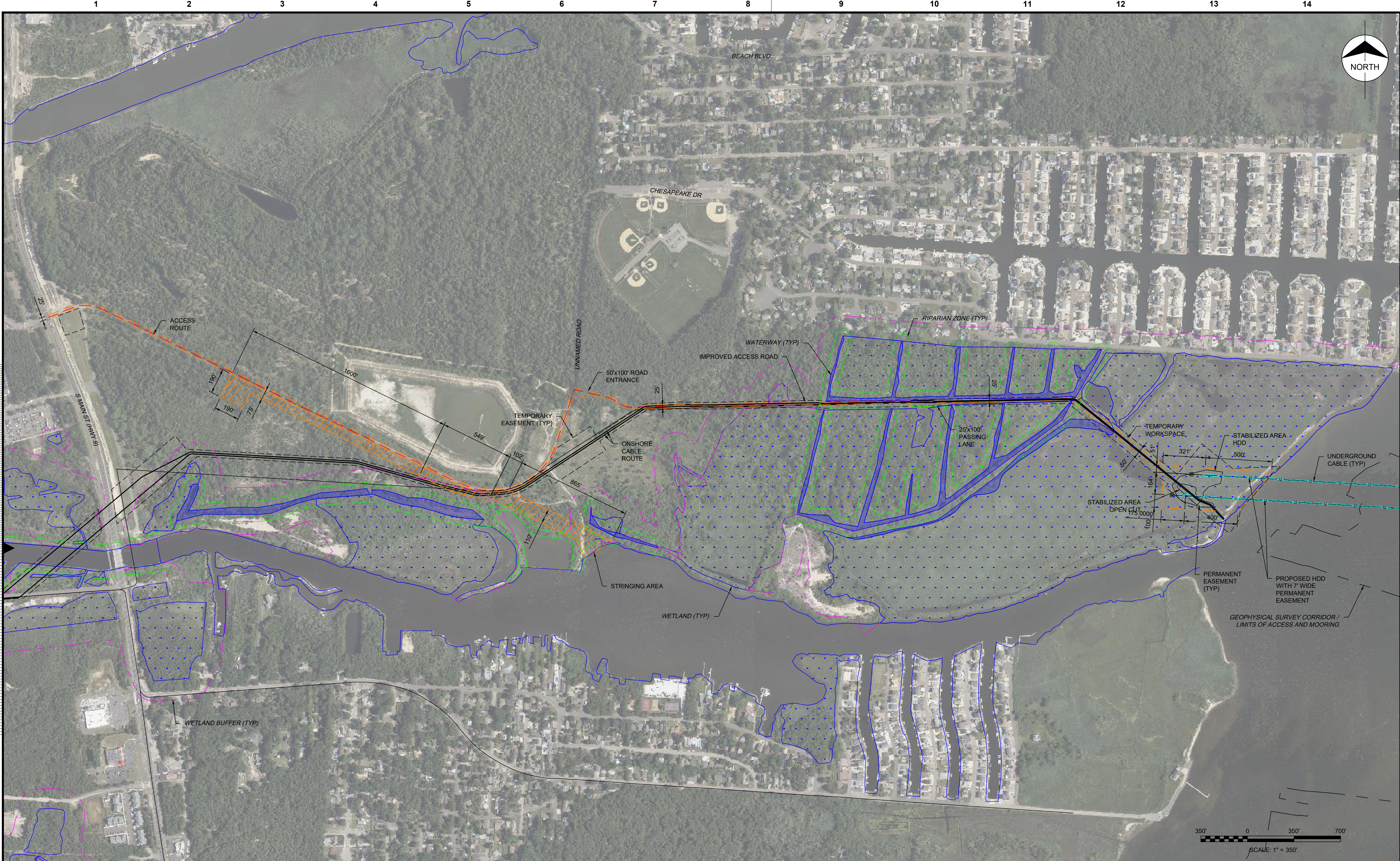
no.	date	by	ckd	description
A	07/29/22	TV	RS	ISSUED FOR PERMIT

- NOTES:**
- HORIZONTAL DATUM: NAD83 NEW JERSEY STATE PLANE, U.S. FOOT
 - VERTICAL DATUM CONVERSION OYSTER CREEK: NGVD29 = NAVD88 + 1.385 FT
VERTICAL DATA CONVERSION BL ENGLAND: NGVD29 = NAVD88 + 1.263 FT
 - ALL DIMENSIONS ARE IN FEET (FT) UNLESS NOTED OTHERWISE.
 - ALL BATHYMETRIC CONTOURS ARE DEPICTED IN RELATION TO MEAN LOWER LOW WATER (MLLW).
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HDR ENGINEERING, INC.
1 INTERNATIONAL BOULEVARD, SUITE 1000
MAHWAH, NJ 07495



no.	date	by	ckd	description
A	07/29/22	TV	RS	ISSUED FOR PERMIT

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NJ CERTIFICATE OF
AUTHORIZATION 24GA28010700

Reilly Schoo
REILLY J. SCHOO
NJ PROFESSIONAL ENGINEER
No. 24GE05344300

OCEAN COUNTY, NEW JERSEY	
OC1_A & OC2_A SHORE APPROACH HOLTECH FARM CROSSINGS ACCESS ROAD / WORKSPACE PLAN	
project	RDS-PP CODE
drawing	rev.
HDD-OL-OYC-00T-4-003	A
sheet	of sheets
file	HDD-OL-OYC-00T-4-003