Second Supplemental Addendum to the Revised Joint Permit Application

Coastal Virginia Offshore Wind Commercial Project

Attachment 4-5 Offshore Project Civil Drawings

Prepared for:

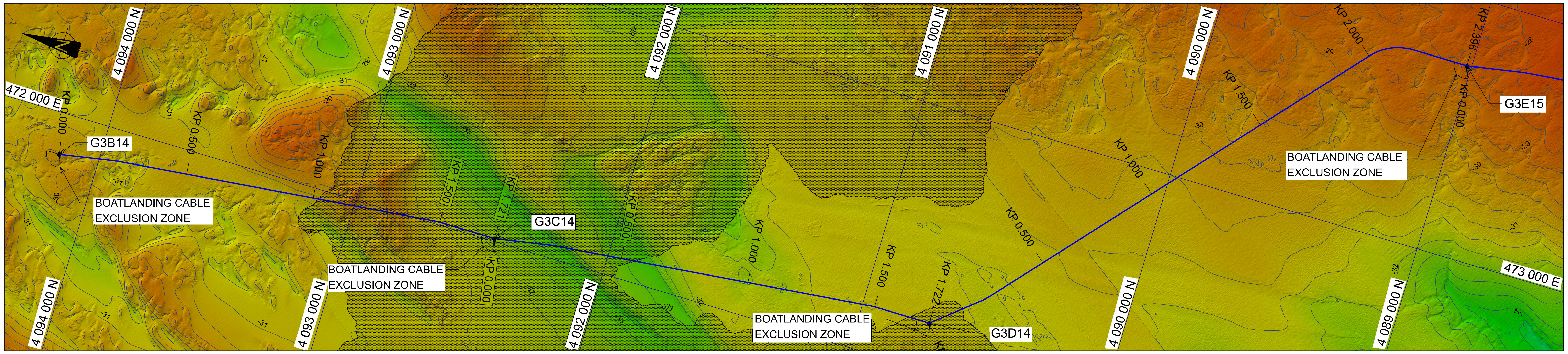
Dominion Energy
707 East Main Street
Richmond, Virginia 23219

Prepared by:

TETRA TECH
Tetra Tech, Inc.
4101 Cox Road, Suite 120
Glen Allen, VA 23060

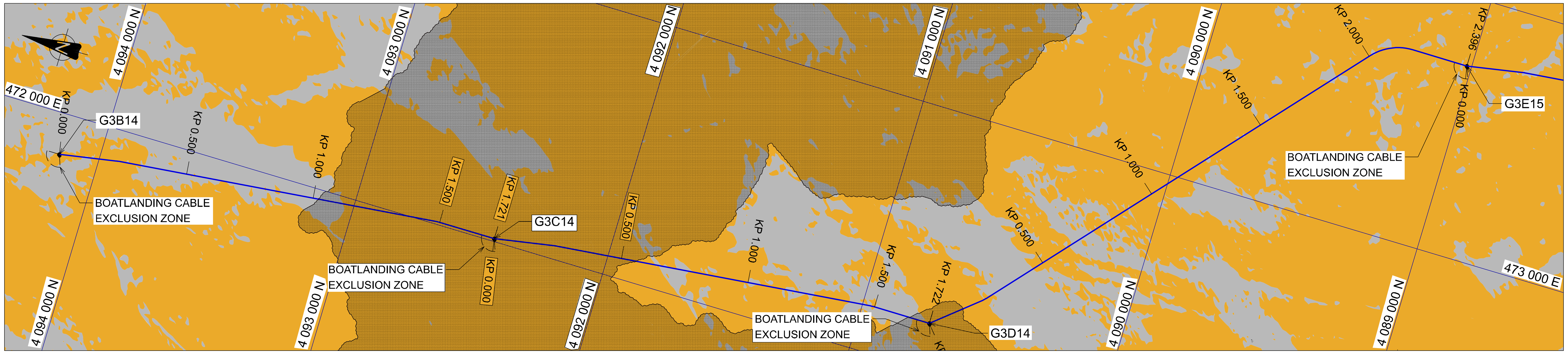
www.tetratech.com

Submitted May 2022
Revised July 2022
Revised August 2022
Revised December 2022



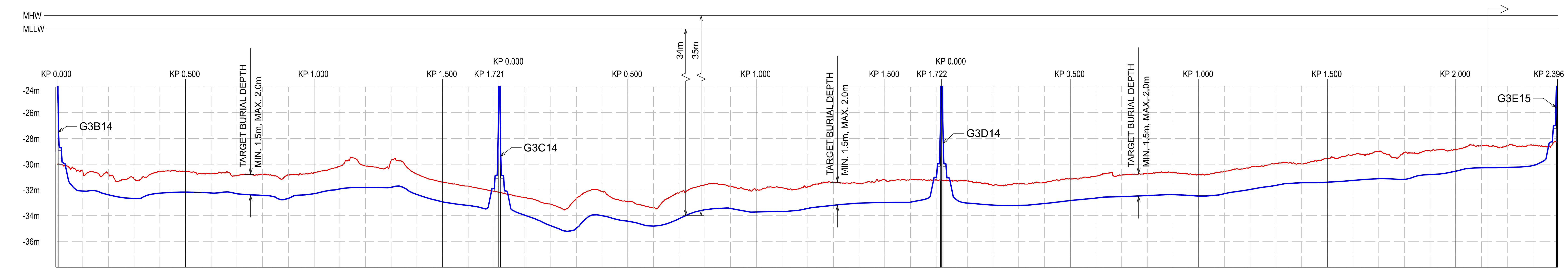
PLAN, BATHYMETRIC CHART

SCALE 1:10,000



PLAN, SEABED CLASSIFICATION CHART

SCALE 1:10,000

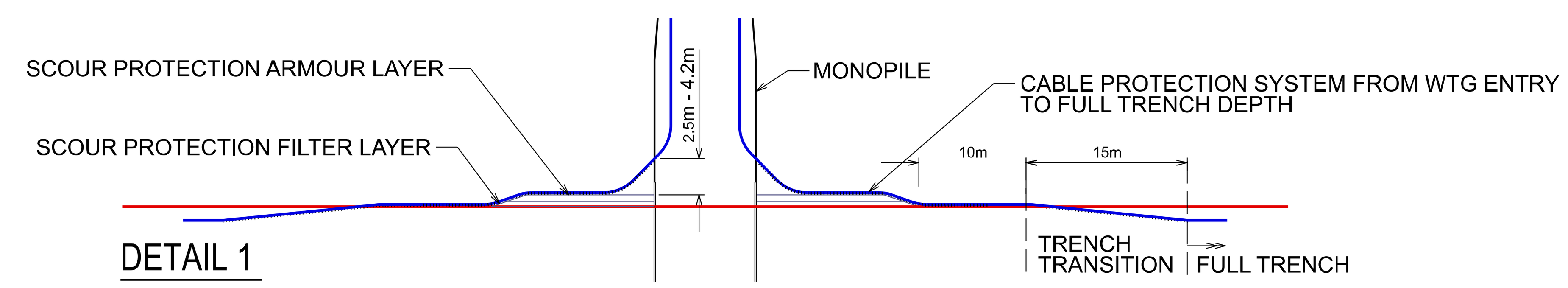


PROFILE

VERTICAL 1:200

HORIZONTAL 1:10,000

SEE
JPA_DWG_IAC-E03_2



DETAIL 1

SCALE 1:500

0m 200m 400m 600m 800m 1000m

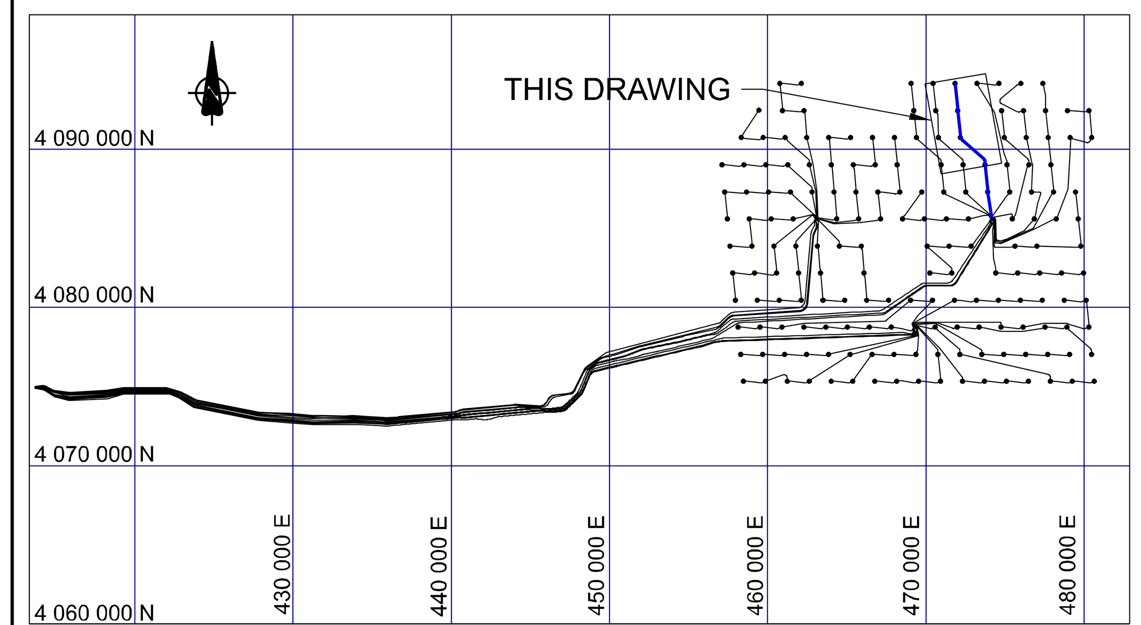
NOTES:

1. ALL COORDINATES REFER TO NAD 1983 (2011) UTM ZONE 18N. WATER DEPTH REFER TO MEAN LOWER-LOW WATER (MLLW).
2. ALL COORDINATES AND DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. DEPTH CONTOURS SHOWN WITH 0.5m EQUIDISTANCE.
4. PALEO CHANNELS NOT SHOWN ON PROFILE DUE TO DEPTH OF CHANNELS.
5. THESE DRAWINGS ARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.
6. KP 0.000 DEFINED AT WTG ENTRY POINT.
7. BASED ON DEMIAN IAC LAYOUT DATED 2022-08-01. SUBJECT TO FINAL ENGINEERING.

Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

KEY-PLAN



LEGEND

GENERAL:
- INTER ARRAY CABLE
- ADJACENT INTER ARRAY CABLES
- OFFSHORE EXPORT CABLES
- PALEO CHANNELS
- KILOMETRE POST
- WTG WITH BOATLANDING CABLE EXCLUSION ZONE
- OSS
- WRECK INCL. 50m BUFFER ZONE
- CULTURAL TARGET AVOIDANCE AREA (PRELIMINARY)

BATHYMETRY:
- BATHYMETRIC CONTOURS

COLOR CODE: -25.7 m, -27.5 m, -30.0 m, -32.5 m, -35.0 m, -36.5

SEABED CLASSIFICATION (ASTM):
- CLAYEY SAND
- LEAN CLAY WITH SAND
- SILTY SAND
- POORLY GRADED GRAVEL
- POORLY GRADED SAND, FINE SAND
- POORLY GRADED SAND, MEDIUM SAND
- POORLY GRADED SAND WITH CLAY
- POORLY GRADED SAND WITH SILT, WITH SILT AND GRAVEL, WITH GRAVEL

PROFILE:
- SEABED
- TOP OF INTER ARRAY CABLE
- PALEO CHANNELS
- WTG MONOPILE WITH SCOUR PROTECTION
- OSS

REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
D	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	MIKB	JBA
C	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
B	2022-06-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-05-16	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	MIKB	JBA

INSTALLATION

DRAWN | DRAWING START DATE | RAMBØLL JOB NO.

RAMBOLL
RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

PROJECT NAME:

COAST AL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:

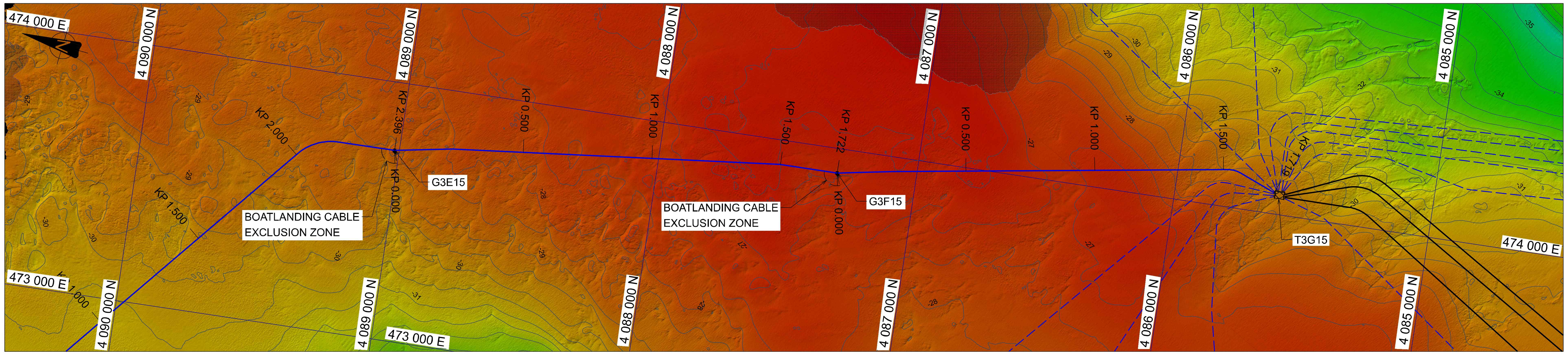
PLAN AND PROFILE
INTER ARRAY CABLE E03
G3B14 - G3C14 - G3D14 - G3E15

NOTED AT A1

DRAWING NO. JPA_DWG_IAC-E03_1

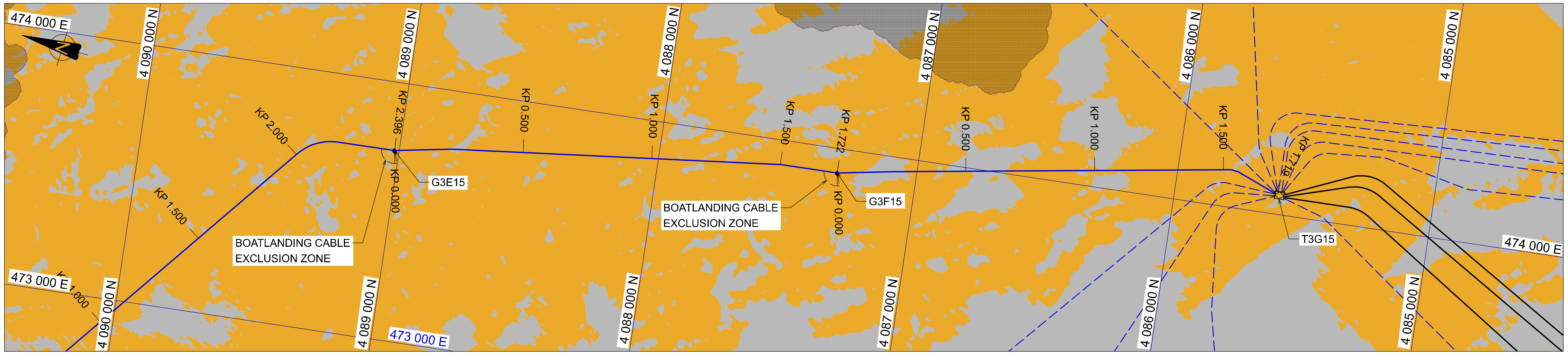
D

SCALE | SIZE | CONTR. NO | AREA | SYSTEM | PROJ. NO. | ORIG.CODE | DISC. | DRAW.CODE | SEQ. NO. | SHEET | REV. | STATUS



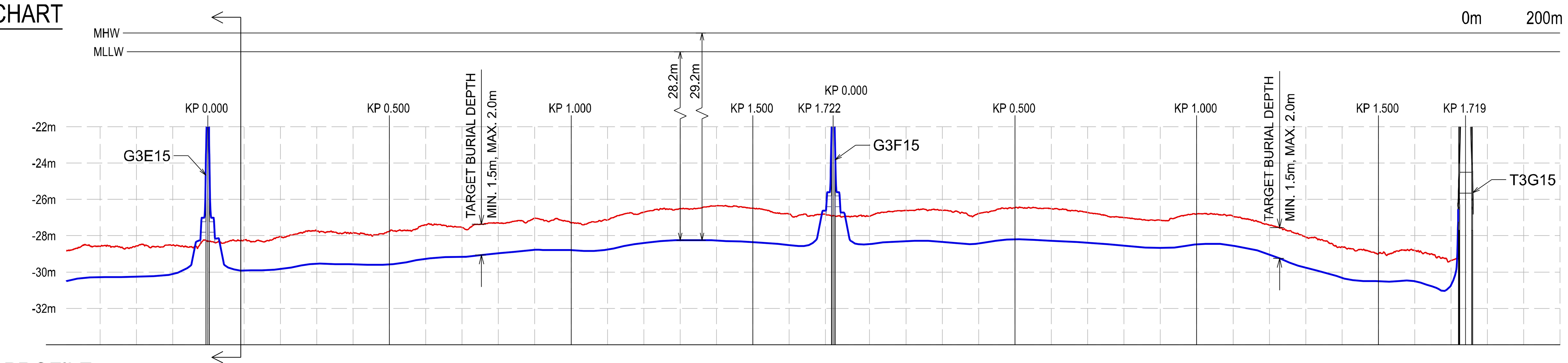
PLAN, BATHYMETRIC CHART

SCALE 1:10,000



PLAN, SEABED CLASSIFICATION CHART

SCALE 1:10,000

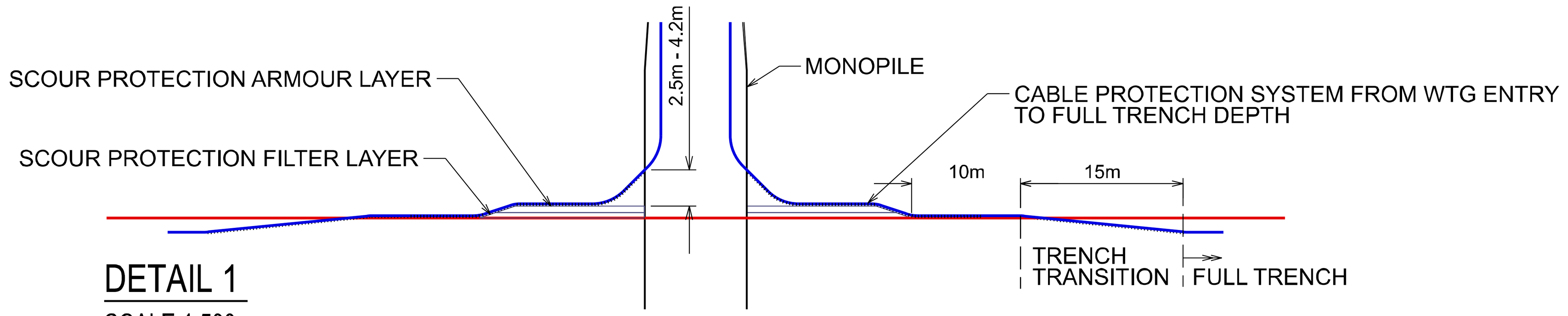


PROFILE

VERTICAL 1:200

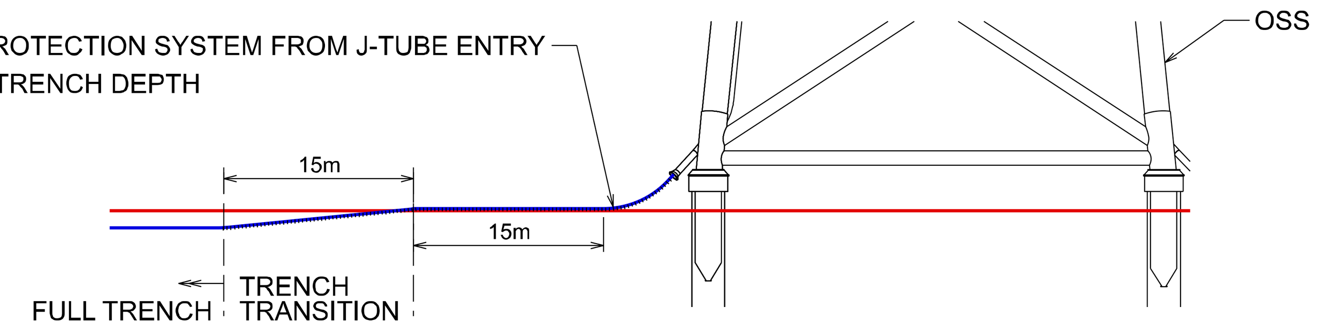
HORIZONTAL 1:10,000

SEE
JPA_DWG_IAC-E03_1



DETAIL 1

SCALE 1:500



DETAIL 2

SCALE 1:500

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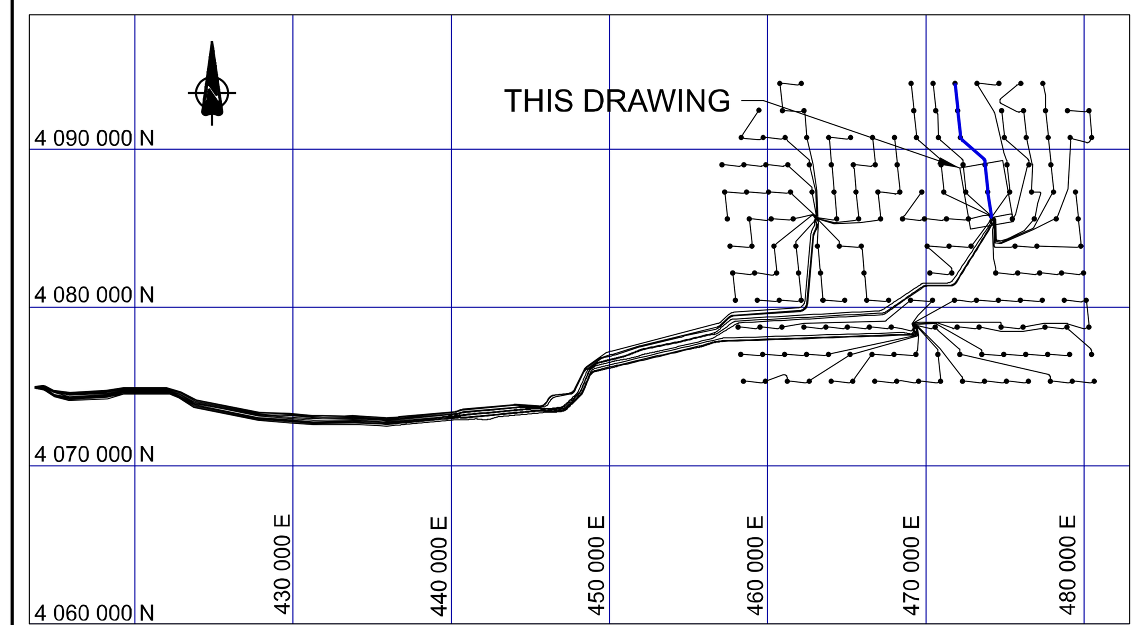
KEY-PLAN



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INSTALLATION

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

DRAWN | DRAWING START DATE | RAMBØLL JOB NO.

PROJECT NAME:

COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:

PLAN AND PROFILE
INTER ARRAY CABLE E03
G3E15 - G3F15 - T3G15

NOTED AT A1 | DRAWING NO. JPA_DWG_IAC-E03_2 | D

SCALE | SIZE | CONTR. NO | AREA | SYSTEM | PROJ. NO. | ORIG.CODE | DISC. | DRAW.CODE | SEQ. NO. | SHEET | REV. | STATUS

LEGEND

GENERAL:
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- ADJACENT INTER ARRAY CABLES
- OFFSHORE EXPORT CABLES
- PALEO CHANNELS
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- SILTY SAND
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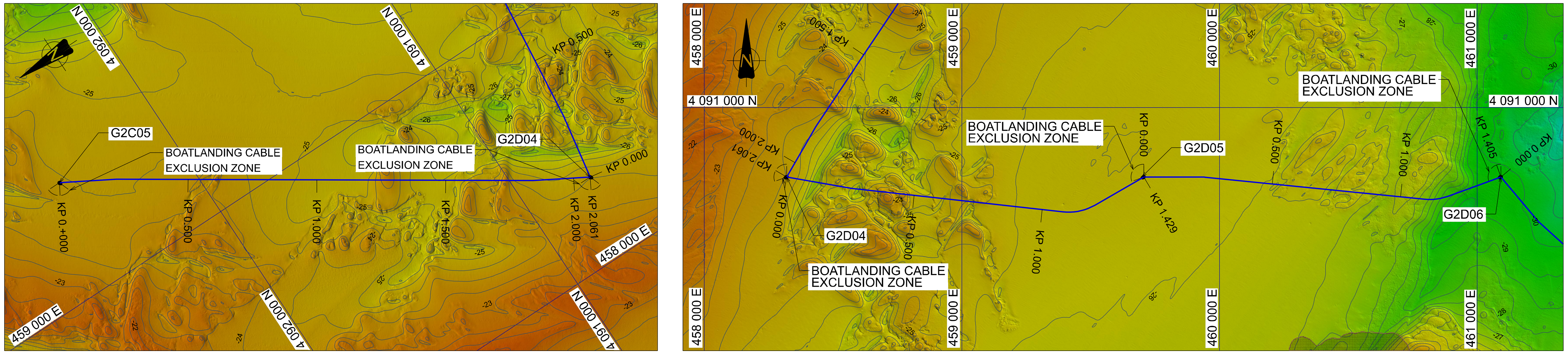
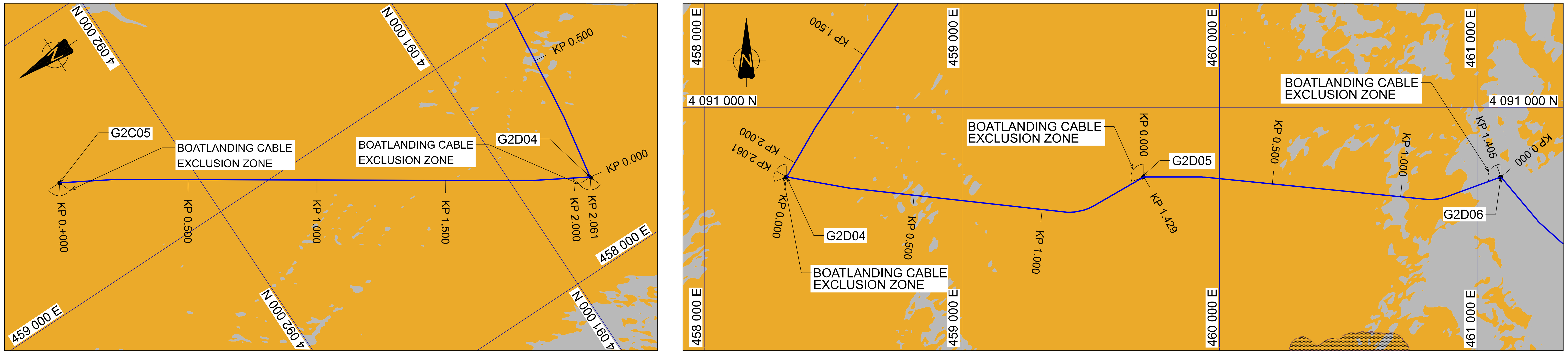
PROFILE:
- SEABED
- TOP OF INTER ARRAY CABLE
- PALEO CHANNELS
- WTG MONOPILE WITH SCOUR PROTECTION
- OSS

USACE-NLW
RCVD 12/13/2022



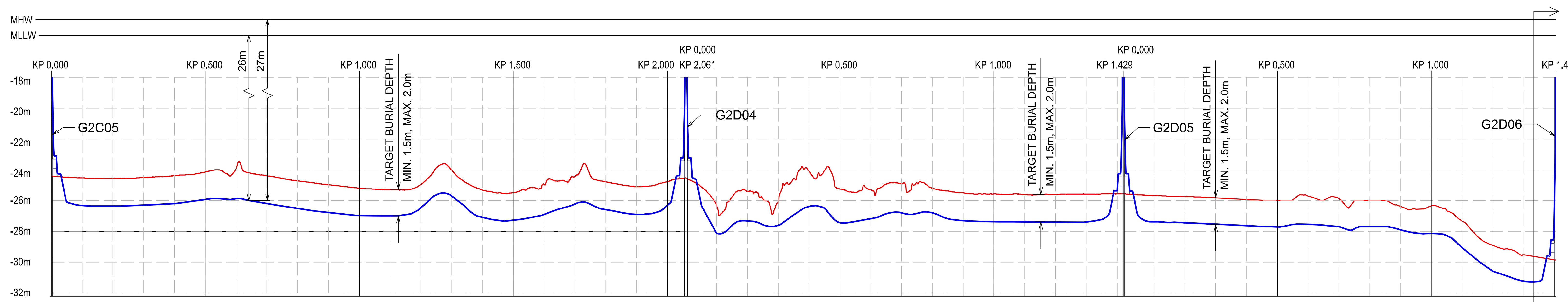
PLAN, BATHYMETRIC CHART

SCALE 1:10,000



PLAN, SEABED CLASSIFICATION CHART

SCALE 1:10,000

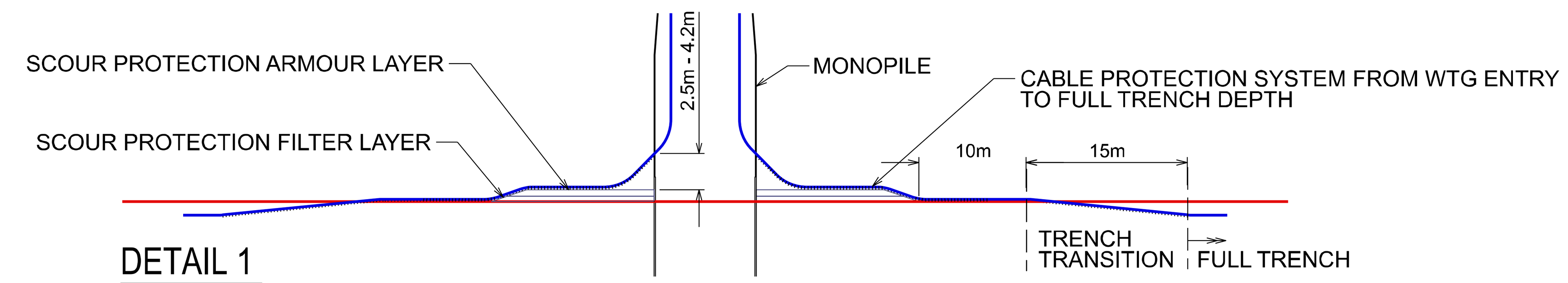


PROFILE

VERTICAL 1:200

HORIZONTAL 1:10,000

SEE JPA_DWG_IAC-F02_2



DETAIL 1

SCALE 1:500

0m 200m 400m 600m 800m 1000m

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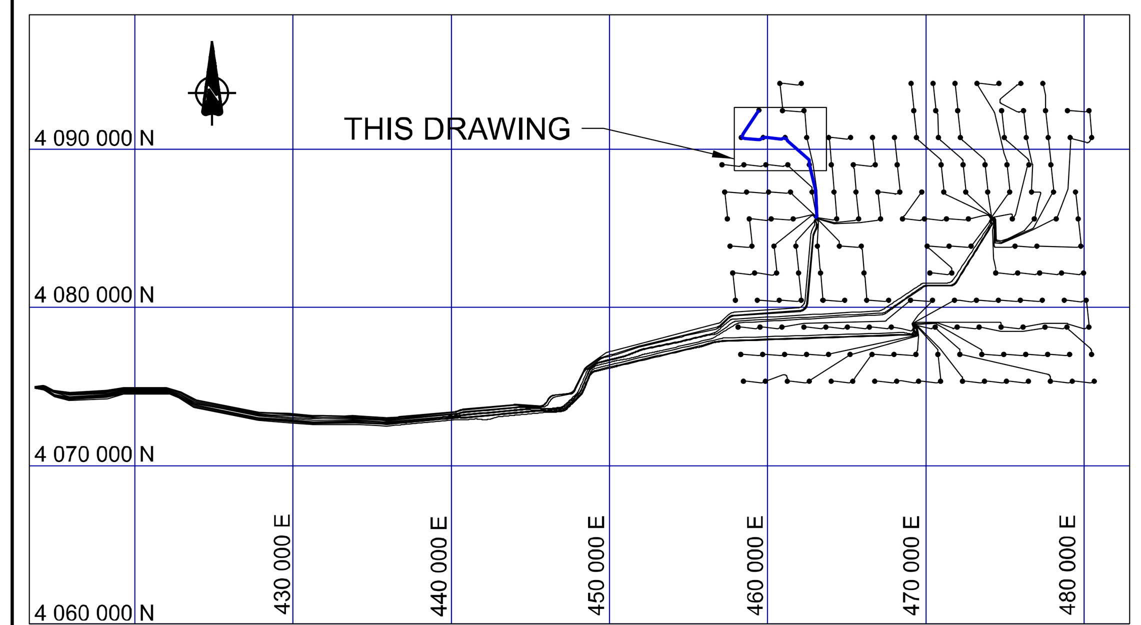
KEY-PLAN



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A	2022-06-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA

INSTALLATION

DRAWN | DRAWING START DATE | RAMBØLL JOB NO.

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

PROJECT NAME:

COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:

PLAN AND PROFILE
INTER ARRAY CABLE F02
G2C05 - G2D04 - G2D05 - G2D06

NOTED AT A1

DRAWING NO. JPA_DWG_IAC-F02_1 — REV. C

SCALE | SIZE | CONTR. NO | AREA | SYSTEM | PROJ. NO. | ORIG.CODE | DISC. | DRAW.CODE | SEQ. NO. | SHEET | REV. | STATUS

LEGEND

GENERAL:
- INTER ARRAY CABLE
- ADJACENT INTER ARRAY CABLES
- OFFSHORE EXPORT CABLES
- PALEO CHANNELS
- KILOMETRE POST
- WTG WITH BOATLANDING CABLE EXCLUSION ZONE
- OSS
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BATHYMETRY:
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PROFILE:
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- TOP OF INTER ARRAY CABLE
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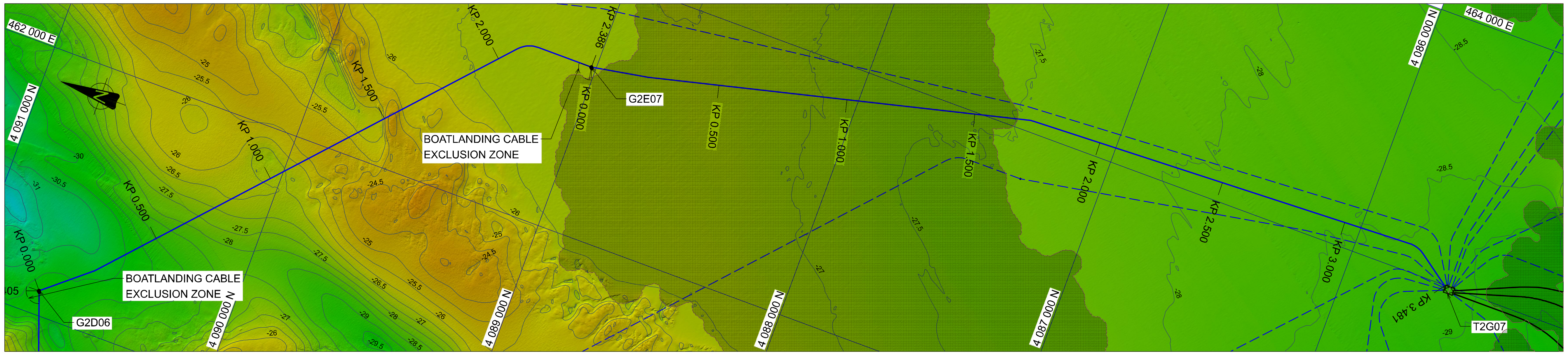
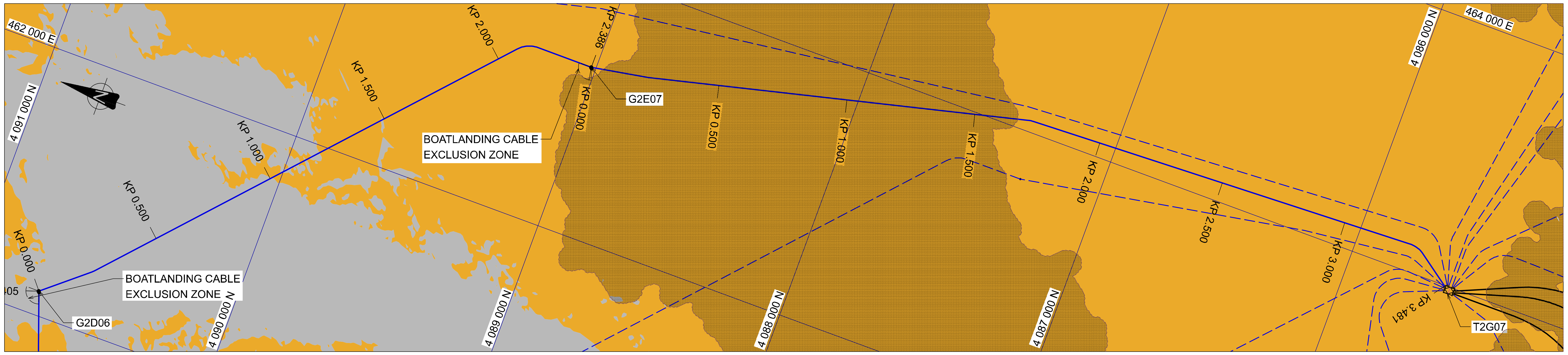
USACE-NLW
RCVD 12/13/2022



PLAN, BATHYMETRIC CHART

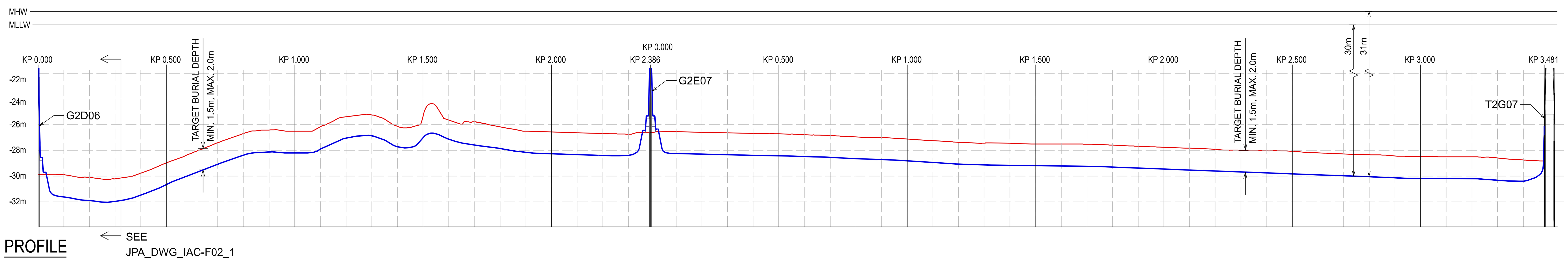
SCALE 1:10,000



PLAN, SEABED CLASSIFICATION CHART

SCALE 1:10,000

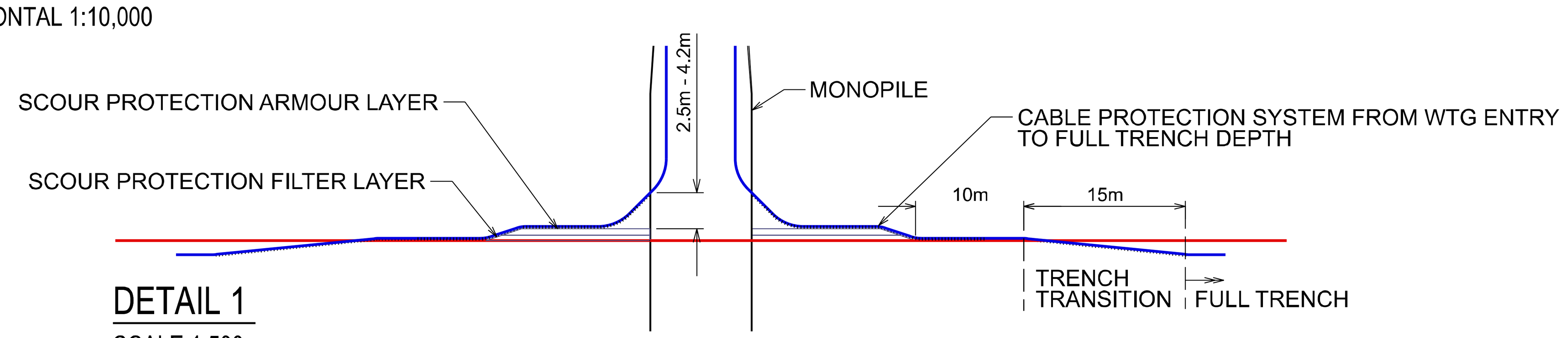
0m 200m 400m 600m 800m 1000m



PROFILE

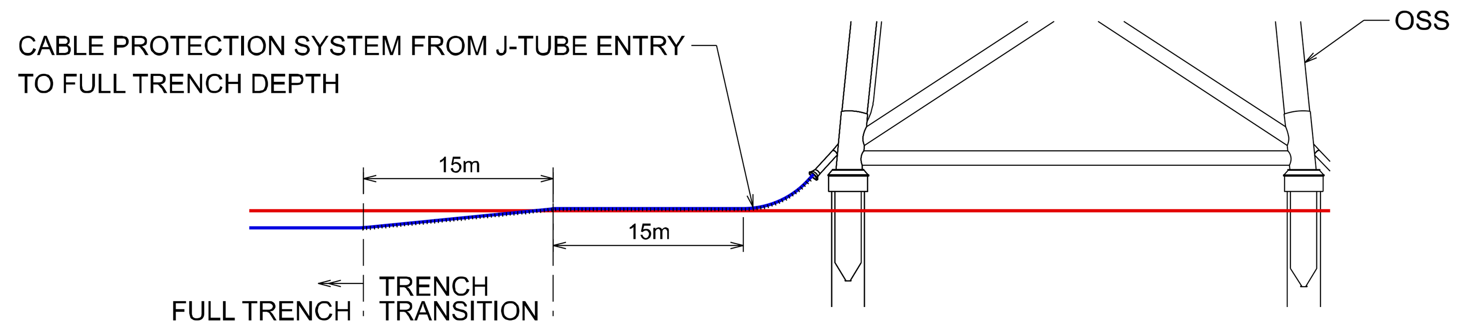
VERTICAL 1:200

HORIZONTAL 1:10,000



DETAIL 1

SCALE 1:500



DETAIL 2

SCALE 1:500

NOTES:

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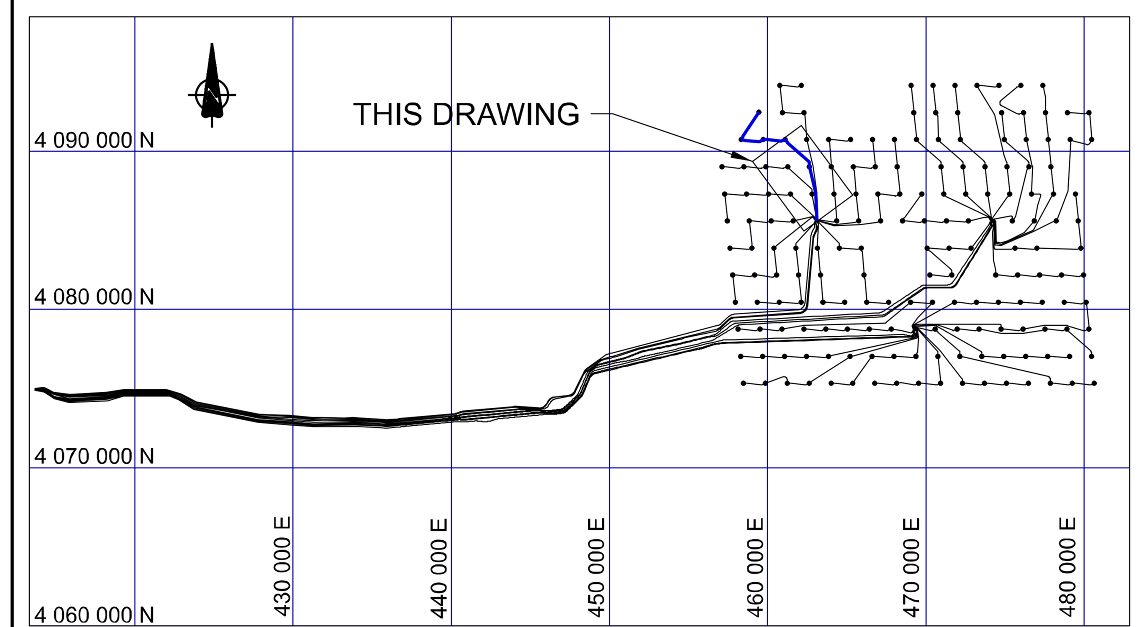
KEY-PLAN



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INSTALLATION

DRAWN | DRAWING START DATE | RAMBØLL JOB NO.

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333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

PROJECT NAME:

COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:

PLAN AND PROFILE
INTER ARRAY CABLE F02
G2D06 - G2E07 - T2G07

NOTED AT A1 | DRAWING NO. JPA_DWG_IAC-F02_2 | C

SCALE | SIZE | CONTR. NO | AREA | SYSTEM | PROJ. NO. | ORIG.CODE | DISC. | DRAW.CODE | SEQ. NO. | SHEET | REV. | STATUS

LEGEND

GENERAL:
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PROFILE:
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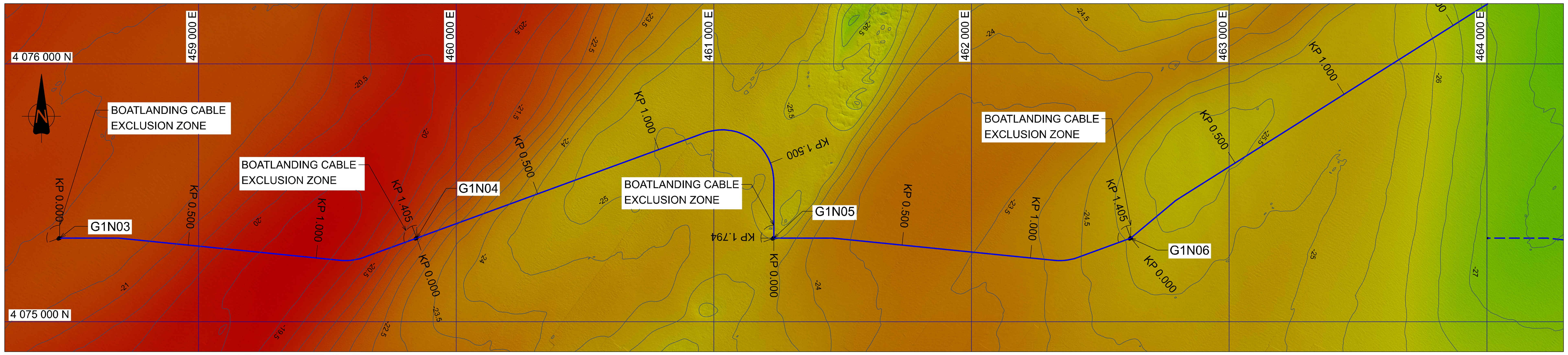
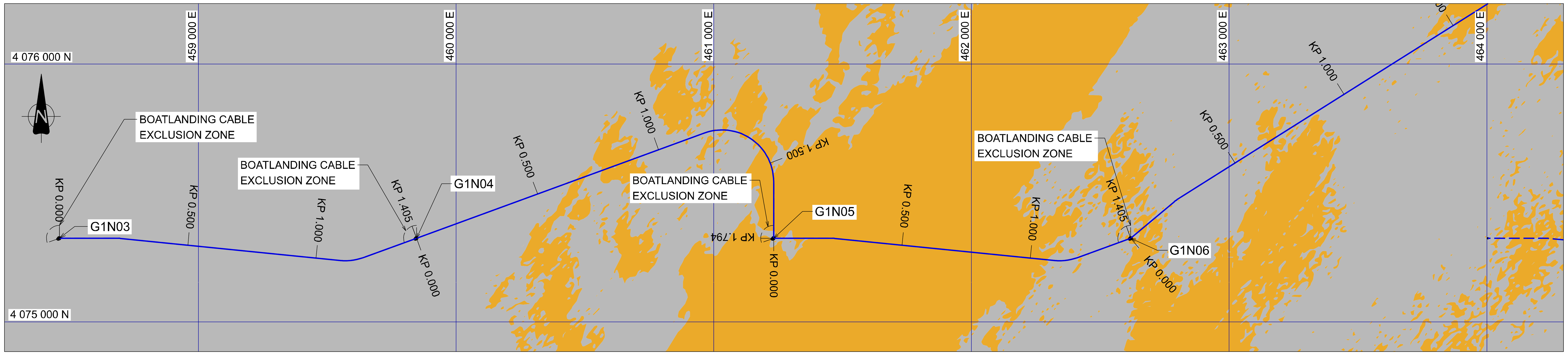


PLAN, BATHYMETRIC CHART

SCALE 1:10,000



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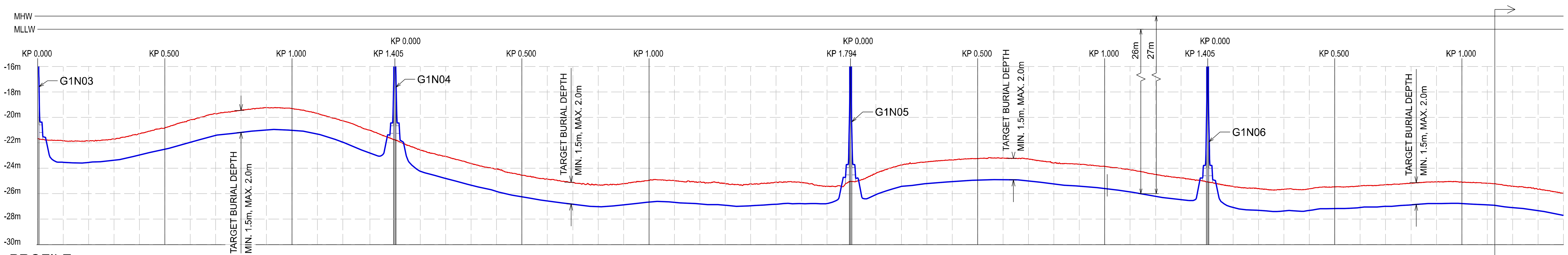
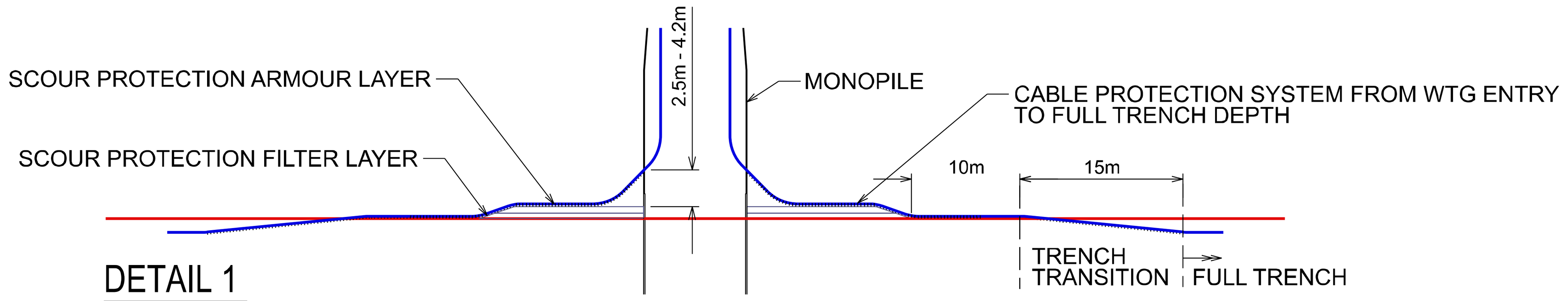


SEE JPA_DWG_IAC-K01_2

PROFILE

VERTICAL 1:200
HORIZONTAL 1:10,000



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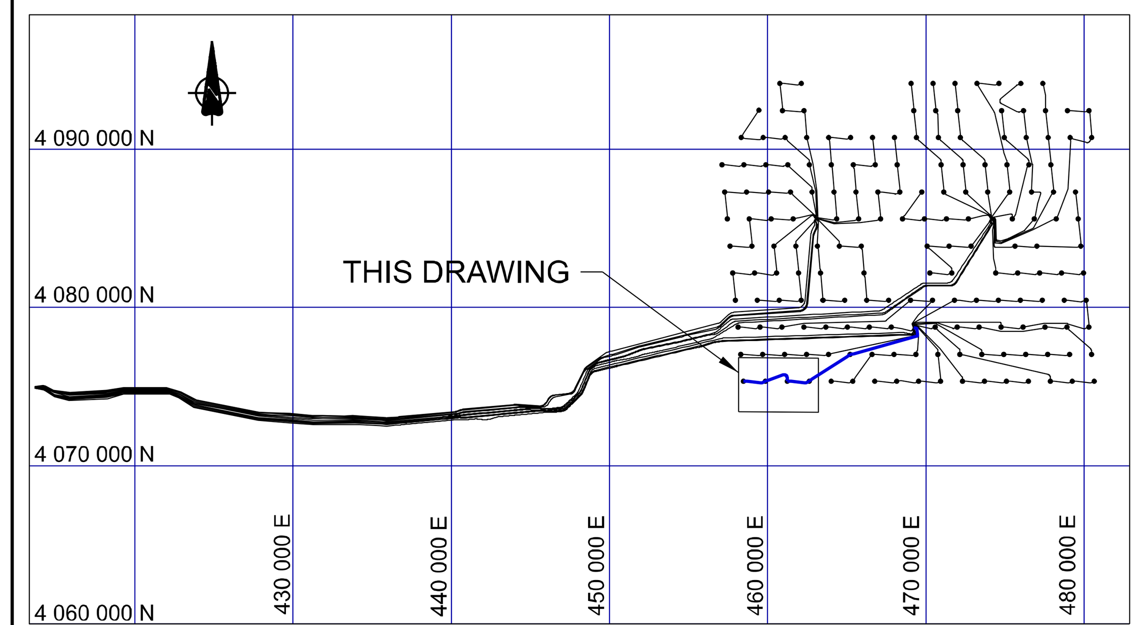
KEY-PLAN



REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
C	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
B	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-06-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA

INSTALLATION

DRAWN | DRAWING START DATE | RAMBØLL JOB NO.

RAMBOLL
RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

PROJECT NAME:
COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:
PLAN AND PROFILE
INTER ARRAY CABLE K01
G1N03 - G1N04 - G1N05 - G1N06

NOTED AT A1 | DRAWING NO. JPA_DWG_IAC-K01_1 | C

SCALE | SIZE | CONTR. NO | AREA | SYSTEM | PROJ. NO. | ORIG.CODE | DISC. | DRAW.CODE | SEQ. NO. | SHEET | REV. | STATUS

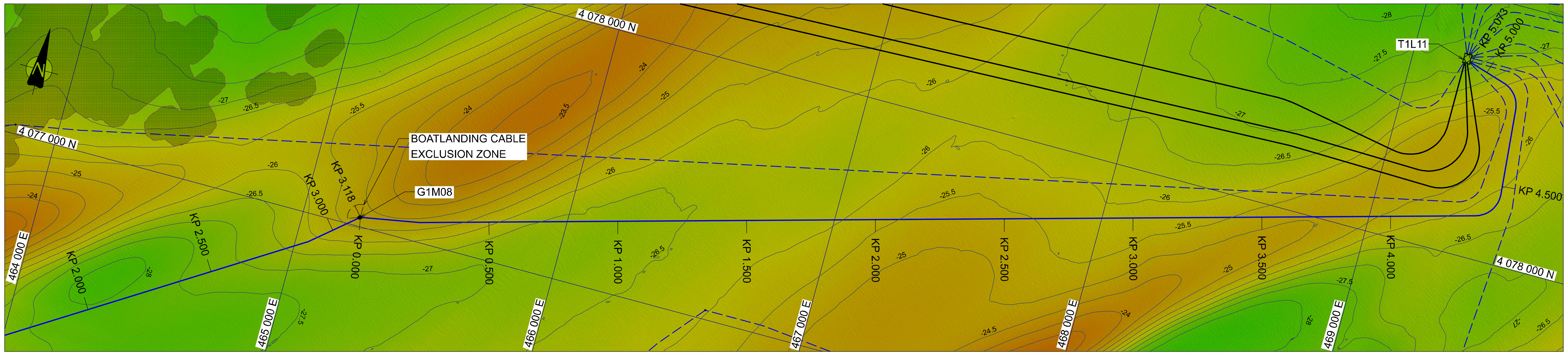
LEGEND

GENERAL:
- INTER ARRAY CABLE
- ADJACENT INTER ARRAY CABLES
- OFFSHORE EXPORT CABLES
- PALEO CHANNELS
- KILOMETRE POST
- WTG WITH BOATLANDING CABLE EXCLUSION ZONE
- OSS
- WRECK INCL. 50m BUFFER ZONE
- CULTURAL TARGET AVOIDANCE AREA (PRELIMINARY)

BATHYMETRY:
- BATHYMETRIC CONTOURS
- COLOR CODE: -19.2 m, -20.0 m, -22.5 m, -25.0 m, -27.5 m, -30.0 m, -32.0 m

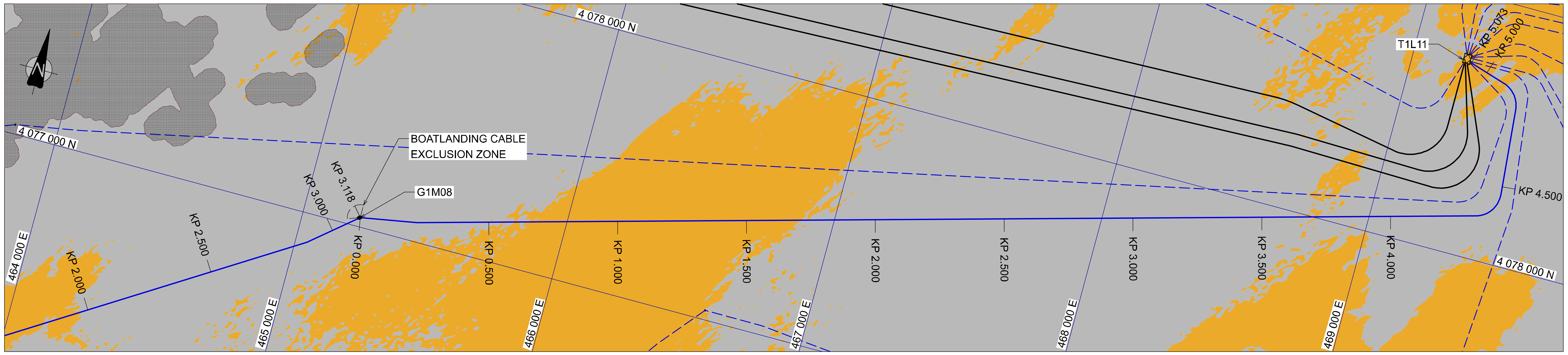
SEABED CLASSIFICATION (ASTM):
- CLAYEY SAND
- LEAN CLAY WITH SAND
- SILTY SAND
- POORLY GRADED GRAVEL
- POORLY GRADED SAND, FINE SAND
- POORLY GRADED SAND, MEDIUM SAND
- POORLY GRADED SAND WITH CLAY
- POORLY GRADED SAND WITH SILT, WITH SILT AND GRAVEL, WITH GRAVEL

PROFILE:
- SEABED
- TOP OF INTER ARRAY CABLE
- PALEO CHANNELS
- WTG MONOPILE WITH SCOUR PROTECTION
- OSS



PLAN, BATHYMETRIC CHART

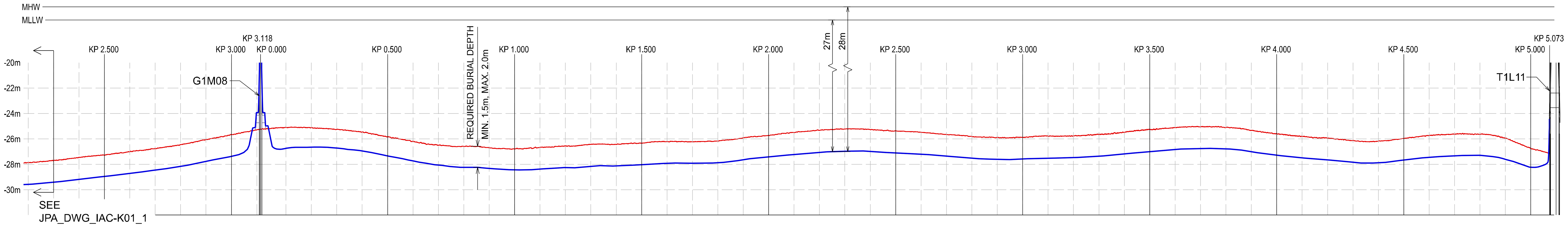
SCALE 1:10,000



PLAN, SEABED CLASSIFICATION CHART

SCALE 1:10,000

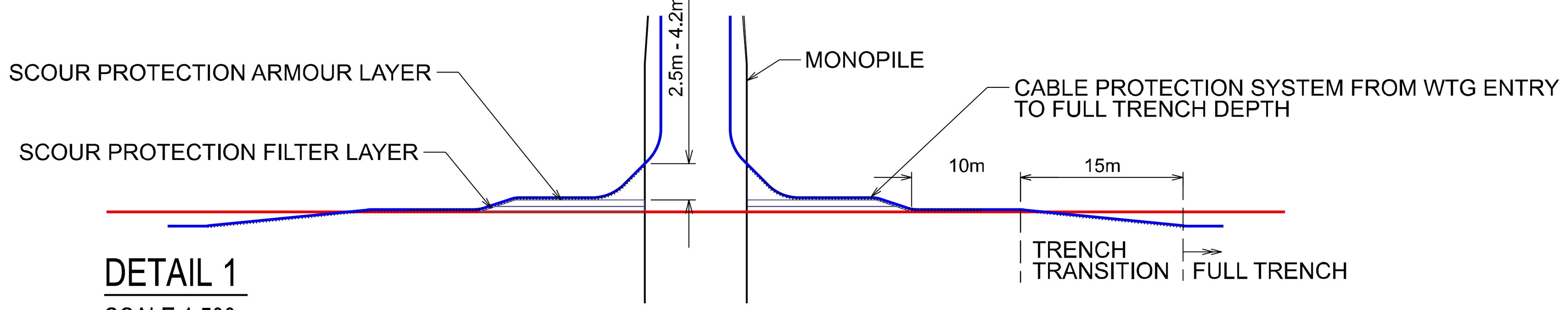
0m 200m 400m 600m 800m 1000m



PROFILE

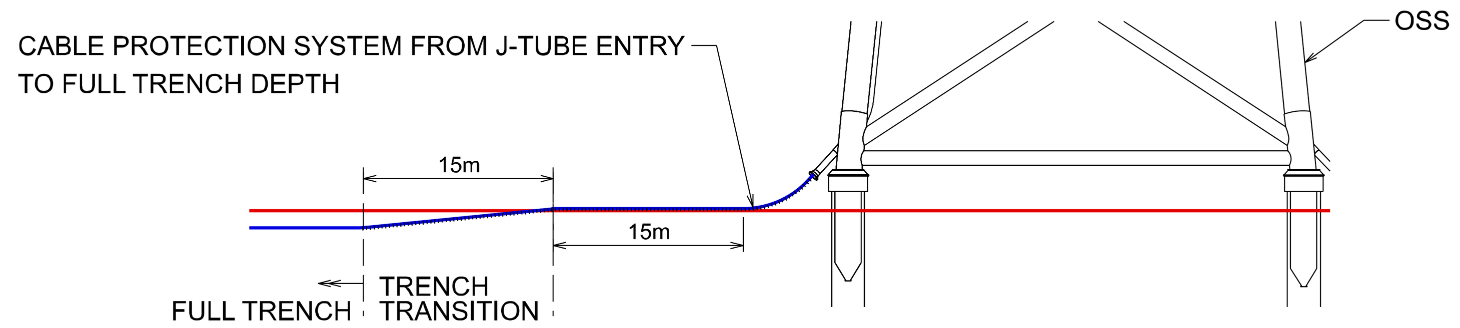
VERTICAL 1:200

HORIZONTAL 1:10,000



DETAIL 1

SCALE 1:500



DETAIL 2

SCALE 1:500

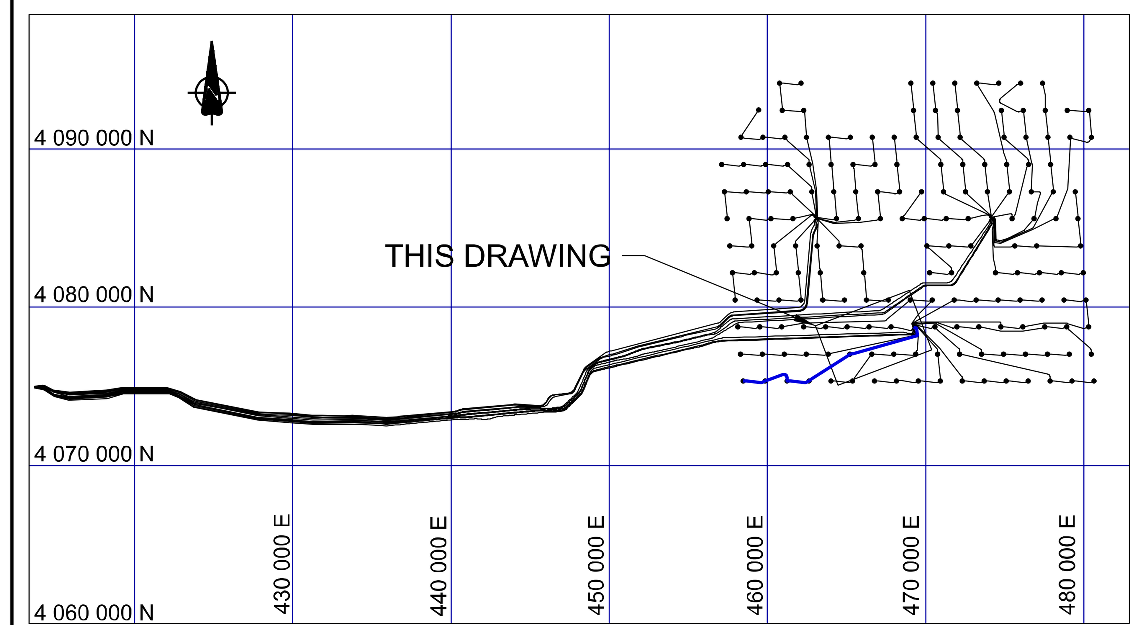
NOTES:

1. ALL COORDINATES REFER TO NAD 1983 (2011) UTM ZONE 18N.
   WATER DEPTH REFER TO MEAN LOWER-LOW WATER (MLLW).
2. ALL COORDINATES AND DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. DEPTH CONTOURS SHOWN WITH 0.5m EQUIDISTANCE.
4. THESE DRAWINGS HARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.
5. KP 0.000 DEFINED AT WTG ENTRY POINT.
6. BASED ON DEMIAN OEC ROUTE DESIGN DATED 2022-07-15 AND DEMIAN IAC LAYOUT DATED 2022-08-01.
   SUBJECT TO FINAL ENGINEERING.

Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

KEY-PLAN



REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
C	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
B	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-06-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA

INSTALLATION

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

DRAWN | DRAWING START DATE | RAMBØLL JOB NO.

PROJECT NAME:

COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:

PLAN AND PROFILE
INTER ARRAY CABLE K01
G1M08 - T1L11

DRAWING NO.: JPA_DWG_IAC-K01_2 — REV. C

NOTED AT A1

SCALE | SIZE | CONTR. NO | AREA | SYSTEM | PROJ. NO. | ORIG.CODE | DISC. | DRAW.CODE | SEQ. NO. | SHEET | REV. | STATUS

LEGEND

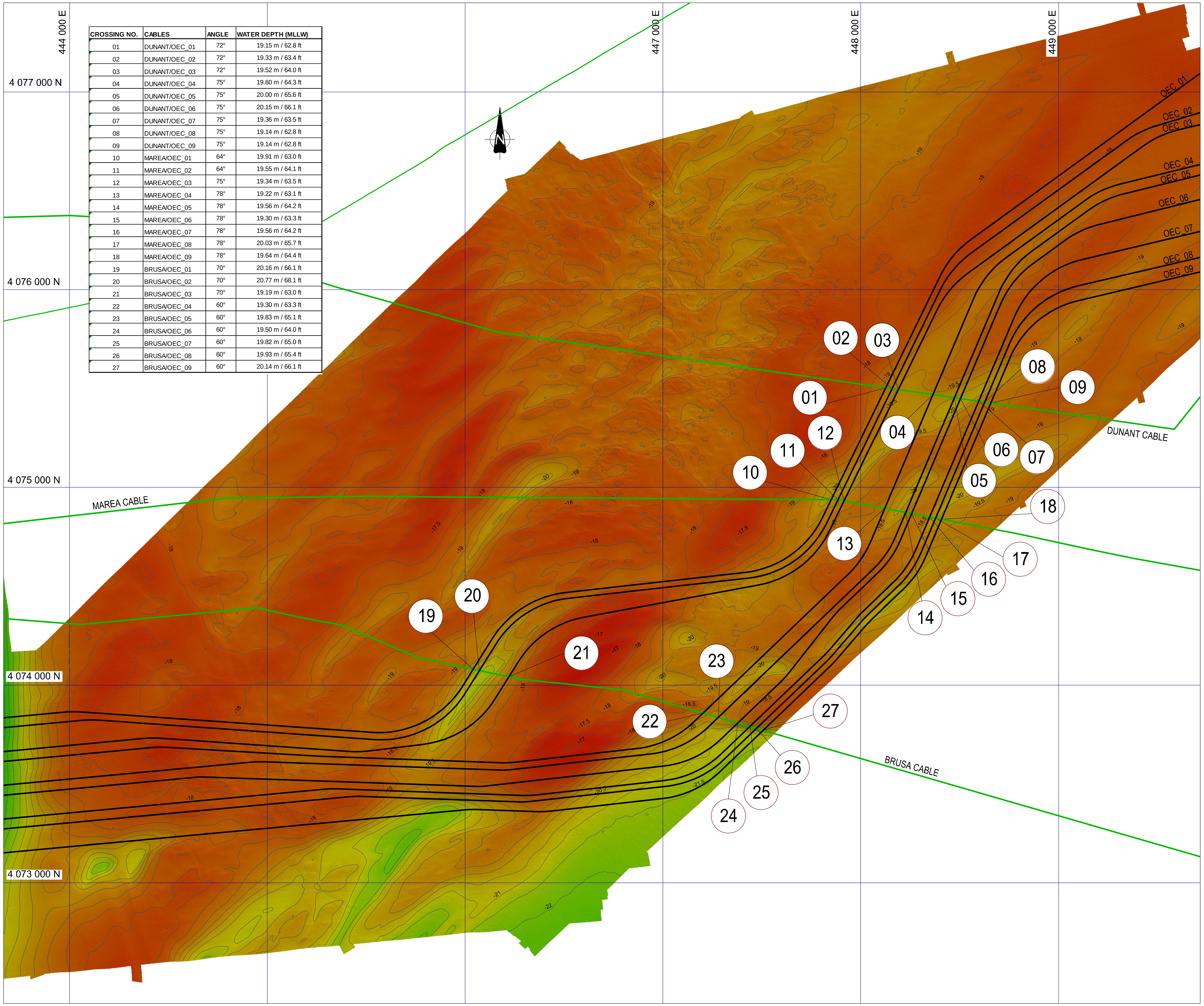
GENERAL:
- INTER ARRAY CABLE
- ADJACENT INTER ARRAY CABLES
- OFFSHORE EXPORT CABLES
- PALEO CHANNELS
- KILOMETRE POST
- WTG WITH BOATLANDING CABLE EXCLUSION ZONE
- OSS
- WRECK INCL. 50m BUFFER ZONE
- CULTURAL TARGET AVOIDANCE AREA (PRELIMINARY)

BATHYMETRY:
- BATHYMETRIC CONTOURS
- COLOR CODE: -19.2 m, -20.0 m, -22.5 m, -25.0 m, -27.5 m, -30.0 m, -32.0 m

SEABED CLASSIFICATION (ASTM):
- CLAYEY SAND
- LEAN CLAY WITH SAND
- SILTY SAND
- POORLY GRADED GRAVEL
- POORLY GRADED SAND, FINE SAND
- POORLY GRADED SAND, MEDIUM SAND
- POORLY GRADED SAND WITH CLAY
- POORLY GRADED SAND WITH SILT, WITH SILT AND GRAVEL, WITH GRAVEL

PROFILE:
- SEABED
- TOP OF INTER ARRAY CABLE
- PALEO CHANNELS
- WTG MONOPILE WITH SCOUR PROTECTION
- OSS

CROSSING NO.	CABLES	ANGLE	WATER DEPTH (MLLW)
01	DUNANT/OEC_01	72°	19.15 m / 62.8 ft
02	DUNANT/OEC_02	72°	19.33 m / 63.4 ft
03	DUNANT/OEC_03	72°	19.52 m / 64.0 ft
04	DUNANT/OEC_04	75°	19.60 m / 64.3 ft
05	DUNANT/OEC_05	75°	20.00 m / 65.6 ft
06	DUNANT/OEC_06	75°	20.15 m / 66.1 ft
07	DUNANT/OEC_07	75°	19.36 m / 63.5 ft
08	DUNANT/OEC_08	75°	19.14 m / 62.8 ft
09	DUNANT/OEC_09	75°	19.14 m / 62.8 ft
10	MAREA/OEC_01	64°	19.91 m / 63.0 ft
11	MAREA/OEC_02	64°	19.55 m / 64.1 ft
12	MAREA/OEC_03	75°	19.34 m / 63.5 ft
13	MAREA/OEC_04	78°	19.22 m / 63.1 ft
14	MAREA/OEC_05	78°	19.56 m / 64.2 ft
15	MAREA/OEC_06	78°	19.30 m / 63.3 ft
16	MAREA/OEC_07	78°	19.56 m / 64.2 ft
17	MAREA/OEC_08	78°	20.03 m / 65.7 ft
18	MAREA/OEC_09	78°	19.64 m / 64.4 ft
19	BRUSA/OEC_01	70°	20.16 m / 66.1 ft
20	BRUSA/OEC_02	70°	20.77 m / 68.1 ft
21	BRUSA/OEC_03	70°	19.19 m / 63.0 ft
22	BRUSA/OEC_04	60°	19.30 m / 63.3 ft
23	BRUSA/OEC_05	60°	19.83 m / 65.1 ft
24	BRUSA/OEC_06	60°	19.50 m / 64.0 ft
25	BRUSA/OEC_07	60°	19.82 m / 65.0 ft
26	BRUSA/OEC_08	60°	19.93 m / 65.4 ft
27	BRUSA/OEC_09	60°	20.14 m / 66.1 ft



PLAN, EXPORT CABLE ROUTE CORRIDOR

SCALE 1:10,000

0m 200m 400m 600m 800m 1000m

NOTES:

1. ALL COORDINATES REFER TO NAD 1983 (2011) UTM ZONE 18N.
   ALL HEADINGS ARE RELATIVE TO GRID NORTH.
   WATER DEPTH REFER TO MEAN LOWER-LOW WATER (MLLW).
2. ALL COORDINATES AND DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. DEPTH CONTOURS SHOWN WITH 0.5m EQUIDISTANCE.
4. THESE DRAWINGS ARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.
5. BASED ON DEMIAN OEC ROUTE DESIGN DATED 202-07-15.
   SUBJECT TO FINAL ENGINEERING.

Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

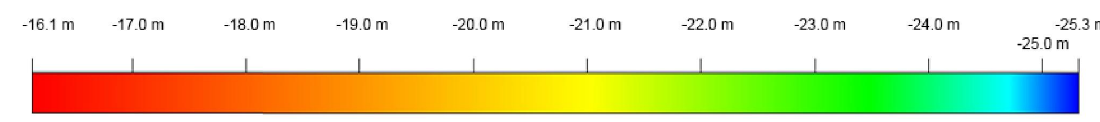
TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

LEGEND

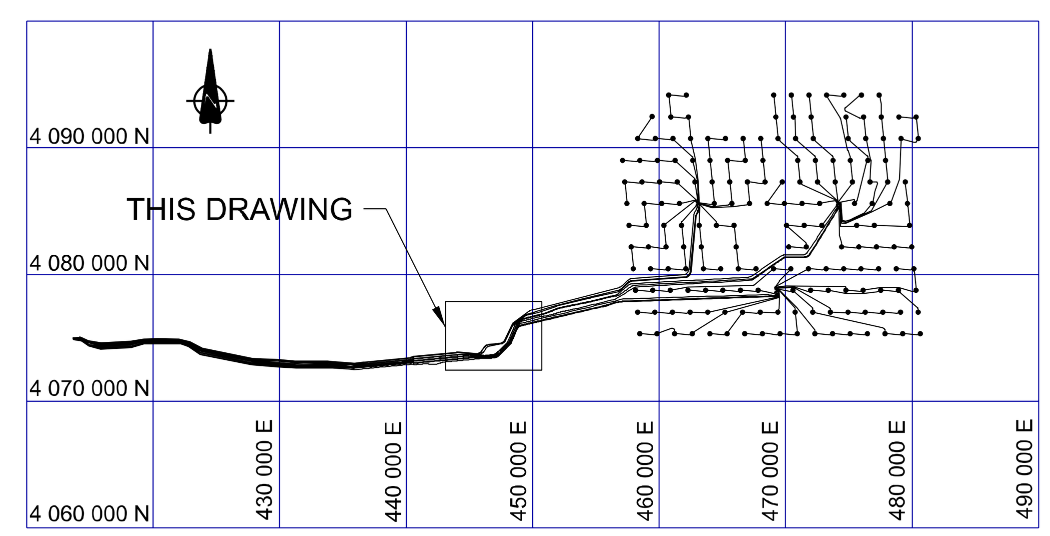
OFFSHORE EXPORT CABLE

SUBMARINE CABLES, AS-LAID

BATHYMETRY COLOR CODE:



KEY-PLAN



REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
C	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
B	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-06-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA

INSTALLATION

DRAWN | DRAWING START DATE | RAMBØLL JOB NO.

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

PROJECT NAME:

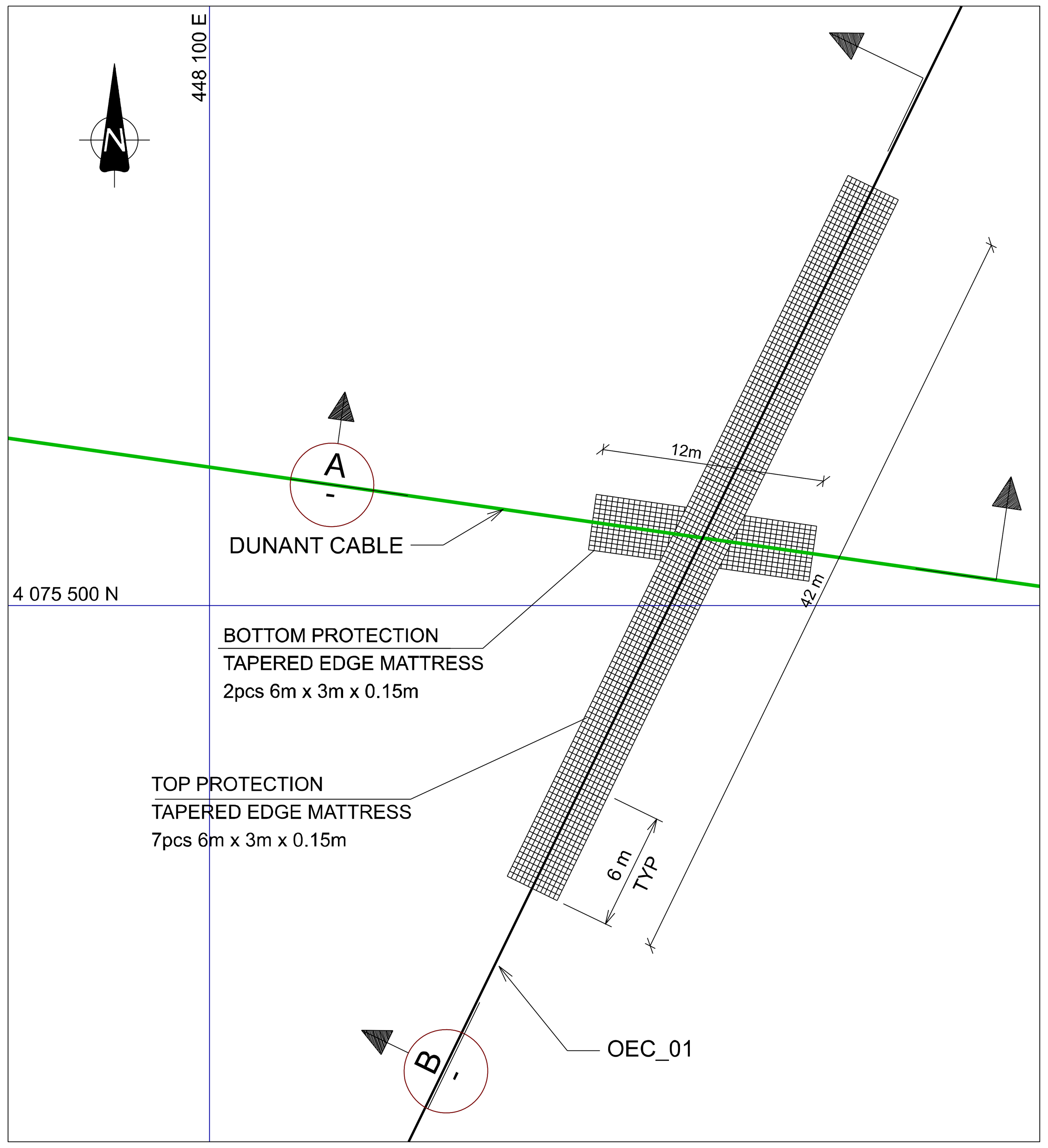
COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:

EXPORT CABLES CROSSINGS LAYOUT

SCALE / SIZE	CONTR. NO	AREA	SYSTEM	DRAWING NO. (PROJ. NO. ORIG.CODE DISC. DRAW.CODE SEQ. NO. SHEET)	REV.	STATUS
NOTED AT A1				JPA_DWG_OEC_CROSSINGS_1	C	

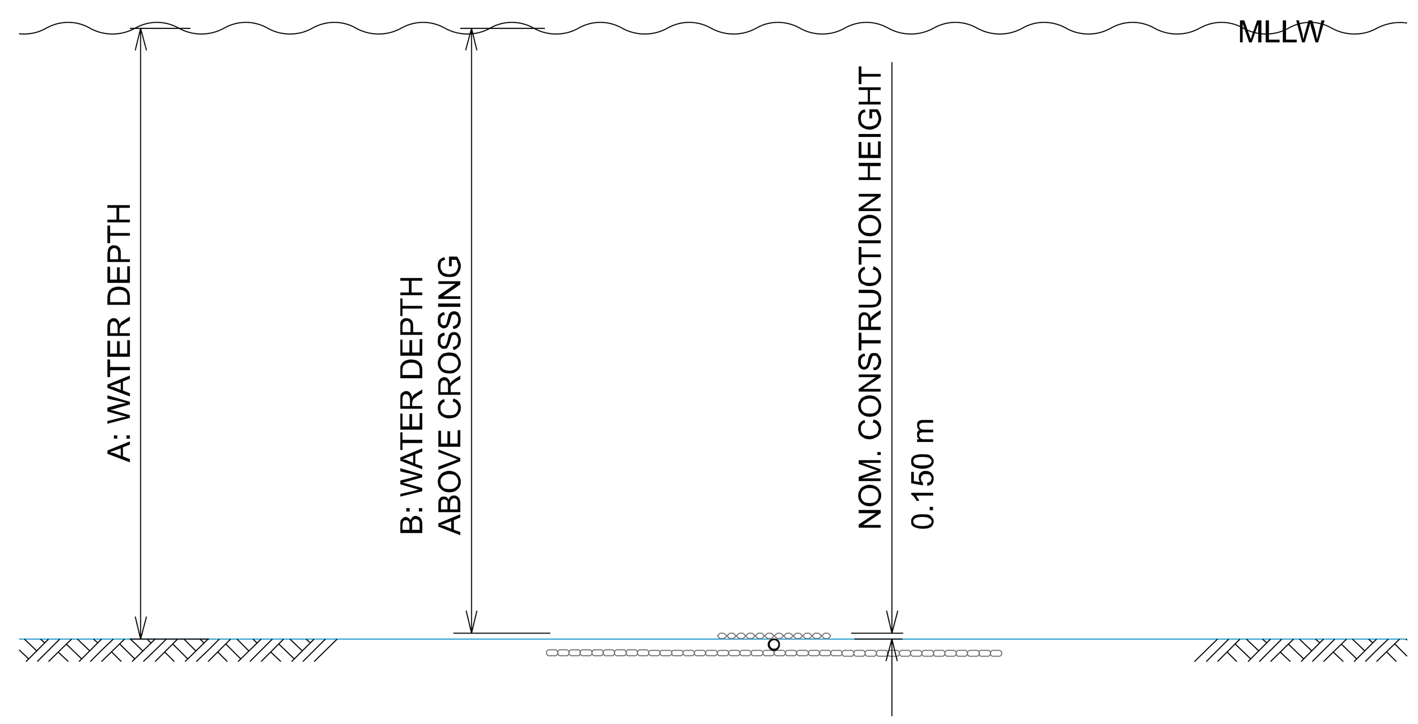
USACE-NLW
RCVD 12/13/2022



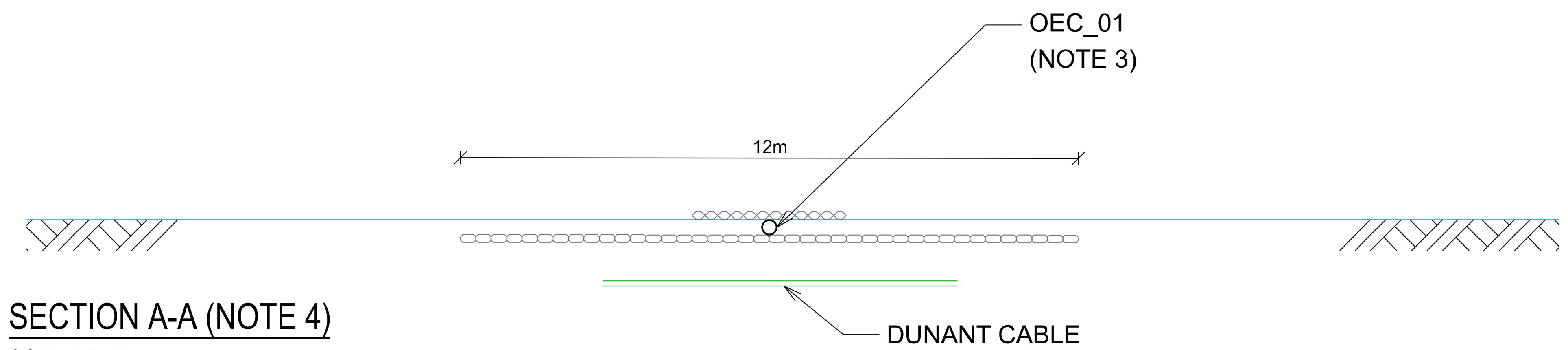
PLAN, CROSSING 01, DUNANT/OEC_01

SCALE 1:250

CROSSING NO.	CABLES	A: WATER DEPTH (m)	B: WD ABOVE CROSSING (m)
01	DUNANT/OEC_01	19.15	19.000
02	DUNANT/OEC_02	19.33	19.180
03	DUNANT/OEC_03	19.52	19.370
04	DUNANT/OEC_04	19.60	19.450
05	DUNANT/OEC_05	20.00	19.850
06	DUNANT/OEC_06	20.15	20.000
07	DUNANT/OEC_07	19.36	19.210
08	DUNANT/OEC_08	19.14	18.990
09	DUNANT/OEC_09	19.14	18.990
10	MAREA/OEC_01	19.91	19.760
11	MAREA/OEC_02	19.55	19.400
12	MAREA/OEC_03	19.34	19.190
13	MAREA/OEC_04	19.22	19.070
14	MAREA/OEC_05	19.56	19.410
15	MAREA/OEC_06	19.30	19.150
16	MAREA/OEC_07	19.56	19.410
17	MAREA/OEC_08	20.03	19.880
18	MAREA/OEC_09	19.64	19.490
19	BRUSA/OEC_01	20.16	20.010
20	BRUSA/OEC_02	20.77	20.620
21	BRUSA/OEC_03	19.19	19.040
22	BRUSA/OEC_04	19.30	19.150
23	BRUSA/OEC_05	19.83	19.680
24	BRUSA/OEC_06	19.50	19.350
25	BRUSA/OEC_07	19.82	19.670
26	BRUSA/OEC_08	19.93	19.780
27	BRUSA/OEC_09	20.14	19.990

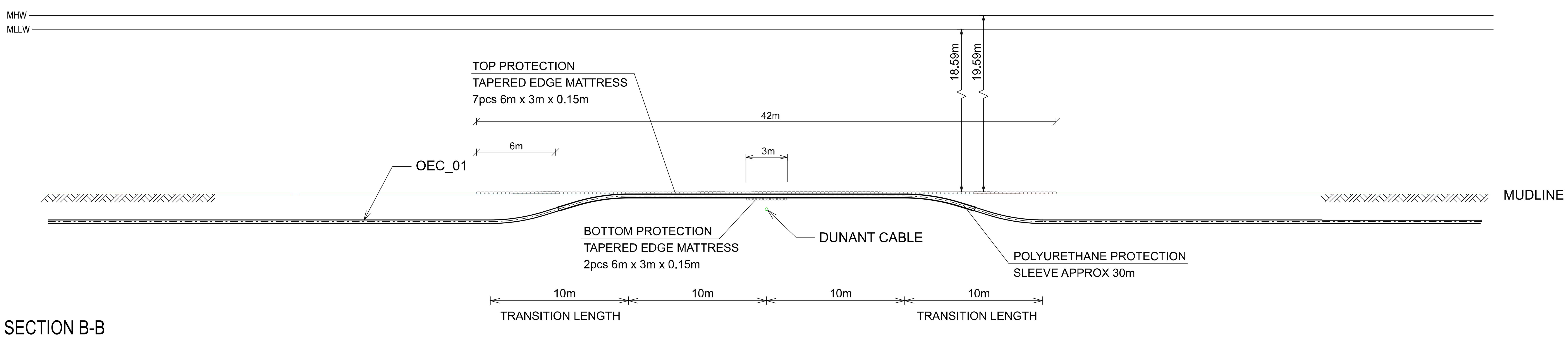


DEFINITION OF DEPTHS



SECTION A-A (NOTE 4)

SCALE 1:100



SECTION B-B

SCALE 1:200

NOTES:

1. ALL COORDINATES REFER TO NAD 1983 (2011) UTM ZONE 18N. WATER DEPTH REFER TO MEAN LOWER-LOW WATER (MLLW).
2. ALL COORDINATES AND DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. CABLE NOMINAL DIAMETER: 259 mm. POLYURETHANE PROTECTION IS ASSUMED TO HAVE A THICKNESS OF 19.5mm.
4. CROSSING CROSS SECTION IS AS PER CONTRACT WITH INSTALLATION CONTRACTOR.
5. THESE DRAWINGS ARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.
6. BASED ON DEMIAN ROUTE DESIGN DATED 2022-07-15. SUBJECT TO FINAL ENGINEERING.
7. CONCRETE MATTRESS INSTALLATION PROCEDURE AS PER DOC. NO. P1209-PRO-0010, REV 4.0 DATE 30-APR-2020
8. THE PROVIDED INFORMATION (ESPECIALLY IN RELATION TO POLYURETHANE PROTECTION WALL THICKNESS, CABLE POSITION RELATIVE TO UNDISTURBED SEABED AND EXTENT OF MATTRESS SINKAGE) IS BASED ON ASSUMPTIONS AND MAY BE SUBJECT TO CHANGES DUE TO ONGOING DETAILED ENGINEERING.

Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

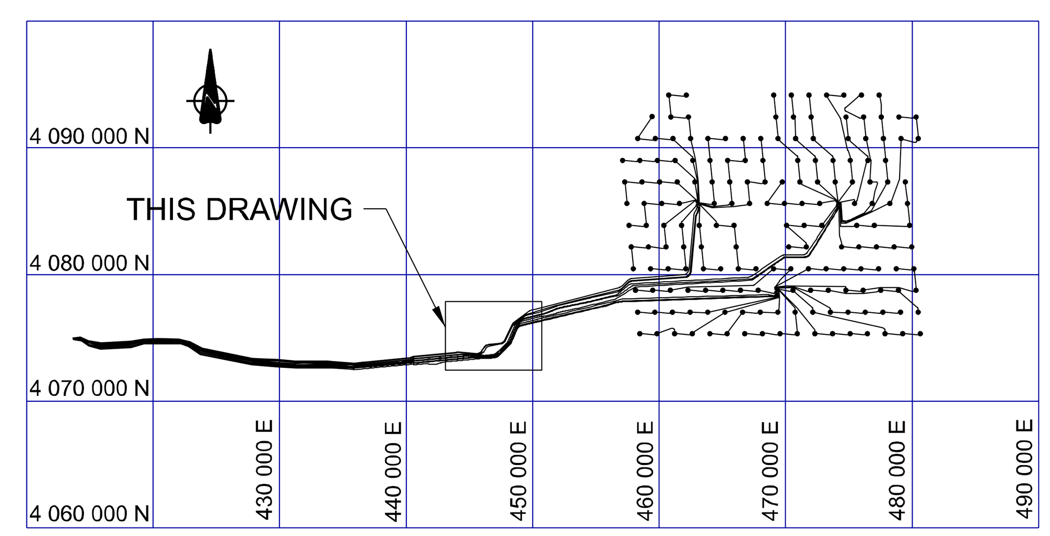
TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

LEGEND

OFFSHORE EXPORT CABLE

SUBMARINE CABLE, AS-LAID

KEY-PLAN



REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
D	2022-11-25	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	MNB	MIKB	JBA
C	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
B	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-06-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA

INSTALLATION

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

DRAWN | DRAWING START DATE | RAMBØLL JOB NO. 1690016328

PROJECT NAME:

COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:

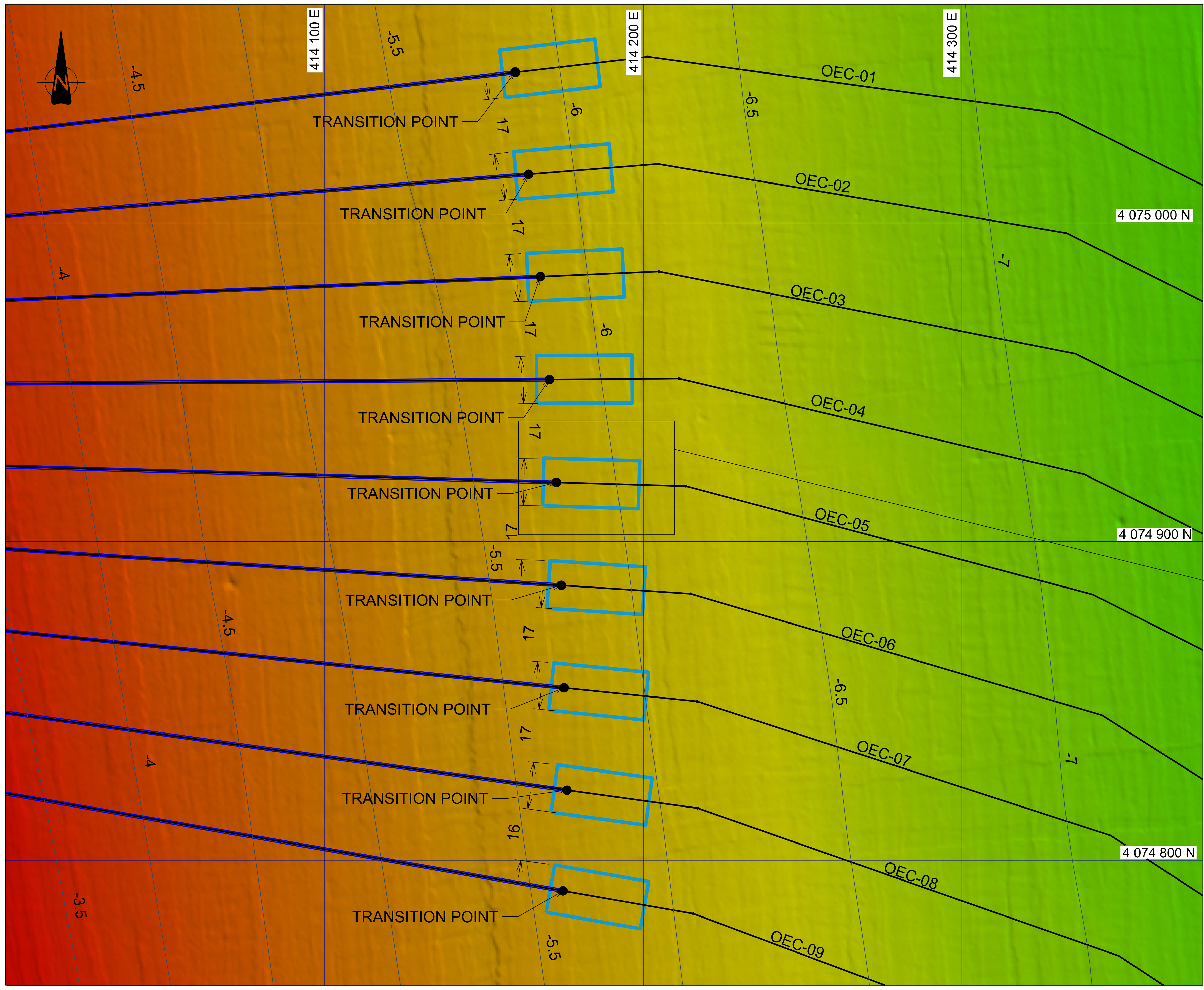
EXPORT CABLES CROSSINGS
PLAN AND PROFILE, TYPICAL

DRAWING NO.

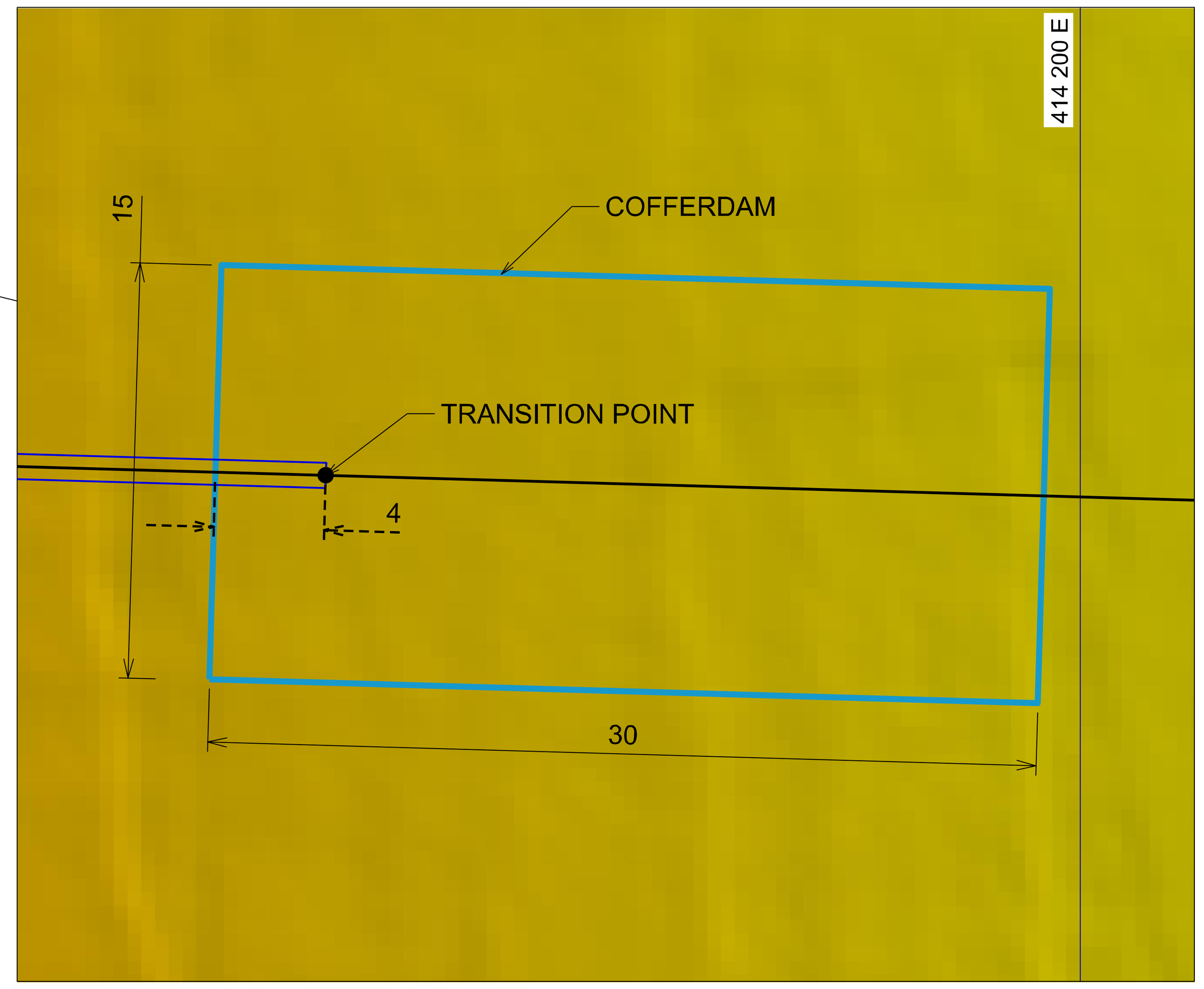
JPA_DWG_OEC_CROSSINGS_2 | D

NOTED AT A1

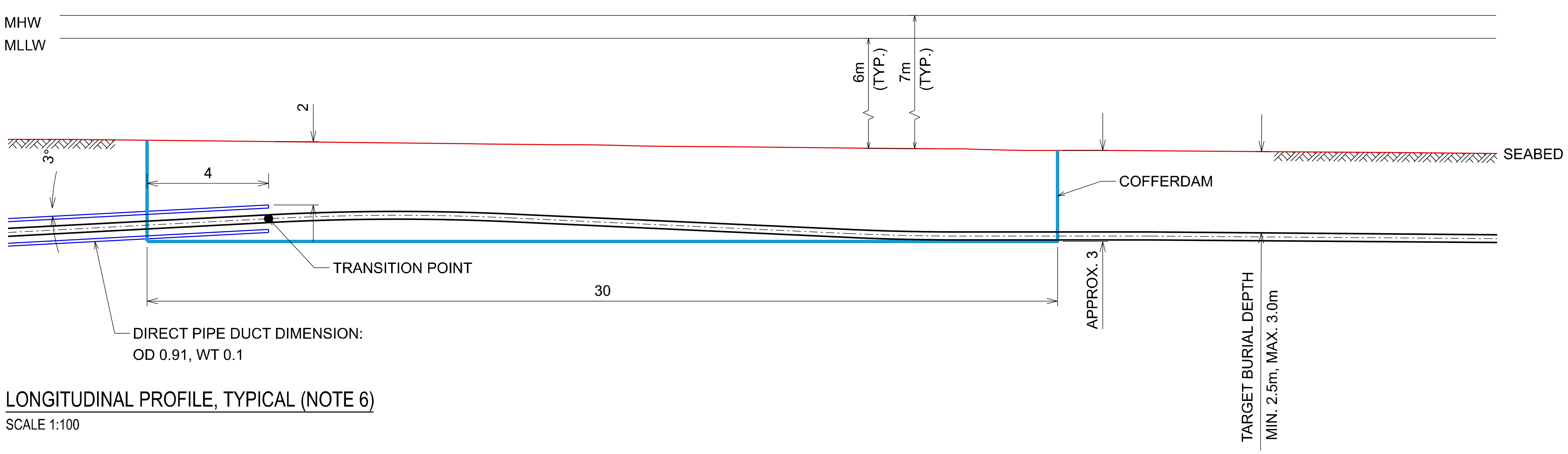
SCALE | SIZE | CONTR. NO | AREA | SYSTEM | PROJ. NO. | ORIG.CODE | DISC. | DRAW.CODE | SEQ. NO. | SHEET | REV. | STATUS



PLAN, OFFSHORE EXPORT CABLES
SCALE 1:1000



DETAIL 1
SCALE 1:200



LONGITUDINAL PROFILE, TYPICAL (NOTE 6)
SCALE 1:100

NOTES:

1. ALL COORDINATES REFER TO NAD 1983 (2011) UTM ZONE 18N. WATER DEPTH REFER TO MEAN LOWER-LOW WATER (MLLW).
2. ALL COORDINATES AND DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. DEPTH CONTOURS SHOWN WITH 0.5m EQUIDISTANCE.
4. THESE DRAWINGS ARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.
5. OFFSHORE CABLE ROUTES BASED ON DEMIAN OEC ROUTE DESIGN DATED 2022-07-15. SUBJECT TO FINAL ENGINEERING.
6. NOTE THAT THE CABLE PROFILE SHOWS THE ESTIMATED FINAL CONFIGURATION AFTER TRENCHING.

Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

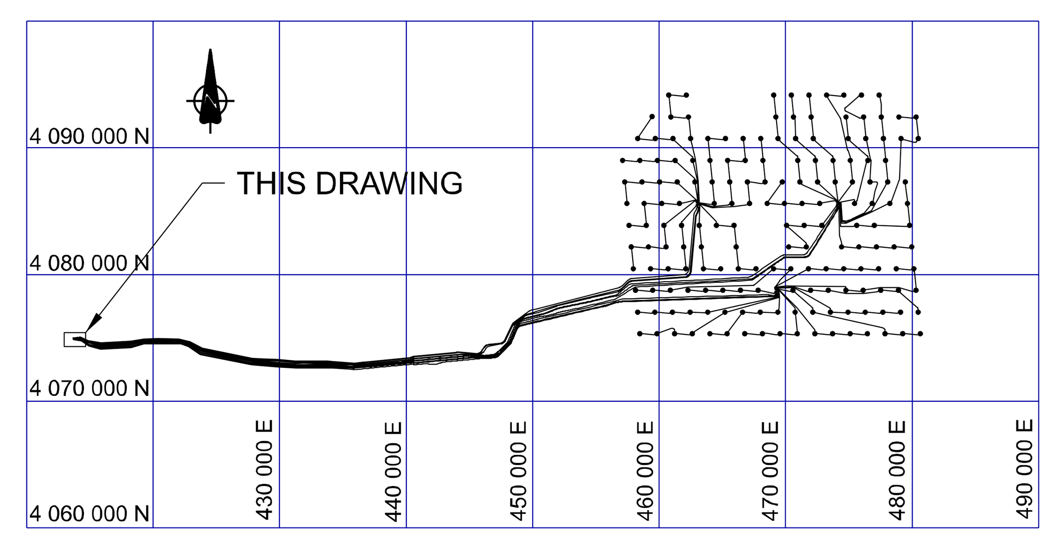
LEGEND

OFFSHORE EXPORT CABLE
DIRECT PIPE DUCT
COFFERDAM

BATHYMETRY COLOR CODE:

-3.0 m | -4.0 m | -6.0 m | -8.0 m | -9.3 m

KEY-PLAN



REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
B	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA

INSTALLATION

DRAWN | DRAWING START DATE | RAMBØLL JOB NO.

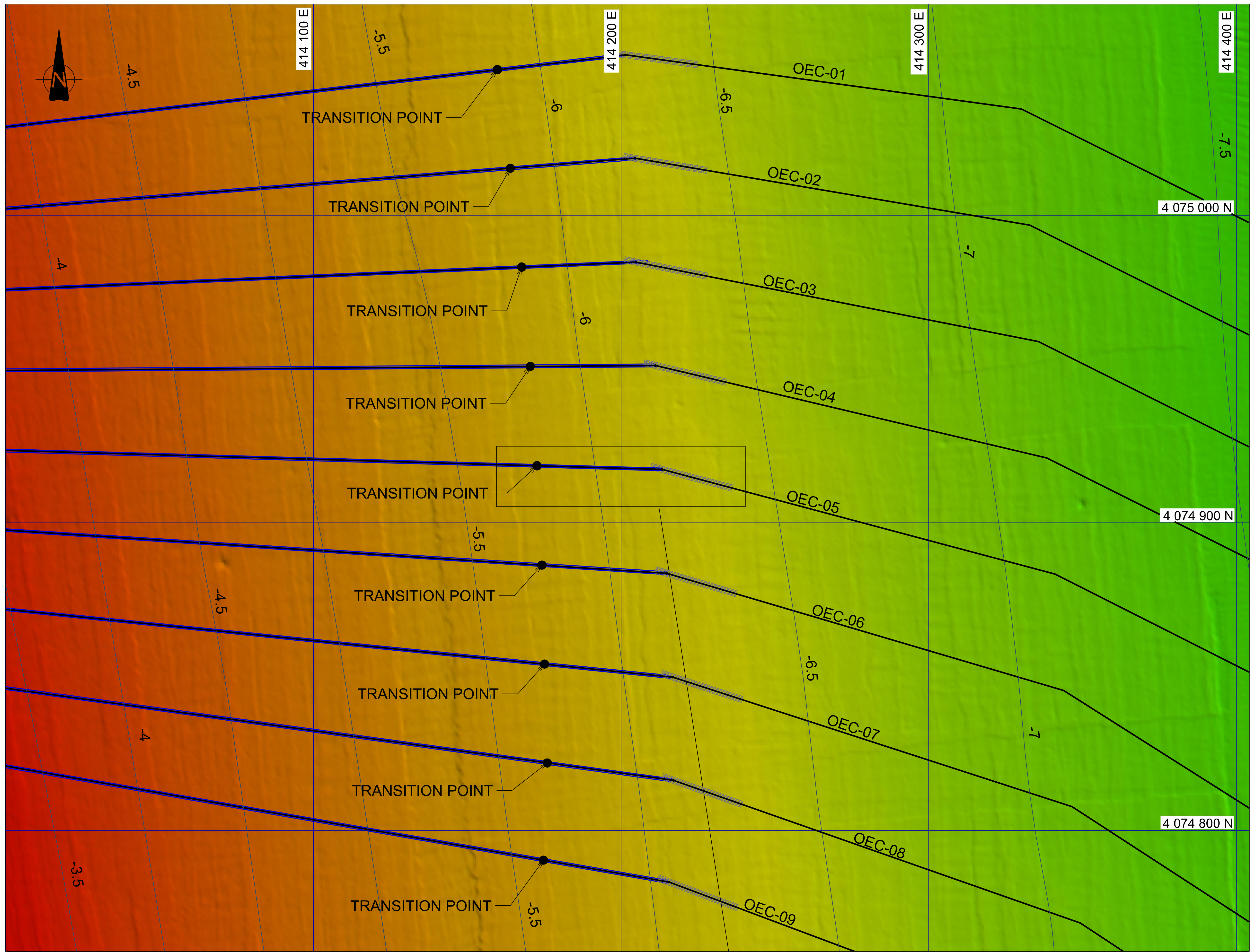
RAMBOLL
RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

PROJECT NAME:
COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:
DIRECT PIPE PUNCH OUT
COFFERDAM SOLUTION
TYPICAL DRAWING

DRAWING NO.
JPA_DWG_OEC_DirectPipe_1 | B

SCALE: NOTED | SIZE: A1 | CONTR. NO | AREA | SYSTEM | PROJ. NO. | ORIG.CODE | DISC. | DRAW.CODE | SEQ. NO. | SHEET | REV. | STATUS

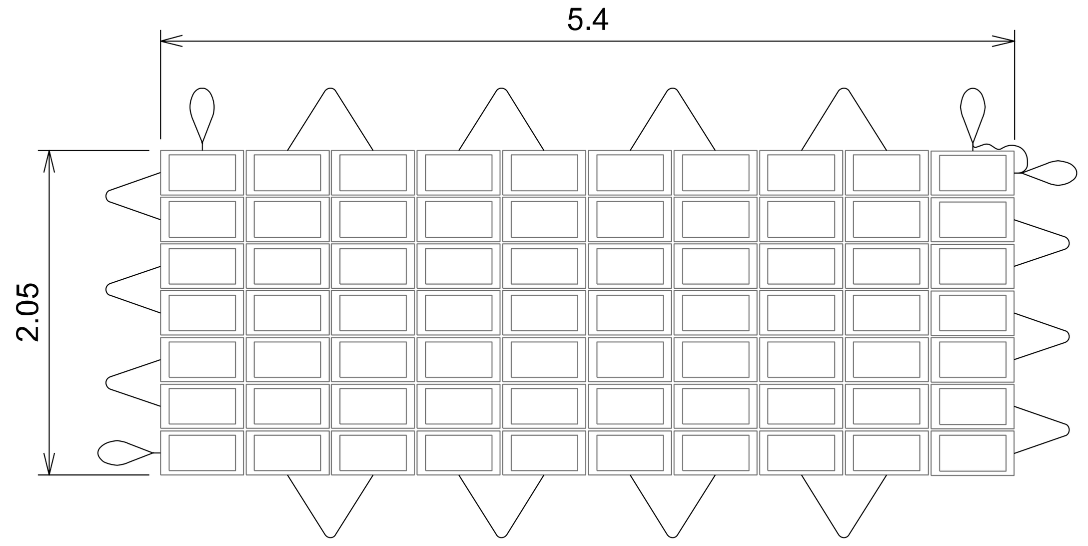


PLAN, OFFSHORE EXPORT CABLES

SCALE 1:1000

Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

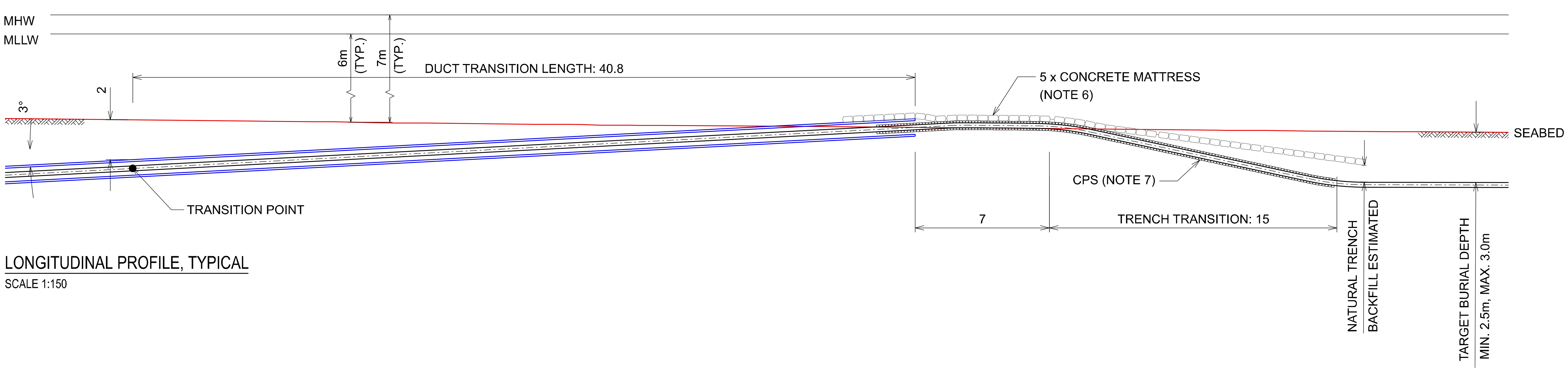


DETAIL 2, CONCRETE MATTRESS (NOTE 6)

SCALE 1:40

DETAIL 1

SCALE 1:200



LONGITUDINAL PROFILE, TYPICAL

SCALE 1:150

NOTES:

1. ALL COORDINATES REFER TO NAD 1983 (2011) UTM ZONE 18N. WATER DEPTH REFER TO MEAN LOWER-LOW WATER (MLLW).
2. ALL COORDINATES AND DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. DEPTH CONTOURS SHOWN WITH 0.5m EQUIDISTANCE.
4. THESE DRAWINGS ARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.
5. OFFSHORE CABLE ROUTES BASED ON DEMIAN OEC ROUTE DESIGN DATED 2022-07-15. SUBJECT TO FINAL ENGINEERING.
6. CONCRETE MATTRESS DIMENSION SHOWN : 5.40m x 2.05m x 0.30m. FINAL CONFIGURATION INCLUDING DENSITY AND WEIGHT TO BE DETERMINED IN DESIGN.
7. TO BE CONSIDERED IF CPS SHALL BE DEPLOYED UNDER MATTRESS.
8. THE INSTALLATION OF CONCRETE MATTRESSES WILL ONLY BE REQUIRED IF COFFERDAMS ARE DETERMINED TO BE INFEASIBLE.

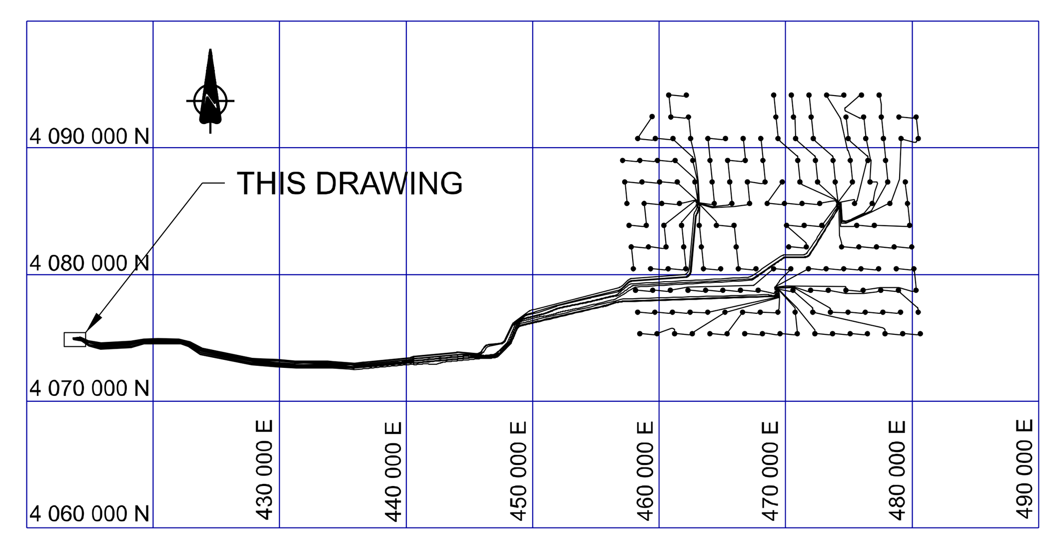
LEGEND

OFFSHORE EXPORT CABLE
DIRECT PIPE DUCT
CONCRETE MATTRESS

BATHYMETRY COLOR CODE:

-3.0 m · -4.0 m · -6.0 m · -8.0 m · -9.3 m

KEY-PLAN



REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
B	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA

INSTALLATION

DRAWN · DRAWING START DATE · RAMBØLL JOB NO.

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

PROJECT NAME:

COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

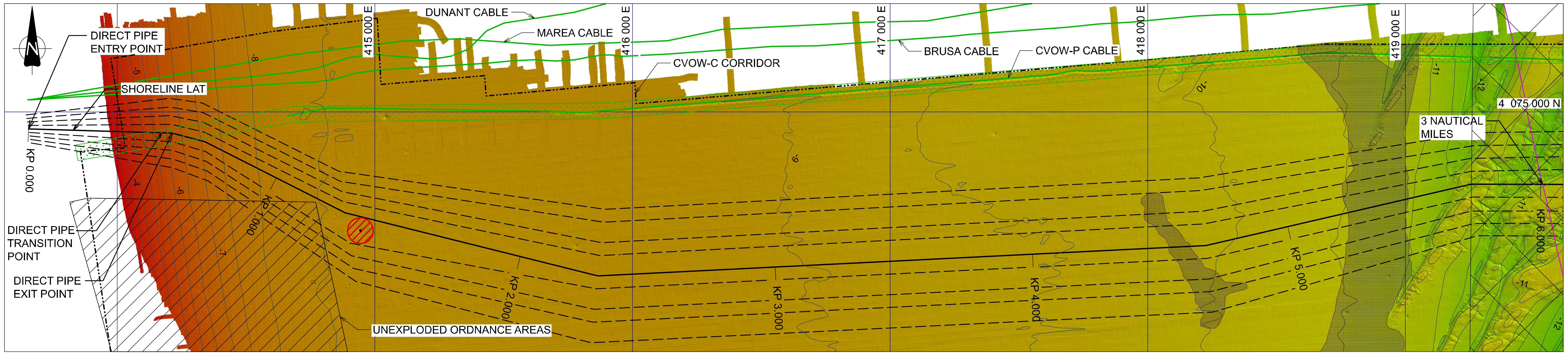
DRAWING TITLE:

DIRECT PIPE PUNCH OUT
CONCRETE MATTRESS SOLUTION
TYPICAL DRAWING

DRAWING NO.

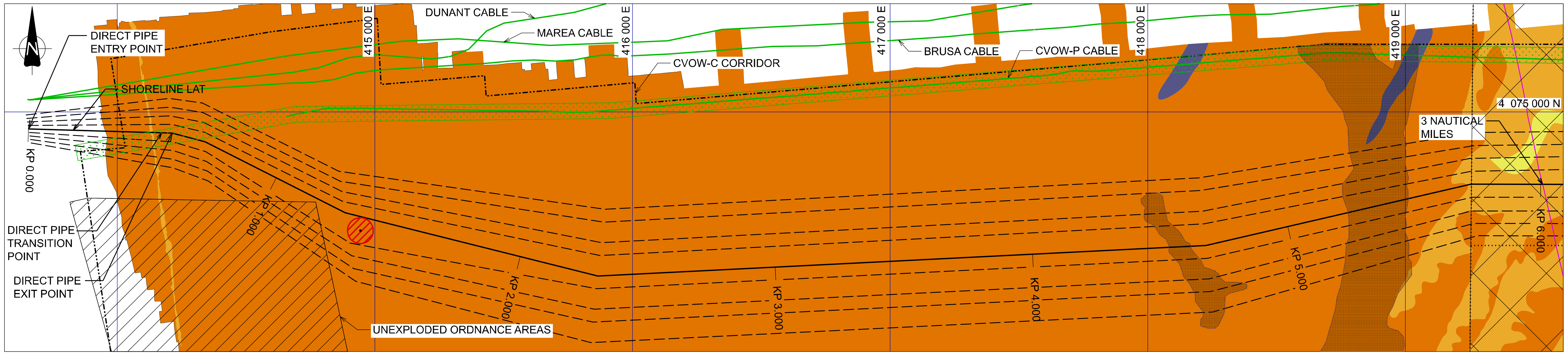
SCALE	SIZE	CONTR. NO	AREA	SYSTEM	PROJ. NO. / ORIG.CODE / DISC. / DRAW.CODE / SEQ. NO. / SHEET	REV.	STATUS
NOTED	AT A1				JPA_DWG_OEC_DirectPipe_2	B	

USACE-NLW
RCVD 12/13/2022



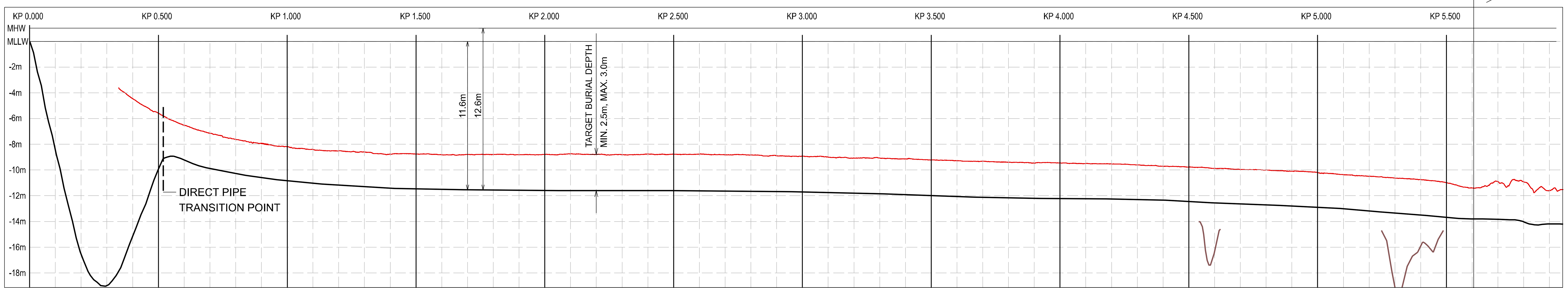
PLAN, BATHYMETRIC CHART

SCALE 1:10,000



PLAN, SEABED CLASSIFICATION CHART

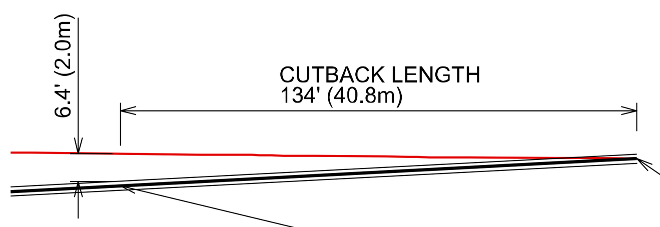
SCALE 1:10,000



PROFILE

VERTICAL 1:200
HORIZONTAL 1:10,000

SEE
JPA_DWG_OEC-05_2



DETAIL 1 (NOTE 5)

SCALE 1:500

0m 200m 400m 600m 800m 1000m

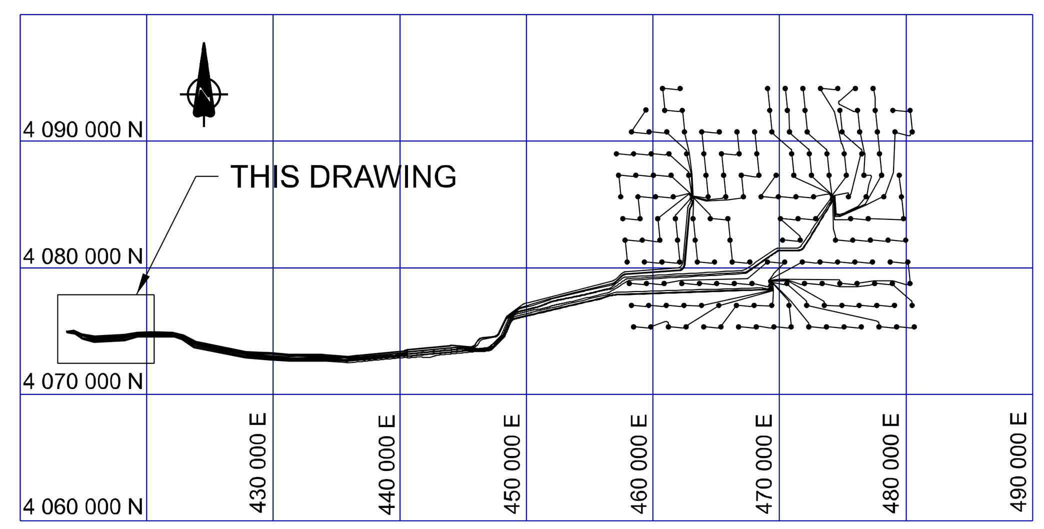
NOTES:

1. ALL COORDINATES REFER TO NAD 1983 (2011) UTM ZONE 18N. WATER DEPTH REFER TO MEAN LOWER-LOW WATER (MLLW).
2. ALL COORDINATES AND DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. DEPTH CONTOURS SHOWN WITH 0.5m EQUIDISTANCE.
4. KP0.000 DEFINED AT DIRECT PIPE ENTRY POINT:
   E 413 654.32
   N 4 074 933.65
5. DIRECT PIPE CUTBACK AT 2.0m WATER DEPTH SHOWN IN DETAIL 1. NOTE THAT THE GENERAL PROFILE SHOWS AN ESTIMATED FINAL CONFIGURATION OF THE CABLE, WHILE DETAIL 1 SHOWS THE INTERMEDIATE STEP DURING CONSTRUCTION OF DIRECT PIPE.
6. THESE DRAWINGS ARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.
7. BASED ON DEMIAN OEC ROUTE DESIGN DATED 2022-07-15. SUBJECT TO FINAL ENGINEERING.

Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

KEY-PLAN



REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
D	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
C	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
B	2022-06-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-05-10	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	MIKB	JBA

INSTALLATION

DRAWN | DRAWING START DATE | RAMBØLL JOB NO.

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

PROJECT NAME:

COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:

PLAN AND PROFILE OFFSHORE EXPORT CABLE ROUTE OEC-05 KP 0.000 - 5.500

DRAWING NO. JPA_DWG_OEC-05_1 — D

NOTED AT A1

SCALE | SIZE | CONTR. NO | AREA | SYSTEM | PROJ. NO. | ORIG.CODE | DISC. | DRAW.CODE | SEQ. NO. | SHEET | REV. | STATUS

LEGEND

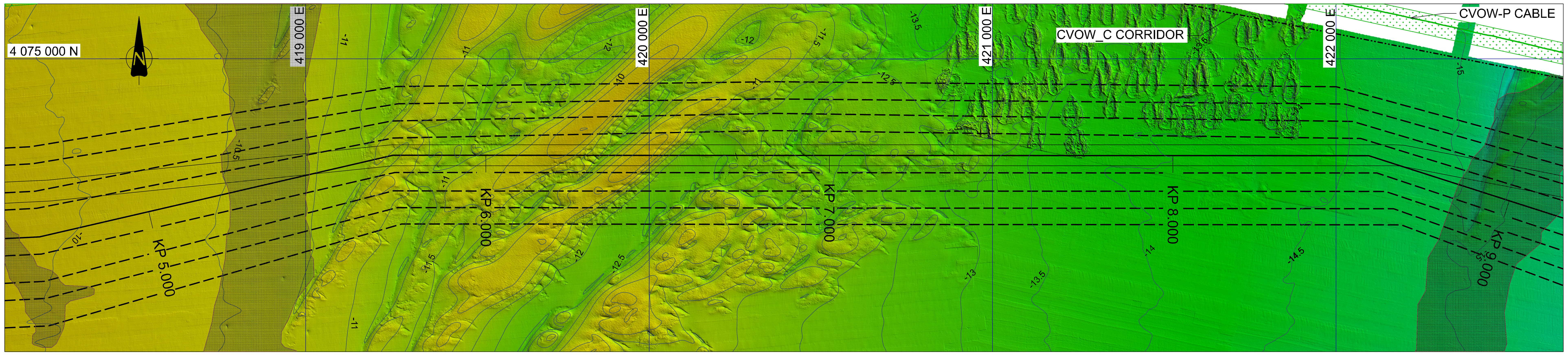
GENERAL:
- OFFSHORE EXPORT CABLE OEC-05
- ADJACENT OFFSHORE EXPORT CABLES
- SUBMARINE CABLES, AS-LAID
- CVOW-P CABLE RIGHT OF WAY
- CVOW-C CORRIDOR
- PALEO CHANNELS
- KILOMETRE POST
- WRECK INCL. 50m BUFFER ZONE
- CULTURAL TARGET AVOIDANCE AREA (PRELIMINARY)
- UNEXPLODED ORDNANCE AREAS

BATHYMETRY:
- BATHYMETRIC CONTOURS

COLOR CODE: -3.0 m, -5.0 m, -7.5 m, -10.0 m, -12.5 m, -15.0 m, -17.0

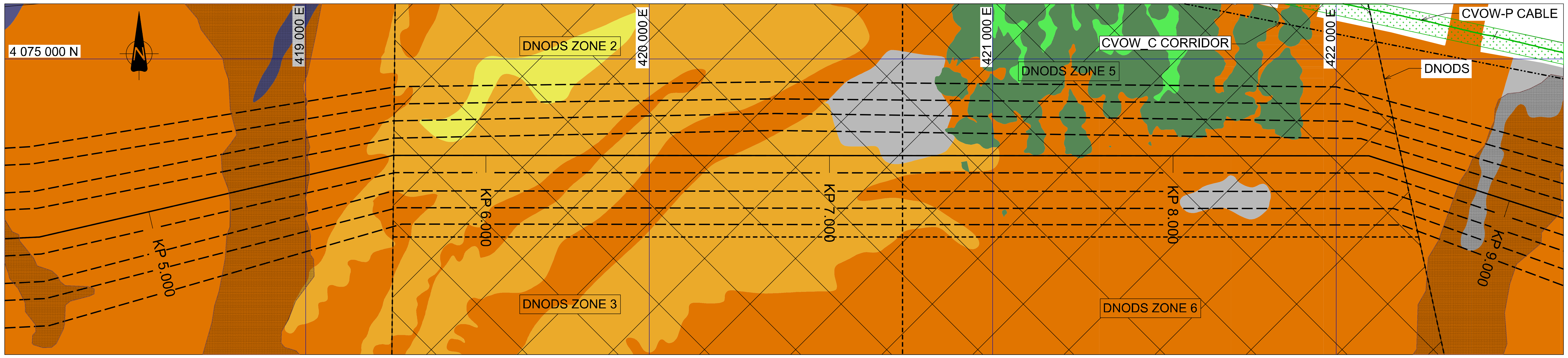
SEABED CLASSIFICATION (ASTM):
- CLAYEY SAND
- LEAN CLAY WITH SAND
- SILTY SAND
- POORLY GRADED GRAVEL
- POORLY GRADED SAND, FINE SAND
- POORLY GRADED SAND, MEDIUM SAND
- POORLY GRADED SAND WITH CLAY
- POORLY GRADED SAND WITH SILT, WITH SILT AND GRAVEL, WITH GRAVEL
- DAM NECK OCEAN DISPOSAL SITE (DNODS)

PROFILE:
- SEABED
- TOP OF OFFSHORE EXPORT CABLE
- PALEO CHANNELS



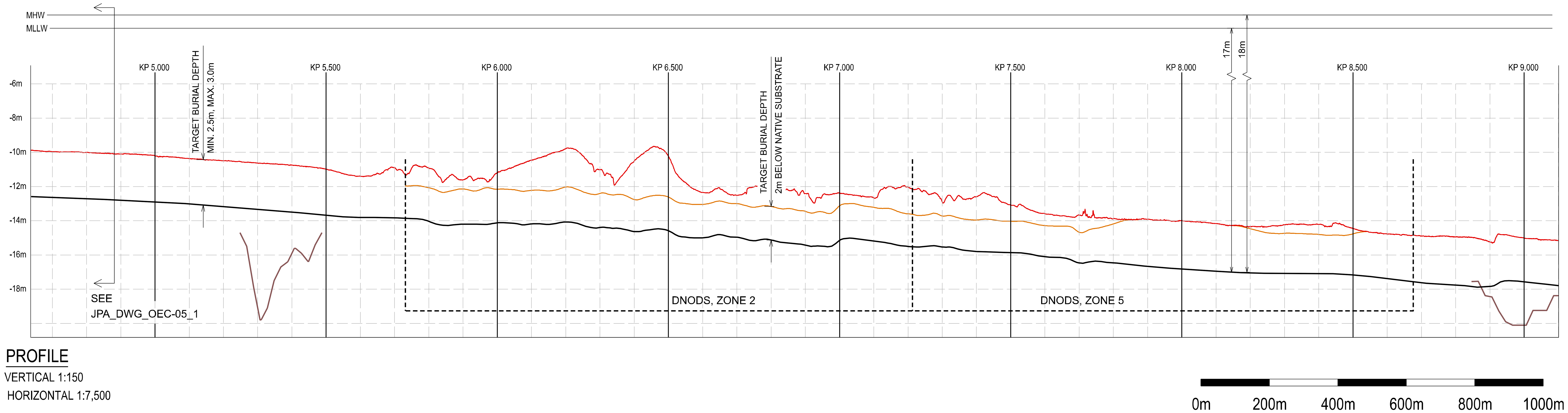
PLAN, BATHYMETRIC CHART

SCALE 1:7,500



PLAN, SEABED CLASSIFICATION CHART

SCALE 1:7,500



PROFILE

VERTICAL 1:150

HORIZONTAL 1:7,500

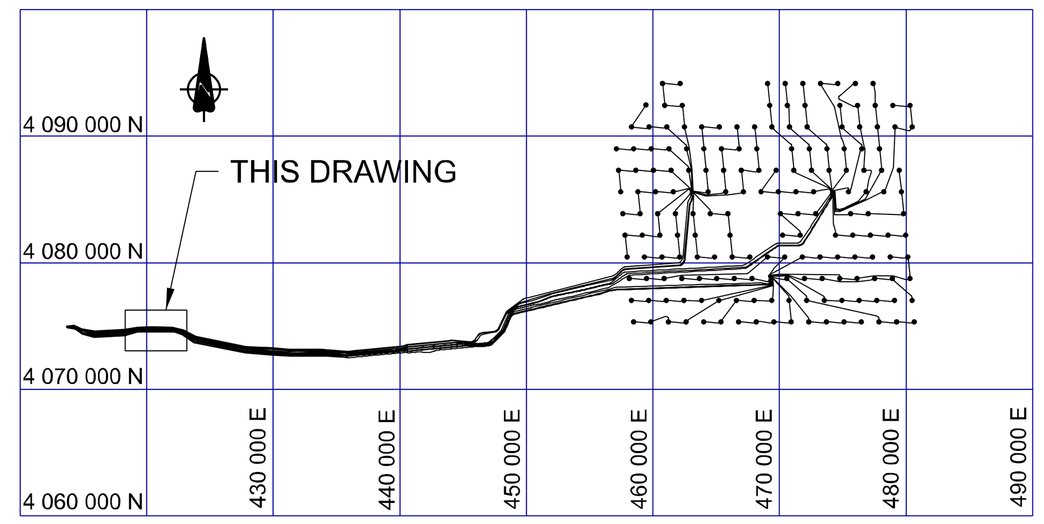
NOTES:

1. ALL COORDINATES REFER TO NAD 1983 (2011) UTM ZONE 18N. WATER DEPTH REFER TO MEAN LOWER-LOW WATER (MLLW).
2. ALL COORDINATES AND DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. DEPTH CONTOURS SHOWN WITH 0.5m EQUIDISTANCE.
4. THESE DRAWINGS ARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.
5. BASED ON DEMIAN OEC ROUTE DESIGN DATED 2022-08-12. SUBJECT TO FINAL ENGINEERING.
6. AT THE REQUEST OF THE USACE, THE DEPTH OF NATIVE SUBSTRATE WITHIN THE DNODS WAS IDENTIFIED BASED ON GEOPHYSICAL SURVEY DATA COLLECTED IN 2020-2021 AND IS A GEOSCIENTIFIC BEST REPRESENTATION, WHICH IS INTERPRETED AS THE BASE OF UPPER HOLOCENE / RECENT MARINE (MOBILE) SANDS / SEDIMENT. SOURCE: 'CVOW-C EXPORT CABLE ROUTE CORRIDOR GEOPHYSICAL SURVEY, 2020 MAY TO 2021 AUGUST, INTERPRETATION REPORT', 2021-12-21, REV. 8, BY ALPINE FOR DOMINION ENERGY AND 'INTEGRATED GROUND MODEL - ECRC', RAMBOLL FOR DOMINION ENERGY, 2022-04-01. HISTORIC BATHYMETRIC SURVEY DATA FOR THE DNODS WAS NOT AVAILABLE FOR THE ANALYSIS.

Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

KEY-PLAN



REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
D	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
C	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
B	2022-06-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-05-10	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	MIKB	JBA

INSTALLATION

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

DRAWN | DRAWING START DATE | RAMBØLL JOB NO.

PROJECT NAME:

COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:

PLAN AND PROFILE
OFFSHORE EXPORT CABLE ROUTE OEC-05
DAM NECK OCEAN DISPOSAL SITE

DRAWING NO.

NOTED AT A1 | JPA_DWG_OEC-05_2 | D

SCALE | SIZE | CONTR. NO | AREA | SYSTEM | PROJ. NO. | ORIG.CODE | DISC. | DRAW.CODE | SEQ. NO. | SHEET | REV. | STATUS

LEGEND

GENERAL:

- OFFSHORE EXPORT CABLE OEC-05
- ADJACENT OFFSHORE EXPORT CABLES
- SUBMARINE CABLES, AS-LAID
- CVOW-P CABLE RIGHT OF WAY
- CVOW-C CORRIDOR
- PALEO CHANNELS
- KILOMETRE POST
- WRECK INCL. 50m BUFFER ZONE
- CULTURAL TARGET AVOIDANCE AREA (PRELIMINARY)
- UNEXPLODED ORDNANCE AREAS

BATHYMETRY:

- BATHYMETRIC CONTOURS

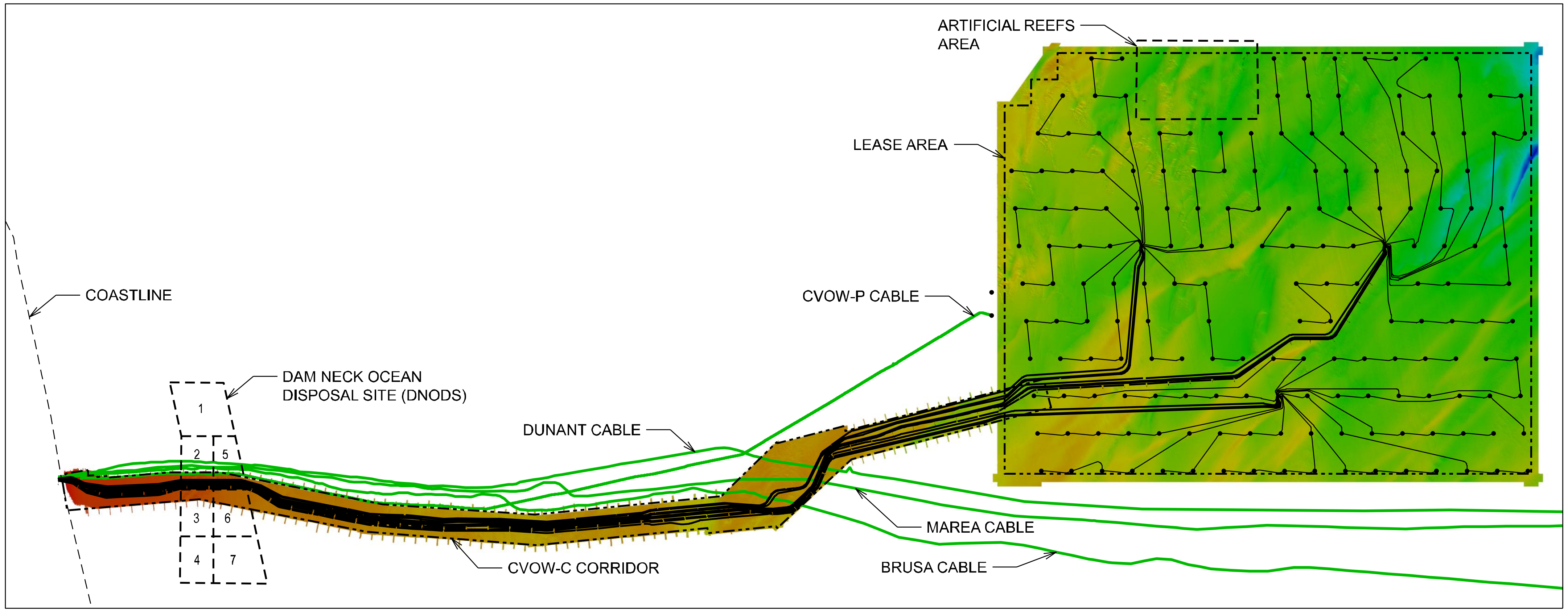
COLOR CODE: -3.0 m, -5.0 m, -7.5 m, -10.0 m, -12.5 m, -15.0 m, -17.0

SEABED CLASSIFICATION (ASTM):

- CLAYEY SAND
- LEAN CLAY WITH SAND
- SILTY SAND
- POORLY GRADED GRAVEL
- POORLY GRADED SAND, FINE SAND
- POORLY GRADED SAND, MEDIUM SAND
- POORLY GRADED SAND WITH CLAY
- POORLY GRADED SAND WITH SILT, WITH SILT AND GRAVEL, WITH GRAVEL
- DAM NECK OCEAN DISPOSAL SITE (DNODS)

PROFILE:

- SEABED
- TOP OF OFFSHORE EXPORT CABLE
- PALEO CHANNELS
- APPROXIMATE NATIVE SUBSTRATE (NOTE 6)



GENERAL ROUTE PLAN OVERVIEW

NOTES:

1. ALL COORDINATES REFER TO NAD 1983 (2011) UTM ZONE 18N. WATER DEPTH REFER TO MEAN LOWER-LOW WATER (MLLW).
2. ALL COORDINATES AND DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. THESE DRAWINGS ARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.
4. KP MARKING BASED ON CENTER OFFSHORE EXPORT CABLE OEC-05. KP 0.000 DEFINED AT DIRECT PIPE ENTRY POINT.
5. BASED ON DEMIAN OEC ROUTE DESIGN DATED 2022-07-15 AND DEMIAN IAC LAYOUT DATED 2022-08-01. SUBJECT TO FINAL ENGINEERING.

Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

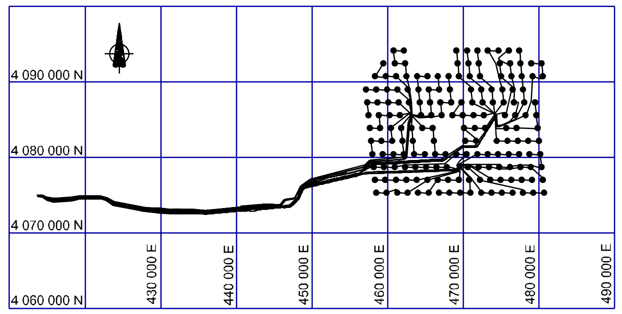
LEGEND

- OFFSHORE EXPORT CABLE
- INTER ARRAY CABLE
- SUBMARINE CABLES, AS-LAID

BATHYMETRY COLOR CODE:

-3.0 m -5.0 m -10.0 m -15.0 m -20.0 m -25.0 m -30.0 m -35.0 m -40.0 m -42.0 m

KEY-PLAN



REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
C	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	MINB	MIKB	JBA
B	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-05-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA

INSTALLATION

DRAWN | DRAWING START DATE | RAMBOLL JOB NO.

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

PROJECT NAME:

COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

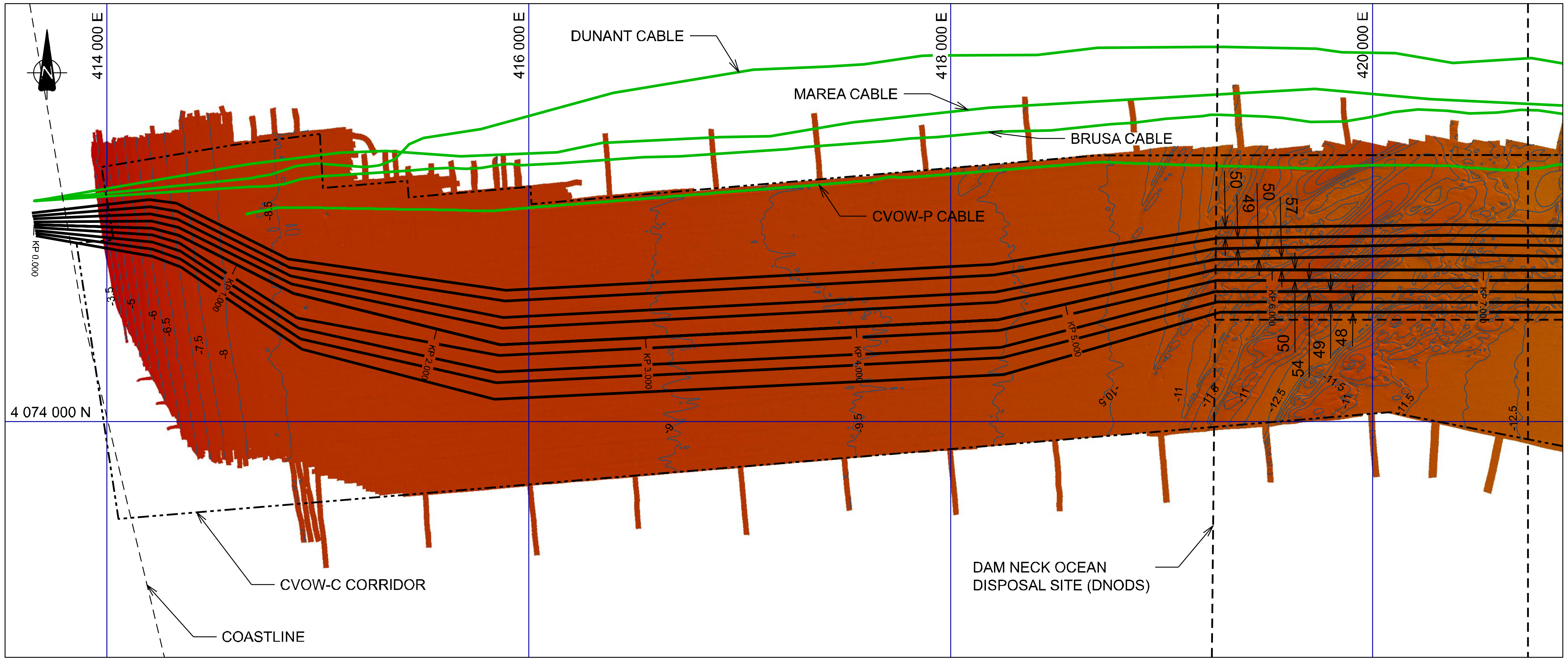
DRAWING TITLE:

GENERAL ROUTE PLAN
SHEET 1 OF 6

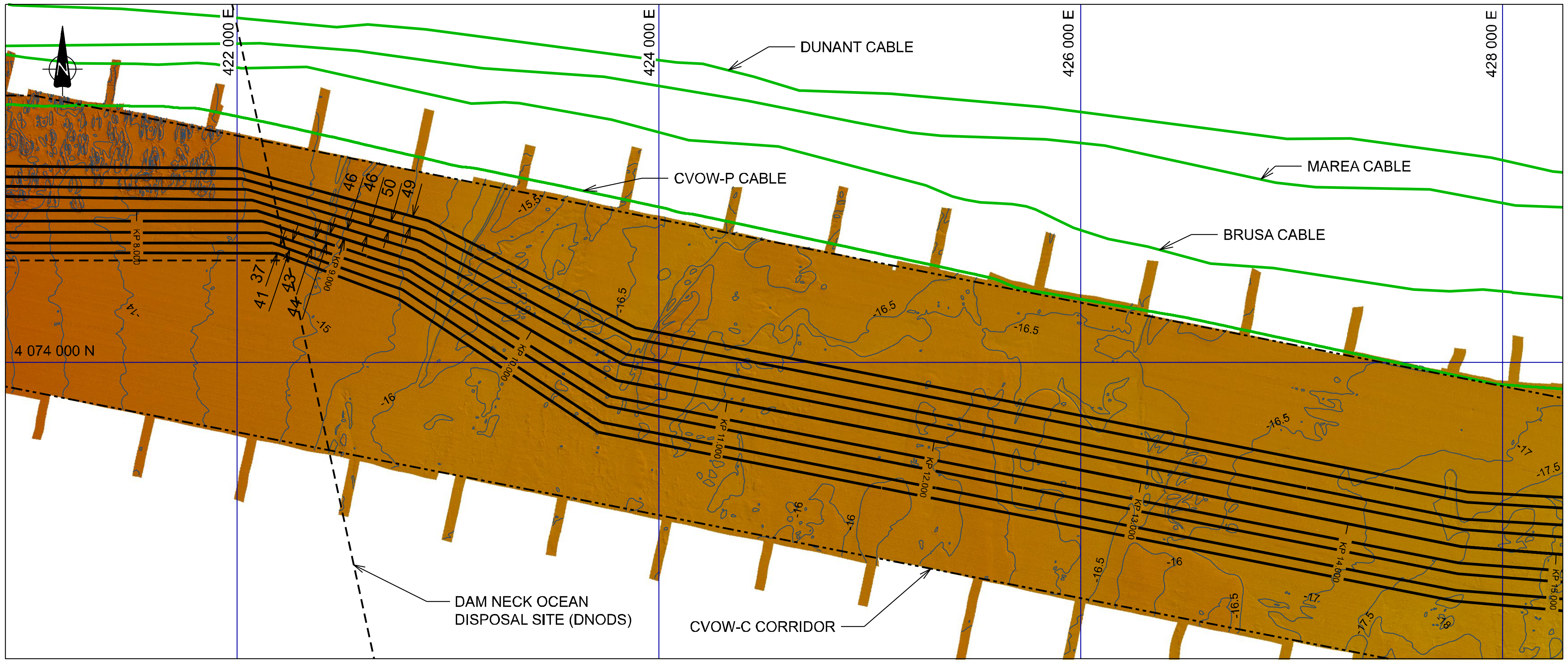
SCALE	SIZE	CONTR. NO	AREA	SYSTEM	DRAWING NO.	REV.	STATUS
NOTED	AT A1				JPA_DWG_ROUTE_PLAN_1	C	

PROJ. NO. ORIG.CODE DISC. DRAW.CODE SEQ. NO. SHEET

USACE-NLW
RCVD 12/13/2022



GENERAL ROUTE PLAN, ECRC



GENERAL ROUTE PLAN, ECRC

0m 200m 400m 600m 800m 1000m

NOTES:

1. ALL COORDINATES REFER TO NAD 1983 (2011) UTM ZONE 18N. WATER DEPTH REFER TO MEAN LOWER-LOW WATER (MLLW).
2. ALL COORDINATES AND DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. DEPTH CONTOURS SHOWN WITH 0.5m EQUIDISTANCE.
4. THESE DRAWINGS ARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.
5. KP MARKING BASED ON CENTER OFFSHORE EXPORT CABLE OEC-05. KP 0.000 DEFINED AT DIRECT PIPE ENTRY POINT.
6. BASED ON DEMIAN OEC ROUTE DESIGN DATED 2022-07-15. SUBJECT TO FINAL ENGINEERING.

Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

LEGEND

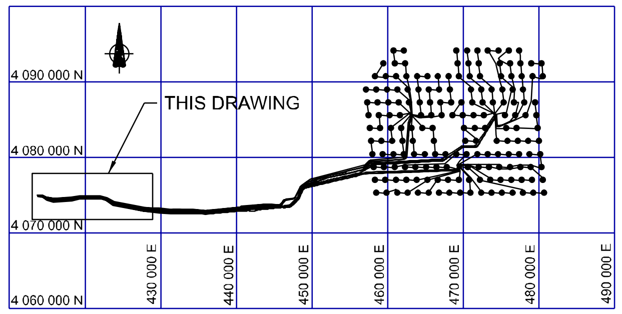
OFFSHORE EXPORT CABLE

SUBMARINE CABLES, AS-LAID

BATHYMETRY COLOR CODE:

-3.0 m, -5.0 m, -10.0 m, -15.0 m, -20.0 m, -25.0 m, -30.0 m, -35.0 m, -40.0 m, -42.0 m

KEY-PLAN



REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
C	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	MNB	MIKB	JBA
B	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-06-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA

INSTALLATION

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

DRAWN | DRAWING START DATE | RAMBOLL JOB NO.

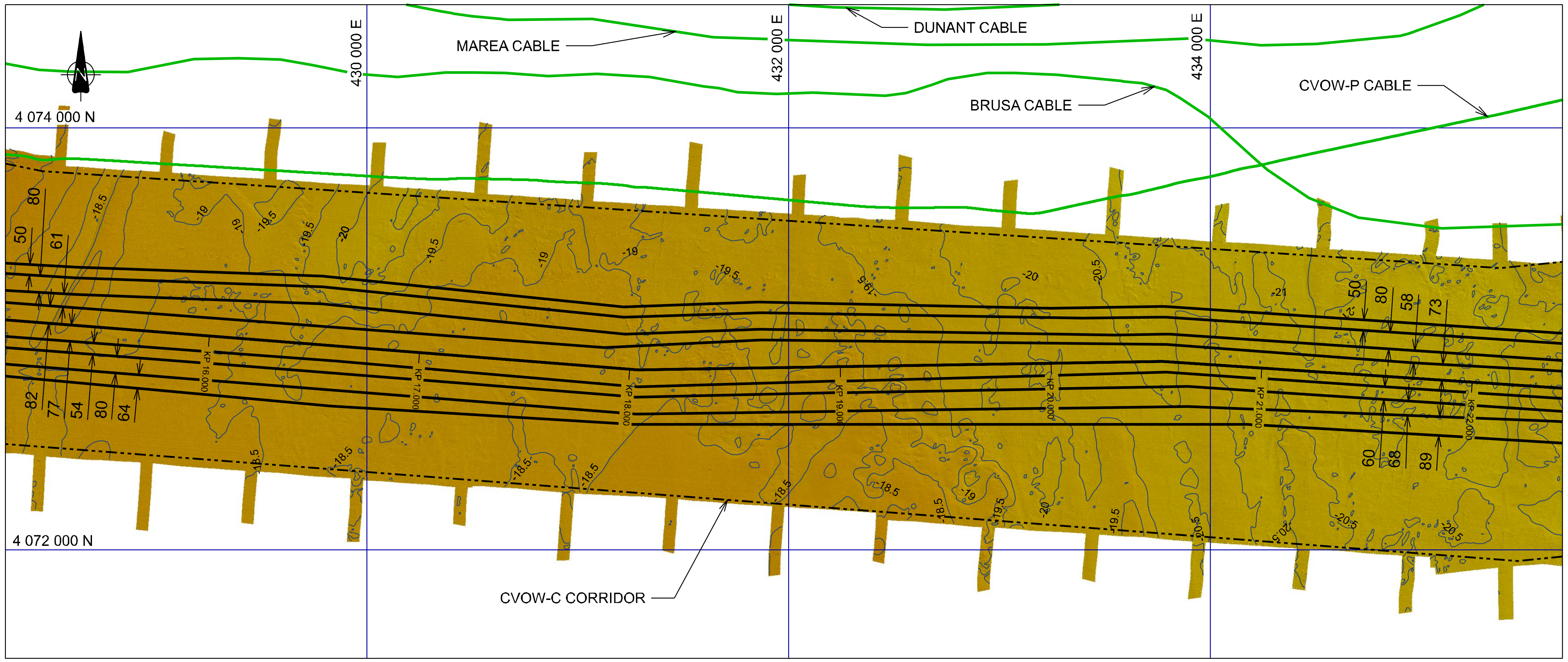
PROJECT NAME:
COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:
GENERAL ROUTE PLAN
SHEET 2 OF 6

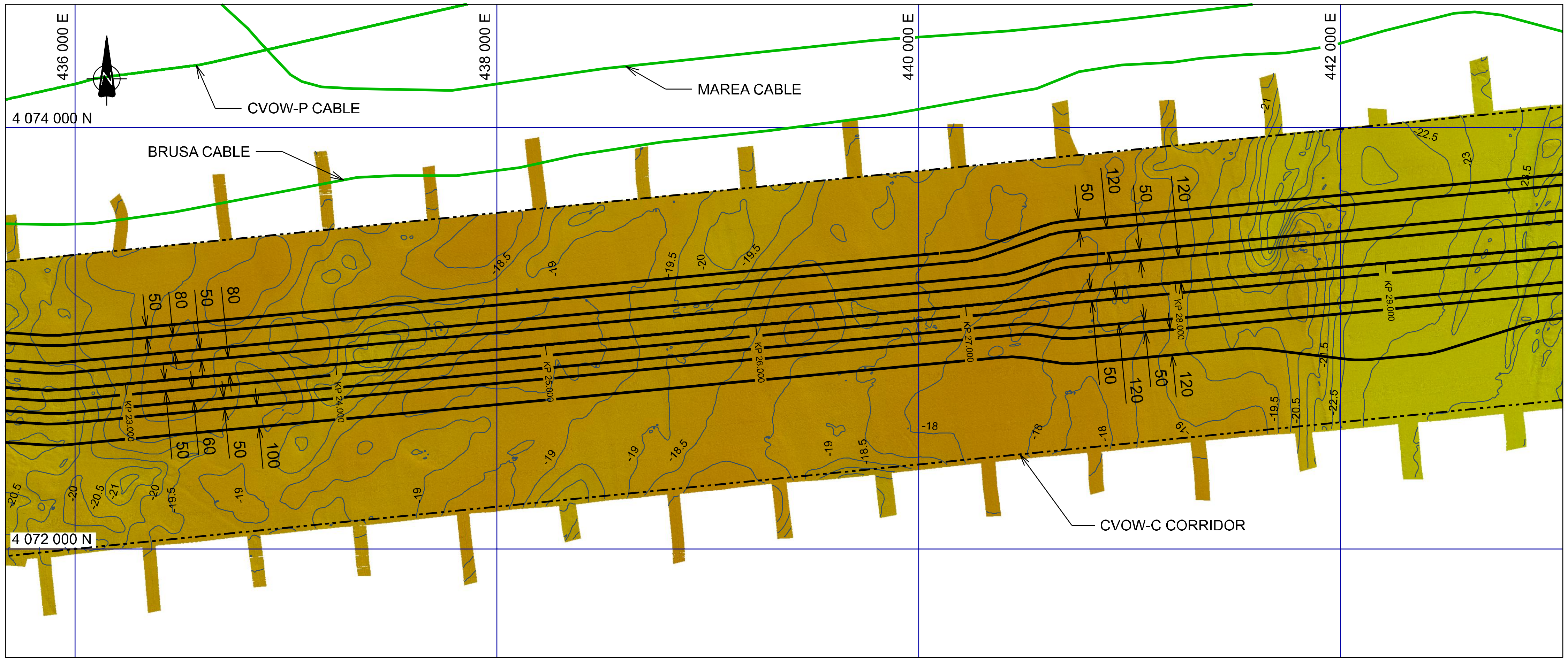
DRAWING NO.
JPA_DWG_ROUTE_PLAN_2 | C

NOTED AT A1

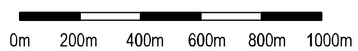
SCALE | SIZE | CONTR. NO | AREA | SYSTEM | PROJ. NO. | ORIG.CODE | DISC. | DRAW.CODE | SEQ. NO. | SHEET | REV. | STATUS



GENERAL ROUTE PLAN, ECRC



GENERAL ROUTE PLAN, ECRC



NOTES:

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6. BASED ON DEMIAN OEC ROUTE DESIGN DATED 2022-07-15. SUBJECT TO FINAL ENGINEERING.

Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

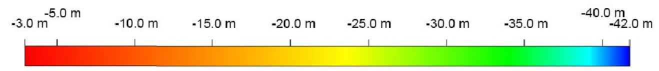
TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

LEGEND

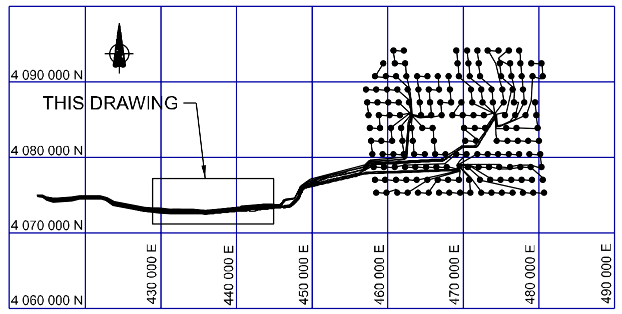
OFFSHORE EXPORT CABLE

SUBMARINE CABLES, AS-LAID

BATHYMETRY COLOR CODE:



KEY-PLAN



REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
C	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	MNB	MIKB	JBA
B	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-05-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA

INSTALLATION

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

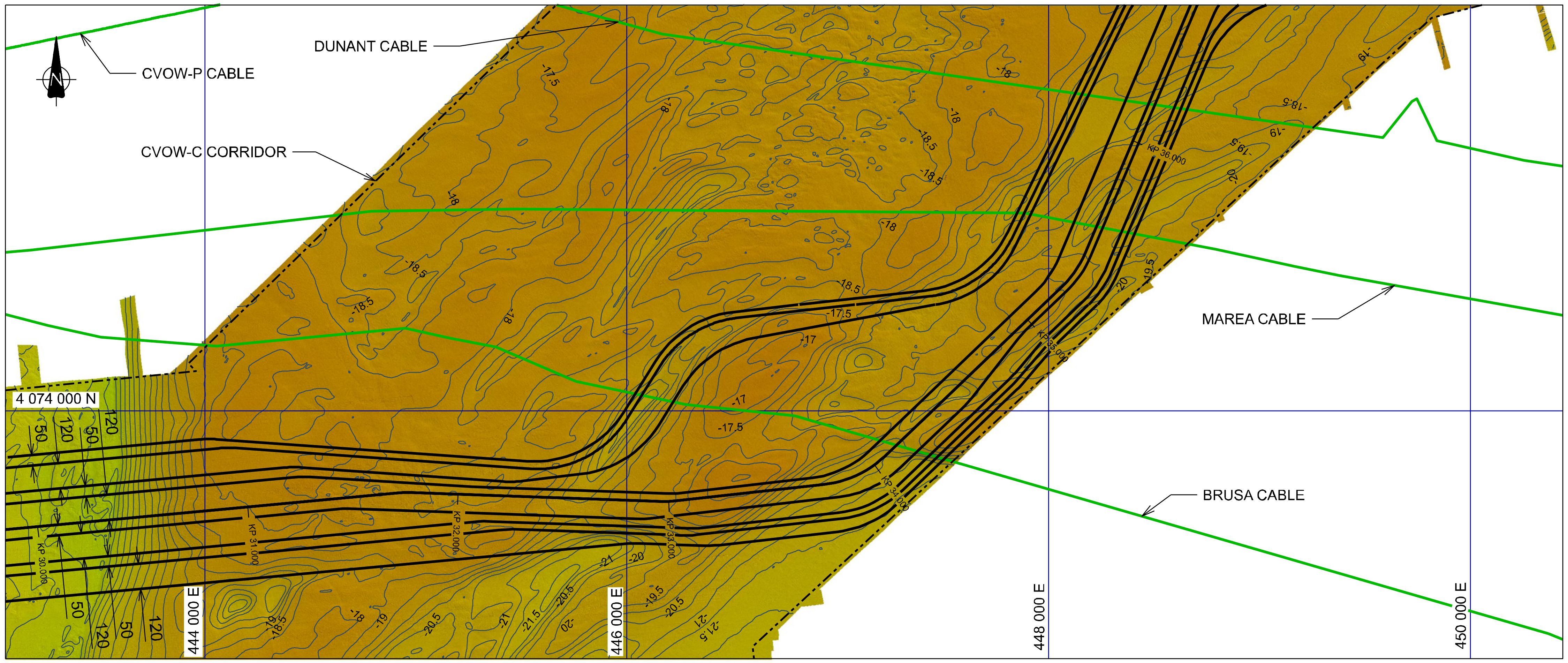
DRAWN | DRAWING START DATE | RAMBOLL JOB NO.

PROJECT NAME:
COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

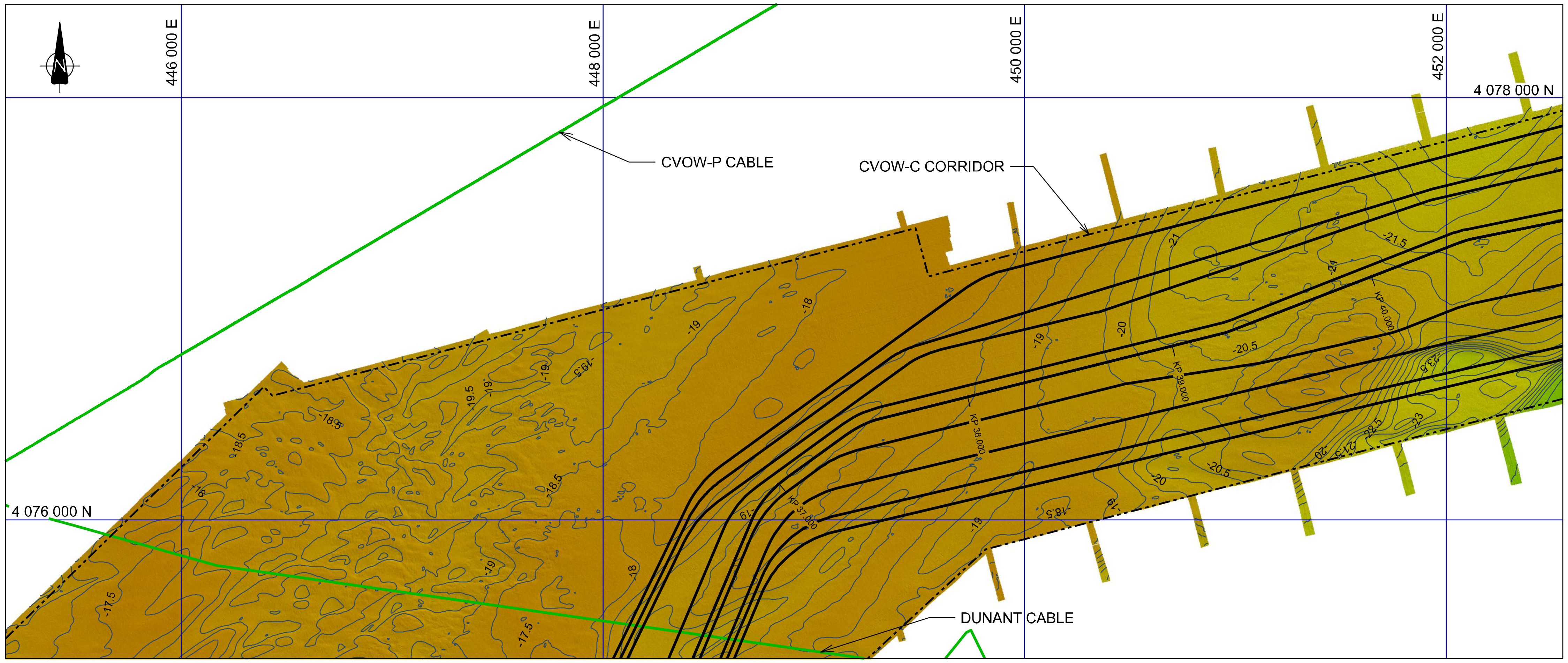
DRAWING TITLE:
GENERAL ROUTE PLAN
SHEET 3 OF 6

SCALE	SIZE	CONTR. NO	AREA	SYSTEM	DRAWING NO.	REV.	STATUS
NOTED	A1				JPA_DWG_ROUTE_PLAN_3	C	

PROJ. NO. | ORIG.CODE | DISC. | DRAW.CODE | SEQ. NO. | SHEET



GENERAL ROUTE PLAN, ECRC.



GENERAL ROUTE PLAN, ECRC.

0m 200m 400m 600m 800m 1000m

NOTES:

1. ALL COORDINATES REFER TO NAD 1983 (2011) UTM ZONE 18N. WATER DEPTH REFER TO MEAN LOWER-LOW WATER (MLLW).
2. ALL COORDINATES AND DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. DEPTH CONTOURS SHOWN WITH 0.5m EQUIDISTANCE.
4. THESE DRAWINGS ARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.
5. KP MARKING BASED ON CENTER OFFSHORE EXPORT CABLE OEC-05. KP 0.000 DEFINED AT DIRECT PIPE ENTRY POINT.
6. BASED ON DEMIAN OEC ROUTE DESIGN DATED 2022-07-15. SUBJECT TO FINAL ENGINEERING.

Water level	Elevation [m MSL]	Elevation [m MLLW]
HAT	0.968	1.507
MHHW	0.585	1.124
MHW	0.488	1.027
MSL	0.000	0.539
MLW	-0.495	0.044
MLLW	-0.539	0.000
LAT	-0.838	-0.299

TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

LEGEND

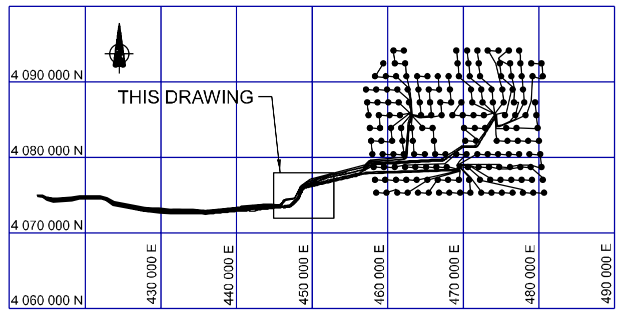
OFFSHORE EXPORT CABLE

SUBMARINE CABLES, AS-LAID

BATHYMETRY COLOR CODE:

-3.0 m -5.0 m -10.0 m -15.0 m -20.0 m -25.0 m -30.0 m -35.0 m -40.0 m -42.0 m

KEY-PLAN



REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
C	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	MNB	MIKB	JBA
B	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-06-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA

INSTALLATION

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

DRAWN | DRAWING START DATE | RAMBOLL JOB NO.

PROJECT NAME:

COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

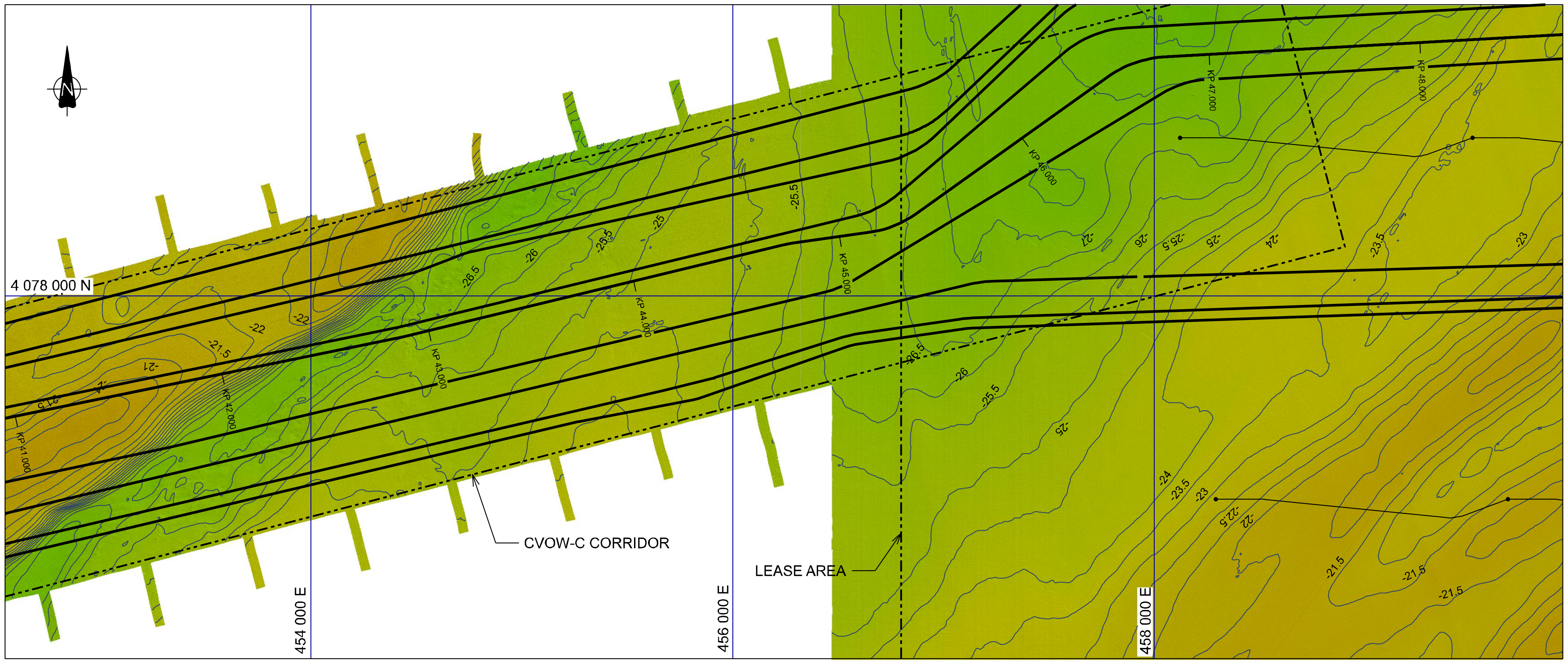
DRAWING TITLE:

GENERAL ROUTE PLAN
SHEET 4 OF 6

NOTED AT A1

DRAWING NO.: JPA_DWG_ROUTE_PLAN_4 | C

SCALE | SIZE | CONTR. NO | AREA | SYSTEM | PROJ. NO. | ORIG.CODE | DISC. | DRAW.CODE | SEQ. NO. | SHEET | REV. | STATUS



GENERAL ROUTE PLAN ECRC

0m 200m 400m 600m 800m 1000m

NOTES:

1. ALL COORDINATES REFER TO NAD 1983 (2011) UTM ZONE 18N. WATER DEPTH REFER TO MEAN LOWER-LOW WATER (MLLW).
2. ALL COORDINATES AND DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. DEPTH CONTOURS SHOWN WITH 0.5m EQUIDISTANCE.
4. THESE DRAWINGS ARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.
5. KP MARKING BASED ON CENTER OFFSHORE EXPORT CABLE OEC-05. KP 0.000 DEFINED AT DIRECT PIPE ENTRY POINT.
6. BASED ON DEMIAN OEC ROUTE DESIGN DATED 2022-07-15 SUBJECT TO FINAL ENGINEERING.

Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

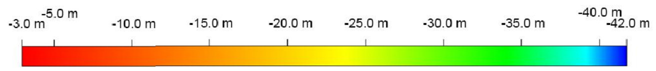
TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

LEGEND

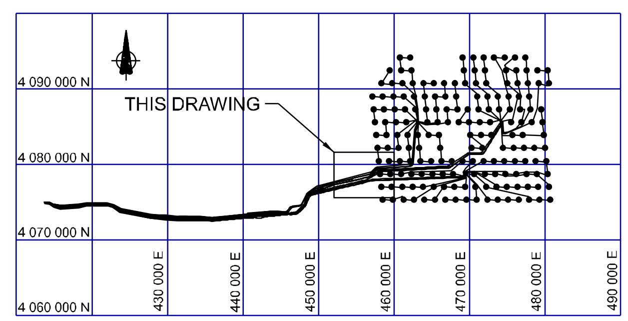
OFFSHORE EXPORT CABLE

INTER ARRAY CABLE

BATHYMETRY COLOR CODE:



KEY-PLAN



REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
C	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	MINB	MIKB	JBA
B	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-06-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA

INSTALLATION

DRAWN | DRAWING START DATE | RAMBOLL JOB NO.

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

PROJECT NAME:

COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

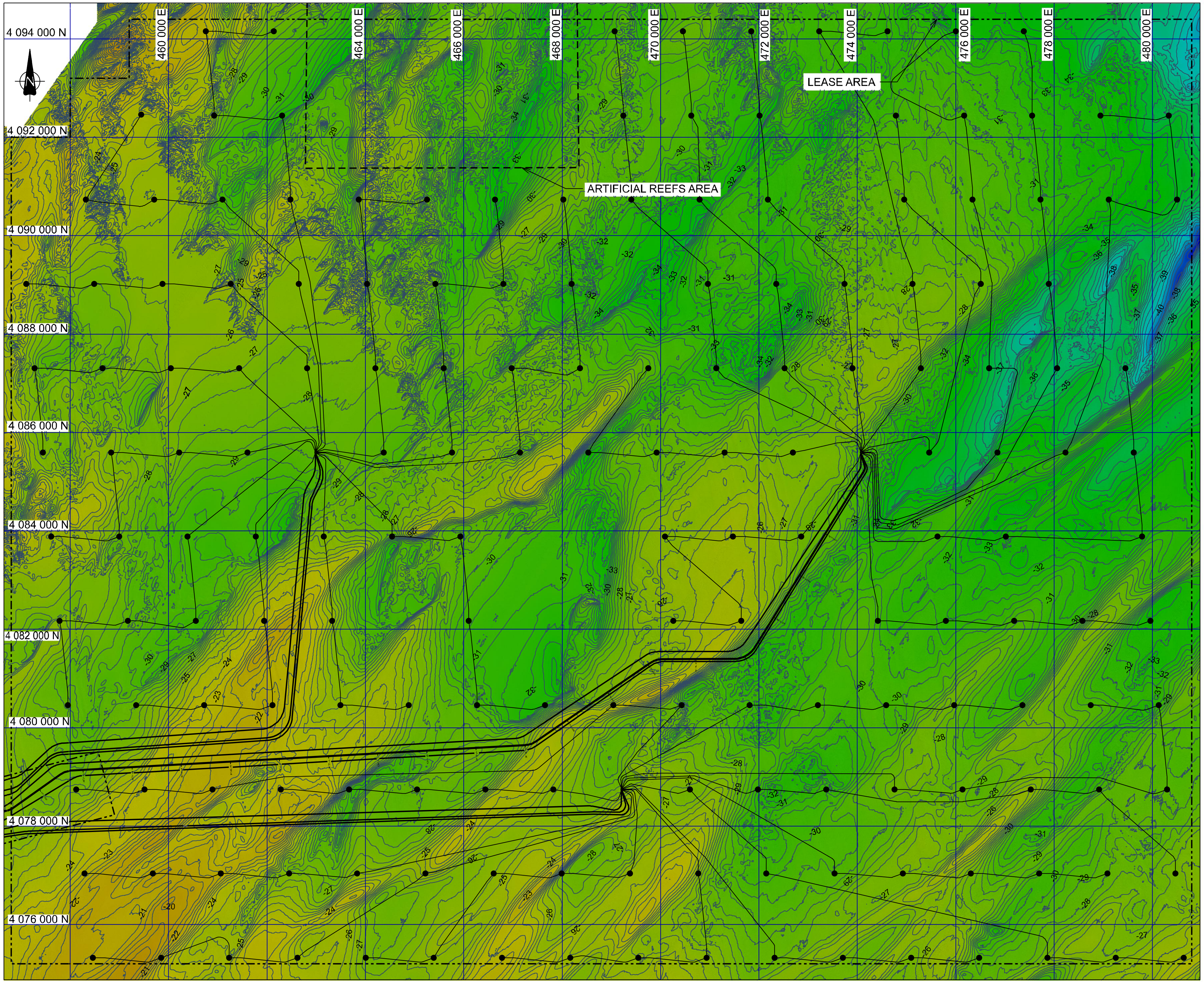
DRAWING TITLE:

GENERAL ROUTE PLAN
SHEET 5 OF 6

SCALE	SIZE	CONTR. NO	AREA	SYSTEM	DRAWING NO.	REV.	STATUS
NOTED	A1				JPA_DWG_ROUTE_PLAN_5	C	

PROJ. NO. ORIG.CODE DISC. DRAW.CODE SEQ. NO. SHEET

USACE-NLW
RCVD 12/13/2022



GENERAL ROUTE PLAN, LEASE AREA

0m 400m 800m 1200m 1600m 2000m

NOTES:

1. ALL COORDINATES REFER TO NAD 1983 (2011) UTM ZONE 18N. WATER DEPTH REFER TO MEAN LOWER-LOW WATER (MLLW).
2. ALL COORDINATES AND DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. DEPTH CONTOURS SHOWN WITH 0.5m EQUIDISTANCE.
4. THESE DRAWINGS ARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.
5. KP MARKING BASED ON CENTER OFFSHORE EXPORT CABLE OEC-05. KP 0.000 DEFINED AT DIRECT PIPE ENTRY POINT.
6. BASED ON DEMIAN OEC ROUTE DESIGN DATED 2022-07-15 AND DEMIAN IAC LAYOUT DATED 2022-08-01. SUBJECT TO FINAL ENGINEERING.

Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

LEGEND

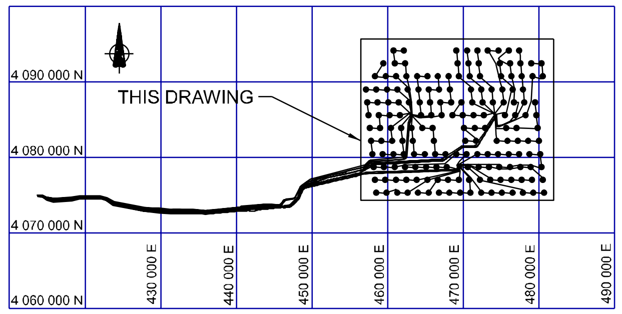
OFFSHORE EXPORT CABLE

INTER ARRAY CABLE

BATHYMETRY COLOR CODE:

-3.0 m -5.0 m -10.0 m -15.0 m -20.0 m -25.0 m -30.0 m -35.0 m -40.0 m -42.0 m

KEY-PLAN



REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
C	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	MNB	MIKB	JBA
B	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-06-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA

INSTALLATION

DRAWN | DRAWING START DATE | RAMBØLL JOB NO.

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

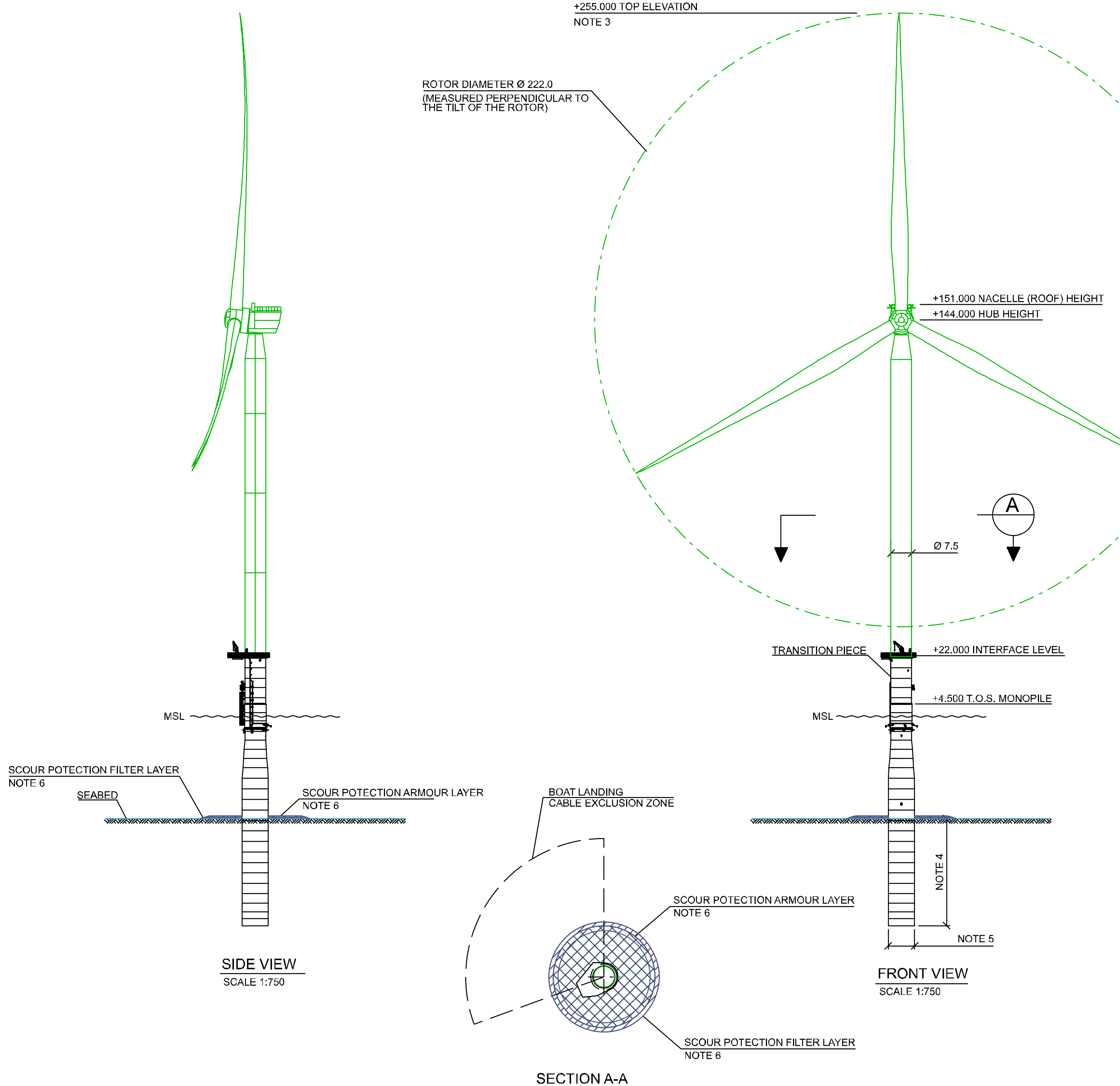
PROJECT NAME:

COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:

GENERAL ROUTE PLAN
SHEET 6 OF 6

SCALE SIZE	CONTR. NO	AREA	SYSTEM	PROJ. NO. ORIG.CODE DISC. DRAW.CODE SEQ. NO. SHEET	REV.	STATUS
NOTED AT A1				DRAWING NO. JPA_DWG_ROUTE_PLAN_6	C	



SIDE VIEW
SCALE 1:750

FRONT VIEW
SCALE 1:750

SECTION A-A
SCALE 1:750

USACE-NLW
RCVD 12/13/2022

NOTES:

1. ELEVATIONS REFER TO MEAN SEA LEVEL (MSL).
2. ALL DIMENSIONS IN METERS UNLESS NOTED OTHERWISE.
3. TOP ELEVATION CONSTANT FOR ALL WTGS.
4. THE PILE PENETRATION WILL VARY AND FOUNDATION DETAILED DESIGN DRAWINGS WILL SPECIFY - DESIGN ONGOING.
5. MONOPILE DIAMETER BETWEEN 8.5 AND 9.5 m.
6. SCOUR PROTECTION DIAMETER EQUAL 3.5 * D MONOPILE.
SCOUR PROTECTION FILTER LAYER THICKNESS: 0.5 m.
SCOUR PROTECTION ARMOUR LAYER THICKNESS: 0.59 m TO 1.06 m.
SCOUR PROTECTION DESIGN AS PER DEMIAN DOC. NO. CVOW1-DEM-ENG-RPT-00008, 2022-03-28.
7. THESE DRAWINGS ARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.

Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC;

LEGEND

SCOUR POTECTION ARMOUR LAYER
SCOUR POTECTION FILTER LAYER

KEY-PLAN

REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
C	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
B	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	ATE	JBA	JBA
A	2022-06-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	MNB	JBA	JBA

INSTALLATION

DRAWN | DRAWING START DATE | RAMBØLL JOB NO.

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

PROJECT NAME:

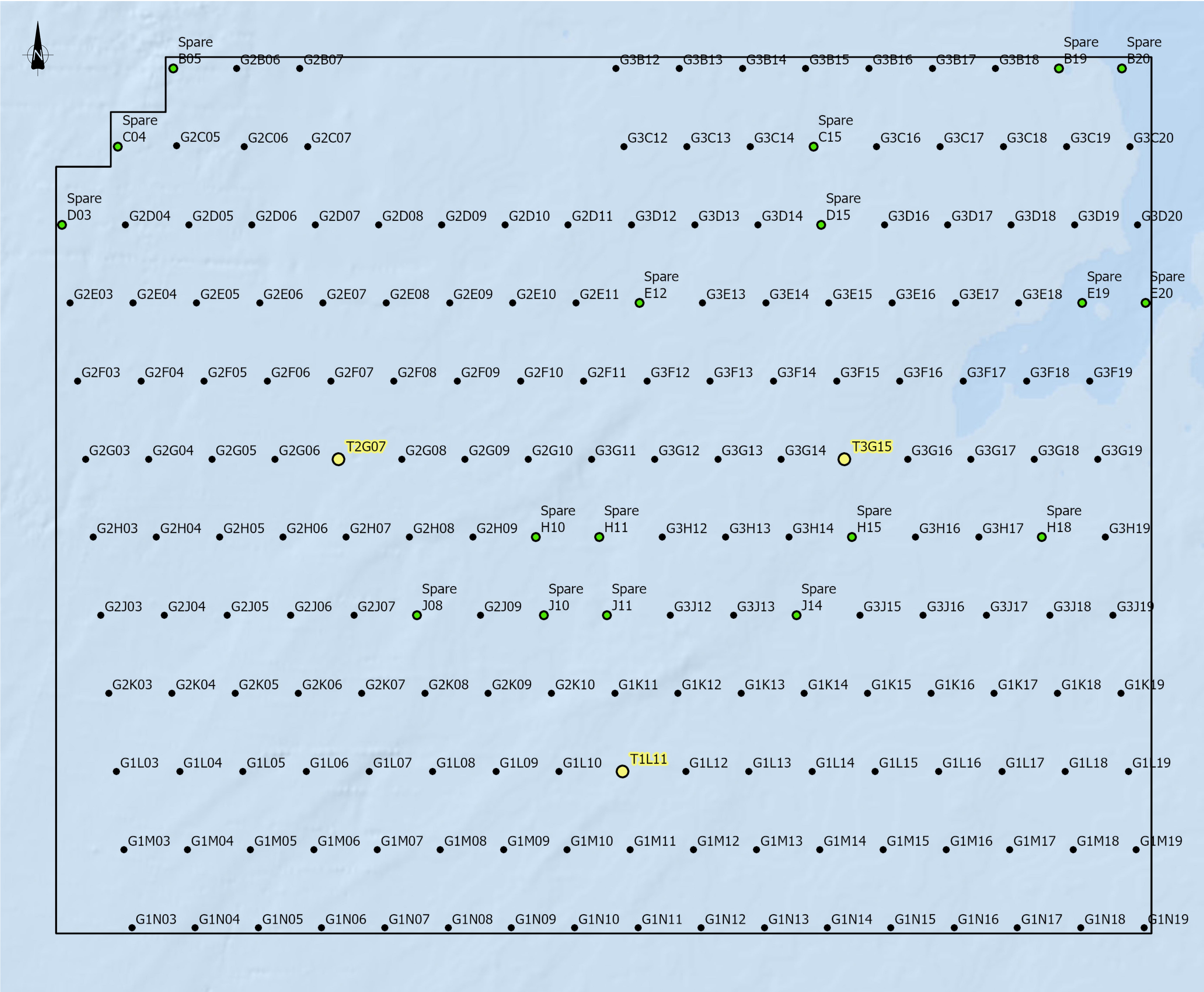
COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:

WTG GENERAL ARRANGEMENT
TYPICAL - SHEET 1

SCALE SIZE	CONTR. NO	AREA	SYSTEM	DRAWING NO. PROJ. NO. ORIG.CODE DISC. DRAW.CODE SEQ. NO. SHEET	REV.	STATUS
NOTED AT A1				JPA_DWG_WTG_01	C	

USACE-NLW
RCVD 12/13/2022



PLAN VIEW, WTG LAYOUT

NOTES:

1. ALL COORDINATES REFER TO NAD 1983 (2011) UTM ZONE 18N.
2. ALL DIMENSIONS IN METERS UNLESS NOTED OTHERWISE.
3. THESE DRAWINGS ARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.
4. CVOW-C WTG AND OFFSHORE SUBSTATION PREFERRED ALTERNATIVE LAYOUT, JULY 2022.

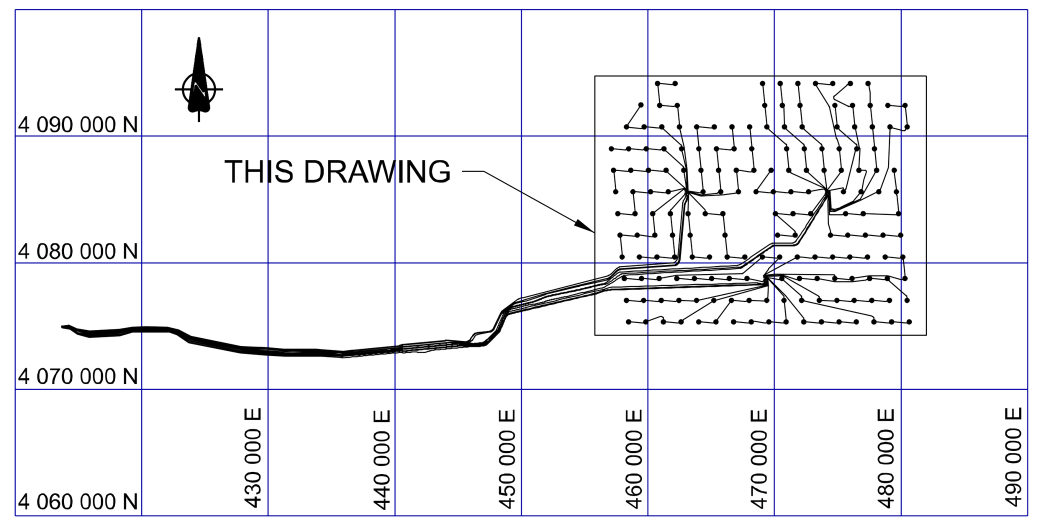
Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

LEGEND

- MAIN WTG
- SPARE WTG
- OFFSHORE SUBSTATION

KEY-PLAN



REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
B	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	MNB	JBA	JBA
A	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	MNB	MIKB	JBA

INSTALLATION

DRAWN | DRAWING START DATE | RAMBØLL JOB NO.

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

PROJECT NAME:

COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:

WTG GENERAL ARRANGEMENT
LAYOUT - SHEET 2

SCALE	SIZE	CONTR. NO	AREA	SYSTEM	DRAWING NO.	REV.	STATUS
NOTED	AT A1				JPA_DWG_WTG_02	B	

PROJ. NO. ORIG.CODE DISC. DRAW.CODE SEQ. NO. SHEET

USACE-NLW
RCVD 12/13/2022

WTG ID	Easting (m)	Northing (m)	Monopile Diameter (m)	Scour Protection Diameter, Top of Armour Layer (m)	Water Depth (m MLLW)	Water Depth above Scour Protec. (m MLLW)
G1N03	458460.1441	4075324.1722	8.5	29.8	21.66	20.28
G1N04	459846.1438	4075324.1722	8.5	29.8	21.75	20.37
G1N05	461232.1435	4075324.1722	8.5	29.8	24.99	23.90
G1N06	462618.1432	4075324.1721	8.5	29.8	25.04	23.95
G1N07	464004.1429	4075324.1721	8.8	30.8	27.13	26.04
G1N08	465390.1426	4075324.1721	8.8	30.8	26.10	25.01
G1N09	466776.1423	4075324.1720	8.5	29.8	23.16	21.96
G1N10	468162.1421	4075324.1720	8.8	30.8	25.34	24.25
G1N11	469548.1418	4075324.1720	8.8	30.8	25.89	24.80
G1N12	470934.1415	4075324.1719	8.8	30.8	26.19	24.81
G1N13	472320.1412	4075324.1719	8.8	30.8	28.02	26.82
G1N14	473706.1409	4075324.1719	8.8	30.8	27.41	26.21
G1N15	475092.1406	4075324.1718	8.8	30.8	27.33	26.13
G1N16	476478.1403	4075324.1718	8.8	30.8	29.28	28.19
G1N17	477864.1400	4075324.1718	8.8	30.8	27.21	26.01
G1N18	479250.1397	4075324.1717	8.8	30.8	26.74	25.36
G1N19	480636.1394	4075324.1717	8.8	30.8	24.77	23.21
G1M03	458290.1442	4077036.1719	8.5	29.8	22.79	21.41
G1M04	459676.1439	4077036.1718	8.5	29.8	21.18	19.62
G1M05	461062.1436	4077036.1718	8.5	29.8	21.86	20.48
G1M06	462448.1433	4077036.1718	8.8	30.8	26.80	25.71
G1M07	463834.1430	4077036.1717	8.8	30.8	26.00	24.91
G1M08	465220.1427	4077036.1717	8.5	29.8	25.22	24.13
G1M09	466606.1424	4077036.1717	8.8	30.8	25.98	24.89
G1M10	467992.1421	4077036.1716	8.8	30.8	26.75	25.66
G1M11	469378.1418	4077036.1716	8.8	30.8	25.30	23.74
G1M12	470764.1415	4077036.1716	8.8	30.8	26.07	24.69
G1M13	472150.1412	4077036.1715	9.2	32.2	30.27	29.18
G1M14	473536.1409	4077036.1715	9.2	32.2	29.35	28.26
G1M15	474922.1407	4077036.1715	8.8	30.8	27.19	25.99
G1M16	476308.1404	4077036.1714	8.8	30.8	27.49	26.29
G1M17	477694.1401	4077036.1714	9.2	32.2	29.88	28.79
G1M18	479080.1398	4077036.1714	9.2	32.2	28.49	27.11
G1M19	480466.1395	4077036.1714	8.8	30.8	27.38	25.82
G1L03	458121.1443	4078748.1715	8.8	30.8	26.64	25.55
G1L04	459507.1440	4078748.1715	8.8	30.8	23.52	22.32
G1L05	460893.1437	4078748.1714	8.5	29.8	21.54	20.16
G1L06	462279.1434	4078748.1714	8.5	29.8	22.73	21.53
G1L07	463665.1431	4078748.1714	8.8	30.8	29.68	28.59
G1L08	465051.1428	4078748.1713	8.8	30.8	28.39	27.30
G1L09	466437.1425	4078748.1713	8.8	30.8	27.29	26.20
G1L10	467823.1422	4078748.1713	8.8	30.8	26.29	25.20
G1L12	470595.1416	4078748.1712	8.8	30.8	27.16	25.96
G1L13	471981.1413	4078748.1712	9.2	32.2	30.79	29.70
G1L14	473367.1410	4078748.1712	9.2	32.2	30.96	29.87
G1L15	474753.1407	4078748.1711	8.8	30.8	27.74	26.54
G1L16	476139.1404	4078748.1711	8.8	30.8	28.13	26.93
G1L17	477525.1401	4078748.1711	8.8	30.8	26.13	25.06
G1L18	478911.1398	4078748.1710	8.8	30.8	29.86	28.66
G1L19	480297.1395	4078748.1710	9.2	32.2	28.89	27.51
G2K03	457951.1443	4080459.1711	8.8	30.8	28.58	27.49
G2K04	459337.1441	4080459.1711	8.8	30.8	28.07	26.98
G2K05	460723.1438	4080459.1711	8.8	30.8	23.48	22.28
G2K06	462109.1435	4080459.1710	8.5	29.8	22.13	20.75
G2K07	463495.1432	4080459.1710	8.8	30.8	25.53	24.44
G2K08	464881.1429	4080459.1710	8.8	30.8	26.59	25.50
G2K09	466267.1426	4080459.1709	9.2	32.2	29.96	28.87
G2K10	467653.1423	4080459.1709	9.2	32.2	31.79	30.70
G1K11	469039.1420	4080459.1709	8.8	30.8	24.34	23.27
G1K12	470425.1417	4080459.1709	8.8	30.8	28.98	27.89
G1K13	471811.1414	4080459.1708	9.2	32.2	30.20	29.11
G1K14	473197.1411	4080459.1708	9.2	32.2	29.86	28.77
G1K15	474583.1408	4080459.1708	9.2	32.2	30.17	29.08
G1K16	475969.1405	4080459.1707	8.8	30.8	28.00	26.62
G1K17	477355.1402	4080459.1707	8.8	30.8	30.01	28.81
G1K18	478741.1399	4080459.1707	8.8	30.8	29.38	28.18
G1K19	480127.1396	4080459.1706	9.2	32.2	30.86	29.77

WTG ID	Easting (m)	Northing (m)	Monopile Diameter (m)	Scour Protection Diameter, Top of Armour Layer (m)	Water Depth (m MLLW)	Water Depth above Scour Protec. (m MLLW)
G2J03	457782.1444	4082171.1708	8.8	30.8	26.55	25.46
G2J04	459168.1441	4082171.1707	8.8	30.8	28.74	27.65
G2J05	460554.1438	4082171.1707	8.8	30.8	30.46	29.37
G2J06	461940.1435	4082171.1707	8.5	29.8	23.65	22.45
G2J07	463326.1432	4082171.1706	8.8	30.8	25.58	24.49
G2J09	466098.1427	4082171.1706	8.8	32.2	30.33	29.24
Spare J10	467484.1424	4082171.1706	9.2	32.2	31.46	30.37
Spare J11	468870.1421	4082171.1705	9.2	32.2	31.17	30.08
G3J12	470256.1418	4082171.1705	9.2	30.8	26.54	25.16
G3J13	471642.1415	4082171.1705	8.8	30.8	24.71	23.15
Spare J14	473028.1412	4082171.1704	9.2	32.2	31.01	29.92
G3J15	474414.1409	4082171.1704	8.8	30.8	30.20	29.11
G3J16	475800.1406	4082171.1704	9.2	32.2	31.40	30.31
G3J17	477186.1403	4082171.1703	9.2	32.2	29.79	28.59
G3J18	478572.1400	4082171.1703	8.8	30.8	30.07	28.87
G3J19	479958.1397	4082171.1703	9.2	32.2	32.82	31.73
G2H03	457612.1445	4083883.1704	8.8	30.8	25.24	24.15
G2H04	458998.1442	4083883.1704	8.8	30.8	28.12	27.03
G2H05	460384.1439	4083883.1704	8.8	30.8	30.28	29.19
G2H06	461770.1436	4083883.1703	8.8	30.8	30.52	29.43
G2H07	463156.1433	4083883.1703	8.8	30.8	26.60	25.51
G2H08	464542.1430	4083883.1703	8.8	30.8	28.92	27.83
G2H09	465928.1427	4083883.1702	8.8	30.8	28.77	27.68
Spare H10	467314.1424	4083883.1702	9.2	32.2	30.24	29.15
Spare H11	468700.1421	4083883.1702	9.2	32.2	32.94	31.85
G3H12	470086.1418	4083883.1701	8.8	30.8	26.36	24.98
G3H13	471472.1415	4083883.1701	8.8	30.8	25.04	23.48
G3H14	472858.1413	4083883.1701	8.8	30.8	27.66	26.46
Spare H15	474244.1410	4083883.1700	9.2	32.2	32.03	30.94
G3H16	475630.1407	4083883.1700	9.2	32.2	30.67	29.58
G3H17	477016.1404	4083883.1700	9.2	32.2	32.51	31.42
Spare H18	478402.1401	4083883.1699	9.2	32.2	33.67	32.58
G3H19	479788.1398	4083883.1699	9.2	32.2	32.48	31.39
G2G03	457443.1446	4085595.1701	8.8	30.8	27.20	26.11
G2G04	458829.1443	4085595.1700	8.8	30.8	26.54	25.45
G2G05	460215.1440	4085595.1700	8.8	30.8	27.62	26.53
G2G06	461601.1437	4085595.1700	8.8	30.8	28.77	27.68
G2G08	464373.1431	4085595.1699	8.8	30.8	29.01	27.92
G2G09	465759.1428	4085595.1699	8.8	30.8	27.81	26.61
G2G10	467145.1425	4085595.1698	8.8	30.8	28.79	27.70
G3G11	468531.1422	4085595.1698	9.2	32.2	32.68	31.59
G3G12	469917.1419	4085595.1698	8.8	30.8	28.64	27.55
G3G13	471303.1416	4085595.1697	8.8	30.8	26.90	25.52
G3G14	472689.1413	4085595.1697	8.8	30.8	27.23	26.03
G3G16	475461.1407	4085595.1696	9.5	33.3	29.23	28.14
G3G17	476847.1404	4085595.1696	9.2	32.2	34.23	33.14
G3G18	478233.1401	4085595.1696	9.2	32.2	31.47	30.38
G3G19	479619.1398	4085595.1695	9.5	33.3	35.68	34.59
G2F03	457273.1446	4087306.1697	8.8	30.8	27.29	26.20
G2F04	458659.1444	4087306.1697	8.8	30.8	28.62	27.53
G2F05	460045.1441	4087306.1696	8.8	30.8	26.22	25.13
G2F06	461431.1438	4087306.1696	8.8	30.8	26.92	25.83
G2F07	462817.1435	4087306.1696	9.2	32.2	27.56	26.36
G2F08	464203.1432	4087306.1695	8.8	30.8	27.71	26.51
G2F09	465589.1429	4087306.1695	8.8	30.8	28.71	27.62
G2F10	466975.1426	4087306.1695	8.8	30.8	28.53	27.44
G2F11	468361.1423	4087306.1694	8.8	30.8	28.67	27.58
G3F12	469747.1420	4087306.1694	8.8	30.8	28.96	27.87
G3F13	471133.1417	4087306.1694	9.2	32.2	31.91	30.82
G3F14	472519.1414	4087306.1693	8.8	30.8	29.16	28.07
G3F15	473905.1411	4087306.1693	8.8	30.8	26.87	25.49
G3F16	475291.1408	4087306.1693	8.8	30.8	29.39	28.30
G3F17	476677.1405	4087306.1692	9.5	33.3	35.46	34.37
G3F18	478063.1402	4087306.1692	9.5	33.3	36.47	35.38
G3F19	479449.1399	4087306.1692	9.5	33.3	36.76	35.67
G2E03	457104.1447	4089018.1693	8.8	30.8	23.83	22.74
G2E04	458490.1444	4089018.1693	8.8	30.8	27.46	26.37

NOTES:

1. ALL COORDINATES REFER TO NAD 1983 (2011) UTM ZONE 18N. ELEVATIONS REFER TO MEAN LOWER LOW WATER (MLLW).
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3. THESE DRAWINGS ARE NOT FOR CONSTRUCTION AND SUBJECT TO FINAL ENGINEERING. THE USE OF ANY INFORMATION CONTAINED WITHIN THESE DRAWINGS IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED.
4. SCOUR PROTECTION DESIGN AS PER DEMIAN DOC. NO. CVOW1-DEM-ENG-RPT-00008, 2002-03-28.

Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

LEGEND

KEY-PLAN

REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
B	2022-08-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	MNB	JBA	JBA
A	2022-07-15	PRELIMINARY DRAWING NOT FOR CONSTRUCTION	MNB	MIKB	JBA

INSTALLATION

DRAWN | DRAWING START DATE | RAMBØLL JOB NO.

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

PROJECT NAME:

COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:

WTG GENERAL ARRANGEMENT
SHEET 3

NOTED AT A1 | DRAWING NO. JPA_DWG_WTG_03 | B

SCALE | SIZE | CONTR. NO | AREA | SYSTEM | PROJ. NO. | ORIG.CODE | DISC. | DRAW.CODE | SEQ. NO. | SHEET | REV. | STATUS

WTG ID	Easting	Northing	Monopile Diameter (m)	Scour Protection Diameter, Top of Armour Layer (m)	Water Depth (m MLLW)	Water Depth above Scour Protec. (m MLLW)
G2E05	459876.1441	4089018.1693	8.8	30.8	26.20	24.82
G2E06	461262.1438	4089018.1692	8.8	30.8	24.46	23.39
G2E07	462648.1435	4089018.1692	8.8	30.8	26.60	25.22
G2E08	464034.1432	4089018.1692	8.8	30.8	25.25	23.69
G2E09	465420.1430	4089018.1691	8.8	30.8	28.33	27.24
G2E10	466806.1427	4089018.1691	9.2	32.2	29.46	28.37
G2E11	468192.1424	4089018.1691	9.2	32.2	30.90	29.81
Spare E12	469578.1421	4089018.1690	9.2	32.2	34.42	33.33
G3E13	470964.1418	4089018.1690	9.2	32.2	30.82	29.73
G3E14	472350.1415	4089018.1690	9.2	32.2	32.58	31.49
G3E15	473736.1412	4089018.1689	8.8	30.8	28.29	26.91
G3E16	475122.1409	4089018.1689	8.8	30.8	27.73	26.35
G3E17	476508.1406	4089018.1689	8.8	30.8	28.06	26.68
G3E18	477894.1403	4089018.1688	9.5	33.3	35.90	34.81
SPARE E19	479280.1400	4089018.1688	9.5	33.3	36.36	35.27
Spare E20	480666.1397	4089018.1688	9.5	33.3	38.10	37.01
Spare D03	456934.1448	4090730.1690	8.5	29.8	22.87	21.67
G2D04	458320.1445	4090730.1689	8.8	30.8	24.51	23.42
G2D05	459706.1442	4090730.1689	8.8	30.8	25.52	24.43
G2D06	461092.1439	4090730.1689	9.2	32.2	29.71	28.62
G2D07	462478.1436	4090730.1688	8.8	30.8	24.86	23.30
G2D08	463864.1433	4090730.1688	8.8	30.8	26.88	25.50
G2D09	465250.1430	4090730.1688	8.8	30.8	28.17	26.97
G2D10	466636.1427	4090730.1687	9.2	32.2	33.42	32.33
G2D11	468022.1424	4090730.1687	8.8	30.8	27.56	26.36
G3D12	469408.1421	4090730.1687	9.2	32.2	30.30	29.21
G3D13	470794.1418	4090730.1686	9.2	32.2	33.58	32.49
G3D14	472180.1416	4090730.1686	9.2	32.2	31.24	30.15
G3D16	474952.1410	4090730.1685	8.8	30.8	28.39	27.01
G3D17	476338.1407	4090730.1685	9.2	32.2	29.24	28.04
G3D18	477724.1404	4090730.1685	9.2	32.2	31.26	30.17
G3D19	479110.1401	4090730.1685	9.2	32.2	32.78	31.69
G3D20	480496.1398	4090730.1684	9.5	33.3	34.73	33.64
Spare C04	458151.1446	4092442.1686	8.8	30.8	23.52	22.32
G2C06	460923.1440	4092442.1685	8.8	30.8	26.57	25.48
G3C12	469239.1422	4092442.1683	8.8	30.8	29.11	28.02
G3C13	470625.1419	4092442.1683	9.2	32.2	29.94	28.74
G3C14	472011.1416	4092442.1683	9.2	32.2	32.16	31.07
G3C16	474783.1410	4092442.1682	9.2	32.2	30.22	29.13
G3C17	476169.1407	4092442.1682	8.8	30.8	29.95	28.75
G3C18	477555.1405	4092442.1681	9.2	32.2	31.53	30.44
G3C19	478941.1402	4092442.1681	9.2	32.2	32.94	31.85
G3C20	480327.1399	4092442.1681	9.5	33.3	35.55	34.46
Spare B05	459367.1444	4094153.1682	8.5	29.8	19.88	18.81
G2B06	460753.1441	4094153.1681	8.5	29.8	22.97	21.77
G2B07	462139.1438	4094153.1681	8.5	29.8	28.07	26.87
G3B12	469069.1423	4094153.1680	8.8	29.8	29.89	28.69
G3B13	470455.1420	4094153.1679	8.8	29.8	28.34	26.96
G3B14	471841.1417	4094153.1679	8.8	29.8	30.00	28.80
G3B15	473227.1414	4094153.1679	8.8	29.8	30.41	29.32
G3B16	474613.1411	4094153.1678	9.2	32.2	30.89	29.80
G3B17	475999.1408	4094153.1678	9.5	33.3	32.91	31.82
G3B18	477385.1405	4094153.1678	9.5	33.3	33.62	32.53
Spare B19	478771.1402	4094153.1677	9.5	33.3	35.21	34.12
Spare B20	480157.1399	4094153.1677	9.5	33.3	37.58	36.49
G2C07	462308.5942	4092442.1685	9.2	32.2	32.06	30.97
G2C05	459439.0000	4092460.3000	8.5	29.8	24.58	23.49
Spare J08	464712.1429	4082171.1706	8.8	30.8	30.07	28.98
Spare D15	473566.1413	4090730.1686	9.2	32.2	29.21	28.01
Spare C15	473397.1413	4092442.1682	9.2	32.2	33.67	32.58

NOTES:

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Water level	Elevation [m MSL]	Elevation [m MLLW]
MHW	0.5	1.0
MSL	0.0	0.5
MLW	-0.5	0.0
MLLW	-0.5	0.0

TIDAL PARAMETERS FROM NOAA MONITORING STATION NO. 8651370 LOCATED AT DUCK, NC; AND CVOW-C 1-4-8-001 METOCEAN ASSESSMENT, REV. 09, JUNE 2022

LEGEND

KEY-PLAN

REV.	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED
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INSTALLATION

DRAWN | DRAWING START DATE | RAMBØLL JOB NO.

RAMBOLL

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 WEST WASHINGTON ST
SYRACUSE, NY 13202
UNITED STATES OF AMERICA

PROJECT NAME:

COASTAL VIRGINIA OFFSHORE WIND - COMMERCIAL

DRAWING TITLE:

WTG GENERAL ARRANGEMENT
SHEET 4

SCALE	SIZE	CONTR. NO	AREA	SYSTEM	DRAWING NO.	REV.	STATUS
NOTED	A1				JPA_DWG_WTG_04	B	

PROJ. NO. ORIG.CODE DISC. DRAW.CODE SEQ. NO. SHEET