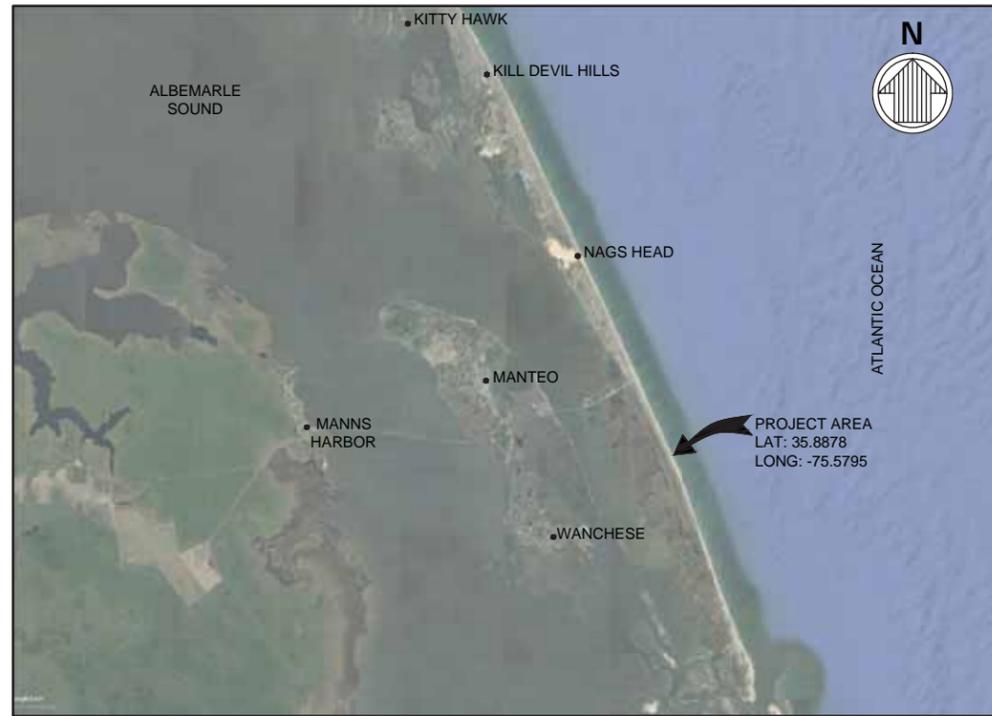


TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

NAGS HEAD, NORTH CAROLINA



VICINITY MAP
SCALE: NTS

INDEX OF DRAWINGS	
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C-501	SAND FENCE DETAILS
C-502	WORK POINTS TABLE



LOCATION PLAN
SCALE: NTS

ISSUED FOR BID
ISSUED: 2021-09-03
NOT TO BE USED FOR CONSTRUCTION

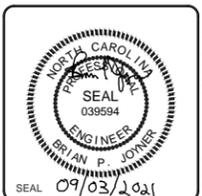


Mark	Description	Date	Appr
0	ISSUED FOR BID	2021-09-03	

TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT	COVER SHEET
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Designed by: NV/SMMB	Drawn by: VNM	Reviewed by: B. JOYNER	Submitted by: MOFFATT & NICHEL	Per scale: 1" = 10' (SHEET)
Date: 2021-09-03	MAN Project No: 10879-04	Drawn by: SMMB	Drawn Scale: AS SHOWN	

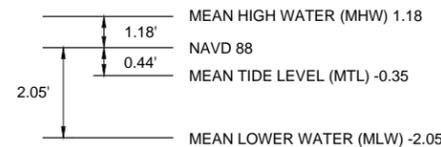
4700 FALLS OF NEUSE RD., SUITE 300
ROANOK, NC 27858-4626
919-781-4626
NC FIRM NO. F-0105
motatt & nichel



Sheet Reference No.
G-001
INDEX: 1 OF 42

GENERAL NOTES:

- THE NORTHING AND EASTING COORDINATES SHOWN ON THE DRAWINGS AND REFERENCED IN THE DESIGN REFER TO NORTH CAROLINA STATE PLANE NAD83 [NORTH AMERICAN DATUM 83 (FEET)].
- ALL ELEVATIONS SHOWN ON THE DRAWINGS REFERENCE NAVD88 (NORTH AMERICAN VERTICAL DATUM 1988).
- BATHYMETRY/TOPOGRAPHY SHOWN ON THE DRAWINGS REFERENCE NAVD88 AND WERE OBTAINED DURING A JUNE 2020 SURVEY CONDUCTED BY MCKIM & CREED. THE INFORMATION SHOULD ONLY BE CONSIDERED AS INDICATING THE CONDITIONS AT THAT TIME.
- THE BORROW SITE BATHYMETRY SHOWN ON THE DRAWINGS REFERENCE NAVD88 AND WAS OBTAINED DURING A JANUARY 2021 SURVEY CONDUCTED BY MCKIM & CREED. THE INFORMATION SHOULD ONLY BE CONSIDERED AS INDICATING THE CONDITIONS AT THAT TIME.
- THE CONTRACTOR SHALL PLACE THE PERMIT PLACARDS ON THE JOB SITE AND SHALL COMPLY WITH ALL TERMS OF THE PERMITS PERTAINING TO THE PERFORMANCE OF THE WORK. SEE TECHNICAL SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY OWNER OF DISCREPANCIES.
- CONTRACTOR SHALL, ON A DAILY BASIS, REMOVE FROM THE SITE ANY UNSUITABLE EXCAVATED MATERIAL OR DEBRIS. DISPOSAL OF THE MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL DEBRIS SHALL BE DISPOSED OF IN A PERMITTED LANDFILL.
- THESE PLANS ARE INCOMPLETE WITHOUT THE PROJECT TECHNICAL SPECIFICATIONS. IF THERE ARE CONFLICTS BETWEEN THE PLANS AND SPECIFICATIONS, THE CONTRACTOR SHALL ALERT THE OWNER AND ENGINEER. THE TECHNICAL SPECIFICATIONS SHALL TAKE PRECEDENCE.
- STAGING AREAS SHALL BE MAINTAINED BY THE CONTRACTOR. STAGING AREAS SHALL BE CLEARED OF DEBRIS AND CONTRACTOR INSTALLED AMENITIES AT THE COMPLETION AND ACCEPTANCE OF WORK IN THE AREA. THE CONTRACTOR SHALL RESTORE THE ACCESS AREAS TO THEIR ORIGINAL CONDITION AFTER WORK IN THE AREA IS COMPLETE. THIS WORK INCLUDES, BUT NOT LIMITED TO, REPLACEMENT OF FENCING, SIGNS, SAND FENCE, BEACH VEGETATION, WALKWAYS, DUNES, DUNE VEGETATION, PARKING FACILITIES, PAVED AREAS AND OTHER MISCELLANEOUS ITEMS. ALL REPLACEMENT MATERIALS SHALL BE APPROVED BY THE ENGINEER/OWNER BEFORE INSTALLATION.
- ANY EXISTING SIGNS, FENCES, OR OTHER STRUCTURES WITHIN THE WORK LIMITS SHALL BE PROTECTED AND/OR REMOVED AND LATER REPLACED BY THE CONTRACTOR AS DIRECTED.
- THE MEAN HIGH WATER ELEVATION AND MEAN LOW WATER ELEVATION SHOWN ON THE BEACH FILL DRAWINGS AND BELOW ARE BASED ON NOAA TIDE STATION 8651370, DUCK, NC.



- 2020 AERIAL IMAGERY PROVIDED BY NCONEMAP.

DREDGING:

- NO DREDGING WHATSOEVER SHALL OCCUR BELOW THE ELEVATIONS SHOWN ON THE PLANS.
- ALL DREDGING SHALL BE PERFORMED WITHIN THE LIMITS OF THE PERMITTED DREDGING AREA AS SHOWN IN THE DRAWINGS.
- THE PLANE COORDINATES AND BEARINGS SHOWN FOR THE DREDGING SURVEYS ARE BASED ON THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM 83 (NAD 83).
- PIPELINE CORRIDORS SHALL BE DELINEATED ON A DRAWING BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.
- A POST-DREDGE SURVEY OF THE BORROW AREA SHALL BE COMPLETED BY AN INDEPENDENT PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF NORTH CAROLINA, COORDINATED AND PAID FOR BY THE CONTRACTOR TO STANDARDS OUTLINED IN THE TECHNICAL SPECIFICATIONS.

BEACH FILL NOTES:

- ALL BEACH FILL MATERIAL EXCAVATED FROM THE BORROW AREAS SHALL BE TRANSPORTED TO, AND DEPOSITED ON THE BEACH BETWEEN THE LINES, GRADES, AND CROSS-SECTIONS SHOWN ON THE DRAWINGS.
- BEACH FILL MATERIAL SHALL BE PLACED WITHIN THE LIMITS AND GRADE LINES SHOWN, AS PRACTICALLY AS POSSIBLE. TOLERANCE SHALL BE WITHIN +0.5 FOOT ABOVE FINISHED GRADE AS SHOWN.
- THE PLACEMENT DESIGN (PLAN DIMENSIONS) MAY BE CHANGED BY THE OWNER TO ACCOUNT FOR CHANGED CONDITIONS AT THE TIME OF CONSTRUCTION. THE FINAL PLACEMENT DESIGN WILL STRIVE TO PROVIDE THE AVERAGE PLACEMENT DENSITY REFERENCED ON THE PLANS FOR EACH REACH. THIS MAY REQUIRE THE BERM WIDTH TO BE ALTERED FROM THOSE SHOWN ON THE PLANS.
- THE BEACH FILL SHALL BE GRADED, PRIOR TO COMPLETION OF WORK, TO DISCOURAGE WATER PONDING.
- EXISTING WALKWAYS SHALL REMAIN. ANY DAMAGE OCCURRING DURING CONSTRUCTION SHALL BE REPAIRED PRIOR TO DEMOBILIZATION. FILL SHALL BE PLACED COMPLETELY UNDERNEATH AND/OR AROUND THE WALKWAY STRUCTURES.
- CONTOURS FOR THE BEACH FILL PLANS ARE SHOWN AT 1 FT INTERVALS AND ALSO INCLUDE THE BERM ELEVATION OF +6.0 NAVD.
- CONTOURS FOR THE BORROW SITE ARE SHOWN AS 2 FT (MINOR) AND 10 FT (MAJOR) INTERVALS.
- BEACH FILL SLOPES CALLED OUT ON THE PLANS ARE HORIZONTAL : VERTICAL.
- TEMPORARY SAND RAMPS SHALL BE PROVIDED OVER THE DREDGE PIPELINE FOR PEDESTRIAN AND EMERGENCY VEHICLE ACCESS. THE MAXIMUM DISTANCE BETWEEN THESE TEMPORARY SAND RAMPS SHALL BE 500 FEET. THESE TEMPORARY SAND RAMPS SHALL BE LEVELED ONCE THE PIPELINE HAS BEEN MOVED.
- THE BEACH SHALL BE CLOSED TO THE PUBLIC WITHIN 250 FT IN BOTH THE UP STATION AND DOWN STATION DIRECTION FROM THE ACTIVE PIPELINE DISCHARGE LOCATION.
- THE PIPELINE SHALL BE PLACED ALONG THE CONSTRUCTED BEACH AS CLOSE TO THE DUNE AS POSSIBLE TO MINIMIZE POTENTIAL SEA TURTLE IMPACTS.
- CONSTRUCTION LIGHTING SHALL BE MINIMIZED AND FOCUSED ONLY ON THE ACTIVE CONSTRUCTION AREA. THE LIGHTS SHALL BE DIRECTED DOWN AND SHALL BE SHIELDED FROM PERIPHERAL VIEW IN ACCORDANCE WITH FWS GUIDANCE.
- THE BEACH FILL PLACEMENT SHALL NOT COVER EXISTING ESTABLISHED GRASSES AND SHALL AVOID DISCHARGES DIRECTLY ONTO THE DUNE OR DUNE VEGETATION.
- EACH MORNING, THE BEACH FILL OPERATIONS SHALL NOT ADVANCE BEYOND THE ACTIVE PLACEMENT AREA PRIOR TO A SEA TURTLE NEST SURVEY AND CONFIRMATION OF NO POTENTIAL NESTS FROM AN EXPERIENCED AND LICENSED MONITOR.
- A TEMPORARY SHORE-PARALLEL SAND DIKE SHALL BE CONSTRUCTED AND MAINTAINED AS NECESSARY IN FRONT OF THE PIPELINE DISCHARGE TO DISCOURAGE SEDIMENT FROM RETURNING TO THE ATLANTIC OCEAN AND ASSIST WITH CONTROLLING TURBIDITY IMPACTS IN ACCORDANCE WITH STATE WATER QUALITY STANDARDS. THE TEMPORARY DIKE SHALL REMAIN WITHIN THE ACTIVE CONSTRUCTION AREA AND MAY ADVANCE ALONG THE SHORELINE CONSISTENT WITH THE PIPELINE DISCHARGE.
- AFTER NOTIFICATION BY THE CONTRACTOR OF THEIR INTENT TO COMMENCE DREDGING AND SAND PLACEMENT, A CURRENT BEACH SURVEY WILL BE PERFORMED BY THE OWNER. THE CONTRACTOR SHALL NOTIFY THE OWNER AT LEAST 4 WEEKS PRIOR TO THE COMMENCEMENT OF BEACH FILL PLACEMENT, THE UPDATED BEACH SURVEY WILL BE USED TO ADJUST THE LIMITS AND GRADE LINES TO MEET APPROXIMATE FILL DENSITIES PROVIDED WITH THE SECTIONS ON SHEETS C-301 THRU C-320.
- SAND SHALL BE PLACED WITHIN THESE LIMITS AND GRADE LINES AS PRACTICALLY AS POSSIBLE. TOLERANCE SHALL BE WITHIN ±0.5 FOOT FOR BERM ELEVATION AND WIDTHS OUT TO THE MEAN TIDE LEVEL (MTL) AS SHOWN ON SHEET C-300. PAYMENT WILL BE MADE FOR THE CY/FT SHOWN ON THE PLANS WITH A TOLERANCE OF ±10%. EVERY ATTEMPT WILL BE MADE BY THE CONTRACTOR TO FILL WITHIN THE PRESCRIBED TEMPLATE, SEE TECHNICAL SPECIFICATIONS. THE BEACH FILL SHALL BE PLACED BY REACH GENERALLY FROM SOUTH TO NORTH.
- THE OWNER MAY MAKE ALTERATIONS IN THE PLAN DIMENSIONS, GRADE OF SLOPES, OR VOLUME OF FILL PER FOOT OF BEACH IN ORDER TO ACCOUNT FOR CHANGED CONDITIONS SINCE THE TIME OF THE EXISTING CONDITIONS SURVEY. THE CONTRACTOR SHALL WORK CLOSELY WITH THE OWNER TO ENSURE THAT THE TOTAL QUANTITY OF SAND ALLOWED UNDER THE CONTRACT IS PLACED AS EFFECTIVELY AS POSSIBLE.
- PRE- AND POST- CONSTRUCTION SURVEYS OF THE BEACH AREA SHALL BE COMPLETED BY AN INDEPENDENT REGISTERED/CERTIFIED SURVEYOR COORDINATED AND PAID FOR BY THE CONTRACTOR. TRANSECTS SHALL BE AT 100-FOOT INTERVALS. ADDITIONAL ELEVATIONS SHALL BE TAKEN AS NECESSARY TO ACCURATELY REPRESENT TOPOGRAPHY OF THE BEACH AREA.
- SEE TECHNICAL SPECIFICATION FOR ADDITIONAL PLACEMENT REQUIREMENTS.

SAND FENCING AND PLANTING BID QUANTITIES:

- THE FOLLOWING ESTIMATES OF FENCING AND PLANTING REQUIRED FOR THE PROJECT ARE:

FENCING	17,460 LN FT
PLANTING	8,230 SQ YD

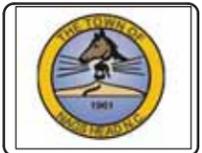
PLANTING AND FENCING NOTES:

- NEW FENCE LINE REPRESENTS OUTER EXTENTS OF SAND FENCE PLACEMENT, END-POST TO END-POST, INSTALLED AT 45 DEGREE ANGLE, SEE SHEET C-501.
- THE NEW SAND FENCE LOCATIONS (CENTERLINE) WILL BE RECORDED BY GPS COORDINATES (NORTHING, EASTING) PRIOR TO COMPLETION OF THE WORK.
- BREAKS IN THE NEW SAND FENCE LOCATIONS WILL BE PROVIDED AT EACH PUBLIC / PRIVATE ACCESS LOCATION AND MIMIC APPARENT OPENINGS IN EXISTING FENCE LINES. THE BREAKS SHALL HAVE A WIDTH RELATED TO THE PATH'S UTILITY: 10-FT WIDE AT RESIDENTIAL ACCESS, 20-FT WIDE AT END OF STREET ACCESS, 30-FT WIDE AT PUBLIC BEACH PEDESTRIAN ACCESS, AND 50-FT WIDE AT PUBLIC BEACH VEHICULAR ACCESS.
- THE PLANTING SHALL BE PLANTED AT 24" ON CENTER (O.C) SPACING OF A MIXTURE OF SEA OATS (UNIOLAPANICULATA) AND BITTER PANICUM (PANICUM AMARUM) AT THE FOLLOWING DENSITY RATIO; SEA OATS 94% AND BITTER PANICUM 6%.
- AREAS HAVE BEEN SPECIFICALLY IDENTIFIED WITHIN THE DRAWINGS FOR PLANTING BASED ON CURRENT VEGETATION COVERAGE, EASEMENT LINES, AND A VEGETATION PLANTING WIDTH OF 20-FT MAXIMUM, STARTING 15-FT BEHIND THE MOST LANDWARD SAND FENCE.
- IDENTIFIED PRIVATE AND PUBLIC ACCESS PATHWAYS WILL BE LEFT UNPLANTED. THIS HAS BEEN TAKEN INTO CONSIDERATION WHEN CALCULATING THE TOTAL AMOUNT OF PLANTS REQUIRED.
- FERTILIZER AND WATERING SHALL BE PROVIDED WITH PLANTING INSTALLATIONS.
- EXCESS PLANTS WILL BE PLACED AT THE DIRECTION OF THE ENGINEER OR TOWN REPRESENTATIVE.

BEACH FILL BID QUANTITIES:

BASE BID DESIGN FEATURES (DESIGN GRADE -6.0 NAVD)				
REACH	STATIONS	LENGTH	AVERAGE PLACEMENT DENSITY (CY/LF)	PLACEMENT VOLUME (CY)
REACH 2	790+00 TO 920+00	13,000	10.5	136,070
REACH 3N	920+00 TO 975+00	5,500	25.5	140,000
REACH 3S	975+00 TO 1010+00	3,500	44.4	155,500
REACH 4	1010+00 TO 1025+00	1,500	51.0	76,500
TOTAL=			23,500	TOTAL= 508,070

BASE BID + ADD ALT #1 (DESIGN GRADE -6.0 NAVD)				
REACH	STATIONS	LENGTH	AVERAGE PLACEMENT DENSITY (CY/LF)	PLACEMENT VOLUME (CY)
REACH 2	790+00 TO 920+00	13,000	10.5	136,070
REACH 3N	920+00 TO 975+00	5,500	40.5	223,000
REACH 3S	975+00 TO 1010+00	3,500	58.6	205,000
REACH 4	1010+00 TO 1025+00	1,500	62.7	94,000
TOTAL=			23,500	TOTAL= 658,070



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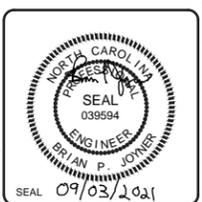
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURNISHMENT PROJECT

GENERAL NOTES

Designed by: NV/SMMB	Drawn by: VNM	Reviewed by: B. JOYNER	Submitted by: MOFFATT & NICHOL
Checked by: SMMB	Checked by: VNM	Checked by: B. JOYNER	Checked by: MOFFATT & NICHOL
MAN Project No: 10979-04	Drawing code:	Drawing Scale: AS SHOWN	Per scale: 1" = 10' (SEE SHEET)

4700 FALLS OF NEUSE RD., SUITE 300
 FARMINGTON, NC 27834
 919-781-4626
 NC FIRM NO. F-0105

moftatt & nichol



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G-002
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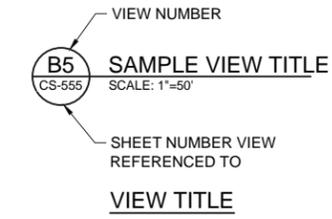
ABBREVIATIONS

CY	CUBIC YARDS	NOAA	NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
FT	FEET OR FOOT	No.	NUMBER
FWS	US FISH & WILDLIFE SERVICE	TYP	TYPICAL
MHW	MEAN HIGH WATER	WP	WORK POINT
MLW	MEAN LOW WATER	Ⓟ	BASELINE
MTL	MEAN TIDE LEVEL	@	AT
NAD	NORTH AMERICAN DATUM	~	APPROXIMATELY
NAVD	NORTH AMERICAN VERTICAL DATUM	∅	DIAMETER
NGS	NATIONAL GEODETIC SURVEY		

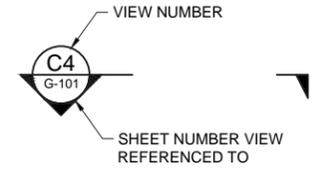
LEGEND

EXISTING		PROPOSED
---	MEAN HIGH WATER LINE	---
---	MEAN LOW WATER LINE	---
---	MEAN TIDE LEVEL LINE	---
○ 5	MAJOR CONTOUR	
---	MINOR CONTOUR	
---	FILL SLOPE LIMIT	---
---	FILL SLOPE BREAK	---
⊗	CONSTRUCTION BASELINE WORK POINT	⊕ WP-##
⊗	NGS STATION	
⊗	NAME	
	SLOPE INDICATOR	∇

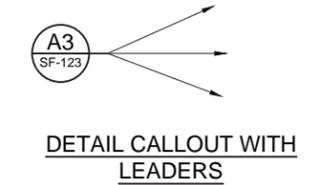
LEGEND



VIEW TITLE

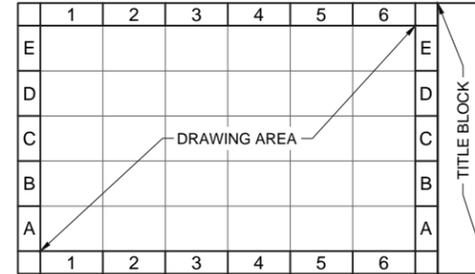


SECTION CALLOUT

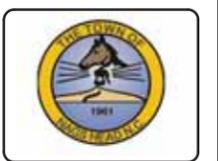
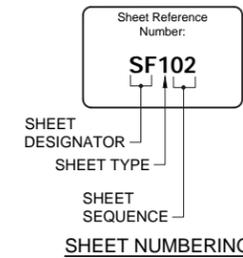


DETAIL CALLOUT WITH LEADERS

* VIEW NUMBER IS BASED ON THE (DACS) LOCATION OF THE LOWER-LEFT EXTENTS OF THE VIEW ON THE REFERENCED SHEET. WHEN REFERENCING DRAWING INFORMATION BETWEEN SHEETS, BOTH THE VIEW AND SHEET NUMBERS MUST BE QUOTED TOGETHER - EITHER IN A CALLOUT FORMAT AS SHOWN ABOVE OR IN THE FORM:
"VIEW NO./SHEET NO." (EG A1/CS-5001)



DRAWING AREA COORDINATE SYSTEM (DACS)



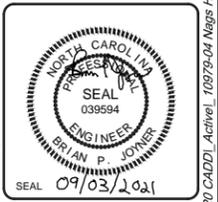
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TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURNISHMENT PROJECT

ABBREVIATIONS AND LEGEND

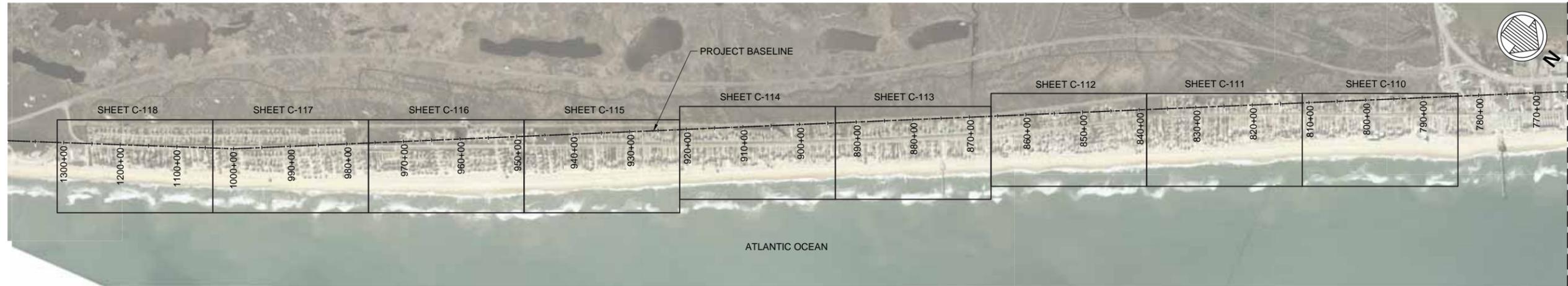
Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Dwn by: VNM	M&N Project No: 10979-04	
Reviewed by: B. JOYNER	Drawing code:	
Submitted by: MOFFATT & NICHOL	Drawing Scale: AS SHOWN	Per scale: 1"=10' (0 SHEET)

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Sheet Reference No. **G-003**
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D1 KEY PLAN
G-004 SCALE: 1"=1000'

PROJECT BASELINE COORDINATES		
STATION	NORTHING	EASTING
0+00.00	871,890.78	2,971,224.44
498+36.53	827,961.11	2,995,099.54
995+35.61	736,372.22	3,035,031.20
1499+91.18	782,952.89	3,016,870.16

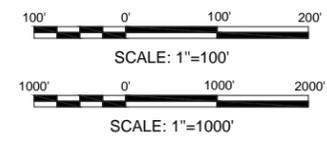


B1 PROJECT GEODETIC CONTROL STATION VICINITY
G-004 SCALE: 1"=1000'

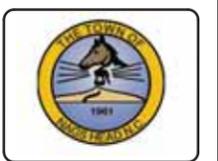


MONUMENT	NORTHING	EASTING	ELEVATION
W 168	806,503.64	3,005,850.14	7.53

B4 PROJECT GEODETIC CONTROL STATION
G-004 SCALE: 1"=100'



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ISSUED: 2021-09-03
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0	2021-09-03	ISSUED FOR BID	BJ	

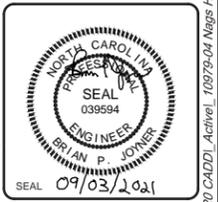
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

KEY PLAN

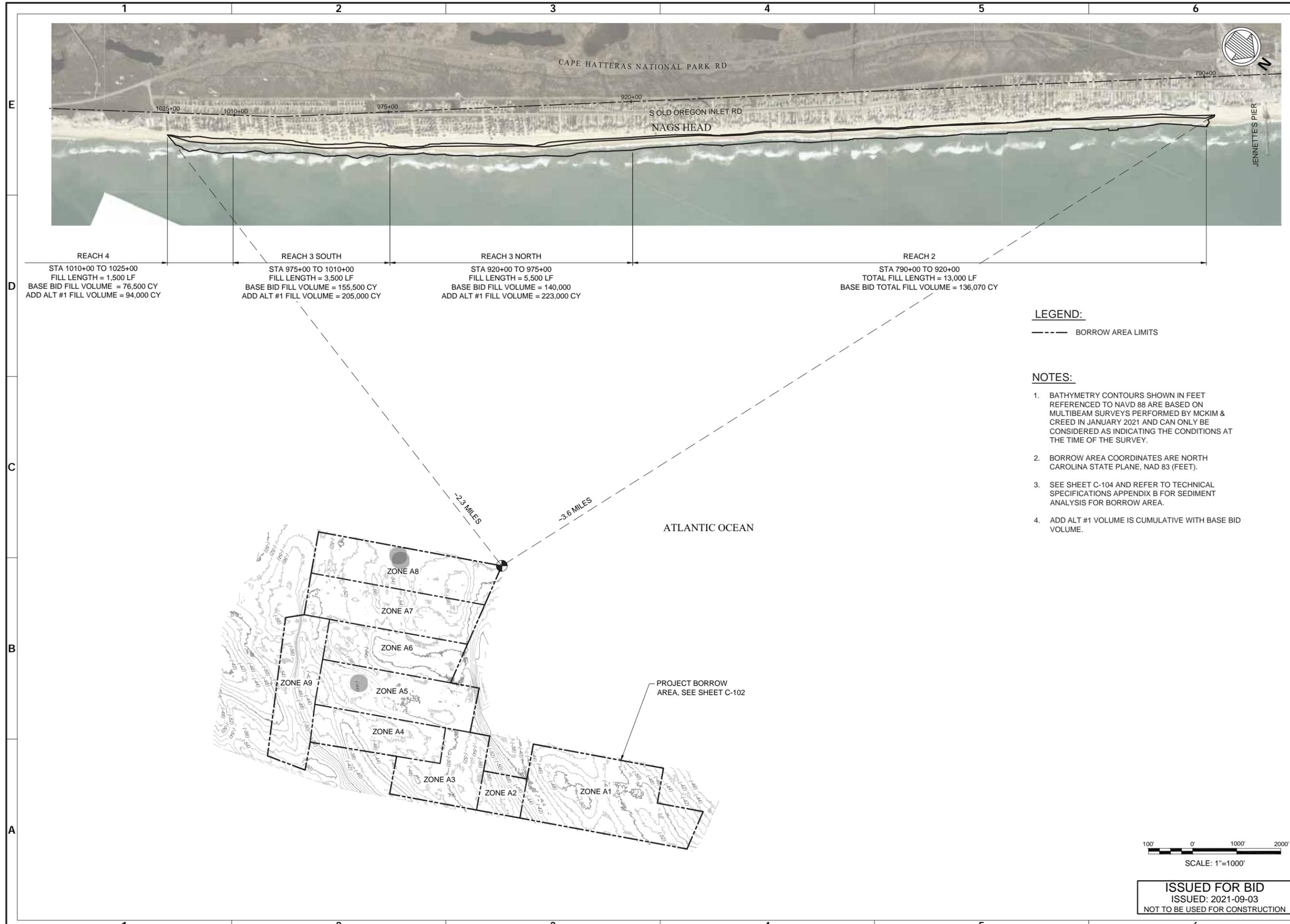
Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Reviewed by: B. JOYNER	Drawing code:	
Submitted by: MOFFATT & NICHOL	Drawing Scale: AS SHOWN	Per scale: 1"=10 (SHEET)

4700 FALLS OF NEUSE RD., SUITE 300
ROSELAND, NC 27069
919-781-4626
NC FIRM NO. F-0105

motoffatt & nichol



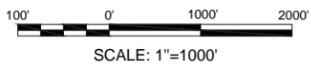
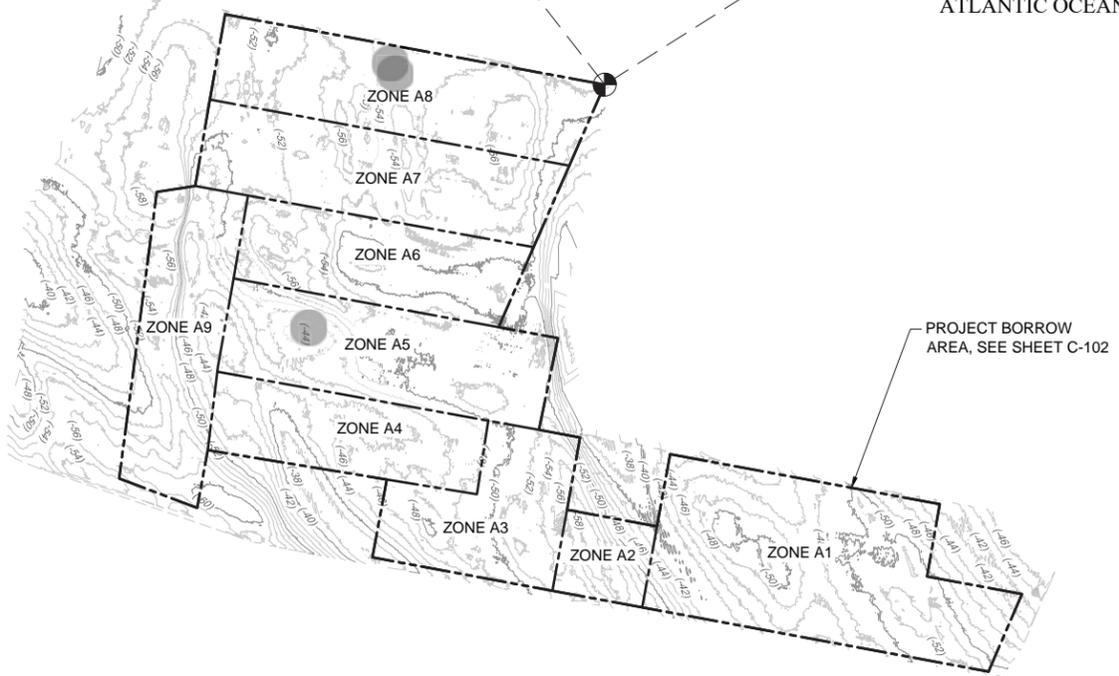
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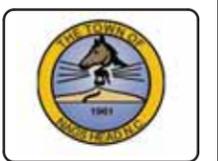
REACH	STATIONING	FILL LENGTH	BASE BID FILL VOLUME	ADD ALT #1 FILL VOLUME
REACH 4	STA 1010+00 TO 1025+00	1,500 LF	76,500 CY	94,000 CY
REACH 3 SOUTH	STA 975+00 TO 1010+00	3,500 LF	155,500 CY	205,000 CY
REACH 3 NORTH	STA 920+00 TO 975+00	5,500 LF	140,000 CY	223,000 CY
REACH 2	STA 790+00 TO 920+00	13,000 LF	136,070 CY	

LEGEND:
 - - - - - BORROW AREA LIMITS

- NOTES:**
- BATHYMETRY CONTOURS SHOWN IN FEET REFERENCED TO NAVD 88 ARE BASED ON MULTIBEAM SURVEYS PERFORMED BY MCKIM & CREED IN JANUARY 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS AT THE TIME OF THE SURVEY.
 - BORROW AREA COORDINATES ARE NORTH CAROLINA STATE PLANE, NAD 83 (FEET).
 - SEE SHEET C-104 AND REFER TO TECHNICAL SPECIFICATIONS APPENDIX B FOR SEDIMENT ANALYSIS FOR BORROW AREA.
 - ADD ALT #1 VOLUME IS CUMULATIVE WITH BASE BID VOLUME.



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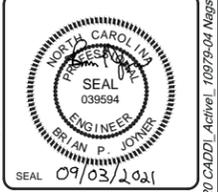


Mark	Description	Date	By	Appr.
0	ISSUED FOR BID	2021-09-03	BJ	

TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
OVERALL PROJECT PLAN

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Reviewed by: B. JOYNER	Drawing code:	
Submitted by: MOFFATT & NICHOL	Drawing Scale: AS SHOWN	Per scale: 1" = 10' (0 SHEET)

4700 FALLS OF NEUSE RD., SUITE 300
 RALEIGH, NC 27609
 919-781-4626
 NC FIRM NO. F-0105
moffatt & nichol



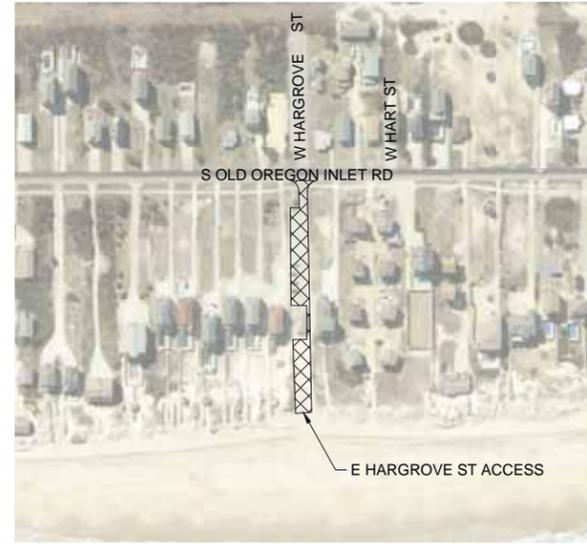
Sheet Reference No.
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 INDEX: 5 OF 42



ACCESS SITE 1- STA 954+00
NOT TO SCALE



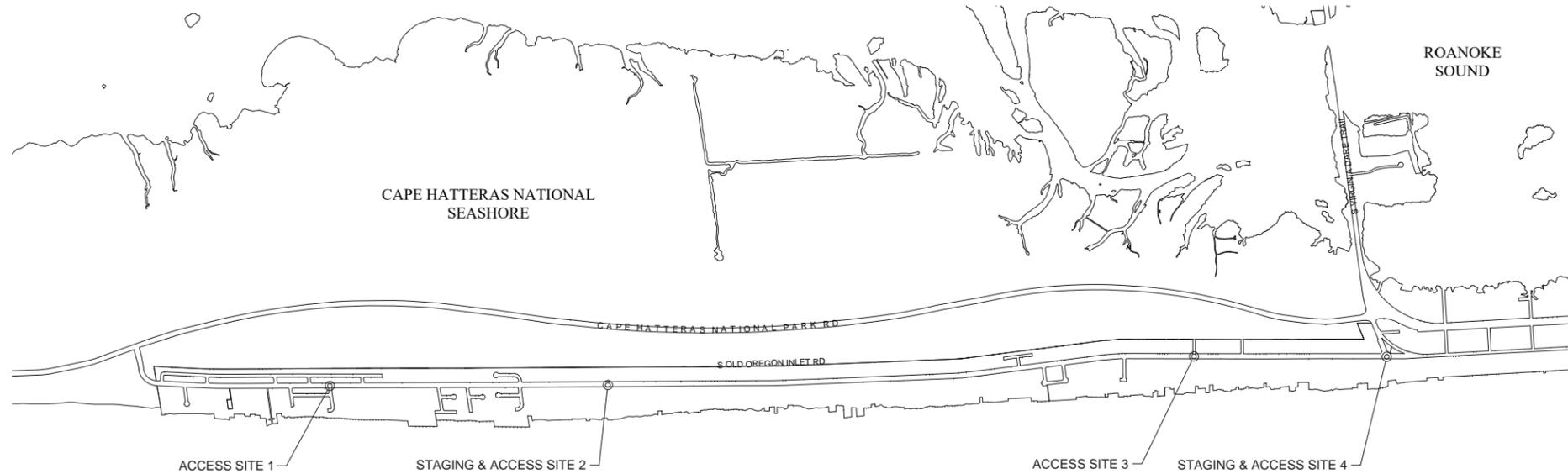
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NOT TO SCALE



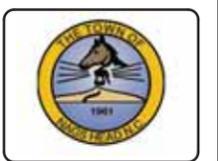
ACCESS SITE 3- STA 820+50
NOT TO SCALE



STAGING & ACCESS SITE 4- STA 783+00
NOT TO SCALE



STAGING & ACCESS SITE PLAN
NOT TO SCALE



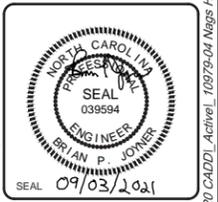
Mark	Description	Date	By
0	ISSUED FOR BID	2021-09-03	BJ

TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURNISHMENT PROJECT

PROJECT STAGING AND ACCESS PLANS

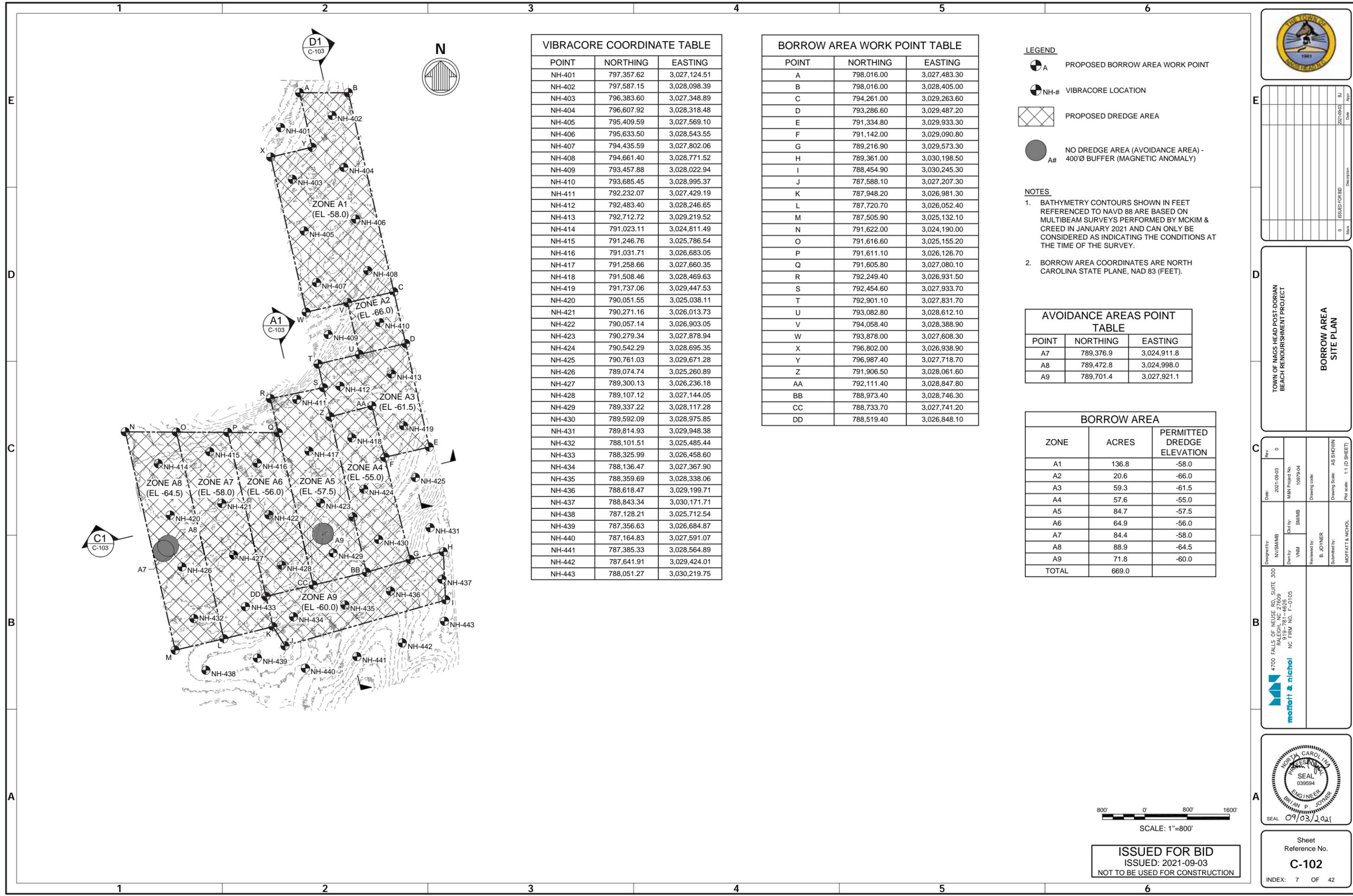
Designed by:	NV/SMMB	Date:	2021-09-03	Rev:	0
Drawn by:	VNM	Checked by:	SMMB	M&N Project No.:	10979-04
Reviewed by:	B. JOYNER	Drawing code:		Drawing Scale:	AS SHOWN
Submitted by:	MOFATT & NICHOL	Per scale:	1" = 10' (0 SHEET)		

4700 FALLS OF NEUSE RD., SUITE 300
RAVENHILL, NC 27849
919-781-4626
NC FIRM NO. F-0105



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ISSUED: 2021-09-03
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Sheet Reference No.
C-101
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VIBRACORE COORDINATE TABLE

POINT	NORTHING	EASTING
NH-401	797,357.62	3,027,124.51
NH-402	797,587.15	3,028,098.39
NH-403	796,383.60	3,027,348.89
NH-404	796,607.92	3,028,318.48
NH-405	795,409.59	3,027,569.10
NH-406	795,633.50	3,028,543.55
NH-407	794,435.59	3,027,802.06
NH-408	794,661.40	3,028,771.52
NH-409	793,457.88	3,028,022.94
NH-410	793,685.45	3,028,995.37
NH-411	792,232.07	3,027,429.19
NH-412	792,483.40	3,028,246.65
NH-413	792,712.72	3,029,219.52
NH-414	791,023.11	3,024,811.49
NH-415	791,246.76	3,025,786.54
NH-416	791,031.71	3,026,683.05
NH-417	791,258.66	3,027,660.35
NH-418	791,508.46	3,028,469.63
NH-419	791,737.06	3,029,447.53
NH-420	790,051.55	3,025,038.11
NH-421	790,271.16	3,026,013.73
NH-422	790,057.14	3,026,903.05
NH-423	790,279.34	3,027,878.94
NH-424	790,542.29	3,028,695.35
NH-425	790,761.03	3,029,671.28
NH-426	789,074.74	3,025,260.89
NH-427	789,300.13	3,026,236.18
NH-428	789,107.12	3,027,144.05
NH-429	789,337.22	3,028,117.28
NH-430	789,592.09	3,028,975.85
NH-431	789,814.93	3,029,948.38
NH-432	788,101.51	3,025,485.44
NH-433	788,325.99	3,026,458.60
NH-434	788,136.47	3,027,367.90
NH-435	788,359.69	3,028,338.06
NH-436	788,618.47	3,029,199.71
NH-437	788,843.34	3,030,171.71
NH-438	787,128.21	3,025,712.54
NH-439	787,356.63	3,026,684.87
NH-440	787,164.83	3,027,591.07
NH-441	787,385.33	3,028,564.89
NH-442	787,641.91	3,029,424.01
NH-443	788,051.27	3,030,219.75

BORROW AREA WORK POINT TABLE

POINT	NORTHING	EASTING
A	798,016.00	3,027,483.30
B	798,016.00	3,028,405.00
C	794,261.00	3,029,263.60
D	793,286.60	3,029,487.20
E	791,334.80	3,029,933.30
F	791,142.00	3,029,090.80
G	789,216.90	3,029,573.30
H	789,361.00	3,030,198.50
I	788,454.90	3,030,245.30
J	787,588.10	3,027,207.30
K	787,948.20	3,026,981.30
L	787,720.70	3,026,052.40
M	787,505.90	3,025,132.10
N	791,622.00	3,024,190.00
O	791,616.60	3,025,155.20
P	791,611.10	3,026,126.70
Q	791,605.80	3,027,080.10
R	792,249.40	3,026,931.50
S	792,454.60	3,027,933.70
T	792,901.10	3,027,831.70
U	793,082.80	3,028,612.10
V	794,058.40	3,028,388.90
W	793,878.00	3,027,608.30
X	796,802.00	3,026,938.90
Y	796,987.40	3,027,718.70
Z	791,906.50	3,028,061.60
AA	792,111.40	3,028,847.80
BB	788,973.40	3,028,746.30
CC	788,733.70	3,027,741.20
DD	788,519.40	3,026,848.10

LEGEND

- PROPOSED BORROW AREA WORK POINT
- VIBRACORE LOCATION
- PROPOSED DREDGE AREA
- NO DREDGE AREA (AVOIDANCE AREA) - 400' BUFFER (MAGNETIC ANOMALY)

NOTES

1. BATHYMETRY CONTOURS SHOWN IN FEET REFERENCED TO NAVD 88 ARE BASED ON MULTIBEAM SURVEYS PERFORMED BY MCKIM & CREED IN JANUARY 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS AT THE TIME OF THE SURVEY.
2. BORROW AREA COORDINATES ARE NORTH CAROLINA STATE PLANE, NAD 83 (FEET).

AVOIDANCE AREAS POINT TABLE

POINT	NORTHING	EASTING
A7	789,376.9	3,024,911.8
A8	789,472.8	3,024,998.0
A9	789,701.4	3,027,921.1

BORROW AREA

ZONE	ACRES	PERMITTED DREDGE ELEVATION
A1	136.8	-58.0
A2	20.6	-66.0
A3	59.3	-61.5
A4	57.6	-55.0
A5	84.7	-57.5
A6	64.9	-56.0
A7	84.4	-58.0
A8	88.9	-64.5
A9	71.8	-60.0
TOTAL	669.0	



Rev.	Date	By	Description
0	2021-09-03	B. JOYNER	ISSUED FOR BID

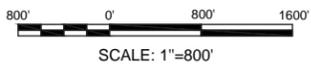
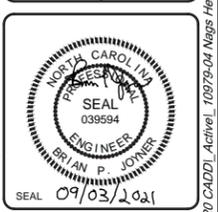
BORROW AREA SITE PLAN

TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

Designed by: NV/SMMB	Drawn by: VNM	Reviewed by: B. JOYNER	Submitted by: MOFFATT & NICHEL
Date: 2021-09-03	MAN Project No: 10979-04	Drawing Code:	Drawing Scale: AS SHOWN
Per scale: 1"=800'			

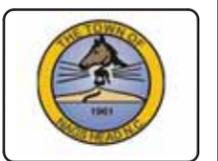
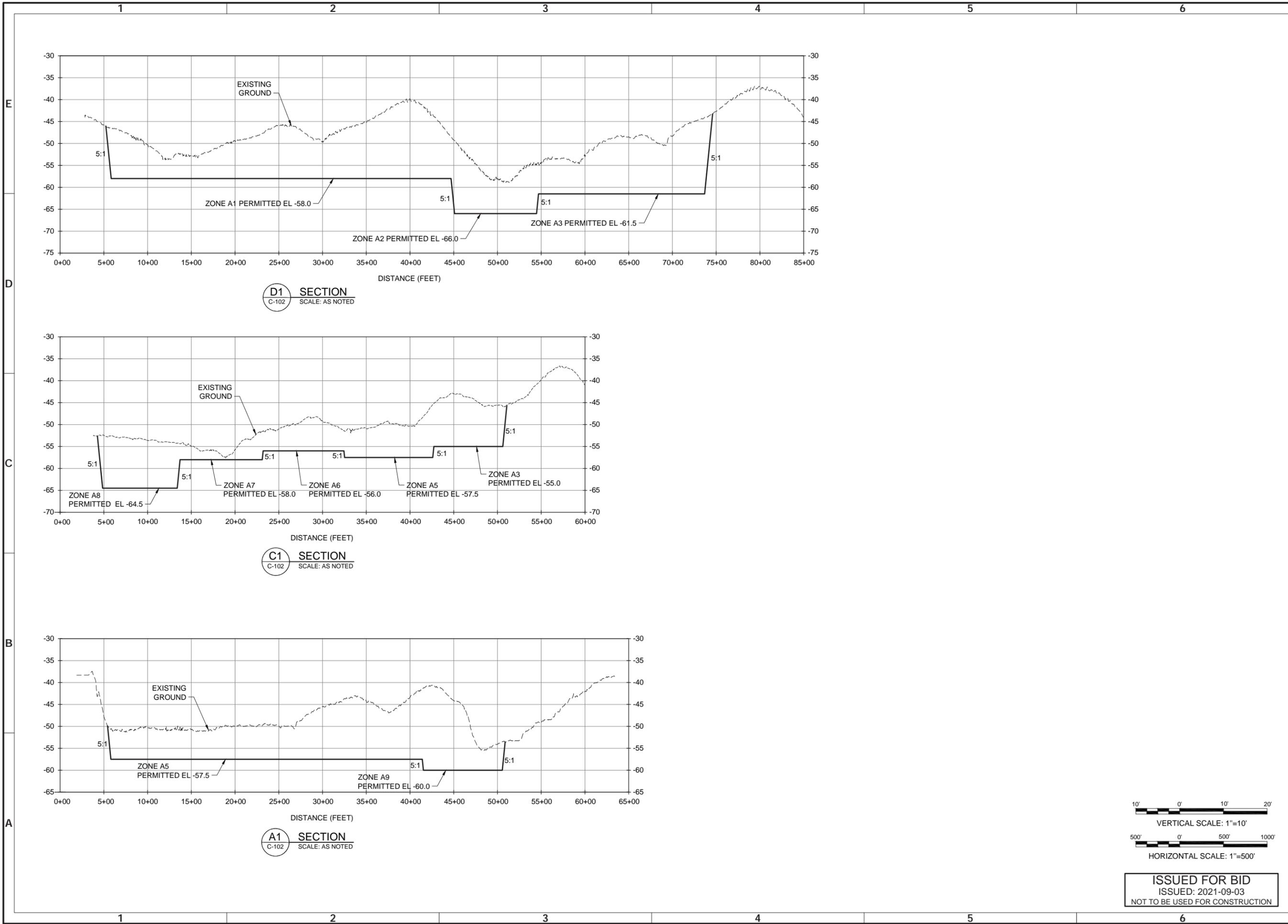
4700 FALLS OF NEUSE RD., SUITE 300
 FARMINGTON, NC 27834
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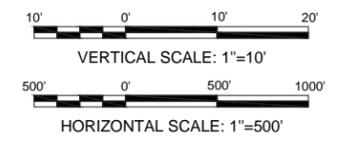
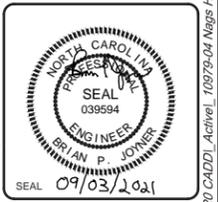
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

BORROW AREA CROSS SECTIONS

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Checked by: SMMB	Drawing code:	
Reviewed by: B. JOYNER	Drawing Scale: AS SHOWN	
Submitted by: MOFATT & NICHOL	Per scale: 1" = 10' (0 SHEET)	

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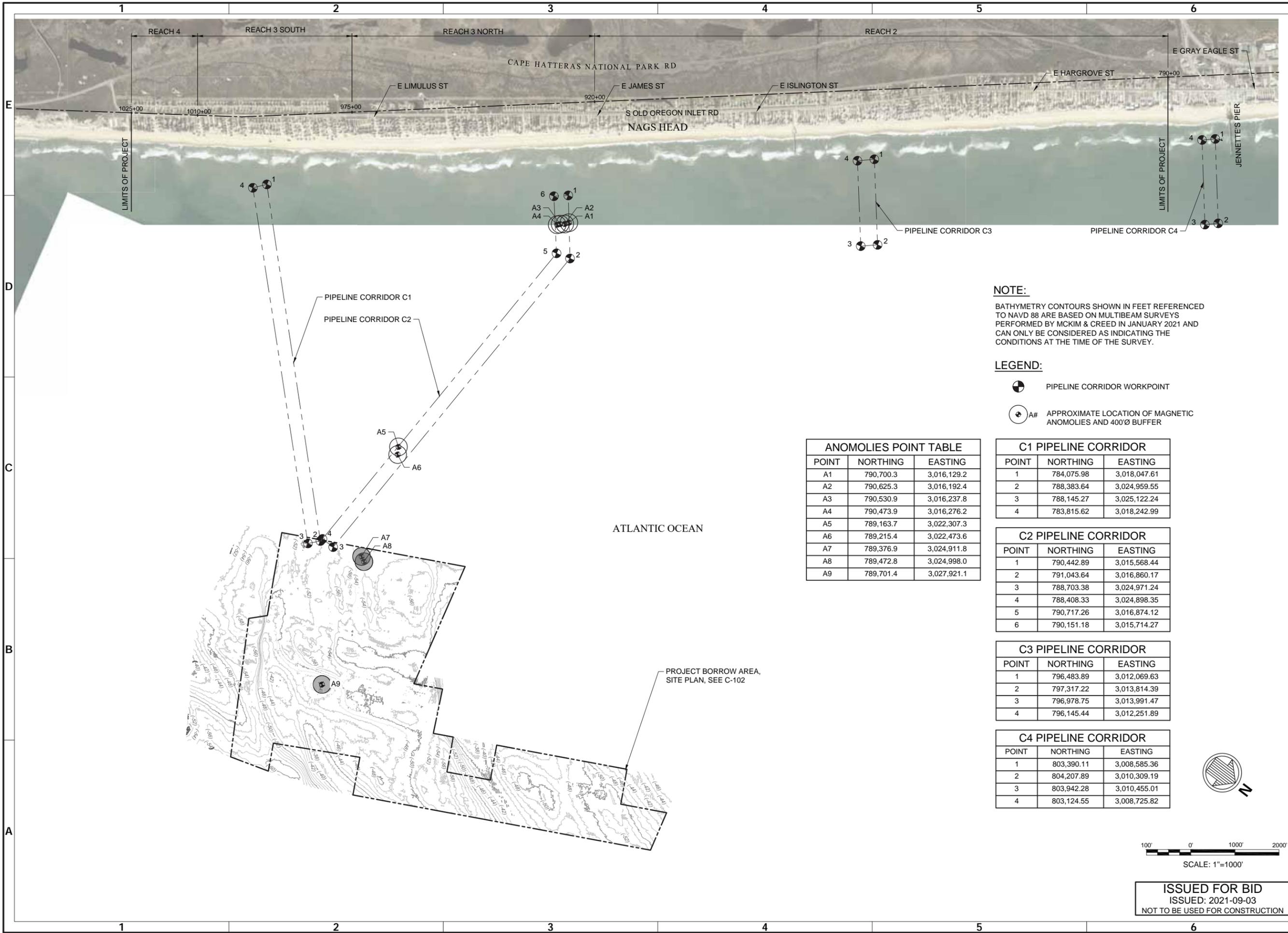
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C-103
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SUMMARY OF SEDIMENT CHARACTERISTICS

Vibracore	Sample Number	Sample Depth (ft)	Survey Elev (ft, NAVD88)	Permitted Dredge Elevation	Gravel (%)	Granular (%)	Sand (%)	<#230 (%)	Carbonate (%)	Mean (mm)	Mean (phi)	Munsell Color	
Zone A1	NH-402	1	0.0 - 3.0	-50.1 - -53.1	-58.0	0.00	0.07	98.9	1.1	1.0	0.30	1.74	2.5YR-6/3
		2	3.0 - 7.0	-53.1 - -57.1		0.38	0.69	98.1	0.9	0.0	0.34	1.56	2.5YR-6/3
		3	7.0 - 10.0	-57.1 - -60.1		0.39	0.89	97.4	1.3	2.0	0.30	1.74	2.5YR-6/2
	NH-403	1	0.0 - 3.0	-49.4 - -52.4	-58.0	0.11	0.07	98.8	1.0	0.0	0.31	1.69	2.5YR-6/3
		2	3.0 - 5.5	-52.4 - -54.9		0.11	1.09	97.7	1.1	1.0	0.31	1.69	2.5YR-6/2
		3	5.5 - 8.0	-54.9 - -57.4		0.25	0.83	98.1	0.8	2.0	0.31	1.69	2.5YR-6/2
		4	8.0 - 11.0	-57.4 - -60.4		0.03	0.06	98.6	1.3	0.0	0.24	2.06	5YR-6/2
	NH-404	1	0.0 - 2.2	-49.8 - -52.0	-58.0	0.96	4.43	93.9	0.7	1.0	0.49	1.03	2.5YR-5/4
		2	2.2 - 7.0	-52.0 - -56.8		0.25	0.66	98.4	0.7	3.0	0.34	1.56	5YR-6/2
3		7.0 - 11.5	-56.8 - -61.3	0.18		0.20	98.5	1.1	1.0	0.27	1.89	2.5YR-6/2	
NH-405	1	0.0 - 3.0	-46.4 - -49.4	-58.0	0.28	1.43	97.1	1.2	2.0	0.42	1.25	2.5YR-6/3	
	2	3.0 - 6.3	-49.4 - -52.7		0.10	0.49	98.9	0.6	1.0	0.35	1.51	2.5YR-6/3	
	3	6.3 - 7.3	-52.7 - -53.7		0.10	0.49	98.9	0.6	1.0	0.35	1.51	2.5YR-6/3	
	4	7.3 - 8.1	-53.7 - -54.5		2.29	3.77	92.9	1.0	9.0	0.46	1.12	2.5YR-6/2	
	5	8.1 - 11.8	-54.5 - -58.2		0.18	0.37	98.2	1.3	1.0	0.33	1.60	2.5YR-6/2	
NH-406	1	0.0 - 2.0	-50.0 - -52.0	-58.0	0.03	0.75	98.3	0.9	1.0	0.34	1.56	2.5YR-6/3	
	2	2.0 - 5.0	-52.0 - -55.0		0.03	1.10	98.4	0.4	1.0	0.41	1.29	2.5YR-6/3	
	3	5.0 - 8.0	-55.0 - -58.0		2.26	2.25	94.5	1.0	5.0	0.34	1.56	2.5YR-6/3	
NH-407	1	0.0 - 4.4	-47.5 - -51.9	-58.0	1.98	1.80	95.6	0.6	3.0	0.43	1.22	2.5YR-6/3	
	2	4.4 - 7.0	-51.9 - -54.5		0.39	0.65	98.4	0.6	3.0	0.33	1.60	2.5YR-6/3	
	3	7.0 - 10.0	-54.5 - -57.5		0.11	0.49	98.8	0.6	2.0	0.30	1.74	2.5YR-6/2	
	4	10.0 - 12.6	-57.5 - -60.1		0.38	0.24	98.5	0.9	1.0	0.31	1.69	2.5YR-6/2	
NH-408	1	0.0 - 5.0	-40.9 - -45.9	-58.0	0.00	0.28	98.0	1.7	0.0	0.40	1.32	2.5YR-6/4	
	2	5.0 - 10.0	-45.9 - -50.9		0.66	2.77	95.5	1.1	1.0	0.45	1.15	2.5YR-5/4	
	3	10.0 - 14.0	-50.9 - -54.9		0.02	0.39	98.6	1.0	2.0	0.37	1.43	2.5YR-5/3	
	4	14.0 - 17.1	-54.9 - -58.0		0.26	0.34	98.3	1.1	1.0	0.31	1.69	2.5YR-5/3	
Zone A2	NH-410	1	0.0 - 3.0	-58.2 - -61.2	-66.0	0.05	0.34	99.0	0.6	2.0	0.29	1.79	2.5YR-6/2
		2	3.0 - 6.2	-61.2 - -64.4		0.24	0.31	98.4	1.1	1.0	0.25	2.00	5YR-6/2
		3	6.2 - 8.0	-64.4 - -66.2		0.15	0.39	93.3	6.2	2.0	0.17	2.56	5YR-5/1
NH-412	1	0.0 - 1.9	-51.4 - -53.3	-61.5	0.19	2.97	93.3	3.6	2.0	0.49	1.03	2.5YR-6/3	
	2	1.9 - 5.0	-53.3 - -56.4		0.66	0.68	97.8	0.9	0.0	0.34	1.56	2.5YR-6/3	
	3	5.0 - 8.8	-56.4 - -60.2		0.94	1.35	97.1	0.6	2.0	0.30	1.74	2.5YR-6/2	
	4	8.8 - 11.0	-60.2 - -62.4		1.08	2.00	92.7	4.2	6.0	0.18	2.47	5YR-5/1	
NH-413	1	0.0 - 4.0	-54.1 - -58.1	-61.5	0.36	1.86	96.9	0.9	1.0	0.31	1.69	2.5YR-6/3	
	2	4.0 - 5.2	-58.1 - -59.3		0.00	0.01	98.6	1.4	0.0	0.27	1.89	2.5YR-6/2	
	3	5.2 - 7.0	-59.3 - -61.1		2.26	3.03	94.3	0.4	16.0	0.43	1.22	2.5YR-6/3	
	4	7.0 - 7.6	-61.1 - -61.7		0.72	1.22	97.6	0.5	6.0	0.30	1.74	2.5YR-6/2	
NH-419	1	0.0 - 4.0	-50.1 - -54.1	-61.5	0.26	1.04	97.9	0.8	3.0	0.34	1.56	2.5YR-6/3	
	2	4.0 - 8.0	-54.1 - -58.1		0.30	0.46	98.6	0.7	0.0	0.32	1.64	2.5YR-6/2	
	3	8.0 - 11.0	-58.1 - -61.1		0.24	0.22	98.8	0.7	0.0	0.31	1.69	2.5YR-6/2	
	4	11.0 - 13.0	-61.1 - -63.1		0.13	0.27	98.7	0.9	1.0	0.29	1.79	2.5YR-6/2	
Zone A4	NH-418	1	0.0 - 2.6	-44.9 - -47.5	-55.0	0.07	0.76	99.0	0.2	0.0	0.42	1.25	2.5YR-6/3
		2	2.6 - 6.0	-47.5 - -50.9		0.07	0.21	99.1	0.6	0.0	0.31	1.69	2.5YR-6/2
		3	6.0 - 10.0	-50.9 - -54.9		0.12	0.45	98.8	0.7	1.0	0.30	1.74	2.5YR-6/2
NH-424	1	0.0 - 4.0	-44.1 - -48.1	-55.0	0.00	0.24	98.4	1.4	1.0	0.34	1.56	2.5YR-6/2	
	2	4.0 - 8.0	-48.1 - -52.1		0.20	0.93	96.4	2.5	1.0	0.33	1.60	2.5YR-6/3	
	3	8.0 - 12.1	-52.1 - -56.2		0.46	1.07	96.4	2.1	2.0	0.35	1.51	2.5YR-6/3	
NH-430	1	0.0 - 4.0	-43.1 - -47.1	-55.0	0.12	0.47	98.8	0.6	0.0	0.33	1.60	2.5YR-7/3	
	2	4.0 - 8.0	-47.1 - -51.1		0.10	0.73	98.5	0.7	1.0	0.34	1.56	2.5YR-6/3	
	3	8.0 - 11.8	-51.1 - -54.9		0.15	0.10	99.2	0.6	0.0	0.30	1.74	2.5YR-6/2	
NH-411	1	0.0 - 2.5	-50.4 - -52.9	-57.5	0.04	0.72	98.6	0.7	2.0	0.32	1.64	2.5YR-6/3	
	2	2.5 - 6.0	-52.9 - -56.4		0.08	0.35	98.5	1.1	1.0	0.30	1.74	5YR-6/2	
	3	6.0 - 8.6	-56.4 - -59.0		0.26	0.37	97.9	1.5	2.0	0.22	2.18	5YR-6/2	
NH-417	1	0.0 - 1.5	-51.1 - -52.6	-57.5	4.04	0.87	94.3	0.8	6.0	0.32	1.64	2.5YR-7/3	
	2	1.5 - 4.4	-52.6 - -55.5		0.05	0.28	96.6	3.1	1.0	0.29	1.79	2.5YR-6/2	
	3	4.4 - 4.8	-55.5 - -55.9		5.74	7.26	86.1	0.9	7.0	0.49	1.03	2.5YR-6/3	
	4	4.8 - 7.8	-55.9 - -58.9		0.15	0.80	97.1	1.9	1.0	0.19	2.40	5YR-5/2	
NH-423	1	0.0 - 2.8	-50.3 - -53.1	-57.5	0.14	0.51	98.7	0.6	2.0	0.32	1.64	2.5YR-6/2	
	2	2.8 - 5.0	-53.1 - -55.3		0.38	0.34	98.3	1.0	2.0	0.28	1.84	2.5YR-6/2	
	3	5.0 - 7.6	-55.3 - -57.9		0.00	0.09	98.5	1.4	0.0	0.22	2.18	5YR-6/1	
NH-429	1	0.0 - 4.0	-46.5 - -50.5	-57.5	0.09	0.61	98.5	0.8	0.0	0.37	1.43	2.5YR-7/4	
	2	4.0 - 8.0	-50.5 - -54.5		1.39	1.35	96.4	0.9	4.0	0.34	1.56	2.5YR-7/3	
	3	8.0 - 11.1	-54.5 - -58.1		0.00	0.55	98.7	0.8	0.0	0.33	1.60	2.5YR-7/3	

Vibracore	Sample Number	Sample Depth (ft)	Survey Elev (ft, NAVD88)	Permitted Dredge Elevation	Gravel (%)	Granular (%)	Sand (%)	<#230 (%)	Carbonate (%)	Mean (mm)	Mean (phi)	Munsell Color	
Zone A6	NH-416	1	0.0 - 4.3	-50.4 - -54.7	-56.0	0.90	2.44	95.6	1.1	1.0	0.38	1.40	2.5YR-6/3
		2	4.3 - 5.0	-54.7 - -55.4		1.01	6.51	90.3	2.2	4.0	0.60	0.74	2.5YR-5/3
		3	5.0 - 6.7	-55.4 - -57.1		2.33	4.09	92.6	1.0	4.0	0.50	1.00	2.5YR-6/3
	NH-422	1	0.0 - 3.0	-48.5 - -51.5	-56.0	0.07	1.94	97.1	0.9	0.0	0.41	1.29	2.5YR-5/3
		2	3.0 - 7.5	-51.5 - -56.0		0.05	1.64	96.9	1.4	1.0	0.35	1.51	2.5YR-6/2
		NH-428	1	0.0 - 1.6		-54.6 - -56.2	-56.0	0.21	0.61	97.4	1.8	0.0	0.23
Zone A7	NH-415	1	0.0 - 1.7	-53.3 - -55.0	-58.0	0.70	1.97	97.0	0.3	2.0	0.32	1.64	2.5YR-7/3
		2	1.7 - 3.3	-55.0 - -56.6		0.73	1.12	97.6	0.6	1.0	0.30	1.74	5YR-7/1
		3	3.3 - 5.3	-56.6 - -58.6		0.63	2.35	95.9	1.1	2.0	0.39	1.36	5YR-6/2
	NH-421	1	0.0 - 3.0	-53.8 - -56.8	-58.0	0.00	0.02	98.4	1.6	0.0	0.28	1.84	2.5YR-6/2
		2	3.0 - 5.8	-56.8 - -59.6		0.00	0.01	98.0	2.0	0.0	0.30	1.74	2.5YR-5/3
		1	0.0 - 1.2	-53.1 - -54.3		2.23	1.71	92.6	3.4	2.0	0.34	1.56	2.5YR-6/3
NH-427	2	1.2 - 2.7	-54.3 - -55.8	-58.0	0.44	0.78	97.7	1.0	1.0	0.31	1.69	2.5YR-6/3	
	3	2.7 - 5.4	-55.8 - -58.5		2.02	6.46	90.1	1.4	2.0	0.45	1.15	2.5YR-6/3	
	NH-433	1	0.0 - 3.0		-51.7 - -54.7	-58.0	0.32	0.78	98.1	0.8	0.0	0.35	1.51
Zone A8	NH-414	2	3.0 - 7.0	-54.7 - -59.0	-64.5	0.16	0.79	97.9	1.1	0.0	0.34	1.56	2.5YR-6/4
		1	0.0 - 1.6	-57.4 - -59.0		1.47	1.86	94.6	2.1	5.0	0.34	1.56	2.5YR-6/3
		2	1.6 - 3.5	-59.0 - -60.9		4.37	0.60	94.1	1.0	4.0	0.29	1.79	2.5YR-6/2
	NH-420	3	3.5 - 6.8	-60.9 - -64.2	0.00	0.15	98.8	1.1	1.0	0.34	1.56	2.5YR-6/2	
		4	6.8 - 8.2	-64.2 - -65.6	4.65	5.20	88.4	1.8	5.0	0.40	1.32	5YR-6/2	
		1	0.0 - 3.0	-55.1 - -58.1	0.15	0.45	98.6	0.8	1.0	0.32	1.64	2.5YR-6/2	
NH-426	2	3.0 - 6.0	-58.1 - -61.1	0.04	0.24	98.6	1.1	2.0	0.33	1.60	2.5YR-6/2		
	3	6.0 - 9.0	-61.1 - -64.1	0.29	0.47	98.4	0.8	1.0	0.33	1.60	2.5YR-6/2		
	4	9.0 - 11.0	-64.1 - -66.1	0.30	1.10	97.3	1.3	4.0	0.33	1.60	2.5YR-6/2		
	1	0.0 - 4.0	-56.9 - -60.9	0.90	0.88	97.5	0.7	2.0	0.34	1.56	2.5YR-6/2		
Zone A9	NH-432	2	4.0 - 7.3	-60.9 - -64.2	-64.5	0.19	0.97	98.3	0.6	1.0	0.34	1.56	2.5YR-6/3
		3	7.3 - 10.1	-64.2 - -67.0		0.45	1.28	94.3	3.9	4.0	0.33	1.60	5YR-5/2
		1	0.0 - 3.0	-51.5 - -54.5		2.86	4.21	91.7	1.3	2.0	0.43	1.22	2.5YR-6/4
	NH-434	2	3.0 - 4.9	-54.5 - -56.4	-64.5	0.55	0.44	97.7	1.3	0.0	0.32	1.64	2.5YR-6/2
		3	4.9 - 8.1	-56.4 - -59.6		1.10	2.00	95.5	1.4	2.0	0.35	1.51	2.5YR-6/3
		4	8.1 - 11.0	-59.6 - -62.5		0.54	0.92	97.8	0.7	1.0	0.33	1.60	2.5YR-6/2
NH-435	5	11.0 - 13.2	-62.5 - -65.0	1.51	1.76	95.8	0.9	3.0	0.39	1.36	2.5YR-6/2		
	1	0.0 - 4.3	-47.1 - -51.4	0.01	0.52	98.1	1.4	0.0	0.34	1.56	2.5YR-6/3		
	2	4.3 - 8.0	-51.4 - -55.1	0.00	0.03	98.6	1.4	0.0	0.27	1.89	5YR-6/2		
	3	8.0 - 11.7	-55.1 - -58.8	0.04	0.71	98.7	0.6	0.0	0.				



NOTE:
 BATHYMETRY CONTOURS SHOWN IN FEET REFERENCED TO NAVD 88 ARE BASED ON MULTIBEAM SURVEYS PERFORMED BY MCKIM & CREED IN JANUARY 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS AT THE TIME OF THE SURVEY.

LEGEND:

- PIPELINE CORRIDOR WORKPOINT
- A# APPROXIMATE LOCATION OF MAGNETIC ANOMOLIES AND 400' BUFFER

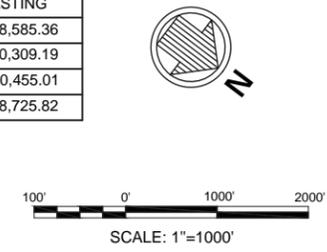
ANOMOLIES POINT TABLE		
POINT	NORTHING	EASTING
A1	790,700.3	3,016,129.2
A2	790,625.3	3,016,192.4
A3	790,530.9	3,016,237.8
A4	790,473.9	3,016,276.2
A5	789,163.7	3,022,307.3
A6	789,215.4	3,022,473.6
A7	789,376.9	3,024,911.8
A8	789,472.8	3,024,998.0
A9	789,701.4	3,027,921.1

C1 PIPELINE CORRIDOR		
POINT	NORTHING	EASTING
1	784,075.98	3,018,047.61
2	788,383.64	3,024,959.55
3	788,145.27	3,025,122.24
4	783,815.62	3,018,242.99

C2 PIPELINE CORRIDOR		
POINT	NORTHING	EASTING
1	790,442.89	3,015,568.44
2	791,043.64	3,016,860.17
3	788,703.38	3,024,971.24
4	788,408.33	3,024,898.35
5	790,717.26	3,016,874.12
6	790,151.18	3,015,714.27

C3 PIPELINE CORRIDOR		
POINT	NORTHING	EASTING
1	796,483.89	3,012,069.63
2	797,317.22	3,013,814.39
3	796,978.75	3,013,991.47
4	796,145.44	3,012,251.89

C4 PIPELINE CORRIDOR		
POINT	NORTHING	EASTING
1	803,390.11	3,008,585.36
2	804,207.89	3,010,309.19
3	803,942.28	3,010,455.01
4	803,124.55	3,008,725.82



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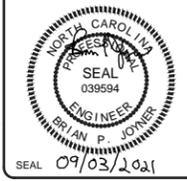


TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT	PIPELINE CORRIDOR PLAN
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Date: 2021-09-03 Designed by: NV/SMMB Drawn by: VNM Checked by: SMMB Reviewed by: B. JOYNER Submitted by: MOFFATT & NICHOL	M&N Project No.: 10979-04 Drawing code:	Rev: 0 Date: 2021-09-03 Description: ISSUED FOR BID	AS SHOWN Per scale: 1" = 10' (0 SHEET)
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4700 FALLS OF NEUSE RD., SUITE 300
 RALEIGH, NC 27609
 919-781-4626
 NC FIRM NO. F-0105

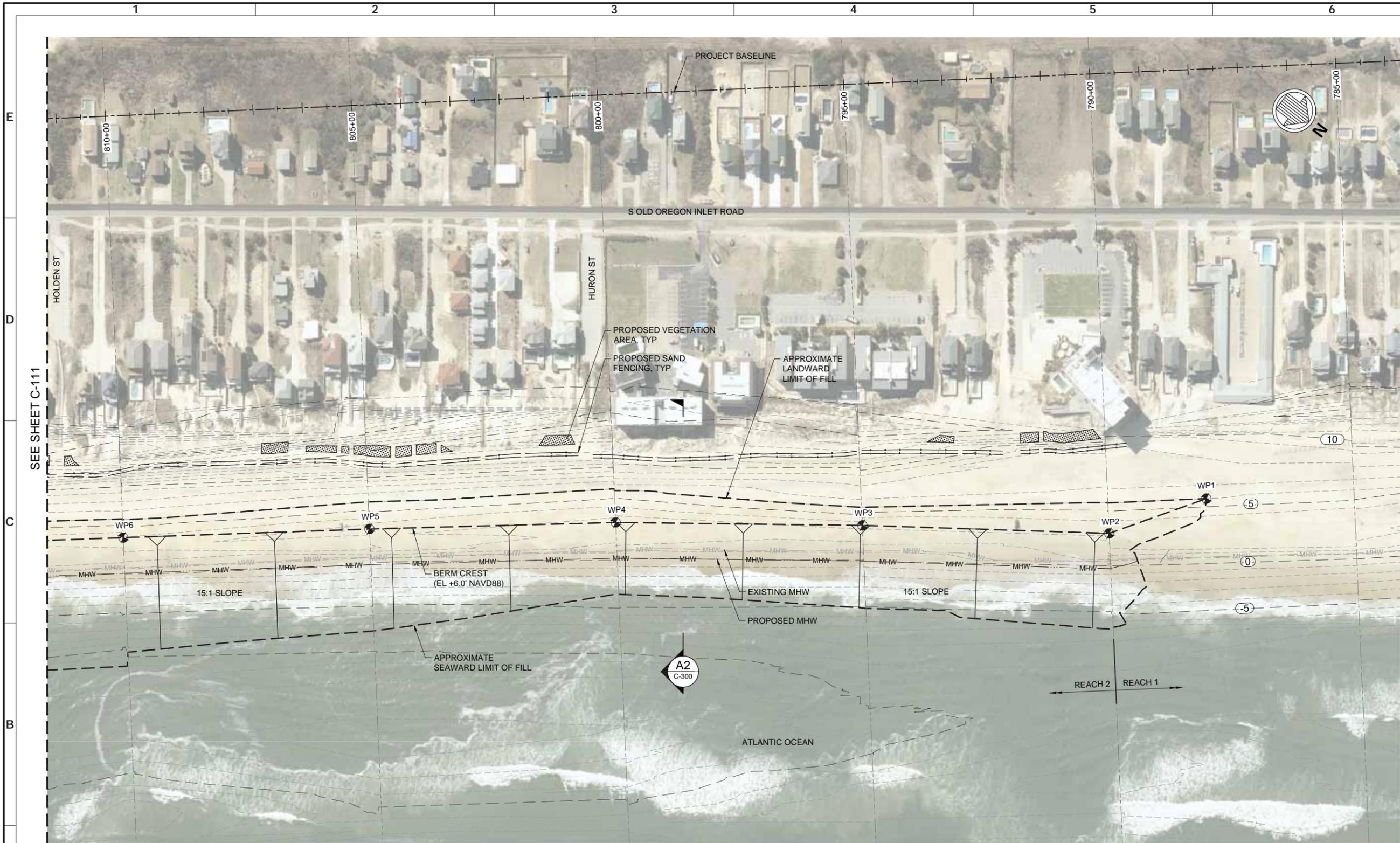




SEAL 09/03/2021

Sheet Reference No. C-105	INDE: 10 OF 42
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NOTES:

1. CONTOURS REFERENCE NAVD88 AND ARE INTERPRETED FROM A JUNE 2020 SURVEY CONDUCTED BY MCKIM & CREED.
2. SEE SHEET C-502 FOR BERM CREST LINE WORK POINT TABLE.
3. SEE SHEETS C-301 THROUGH C-320 FOR CROSS SECTIONS.
4. NEW SAND FENCE WILL BE INSTALLED AS GENERALLY DEPICTED ON THE DRAWING AND DIRECTED BY THE TOWN DURING CONSTRUCTION. THE NEW FENCING SHALL BE INSTALLED A MINIMUM OF 5-FT FROM EXISTING FENCE LINES AS MEASURED END-POST TO END-POST.
5. SEE SHEET C-501 FOR SAND FENCE DETAILS.
6. DUNE VEGETATION SHALL BE INSTALLED LANDWARD OF THE PROPOSED SAND FENCING WITHIN THE IDENTIFIED AREAS, AT THE TOWN'S DIRECTION.

LEGEND:

- PROPOSED SAND FENCE CORRIDOR
- PROPOSED VEGETATION AREA



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ISSUED: 2021-09-03
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Rev.	Date	Description
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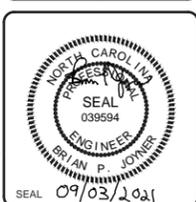
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

SITE PLAN SHEET 1 OF 9

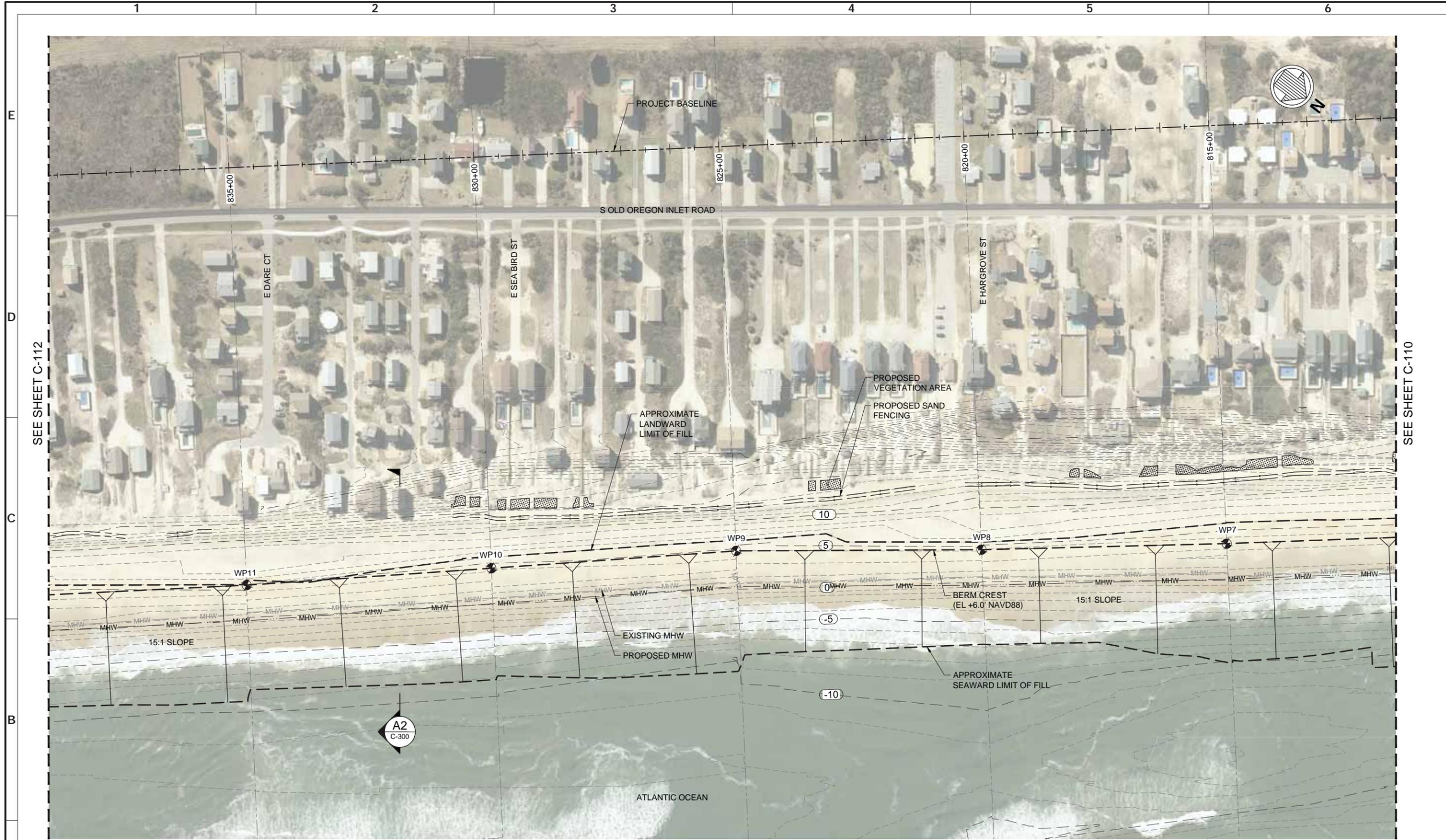
Designed by:	NY/SMMB	Date:	2021-09-03	Rev:	0
Drawn by:	VNM	MAN Project No.:	10879-04	Per scale:	1" = 10' (0 SHEET)
Reviewed by:	B. JOYNER	Drawn by:	SMMB	Drawing code:	AS SHOWN
Submitted by:	MOFFATT & NICHOI	Submitted by:	B. JOYNER	Drawing Scale:	AS SHOWN

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4700 FALLS OF NEUSE RD., SUITE 300
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NC FIRM NO. F-0105



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NOTES:

- CONTOURS REFERENCE NAVD88 AND ARE INTERPRETED FROM A JUNE 2020 SURVEY CONDUCTED BY MCKIM & CREED.
- SEE SHEET C-502 FOR BERM CREST LINE WORK POINT TABLE.
- SEE SHEETS C-301 THROUGH C-320 FOR CROSS SECTIONS.
- NEW SAND FENCE WILL BE INSTALLED AS GENERALLY DEPICTED ON THE DRAWING AND DIRECTED BY THE TOWN DURING CONSTRUCTION. THE NEW FENCING SHALL BE INSTALLED A MINIMUM OF 5-FT FROM EXISTING FENCE LINES AS MEASURED END-POST TO END-POST.
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- DUNE VEGETATION SHALL BE INSTALLED LANDWARD OF THE PROPOSED SAND FENCING WITHIN THE IDENTIFIED AREAS, AT THE TOWN'S DIRECTION.

LEGEND:

- PROPOSED SAND FENCE CORRIDOR
- PROPOSED VEGETATION AREA



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ISSUED: 2021-09-03
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Rev.	Date	Description	By	Appr.
0	2021-09-03	ISSUED FOR BID		

TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

SITE PLAN SHEET 2 OF 9

Designed by:	NY/SMMB	Date:	2021-09-03	Rev:	0
Drawn by:	VNM	MAN Project No.:	10979-04	Drawing Code:	AS SHOWN
Reviewed by:	B. JOYNER	Drawing Scale:	AS SHOWN	Per scale:	1" = 100' (0 SHEET)
Submitted by:	MOFATT & NICHOL				

4700 FALLS OF NEUSE RD., SUITE 300
RAVENHILL, NC 27066
919-781-4626
NC FIRM NO. F-0105



Sheet Reference No.
C-111
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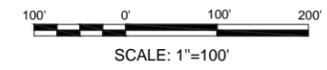


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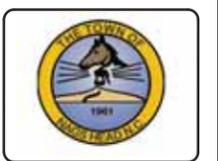
- CONTOURS REFERENCE NAVD88 AND ARE INTERPRETED FROM A JUNE 2020 SURVEY CONDUCTED BY MCKIM & CREED.
- SEE SHEET C-502 FOR BERM CREST LINE WORK POINT TABLE.
- SEE SHEETS C-301 THROUGH C-320 FOR CROSS SECTIONS.
- NEW SAND FENCE WILL BE INSTALLED AS GENERALLY DEPICTED ON THE DRAWING AND DIRECTED BY THE TOWN DURING CONSTRUCTION. THE NEW FENCING SHALL BE INSTALLED A MINIMUM OF 5-FT FROM EXISTING FENCE LINES AS MEASURED END-POST TO END-POST.
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- DUNE VEGETATION SHALL BE INSTALLED LANDWARD OF THE PROPOSED SAND FENCING WITHIN THE IDENTIFIED AREAS, AT THE TOWN'S DIRECTION.

LEGEND:

- PROPOSED SAND FENCE CORRIDOR
- PROPOSED VEGETATION AREA



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 ISSUED: 2021-09-03
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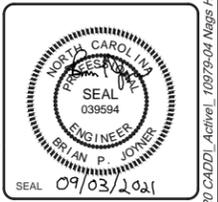


Rev.	Date	Description
0	2021-09-03	ISSUED FOR BID

TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
 SITE PLAN SHEET 3 OF 9

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Reviewed by: B. JOYNER	Drawn by: SMMB	
Submitted by: MCFATT & NICHOL	Drawing code:	AS SHOWN
Per scale: 1" = 10' (0 SHEET)		

4700 FALLS OF NEUSE RD., SUITE 300
 RALEIGH, NC 27609
 919-781-4626
 NC FIRM NO. F-0105
moffatt & nichol



Sheet Reference No.
C-112
 INDEX: 13 OF 42

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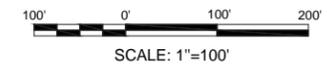


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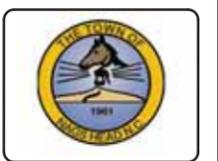
1. CONTOURS REFERENCE NAVD88 AND ARE INTERPRETED FROM A JUNE 2020 SURVEY CONDUCTED BY MCKIM & CREED.
2. SEE SHEET C-502 FOR BERM CREST LINE WORK POINT TABLE.
3. SEE SHEETS C-301 THROUGH C-320 FOR CROSS SECTIONS.
4. NEW SAND FENCE WILL BE INSTALLED AS GENERALLY DEPICTED ON THE DRAWING AND DIRECTED BY THE TOWN DURING CONSTRUCTION. THE NEW FENCING SHALL BE INSTALLED A MINIMUM OF 5-FT FROM EXISTING FENCE LINES AS MEASURED END-POST TO END-POST.
5. SEE SHEET C-501 FOR SAND FENCE DETAILS.
6. DUNE VEGETATION SHALL BE INSTALLED LANDWARD OF THE PROPOSED SAND FENCING WITHIN THE IDENTIFIED AREAS, AT THE TOWN'S DIRECTION.

LEGEND:

- PROPOSED SAND FENCE CORRIDOR
- PROPOSED VEGETATION AREA



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ISSUED: 2021-09-03
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Mark	Description	Date	By
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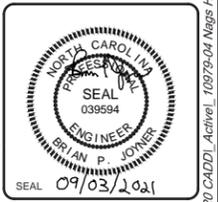
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

SITE PLAN SHEET 4 OF 9

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Reviewed by: B. JOYNER	Drawing code:	
Submitted by: MOFATT & NICHOI	Drawing Scale: AS SHOWN	Per scale: 1" = 10' (0 SHEET)

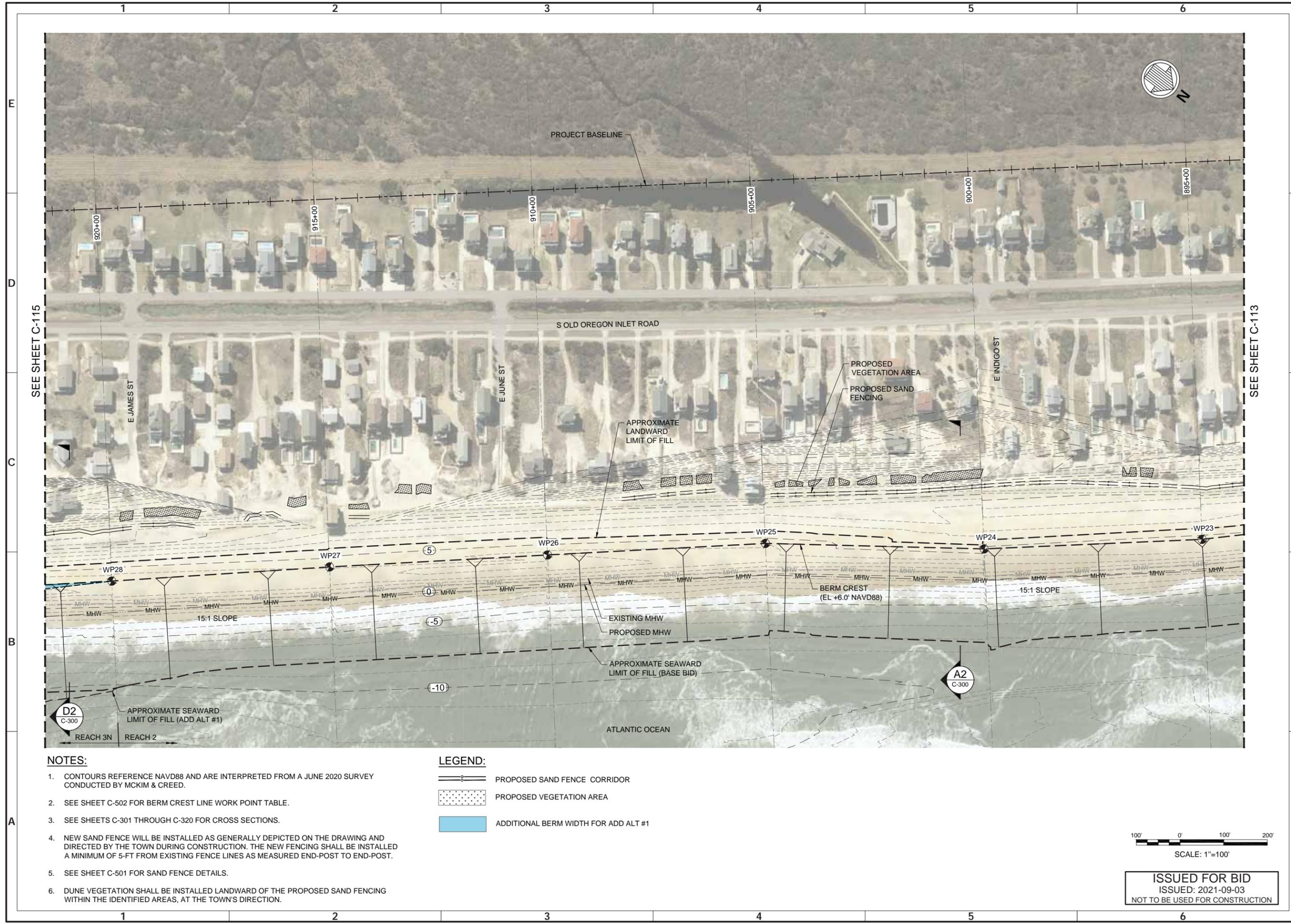
4700 FALLS OF NEUSE RD., SUITE 300
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919-781-4626
NC FIRM NO. F-0105

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Sheet Reference No.
C-113
INDEX: 14 OF 42

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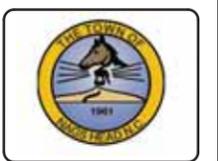


NOTES:

1. CONTOURS REFERENCE NAVD88 AND ARE INTERPRETED FROM A JUNE 2020 SURVEY CONDUCTED BY MCKIM & CREED.
2. SEE SHEET C-502 FOR BERM CREST LINE WORK POINT TABLE.
3. SEE SHEETS C-301 THROUGH C-320 FOR CROSS SECTIONS.
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5. SEE SHEET C-501 FOR SAND FENCE DETAILS.
6. DUNE VEGETATION SHALL BE INSTALLED LANDWARD OF THE PROPOSED SAND FENCING WITHIN THE IDENTIFIED AREAS, AT THE TOWN'S DIRECTION.

LEGEND:

- PROPOSED SAND FENCE CORRIDOR
- PROPOSED VEGETATION AREA
- ADDITIONAL BERM WIDTH FOR ADD ALT #1



Mark	Description	Date	Appr
0	ISSUED FOR BID	2021-09-03	BJ

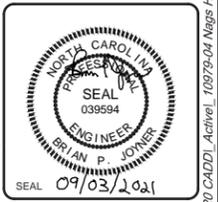
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

SITE PLAN SHEET 5 OF 9

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Reviewed by: B. JOYNER	Drawing code:	
Submitted by: MCFATT & NICHOI	Drawing Scale: AS SHOWN	Per scale: 1" = 10' (0 SHEET)

4700 FALLS OF NEUSE RD., SUITE 300
 RALEIGH, NC 27609
 919-781-4626
 NC FIRM NO. F-0105

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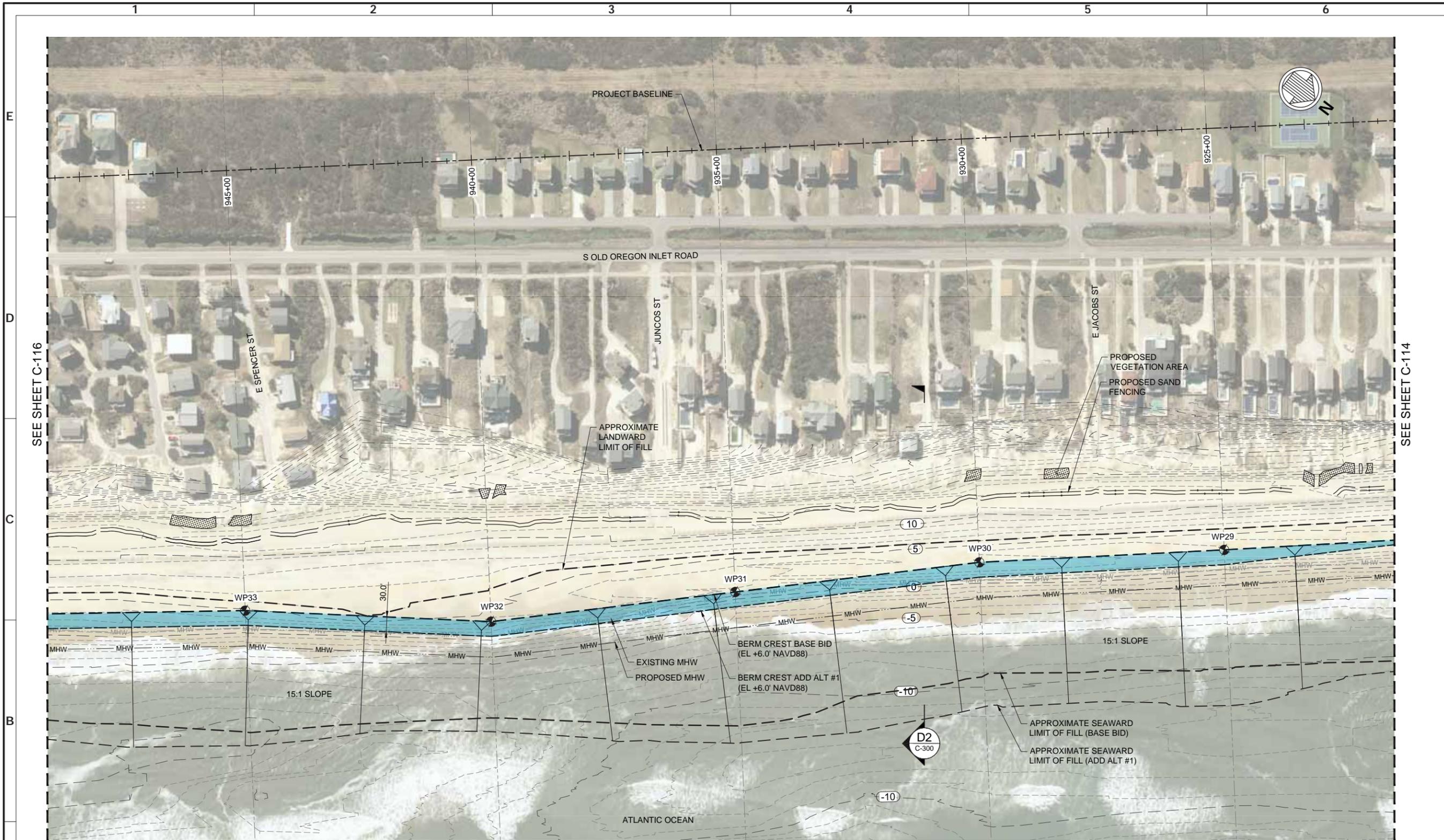
Sheet Reference No. **C-114**

INDEX: 15 OF 42

SCALE: 1"=100'

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NOTES:

- CONTOURS REFERENCE NAVD88 AND ARE INTERPRETED FROM A JUNE 2020 SURVEY CONDUCTED BY MCKIM & CREED.
- SEE SHEET C-502 FOR BERM CREST LINE WORK POINT TABLE.
- SEE SHEETS C-301 THROUGH C-320 FOR CROSS SECTIONS.
- NEW SAND FENCE WILL BE INSTALLED AS GENERALLY DEPICTED ON THE DRAWING AND DIRECTED BY THE TOWN DURING CONSTRUCTION. THE NEW FENCING SHALL BE INSTALLED A MINIMUM OF 5-FT FROM EXISTING FENCE LINES AS MEASURED END-POST TO END-POST.
- SEE SHEET C-501 FOR SAND FENCE DETAILS.
- DUNE VEGETATION SHALL BE INSTALLED LANDWARD OF THE PROPOSED SAND FENCING WITHIN THE IDENTIFIED AREAS, AT THE TOWN'S DIRECTION.

- FOR ADD ALT #1 BEACH FILL: PLANS SHOW EVEN DISTRIBUTION OF ADD ALT BEACH FILL MATERIAL. THE OWNER RESERVES THE RIGHT TO PLACE THE ADD ALT BEACH FILL MATERIAL AT VARYING FILL DENSITIES BETWEEN STATIONS 920+00 TO 1025+00.

LEGEND:

- PROPOSED SAND FENCE CORRIDOR
- PROPOSED VEGETATION AREA
- ADDITIONAL BERM WIDTH FOR ADD ALT #1



ISSUED FOR BID
ISSUED: 2021-09-03
NOT TO BE USED FOR CONSTRUCTION



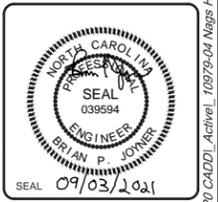
Rev.	Date	Description	By	Appr.
0	2021-09-03	ISSUED FOR BID	BJ	

TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

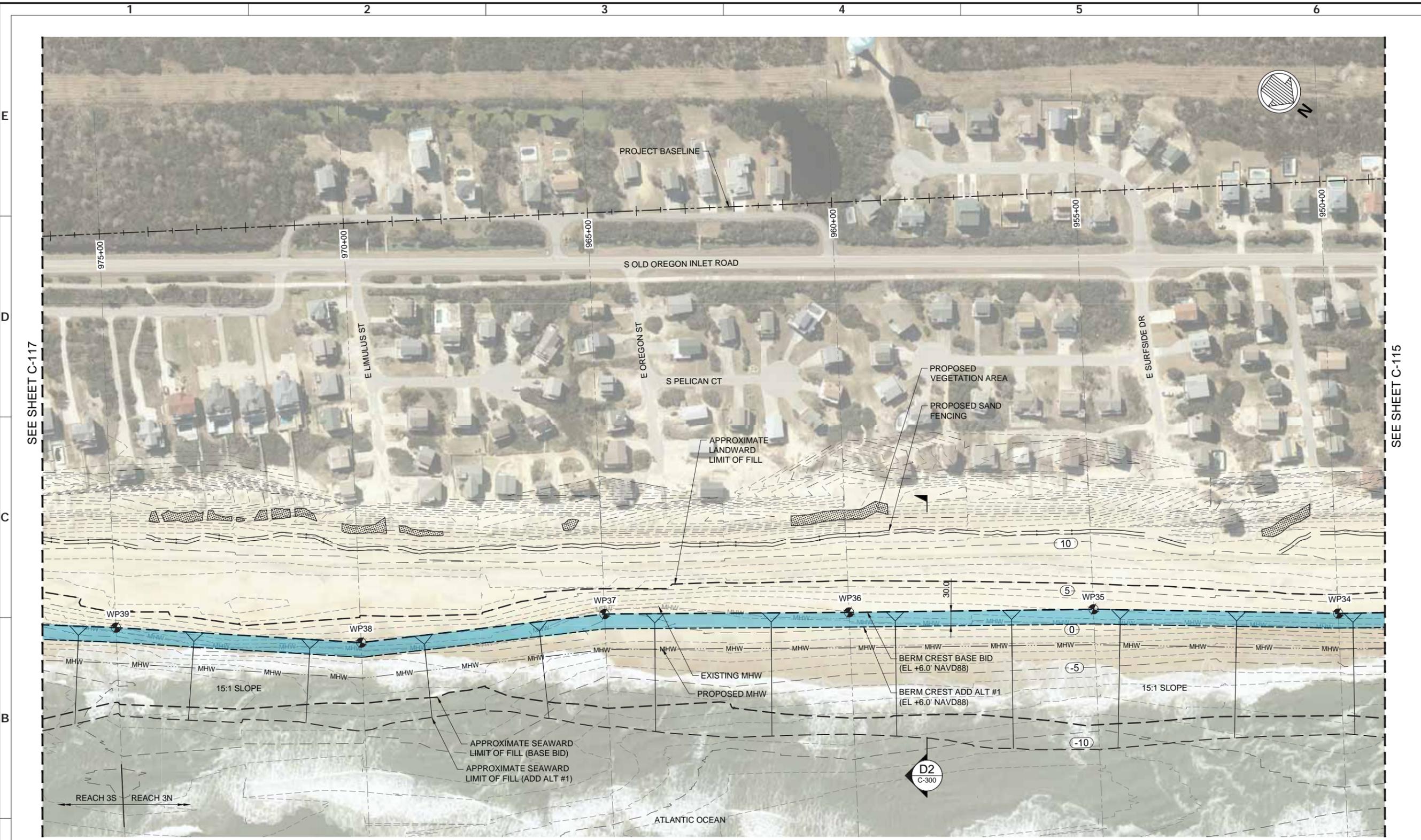
SITE PLAN SHEET 6 OF 9

Designed by:	Drawn by:	Reviewed by:	Submitted by:
NV/SMMB	VNM	B. JOYNER	MOFFATT & NICHEL
Checked by:	Drawn by:	Reviewed by:	Submitted by:
SMMB	VNM	B. JOYNER	MOFFATT & NICHEL
MAN Project No.:	Drawing code:	Drawing Scale:	Per scale:
10979-04		AS SHOWN	1" = 100' (0 SHEET)

4700 FALLS OF NEUSE RD., SUITE 300
RAVENHILL, NC 27066
919-781-4626
NC FIRM NO. F-0105



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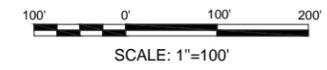
NOTES:

1. CONTOURS REFERENCE NAVD88 AND ARE INTERPRETED FROM A JUNE 2020 SURVEY CONDUCTED BY MCKIM & CREED.
2. SEE SHEET C-502 FOR BERM CREST LINE WORK POINT TABLE.
3. SEE SHEETS C-301 THROUGH C-320 FOR CROSS SECTIONS.
4. NEW SAND FENCE WILL BE INSTALLED AS GENERALLY DEPICTED ON THE DRAWING AND DIRECTED BY THE TOWN DURING CONSTRUCTION. THE NEW FENCING SHALL BE INSTALLED A MINIMUM OF 5-FT FROM EXISTING FENCE LINES AS MEASURED END-POST TO END-POST.
5. SEE SHEET C-501 FOR SAND FENCE DETAILS.
6. DUNE VEGETATION SHALL BE INSTALLED LANDWARD OF THE PROPOSED SAND FENCING WITHIN THE IDENTIFIED AREAS, AT THE TOWN'S DIRECTION.

7. FOR ADD ALT #1 BEACH FILL: PLANS SHOW EVEN DISTRIBUTION OF ADD ALT BEACH FILL MATERIAL. THE OWNER RESERVES THE RIGHT TO PLACE THE ADD ALT BEACH FILL MATERIAL AT VARYING FILL DENSITIES BETWEEN STATIONS 920+00 TO 1025+00.

LEGEND:

- PROPOSED SAND FENCE CORRIDOR
- PROPOSED VEGETATION AREA
- ADDITIONAL BERM WIDTH FOR ADD ALT #1



ISSUED FOR BID
 ISSUED: 2021-09-03
 NOT TO BE USED FOR CONSTRUCTION

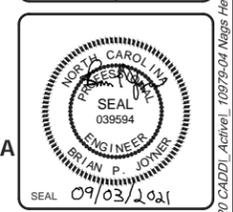


Rev.	Date	Description	By	Appr.
0	2021-09-03	ISSUED FOR BID		

TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
 SITE PLAN SHEET 7 OF 9

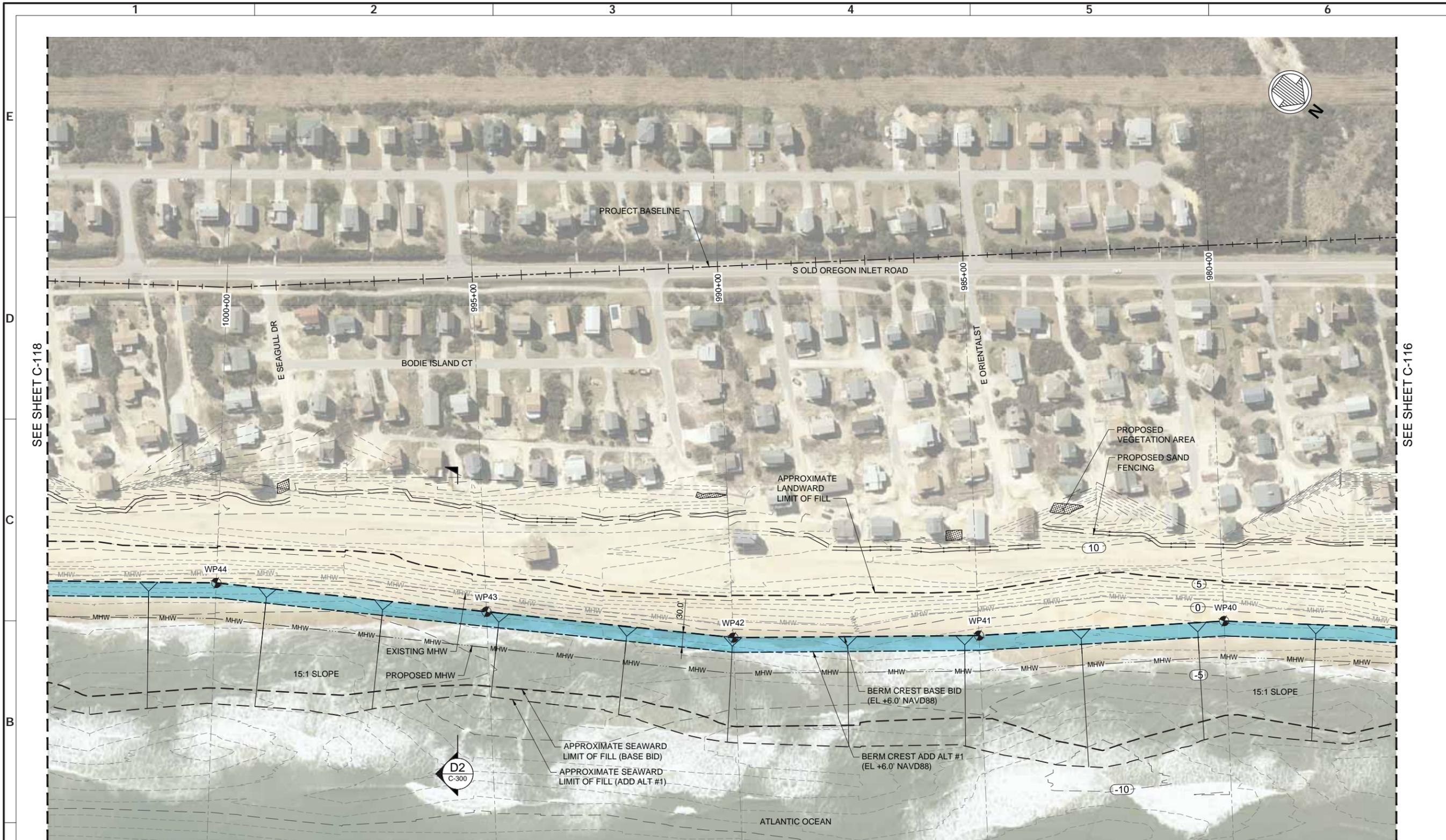
Designed by: NV/SMMB	Drawn by: VNM	Reviewed by: B. JOYNER	Submitted by: MOFFATT & NICHOI
Checked by: SMMB	MAN Project No: 10979-04	Drawing code:	Drawing Scale: AS SHOWN
Date: 2021-09-03	Per scale: 1"=10' (0 SHEET)		

4700 FALLS OF NEUSE RD., SUITE 300
 RALEIGH, NC 27609
 919-781-4626
 NC FIRM NO. F-0105



Sheet Reference No.
C-116
 INDEX: 17 OF 42

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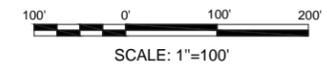
NOTES:

1. CONTOURS REFERENCE NAVD88 AND ARE INTERPRETED FROM A JUNE 2020 SURVEY CONDUCTED BY MCKIM & CREED.
2. SEE SHEET C-502 FOR BERM CREST LINE WORK POINT TABLE.
3. SEE SHEETS C-301 THROUGH C-320 FOR CROSS SECTIONS.
4. NEW SAND FENCE WILL BE INSTALLED AS GENERALLY DEPICTED ON THE DRAWING AND DIRECTED BY THE TOWN DURING CONSTRUCTION. THE NEW FENCING SHALL BE INSTALLED A MINIMUM OF 5-FT FROM EXISTING FENCE LINES AS MEASURED END-POST TO END-POST.
5. SEE SHEET C-501 FOR SAND FENCE DETAILS.
6. DUNE VEGETATION SHALL BE INSTALLED LANDWARD OF THE PROPOSED SAND FENCING WITHIN THE IDENTIFIED AREAS, AT THE TOWN'S DIRECTION.

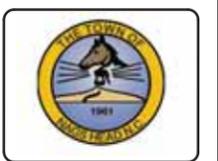
7. FOR ADD ALT #1 BEACH FILL: PLANS SHOW EVEN DISTRIBUTION OF ADD ALT BEACH FILL MATERIAL. THE OWNER RESERVES THE RIGHT TO PLACE THE ADD ALT BEACH FILL MATERIAL AT VARYING FILL DENSITIES BETWEEN STATIONS 920+00 TO 1025+00.

LEGEND:

- PROPOSED SAND FENCE CORRIDOR
- PROPOSED VEGETATION AREA
- ADDITIONAL BERM WIDTH FOR ADD ALT #1



ISSUED FOR BID
ISSUED: 2021-09-03
NOT TO BE USED FOR CONSTRUCTION



Rev.	Date	By	Description
0	2021-09-03	BJ	ISSUED FOR BID

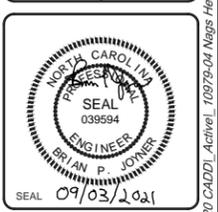
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

SITE PLAN SHEET 8 OF 9

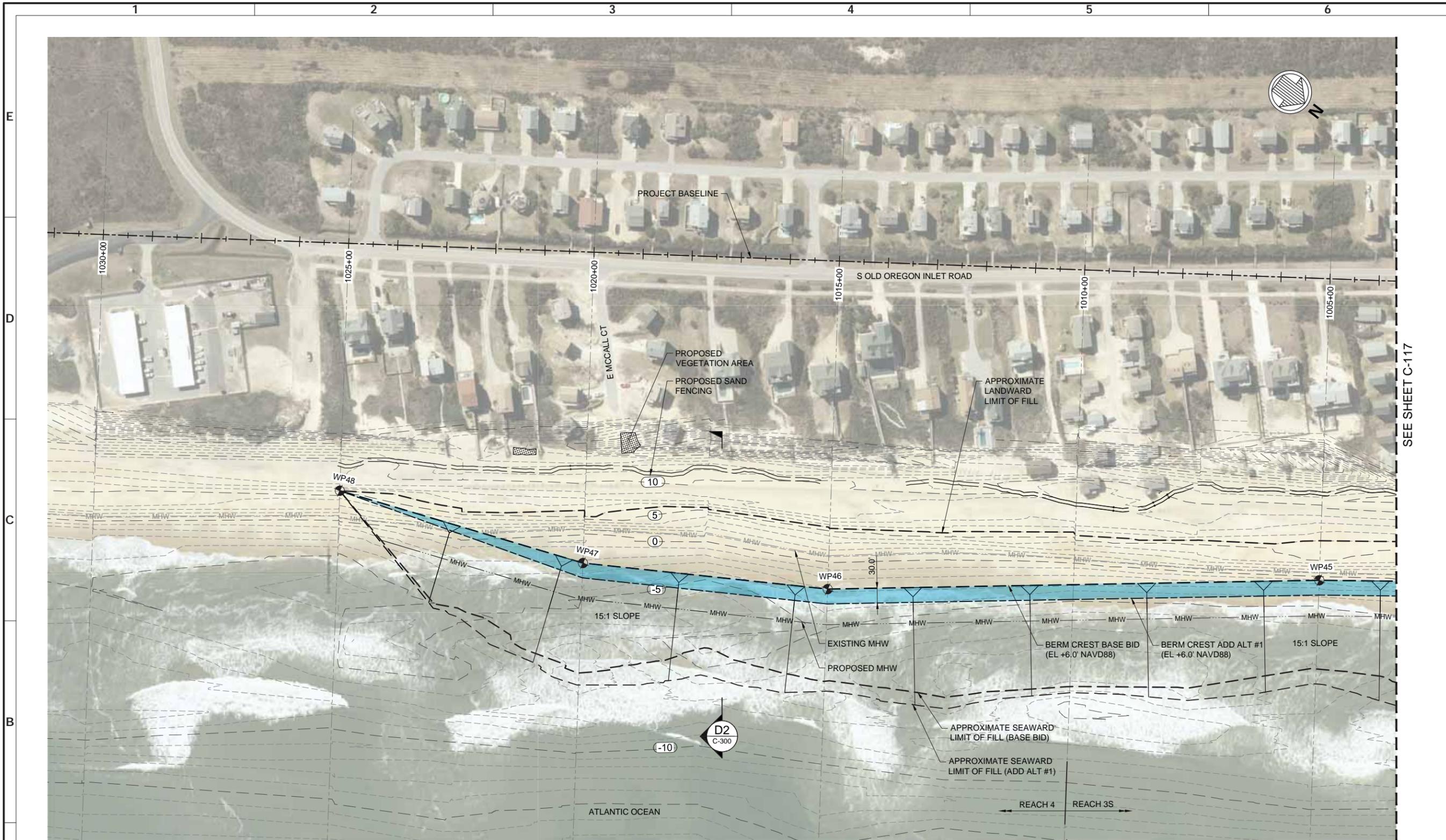
Designed by: NV/SMBB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Reviewed by: B. JOYNER	Drawing code:	
Submitted by: MOFATT & NICHOI	Drawing Scale: AS SHOWN	Per scale: 1" = 10' (0 SHEET)

4700 FALLS OF NEUSE RD., SUITE 300
Raleigh, NC 27609
919-781-4626
NC FIRM NO. F-0105

motfatt & nichoi



Sheet Reference No.
C-117
INDEX: 18 OF 42



SEE SHEET C-117

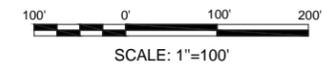
NOTES:

1. CONTOURS REFERENCE NAVD88 AND ARE INTERPRETED FROM A JUNE 2020 SURVEY CONDUCTED BY MCKIM & CREED.
2. SEE SHEET C-502 FOR BERM CREST LINE WORK POINT TABLE.
3. SEE SHEETS C-301 THROUGH C-320 FOR CROSS SECTIONS.
4. NEW SAND FENCE WILL BE INSTALLED AS GENERALLY DEPICTED ON THE DRAWING AND DIRECTED BY THE TOWN DURING CONSTRUCTION. THE NEW FENCING SHALL BE INSTALLED A MINIMUM OF 5-FT FROM EXISTING FENCE LINES AS MEASURED END-POST TO END-POST.
5. SEE SHEET C-501 FOR SAND FENCE DETAILS.
6. DUNE VEGETATION SHALL BE INSTALLED LANDWARD OF THE PROPOSED SAND FENCING WITHIN THE IDENTIFIED AREAS, AT THE TOWN'S DIRECTION.

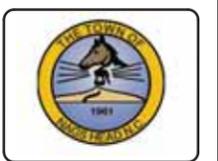
7. FOR ADD ALT #1 BEACH FILL: PLANS SHOW EVEN DISTRIBUTION OF ADD ALT BEACH FILL MATERIAL. THE OWNER RESERVES THE RIGHT TO PLACE THE ADD ALT BEACH FILL MATERIAL AT VARYING FILL DENSITIES BETWEEN STATIONS 920+00 TO 1025+00.

LEGEND:

- PROPOSED SAND FENCE CORRIDOR
- PROPOSED VEGETATION AREA
- ADDITIONAL BERM WIDTH FOR ADD ALT #1



ISSUED FOR BID
 ISSUED: 2021-09-03
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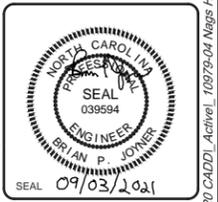


Rev.	Date	Description
0	2021-09-03	ISSUED FOR BID

TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
 SITE PLAN SHEET 9 OF 9

Designed by: NV/SMMB	Drawn by: VNM	Reviewed by: B. JOYNER	Submitted by: MCFATT & NICHOL
Checked by: SMMB	Drawn by: VNM	Reviewed by: B. JOYNER	Submitted by: MCFATT & NICHOL
Date: 2021-09-03	MAN Project No: 10979-04	Drawing code:	Drawing Scale: AS SHOWN
Per scale: 1"=100' (0 SHEET)			

4700 FALLS OF NEUSE RD., SUITE 300
 RALEIGH, NC 27609
 919-781-4626
 NC FIRM NO. F-0105



Sheet Reference No.
C-118
 INDEX: 19 OF 42

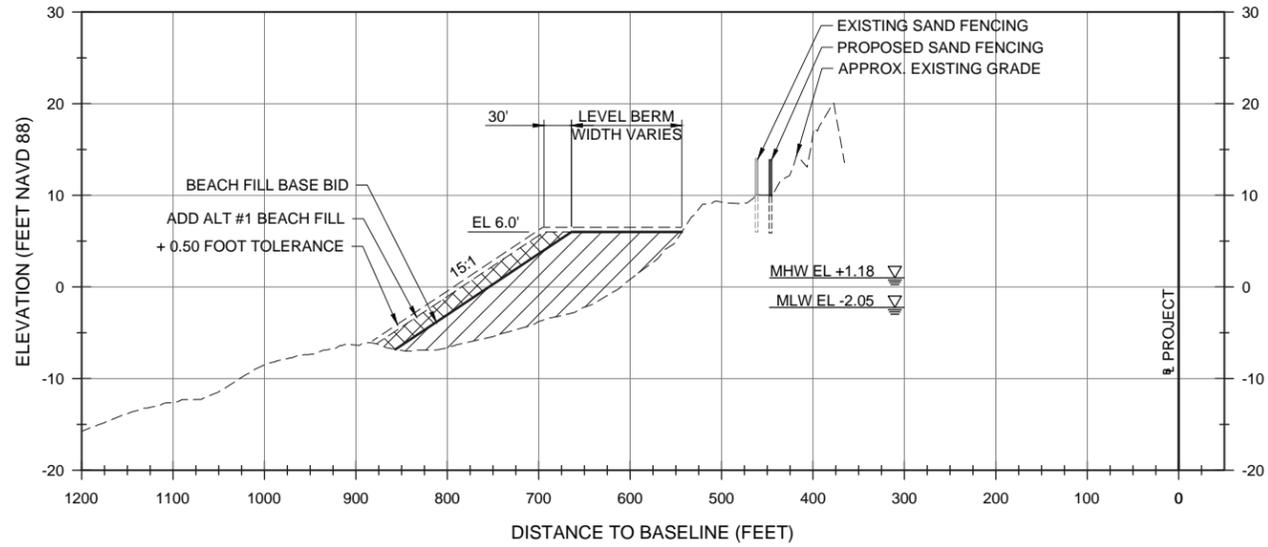
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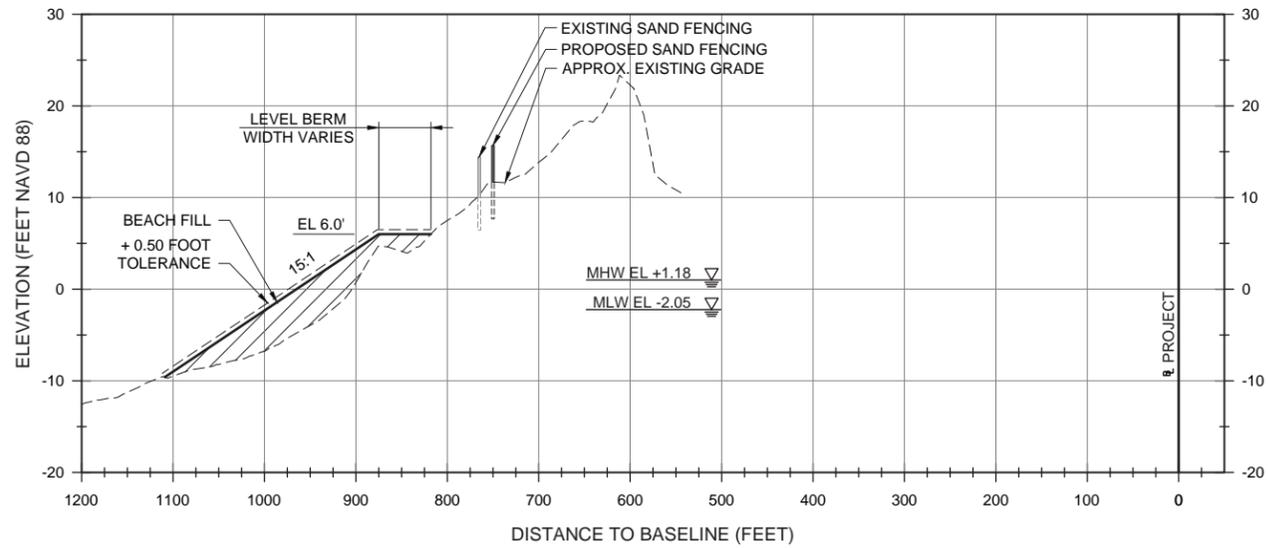
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B

A



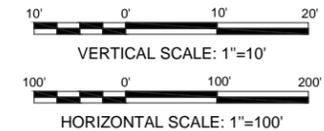
D2 BASE BID & ADD ALT #1 BEACH FILL TYPICAL SECTION
 C-114 THRU C-118 SCALE: 1"=100'



A2 BASE BID BEACH FILL TYPICAL SECTION
 C-110 THRU C-114 SCALE: 1"=10'

NOTES:

1. FOR DETAILS ON INSTALLATION OF PROPOSED SAND FENCING SEE SHEET C-501.
2. PROPOSED DUNE VEGETATION NOT SHOWN FOR CLARITY. DUNE VEGETATION SHALL BE INSTALLED LANDWARD OF THE PROPOSED SAND FENCING WITHIN THE IDENTIFIED AREAS, AT THE DIRECTION OF THE TOWN OF NAGS HEAD.
3. ADD ALT #1 FILL WIDTH SHOWN AT 30'. HOWEVER WIDTH WILL BE BASED ON CONDITION OF BEACH AT TIME OF CONSTRUCTION.



ISSUED FOR BID
 ISSUED: 2021-09-03
 NOT TO BE USED FOR CONSTRUCTION



Mark	Description	Date	By
0	ISSUED FOR BID	2021-09-03	BJ

TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
TYPICAL SECTIONS

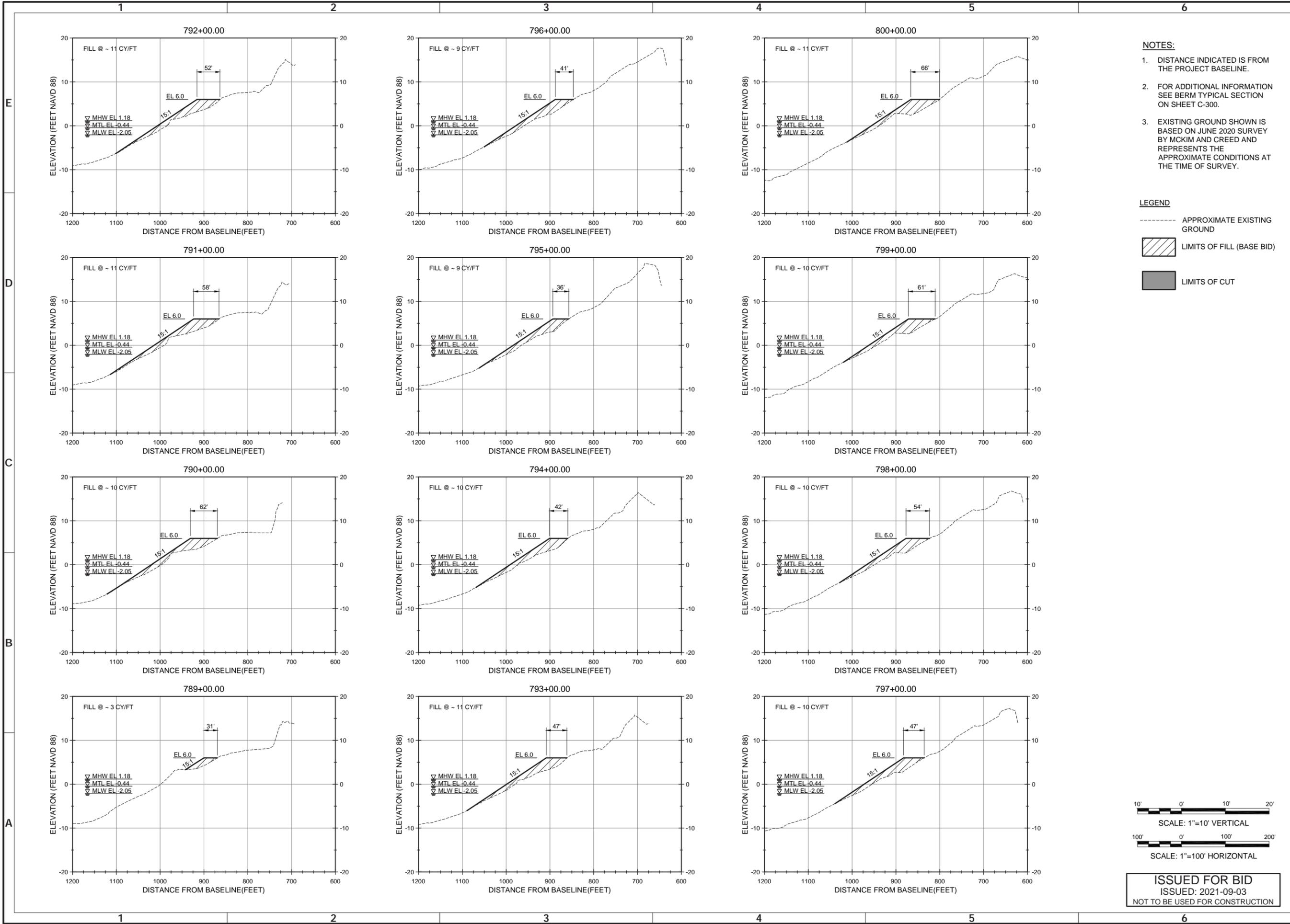
Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Dwn by: VNM	M&N Project No: 10979-04	
Reviewed by: B. JOYNER	Drawing code:	
Submitted by: MOFFATT & NICHOL	Drawing Scale: AS SHOWN	Per scale: 1"=10' (0 SHEET)

4700 FALLS OF NEUSE RD., SUITE 300
 ROSELAND, NC 27589
 919-781-4626
 NC FIRM NO. F-0105
motoffatt & nichol



Sheet Reference No.
C-300
 INDEX: 20 OF 42

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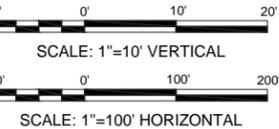


NOTES:

1. DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
2. FOR ADDITIONAL INFORMATION SEE BERM TYPICAL SECTION ON SHEET C-300.
3. EXISTING GROUND SHOWN IS BASED ON JUNE 2020 SURVEY BY MCKIM AND CREED AND REPRESENTS THE APPROXIMATE CONDITIONS AT THE TIME OF SURVEY.

LEGEND

- APPROXIMATE EXISTING GROUND
- ▨ LIMITS OF FILL (BASE BID)
- LIMITS OF CUT



ISSUED FOR BID
 ISSUED: 2021-09-03
 NOT TO BE USED FOR CONSTRUCTION



Rev.	Date	Description
0	2021-09-03	ISSUED FOR BID

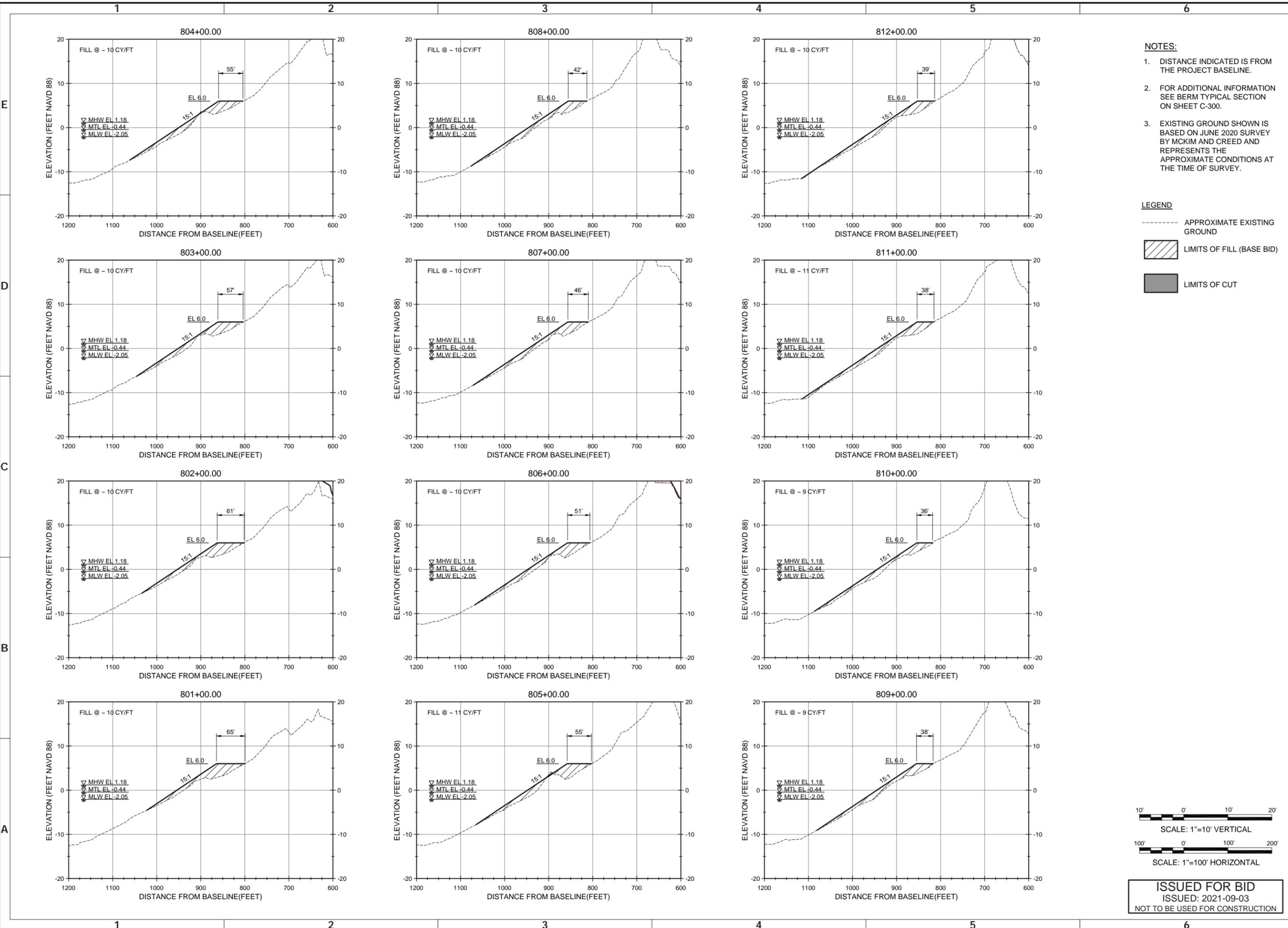
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
CROSS SECTIONS SHEET 1 OF 20

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Checked by: SMMB	Drawing code:	
Reviewed by: B. JOYNER	Drawing Scale: AS SHOWN	
Submitted by: MOFATT & NICHOL	Per scale: 1" = 10' (0 SHEET)	

4700 FALLS OF NEUSE RD., SUITE 300
 FARMINGTON, NC 27834
 919-781-4626
 NC FIRM NO. F-0105
motfatt & nichol



Sheet Reference No.
C-301
 INDEX: 21 OF 42

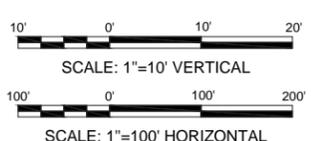


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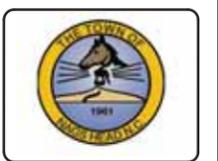
- DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
- FOR ADDITIONAL INFORMATION SEE BERM TYPICAL SECTION ON SHEET C-300.
- EXISTING GROUND SHOWN IS BASED ON JUNE 2020 SURVEY BY MCKIM AND CREED AND REPRESENTS THE APPROXIMATE CONDITIONS AT THE TIME OF SURVEY.

LEGEND

- APPROXIMATE EXISTING GROUND
- ▨ LIMITS OF FILL (BASE BID)
- LIMITS OF CUT



ISSUED FOR BID
ISSUED: 2021-09-03
NOT TO BE USED FOR CONSTRUCTION

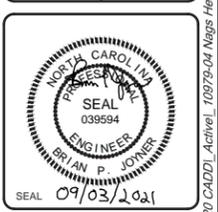


Rev.	Date	Description
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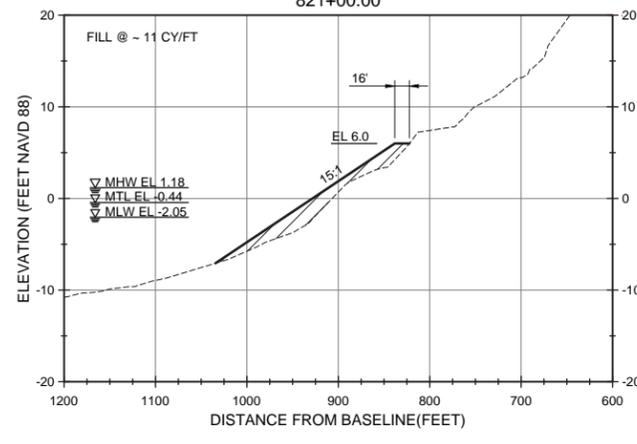
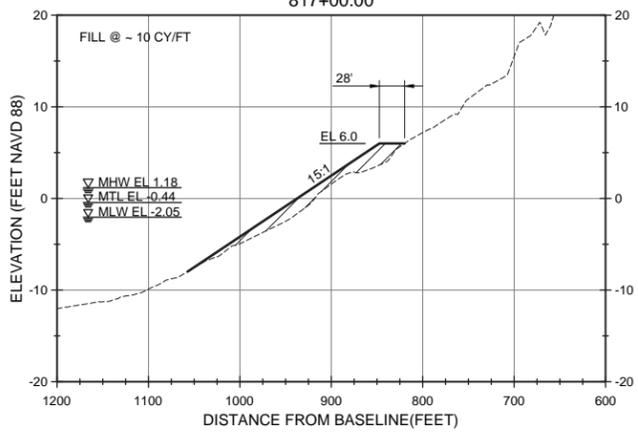
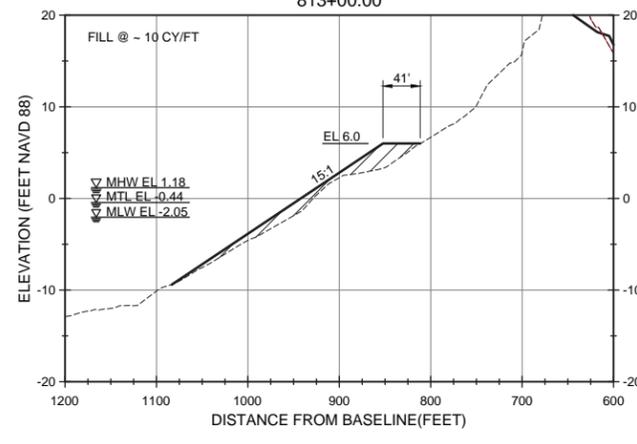
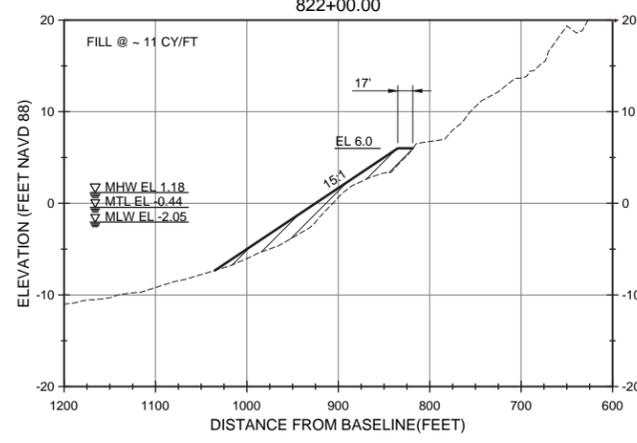
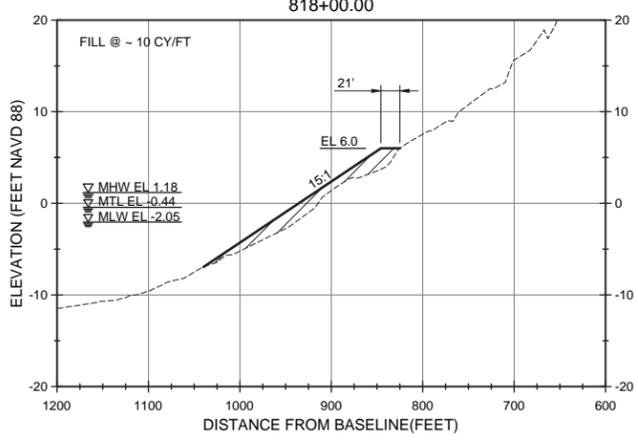
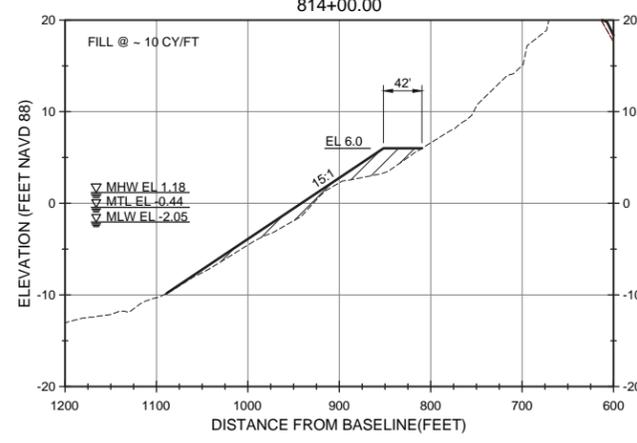
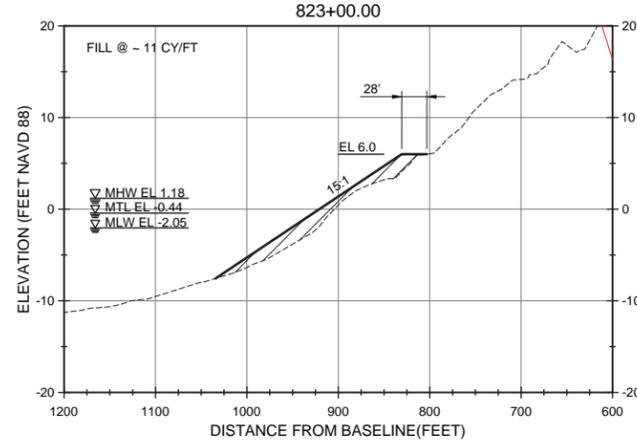
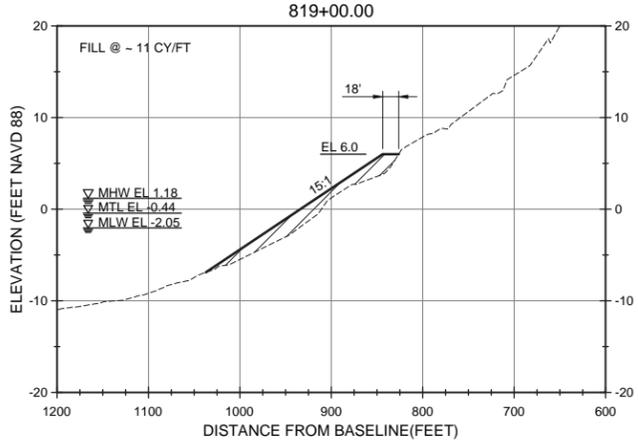
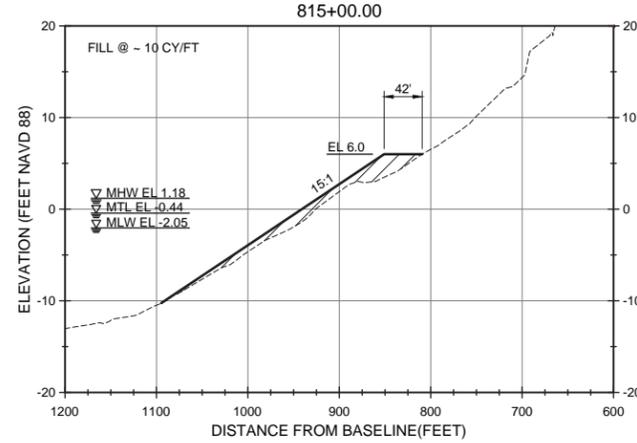
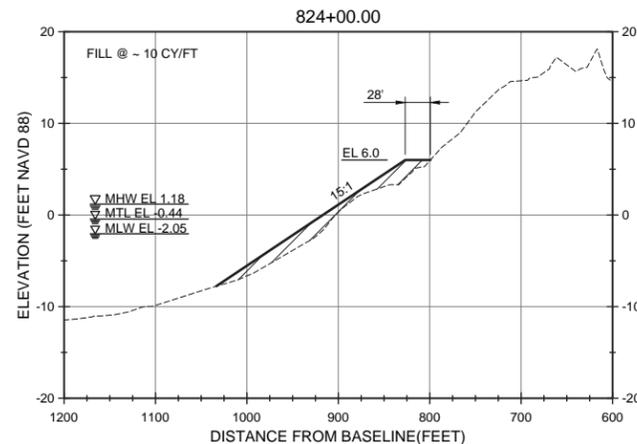
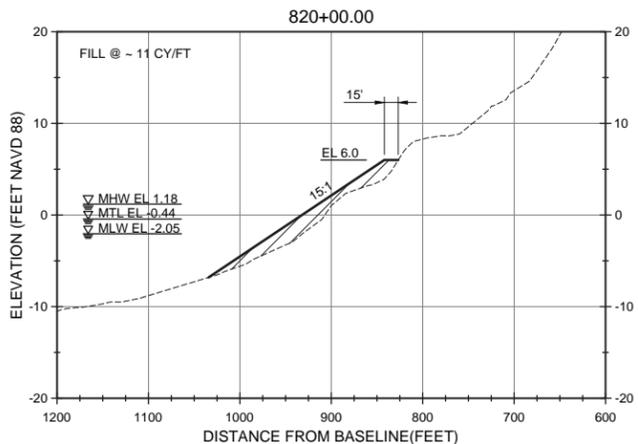
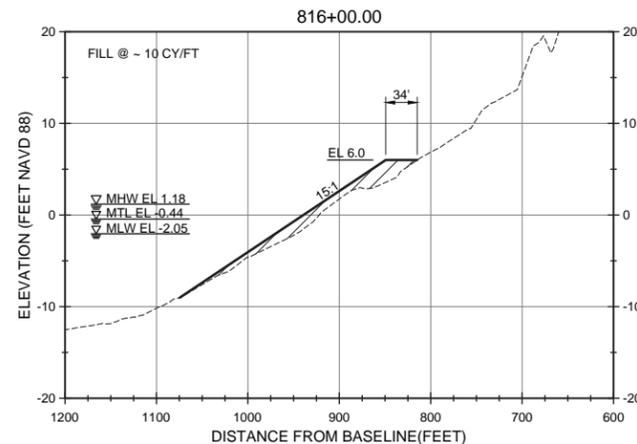
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
CROSS SECTIONS SHEET 2 OF 20

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Checked by: SMMB	Drawing code:	
Reviewed by: B. JOYNER	Drawing Scale: AS SHOWN	
Submitted by: MOFFATT & NICHOL	Per scale: 1"=10' (0 SHEET)	

4700 FALLS OF NEUSE RD., SUITE 300
Raleigh, NC 27609
919-781-4626
NC FIRM NO. F-0105
moffatt & nichol



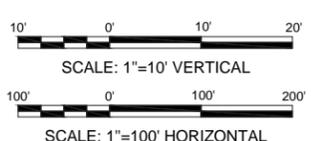
Sheet Reference No.
C-302
INDEX: 22 OF 42



- NOTES:**
- DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
 - FOR ADDITIONAL INFORMATION SEE BERM TYPICAL SECTION ON SHEET C-300.
 - EXISTING GROUND SHOWN IS BASED ON JUNE 2020 SURVEY BY MCKIM AND CREED AND REPRESENTS THE APPROXIMATE CONDITIONS AT THE TIME OF SURVEY.

LEGEND

- APPROXIMATE EXISTING GROUND
- ▨ LIMITS OF FILL (BASE BID)
- LIMITS OF CUT



ISSUED FOR BID
ISSUED: 2021-09-03
NOT TO BE USED FOR CONSTRUCTION

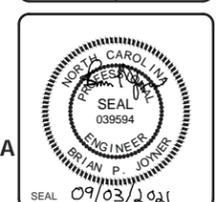


Rev.	Date	Description
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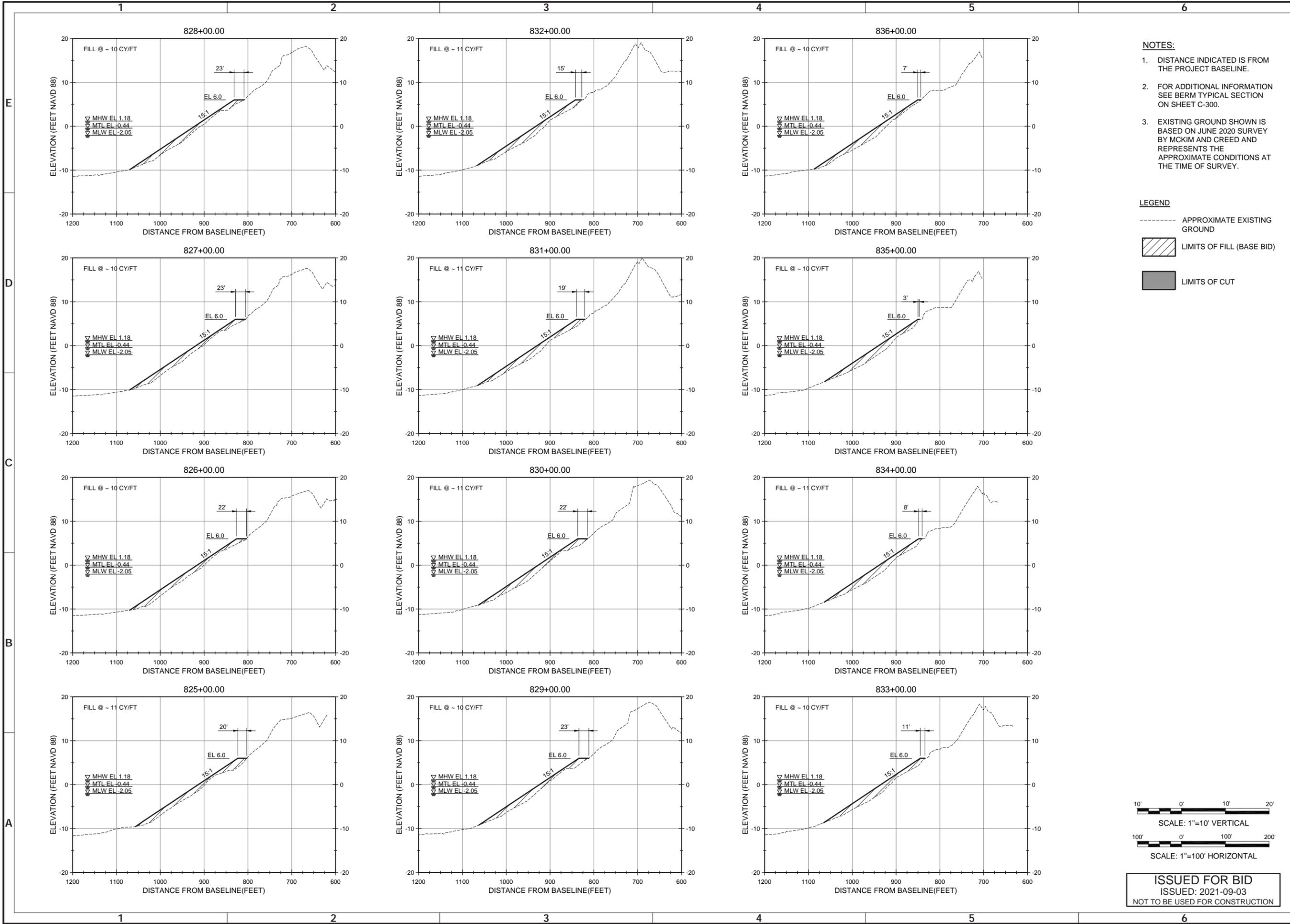
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
CROSS SECTIONS SHEET 3 OF 20

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Reviewed by: B. JOYNER	Drawing code:	
Submitted by: MOFATT & NICHOL	Drawing Scale: AS SHOWN	Per scale: 1"=10' (0 SHEET)

4700 FALLS OF NEUSE RD., SUITE 300
Raleigh, NC 27609
919-781-4626
NC FIRM NO. F-0105
motatt & nichol



Sheet Reference No. **C-303**
INDEX: 23 OF 42

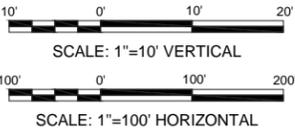


NOTES:

1. DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
2. FOR ADDITIONAL INFORMATION SEE BERM TYPICAL SECTION ON SHEET C-300.
3. EXISTING GROUND SHOWN IS BASED ON JUNE 2020 SURVEY BY MCKIM AND CREED AND REPRESENTS THE APPROXIMATE CONDITIONS AT THE TIME OF SURVEY.

LEGEND

- - - - - APPROXIMATE EXISTING GROUND
- [Hatched Box] LIMITS OF FILL (BASE BID)
- [Solid Box] LIMITS OF CUT



ISSUED FOR BID
ISSUED: 2021-09-03
NOT TO BE USED FOR CONSTRUCTION

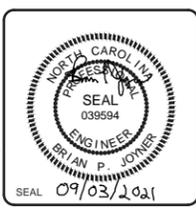


Rev.	Date	Description
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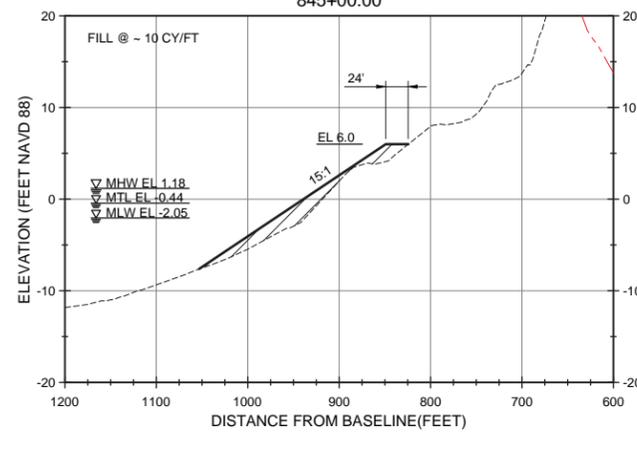
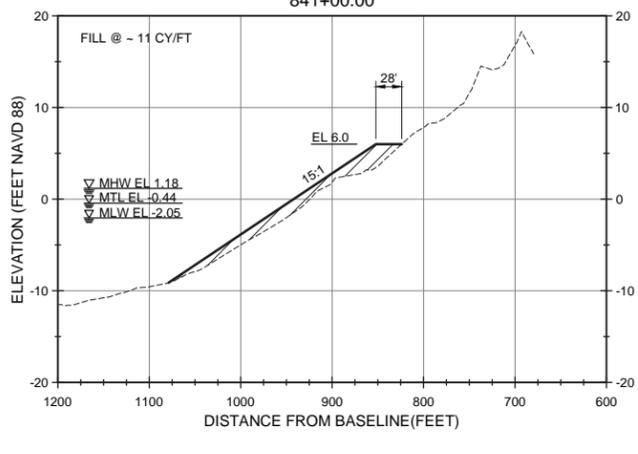
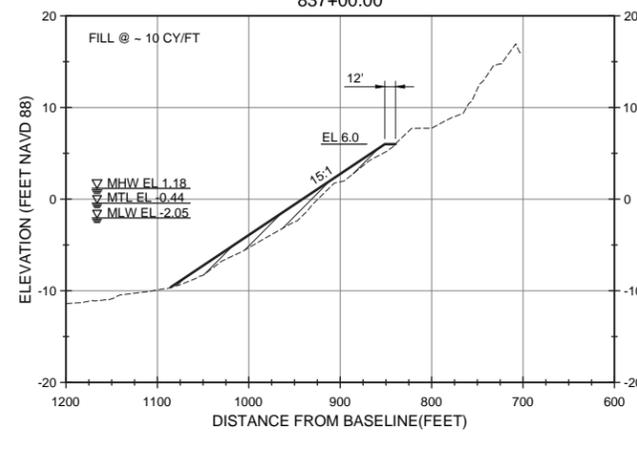
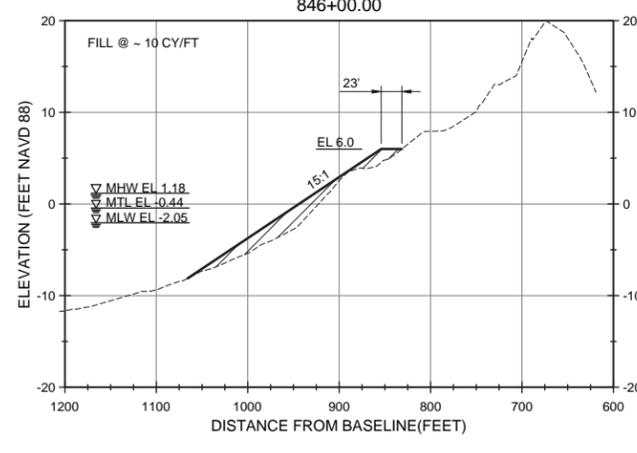
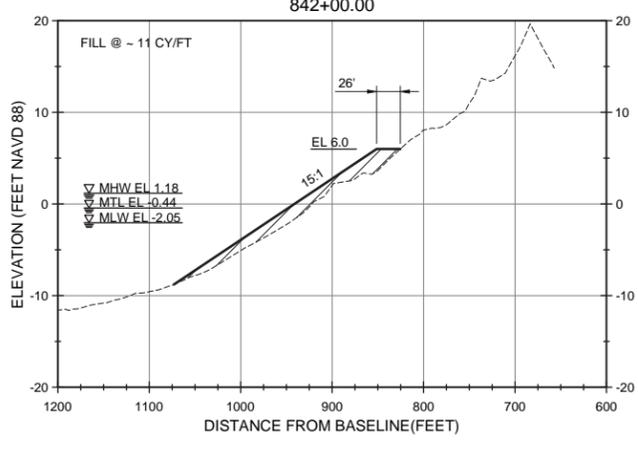
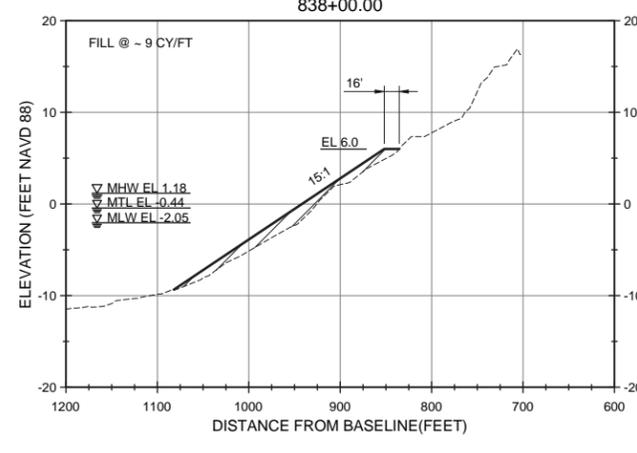
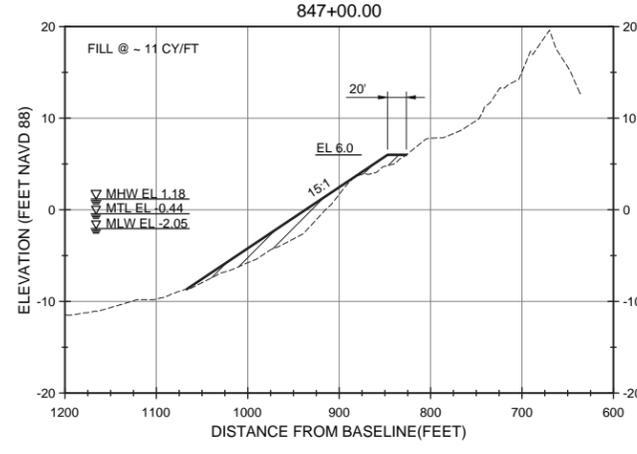
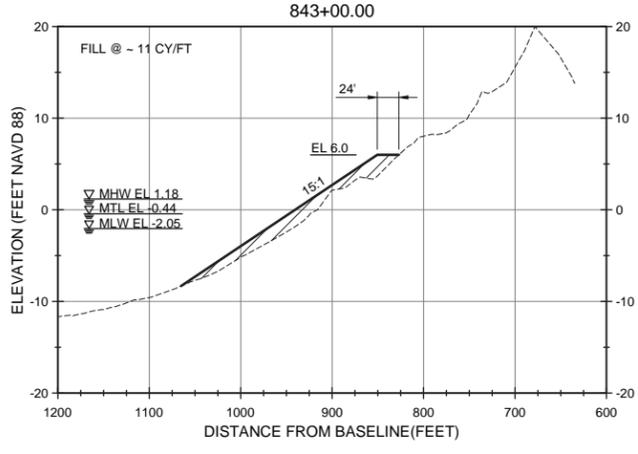
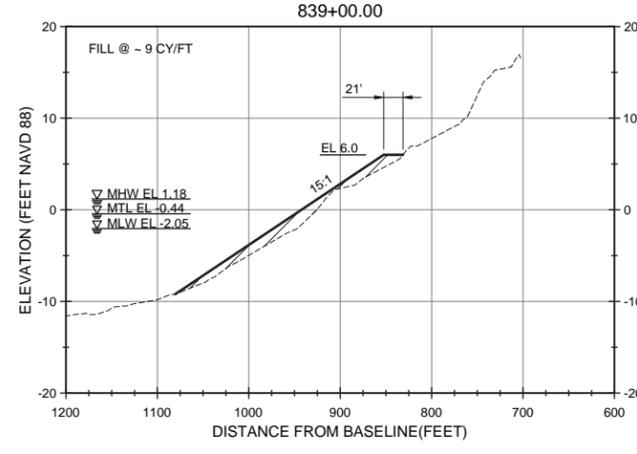
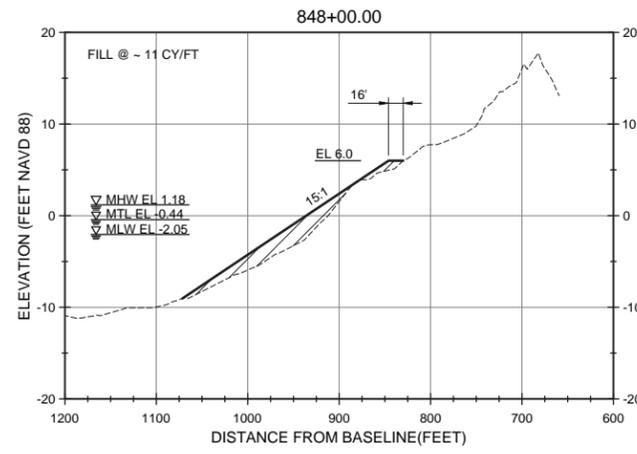
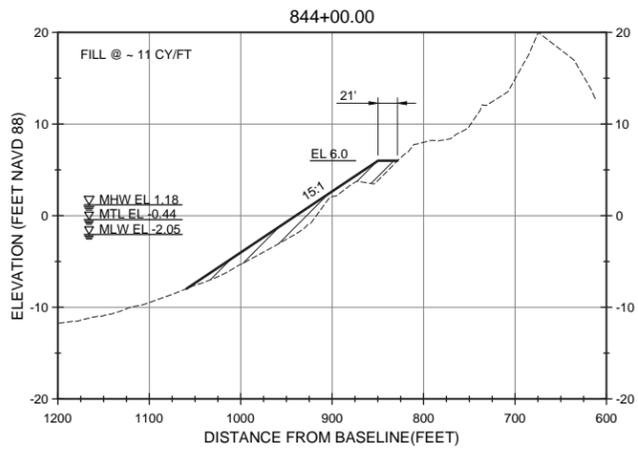
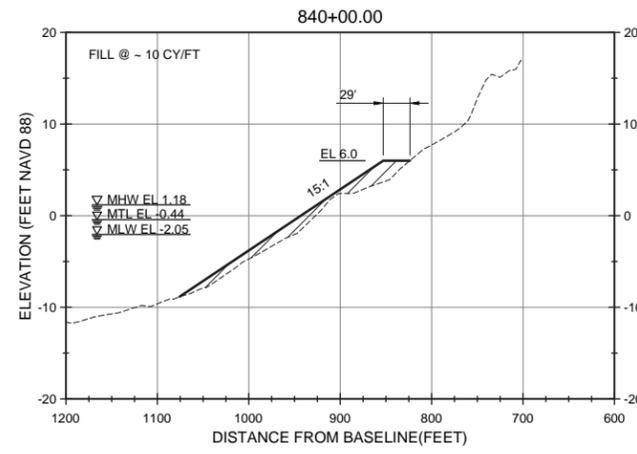
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
CROSS SECTIONS SHEET 4 OF 20

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Reviewed by: B. JOYNER	Drawing code:	
Submitted by: MOFFATT & NICHOL	Drawing Scale: AS SHOWN	Per scale: 1"=10' (0 SHEET)

4700 FALLS OF NEUSE RD., SUITE 300
Raleigh, NC 27609
919-781-4626
NC FIRM NO. F-0105
moffatt & nichol



Sheet Reference No. **C-304**
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- NOTES:**
- DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
 - FOR ADDITIONAL INFORMATION SEE BERM TYPICAL SECTION ON SHEET C-300.
 - EXISTING GROUND SHOWN IS BASED ON JUNE 2020 SURVEY BY MCKIM AND CREED AND REPRESENTS THE APPROXIMATE CONDITIONS AT THE TIME OF SURVEY.

LEGEND

- APPROXIMATE EXISTING GROUND
- ▨ LIMITS OF FILL (BASE BID)
- LIMITS OF CUT

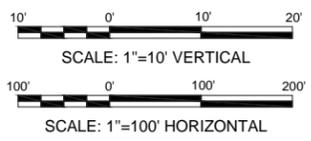


Rev.	Date	Description
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TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
 CROSS SECTIONS SHEET 5 OF 20

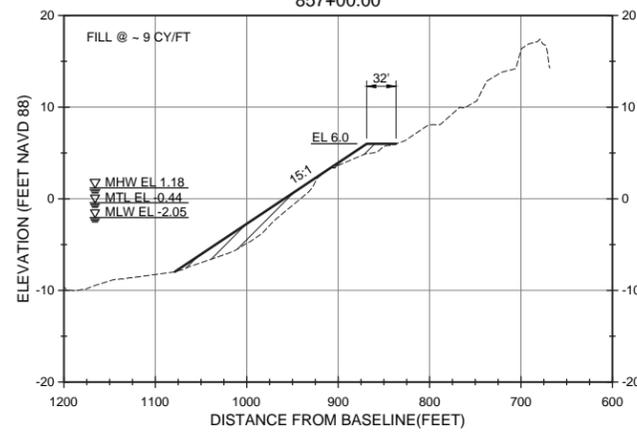
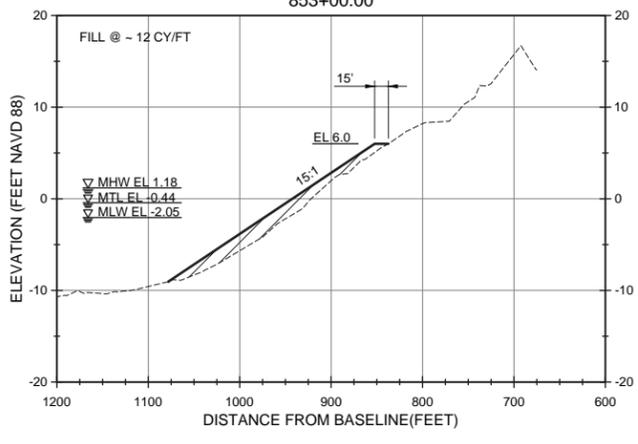
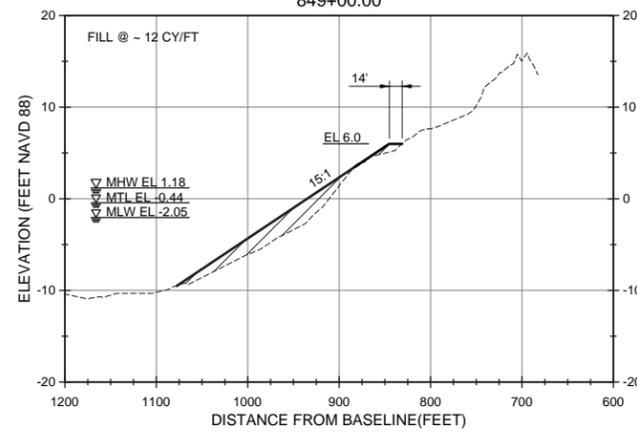
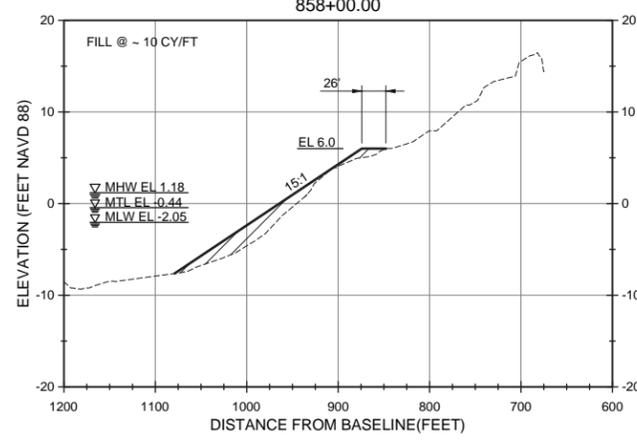
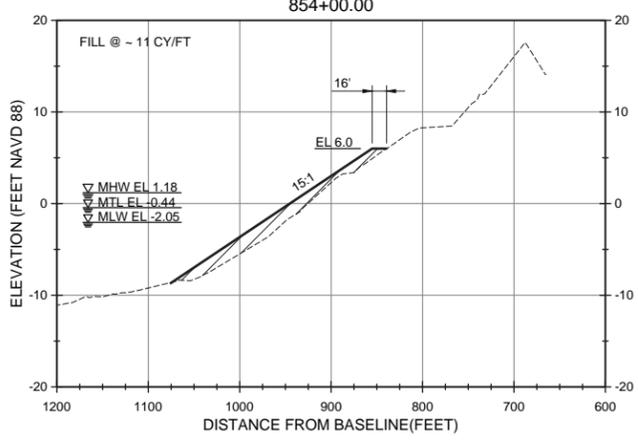
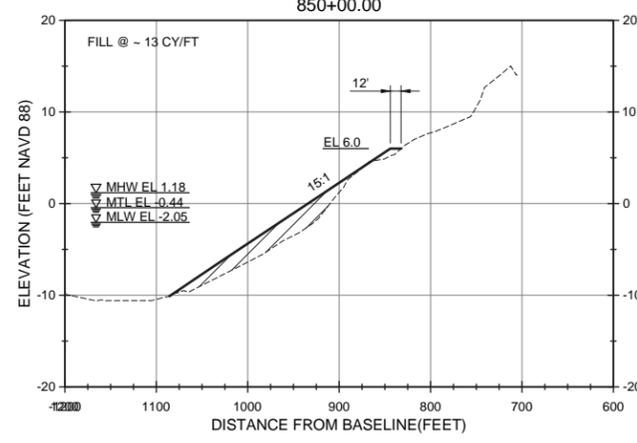
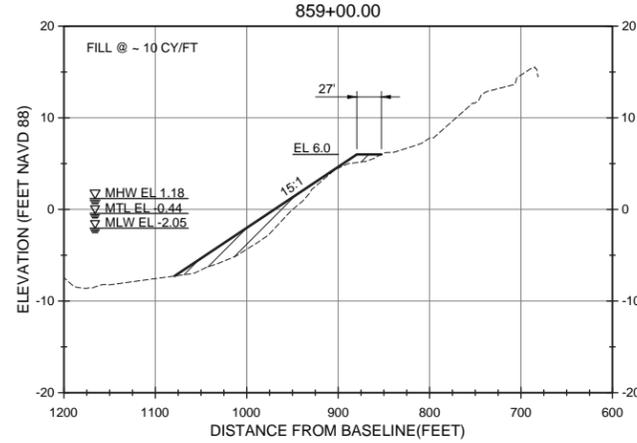
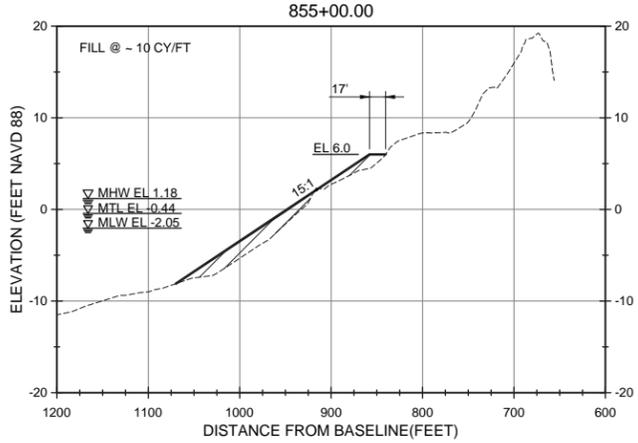
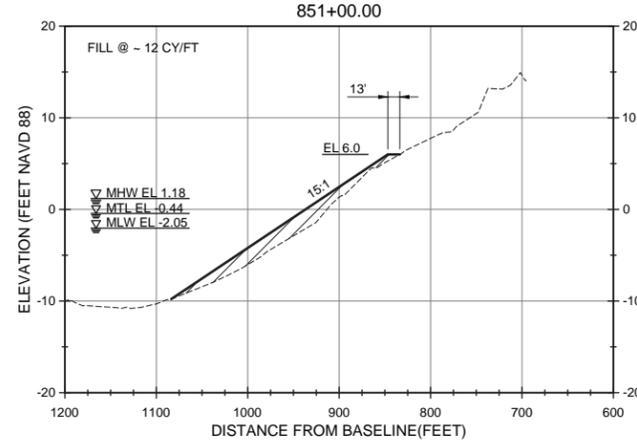
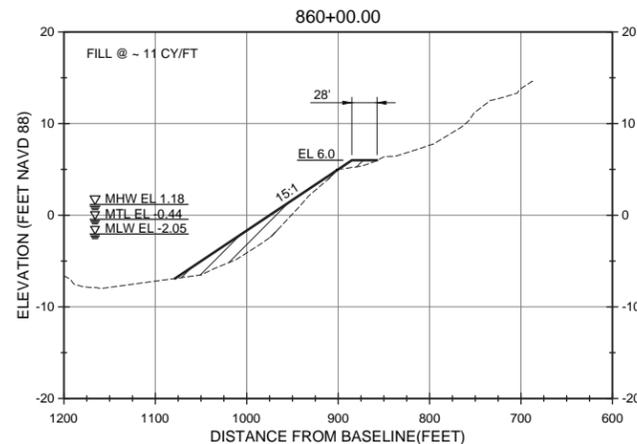
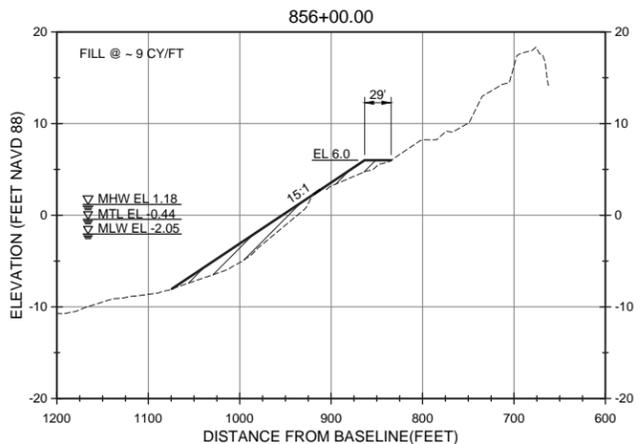
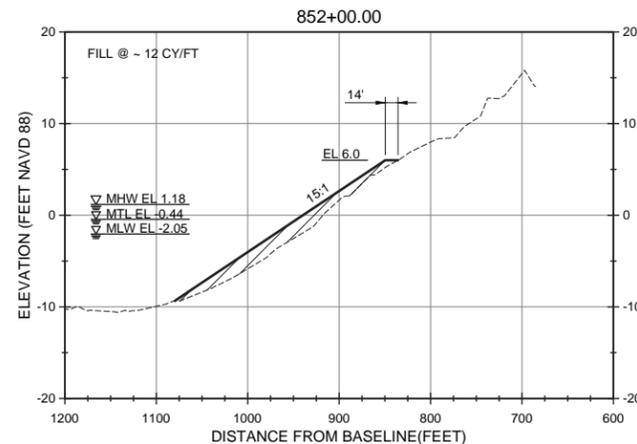
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Drawn by: VNM	M&N Project No: 10979-04	
Reviewed by: B. JOYNER	Drawn by: SMMB	
Submitted by: MOFATT & NICHOL	Drawing code:	AS SHOWN
		Per scale: 1" = 10' (0 SHEET)

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 NC FIRM NO. F-0105
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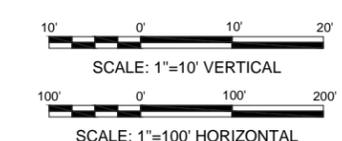
Sheet Reference No.
C-305
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- NOTES:**
- DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
 - FOR ADDITIONAL INFORMATION SEE BERM TYPICAL SECTION ON SHEET C-300.
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LEGEND

- APPROXIMATE EXISTING GROUND
- ▨ LIMITS OF FILL (BASE BID)
- LIMITS OF CUT



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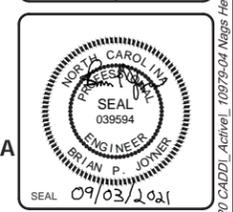


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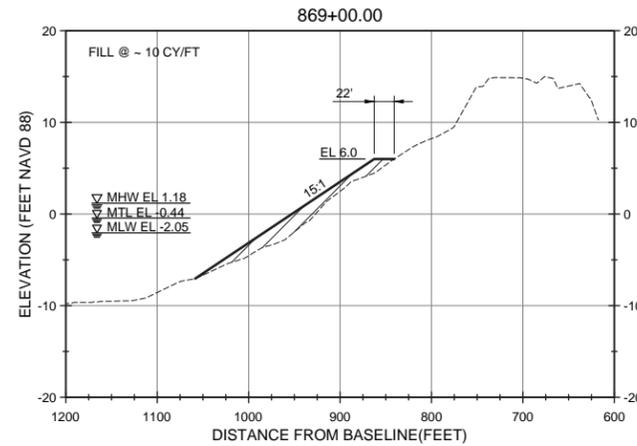
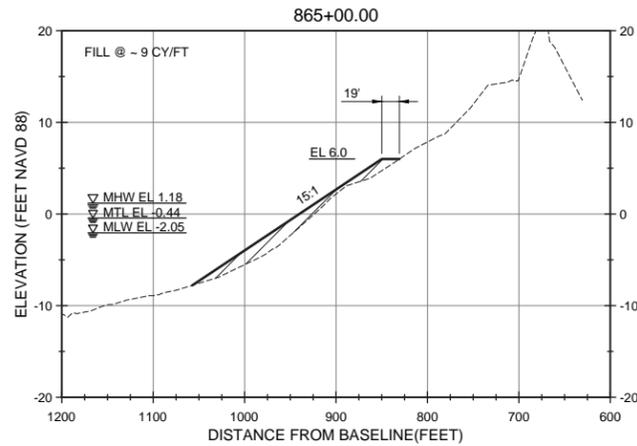
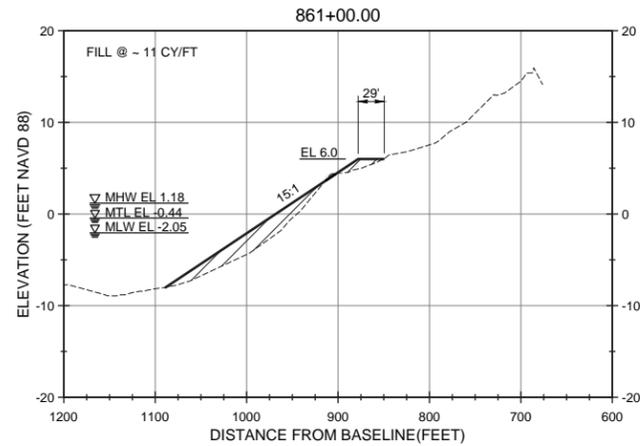
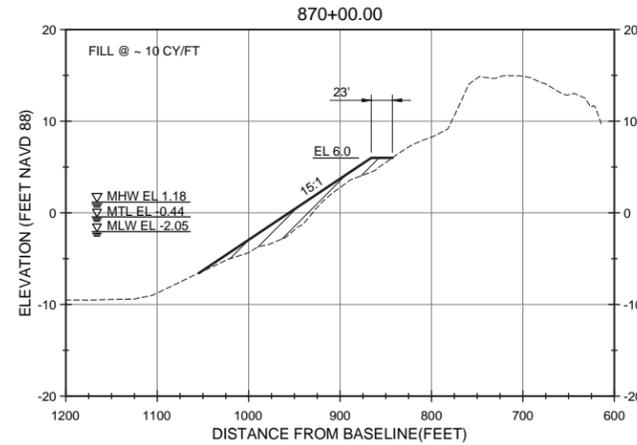
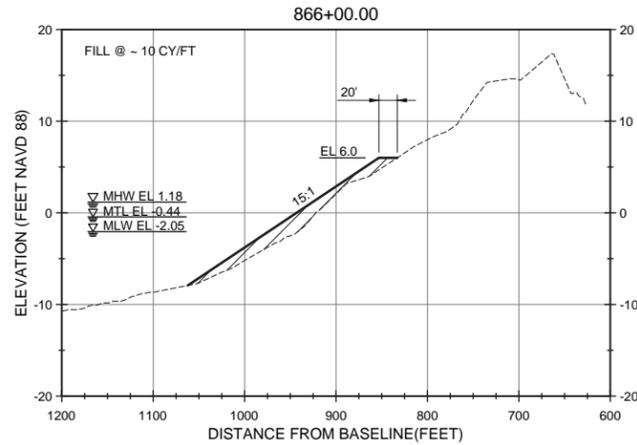
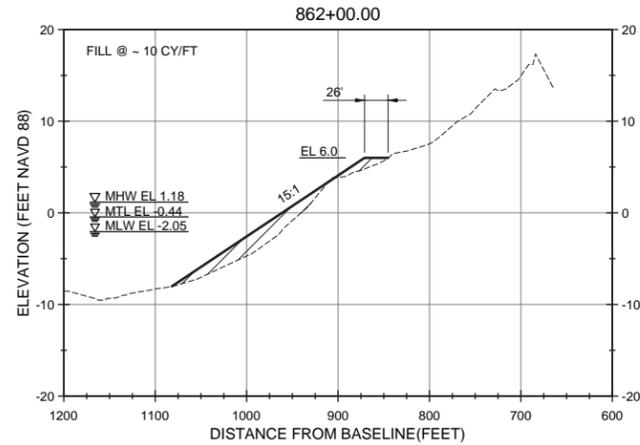
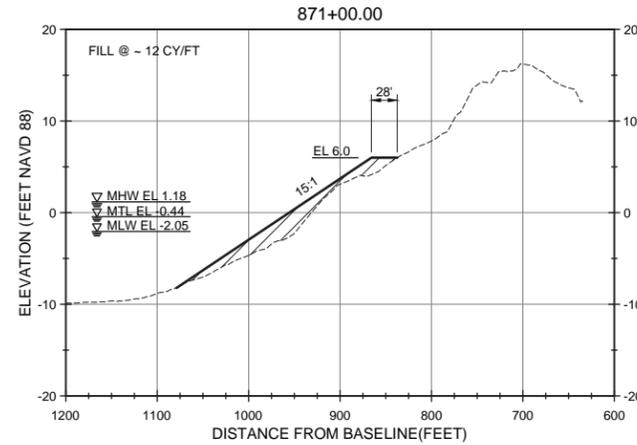
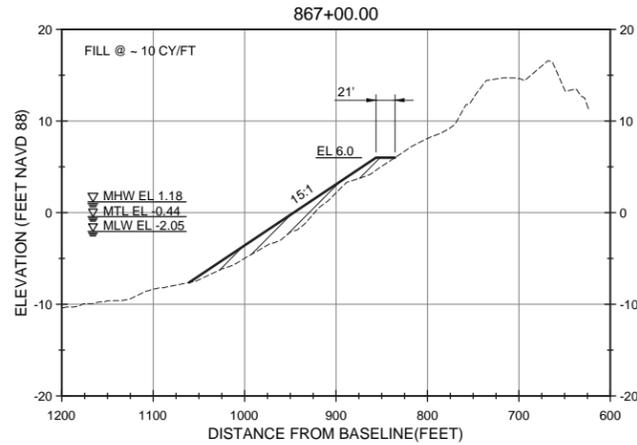
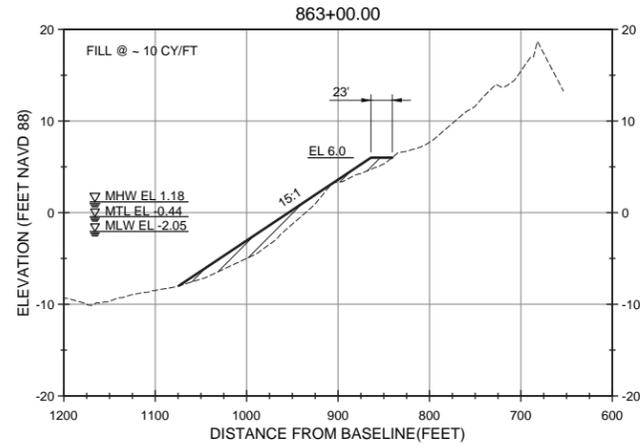
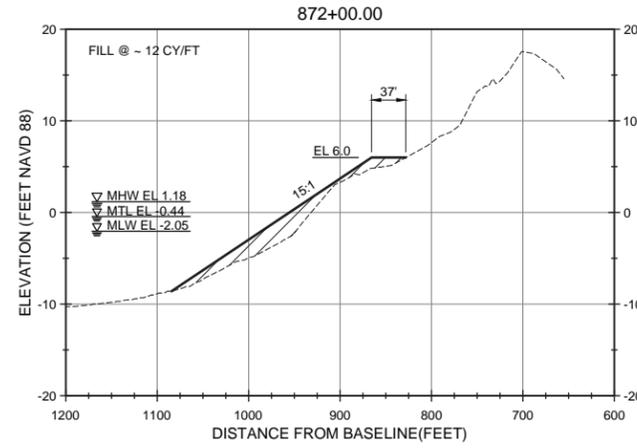
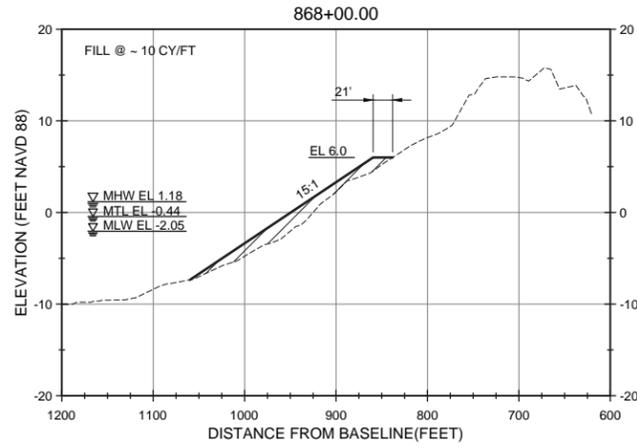
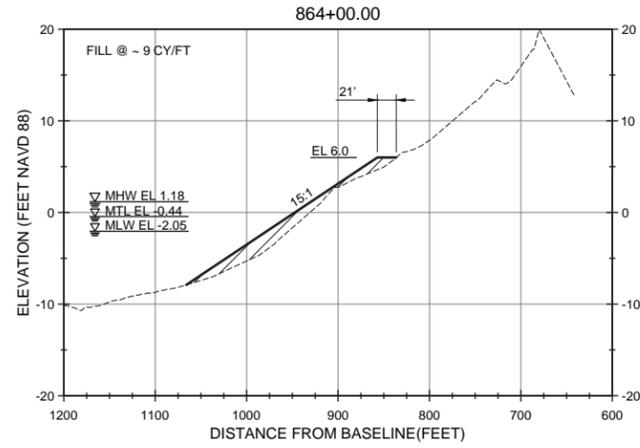
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
 CROSS SECTIONS SHEET 6 OF 20

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Reviewed by: B. JOYNER	Drawing code:	
Submitted by: MOFFATT & NICHOL	Drawing Scale: AS SHOWN	Per scale: 1" = 10' (0 SHEET)

4700 FALLS OF NEUSE RD., SUITE 300
 FARMINGTON, NC 27834
 919-781-4626
 NC FIRM NO. F-0105

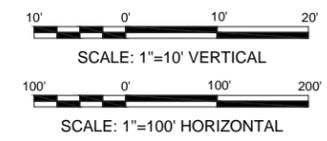


Sheet Reference No. **C-306**
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- NOTES:**
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 2. FOR ADDITIONAL INFORMATION SEE BERM TYPICAL SECTION ON SHEET C-300.
 3. EXISTING GROUND SHOWN IS BASED ON JUNE 2020 SURVEY BY MCKIM AND CREED AND REPRESENTS THE APPROXIMATE CONDITIONS AT THE TIME OF SURVEY.

- LEGEND**
- APPROXIMATE EXISTING GROUND
 - ▨ LIMITS OF FILL (BASE BID)
 - LIMITS OF CUT



ISSUED FOR BID
 ISSUED: 2021-09-03
 NOT TO BE USED FOR CONSTRUCTION

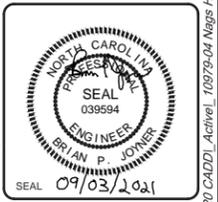


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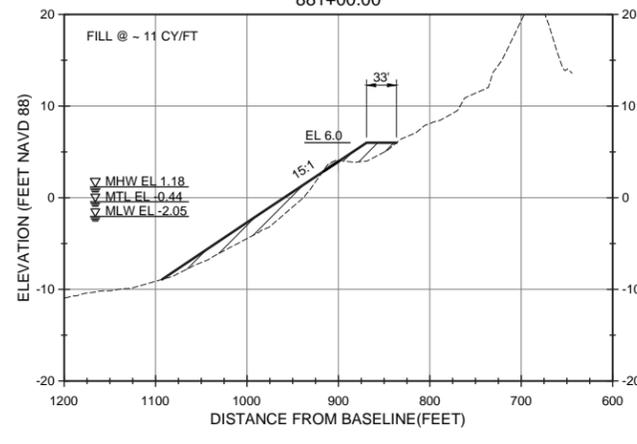
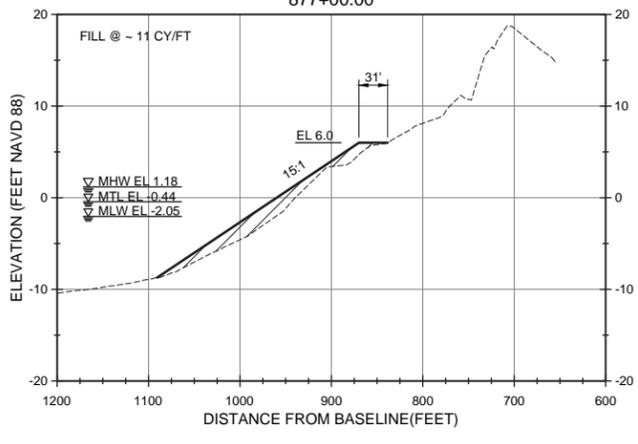
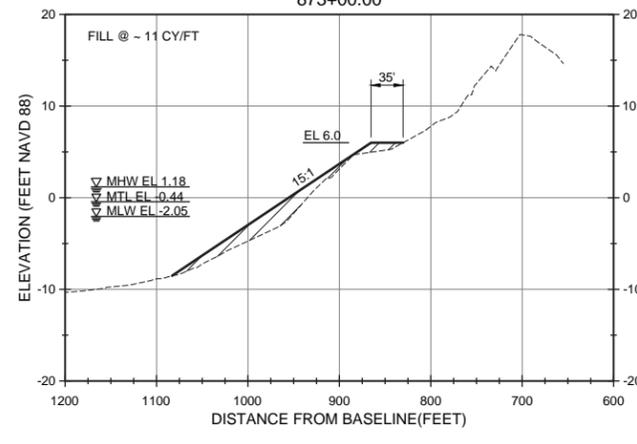
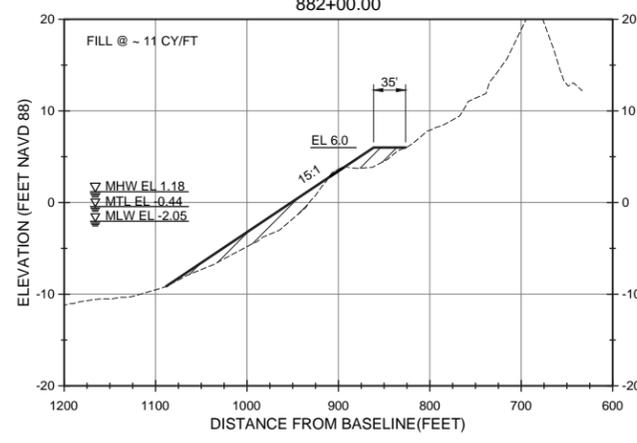
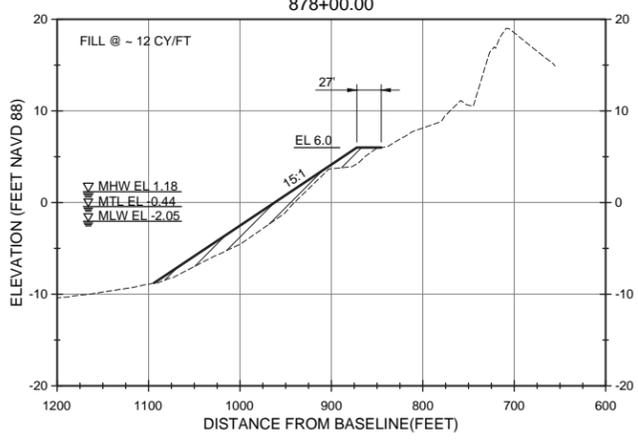
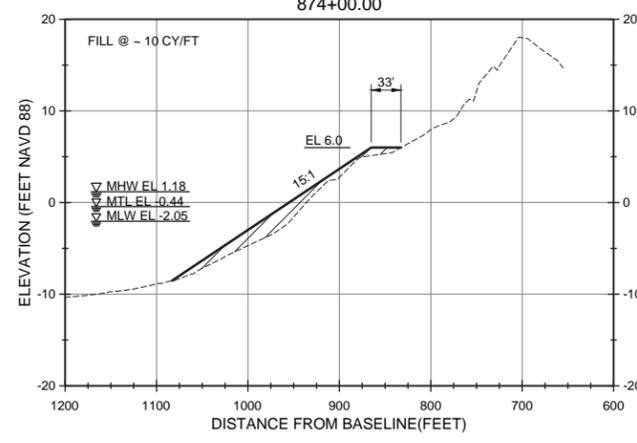
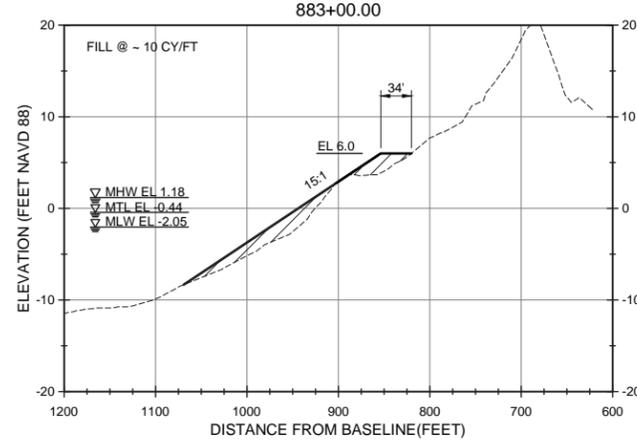
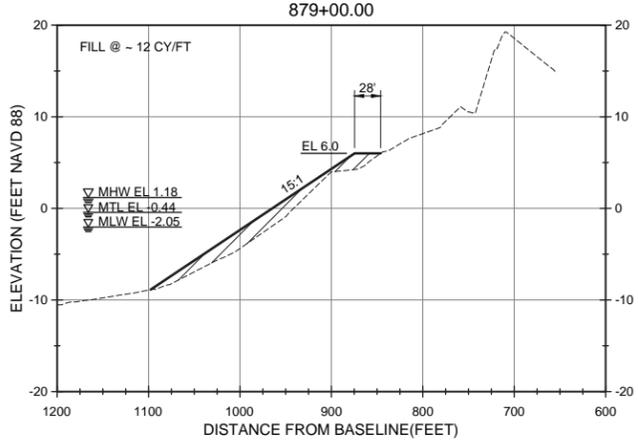
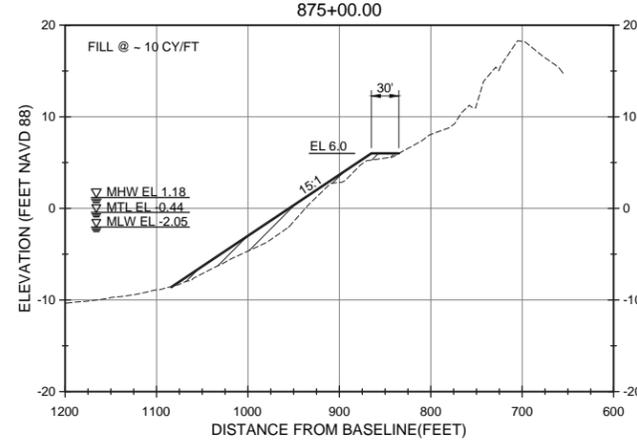
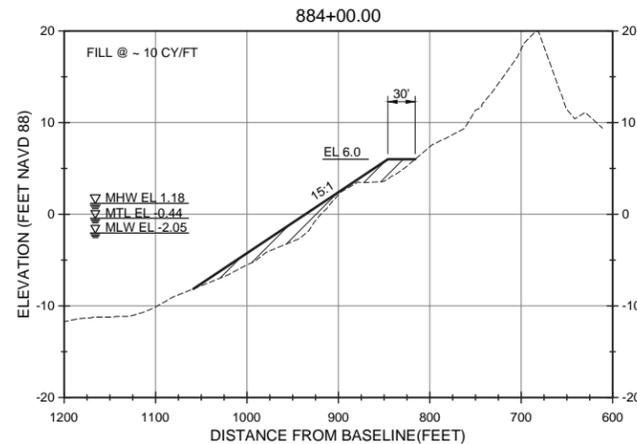
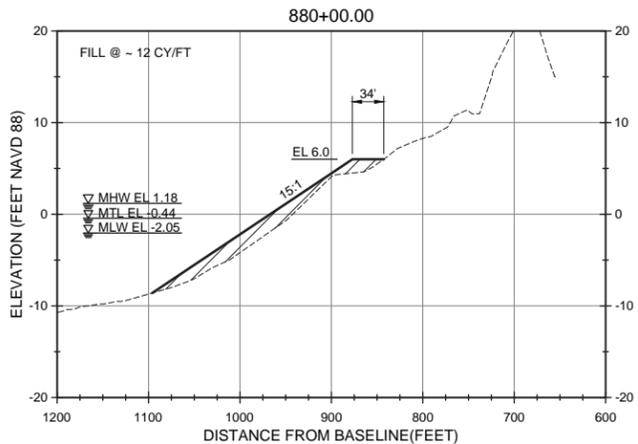
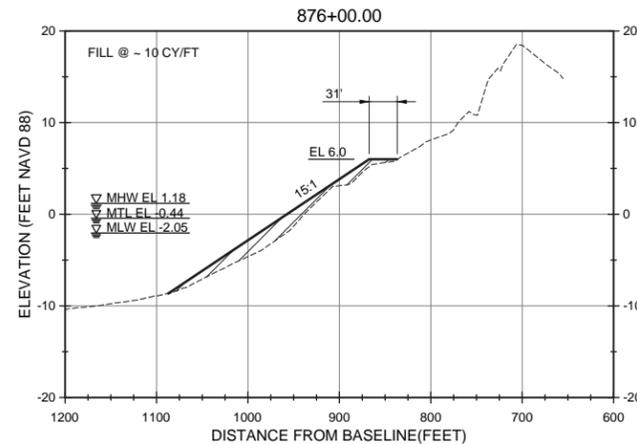
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
 CROSS SECTIONS SHEET 7 OF 20

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
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Reviewed by: B. JOYNER	Drawing code:	
Submitted by: MOFFATT & NICHOL	Drawing Scale: AS SHOWN	Per scale: 1" = 10' (0 SHEET)

4700 FALLS OF NEUSE RD., SUITE 300
 FARMINGTON, NC 27834
 919-781-4626
 NC FIRM NO. F-0105
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Sheet Reference No.
C-307
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- NOTES:**
- DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
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LEGEND

- APPROXIMATE EXISTING GROUND
- ▨ LIMITS OF FILL (BASE BID)
- LIMITS OF CUT

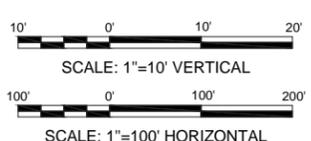
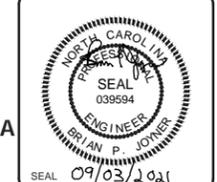


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TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
 CROSS SECTIONS SHEET 8 OF 20

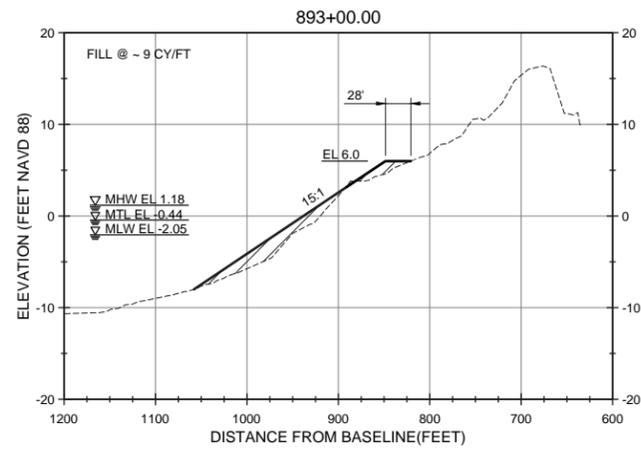
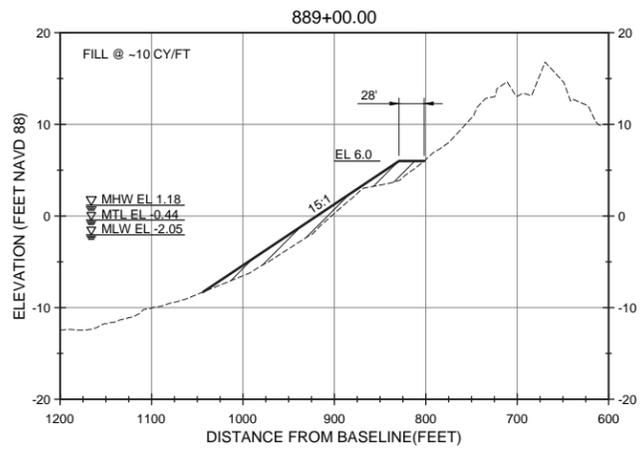
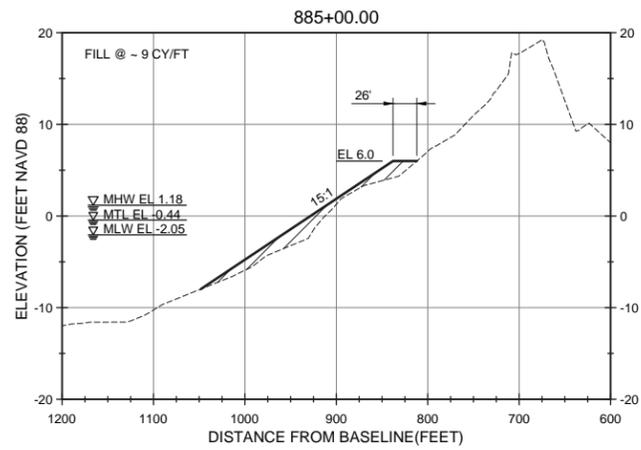
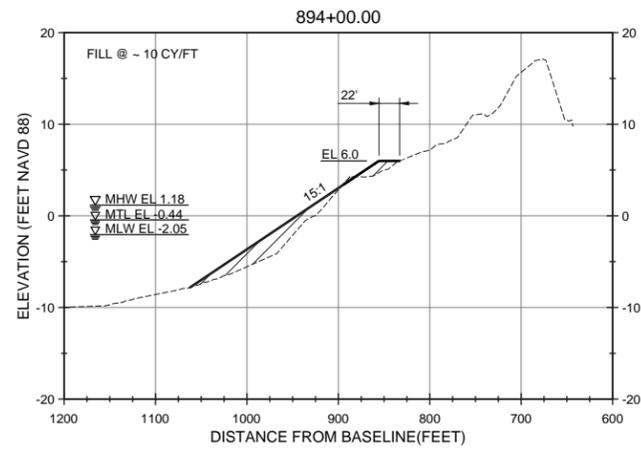
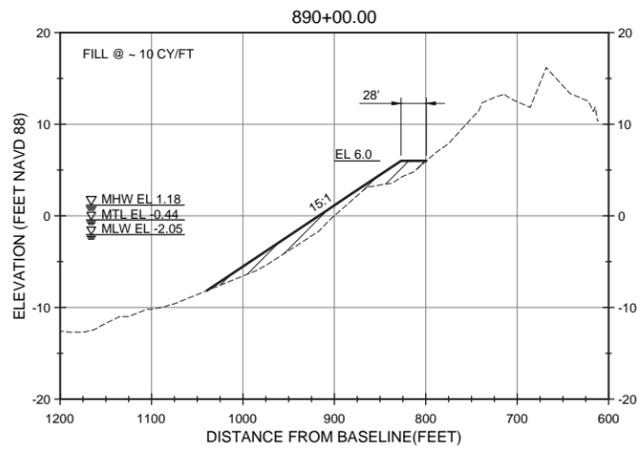
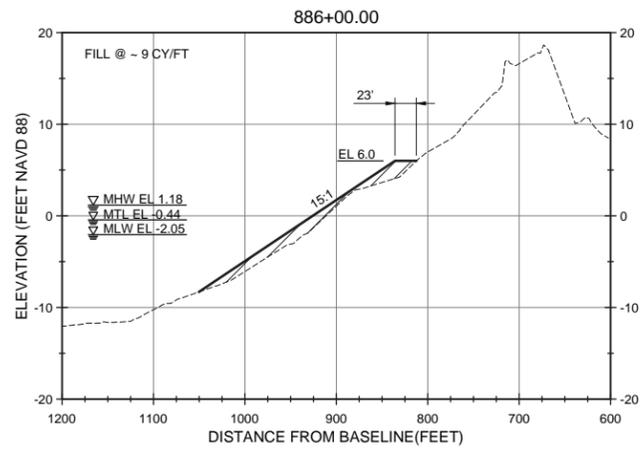
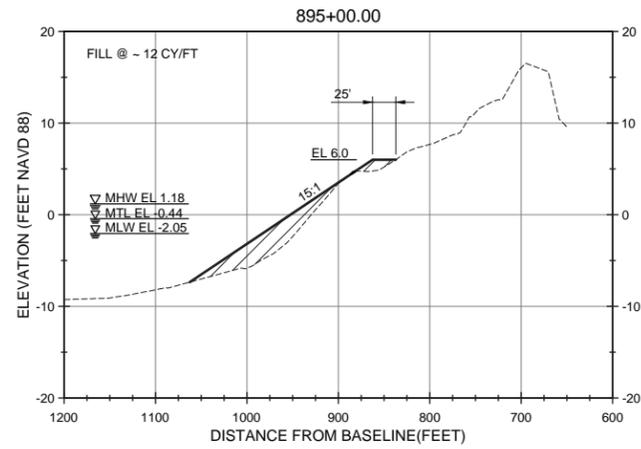
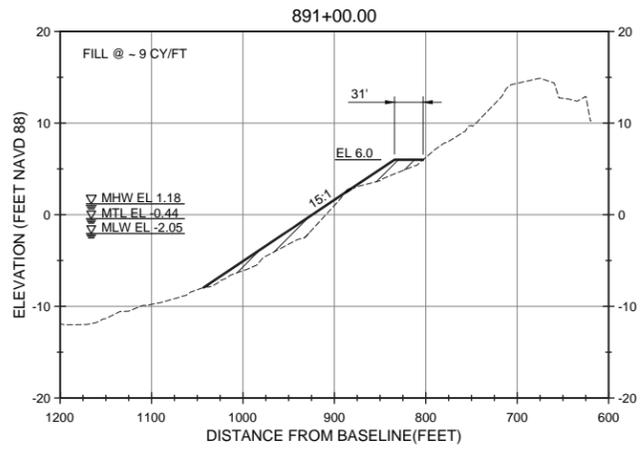
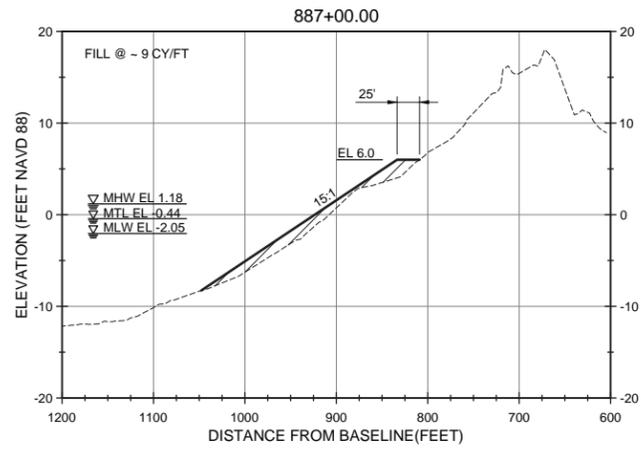
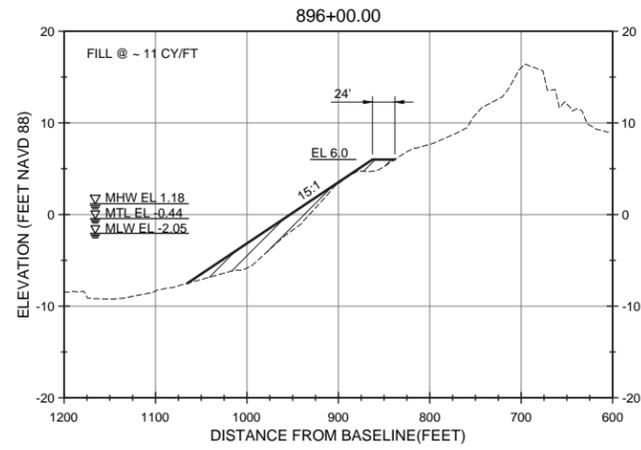
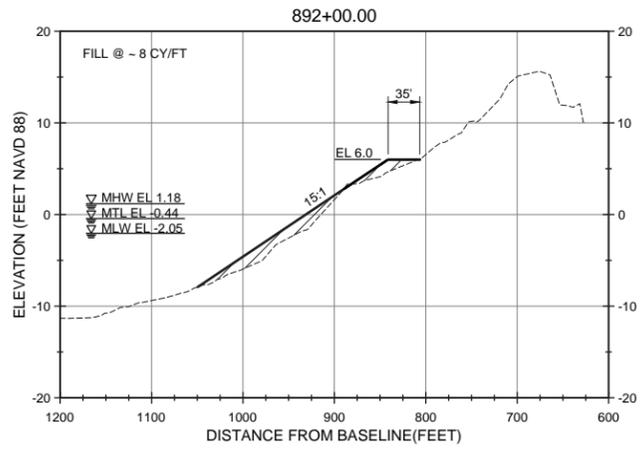
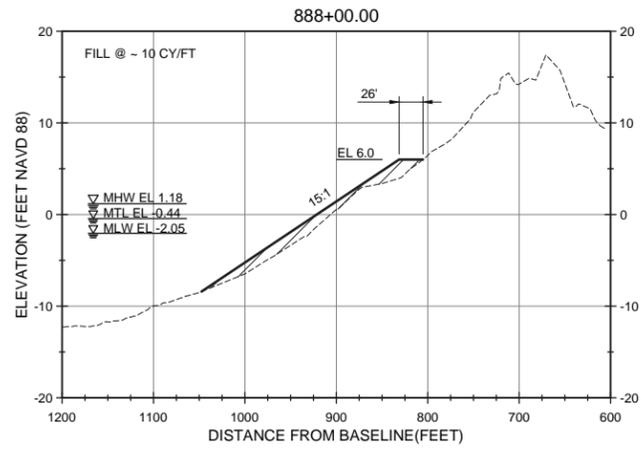
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Checked by: SMMB	Drawing code:	
Reviewed by: B. JOYNER	Submitted by: MOFATT & NICHOL	AS SHOWN
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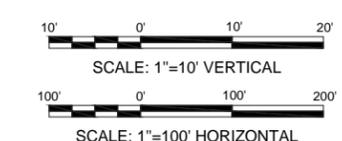
Sheet Reference No.
C-308
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- NOTES:**
- DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
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LEGEND

- APPROXIMATE EXISTING GROUND
- ▨ LIMITS OF FILL (BASE BID)
- LIMITS OF CUT



ISSUED FOR BID
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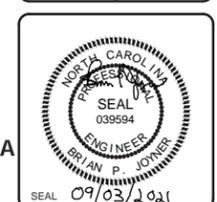


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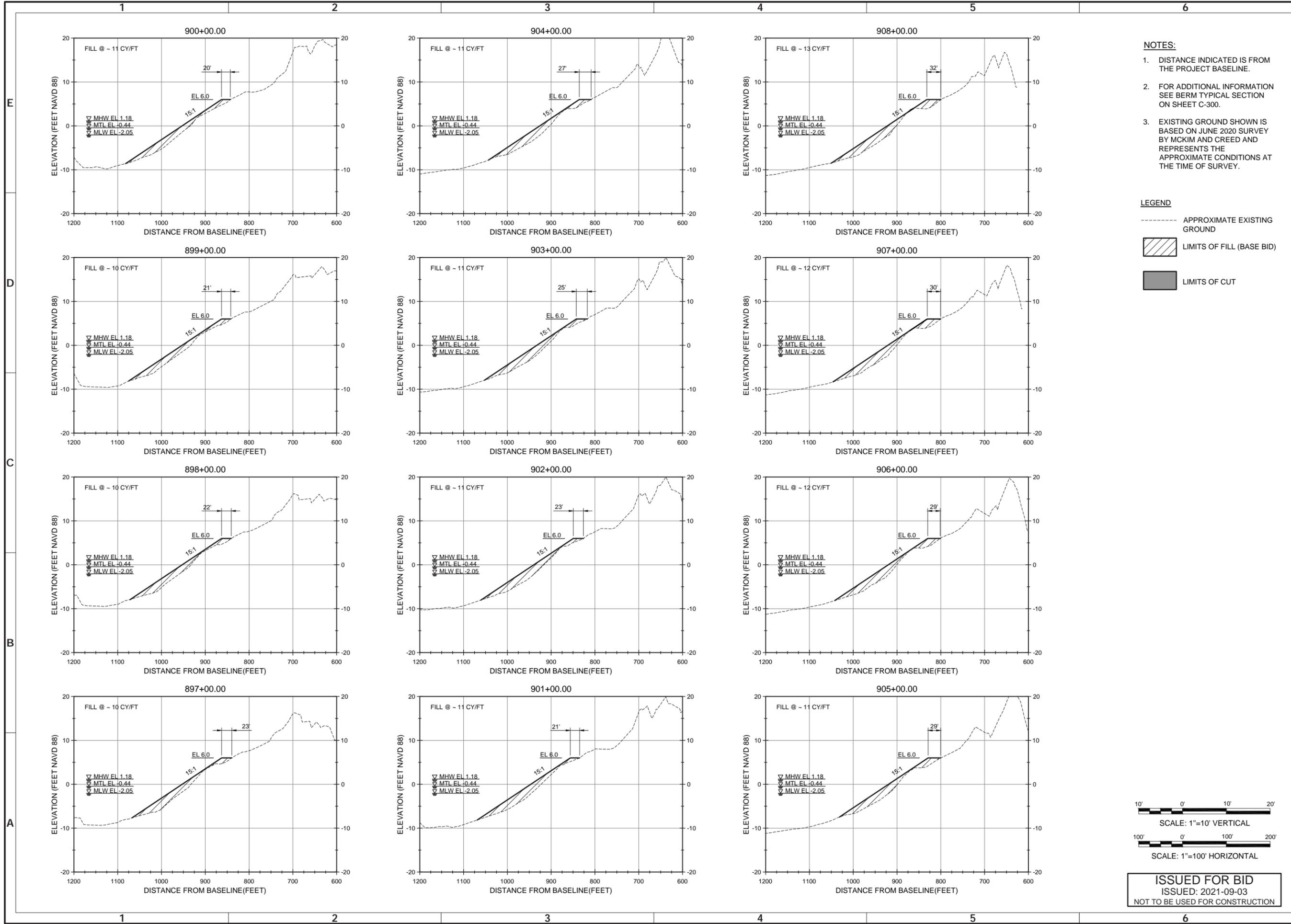
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
 CROSS SECTIONS SHEET 9 OF 20

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	M&N Project No: 10979-04	
Reviewed by: B. JOYNER	Drawing code:	
Submitted by: MOFFATT & NICHOL	Drawing Scale: AS SHOWN	Per scale: 1" = 10' (0 SHEET)

4700 FALLS OF NEUSE RD., SUITE 300
 FARMINGTON, NC 27834
 919-781-4626
 NC FIRM NO. F-0105
moffatt & nichol



Sheet Reference No.
C-309
 INDEX: 29 OF 42

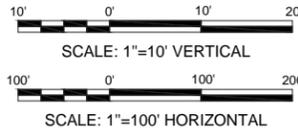


NOTES:

1. DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
2. FOR ADDITIONAL INFORMATION SEE BERM TYPICAL SECTION ON SHEET C-300.
3. EXISTING GROUND SHOWN IS BASED ON JUNE 2020 SURVEY BY MCKIM AND CREED AND REPRESENTS THE APPROXIMATE CONDITIONS AT THE TIME OF SURVEY.

LEGEND

- - - - - APPROXIMATE EXISTING GROUND
- [Hatched Box] LIMITS OF FILL (BASE BID)
- [Solid Box] LIMITS OF CUT



ISSUED FOR BID
ISSUED: 2021-09-03
NOT TO BE USED FOR CONSTRUCTION

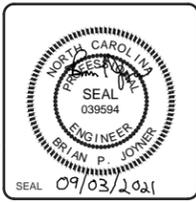


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ISSUED FOR BID			
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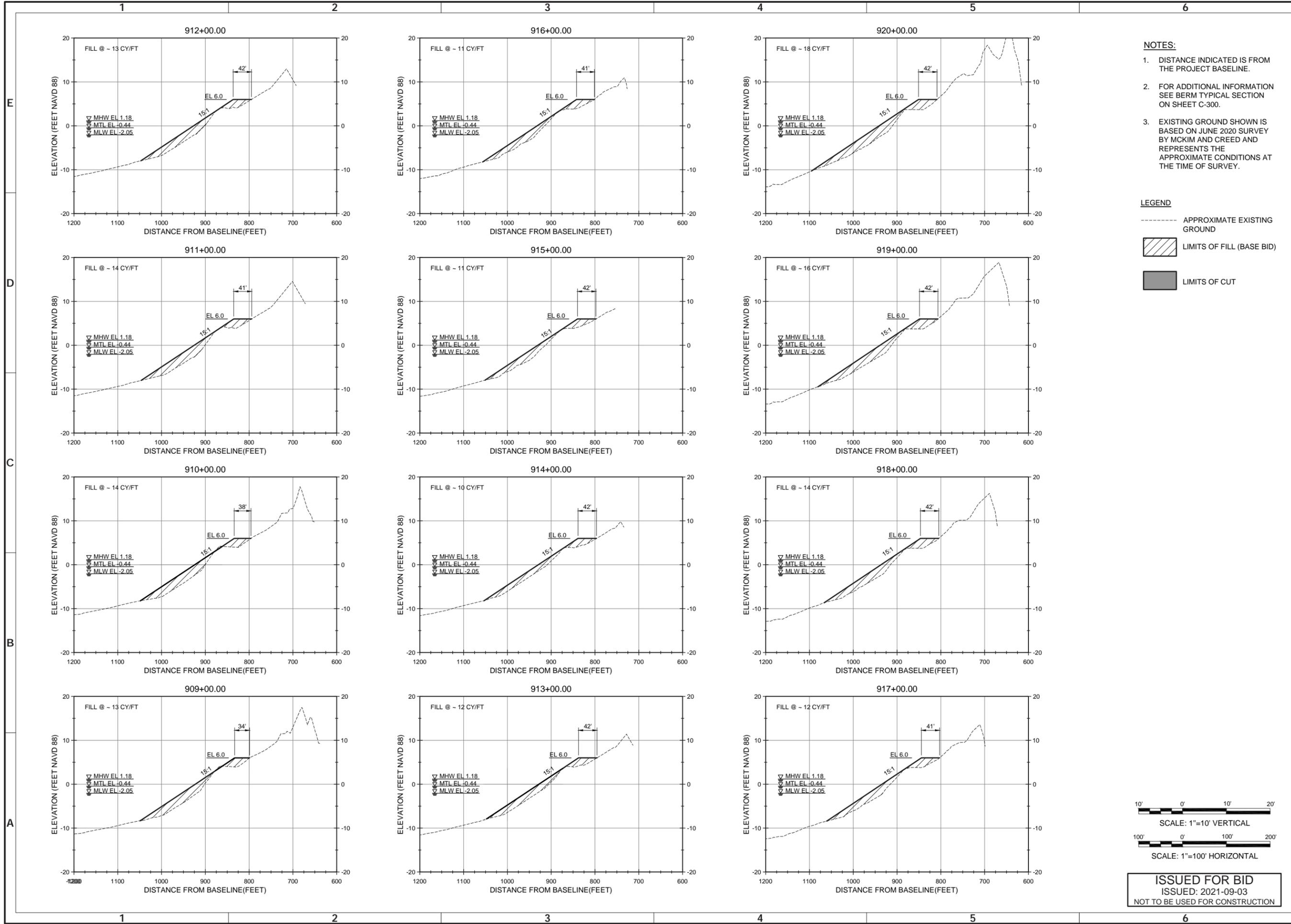
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
CROSS SECTIONS SHEET 10 OF 20

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	M&N Project No: 10979-04	
Reviewed by: B. JOYNER	Drawn by: SMMB	
Submitted by: MOFATT & NICHOL	Drawing code:	AS SHOWN
		Per scale: 1"=10' (0 SHEET)

4700 FALLS OF NEUSE RD., SUITE 300
Raleigh, NC 27609
919-781-4626
NC FIRM NO. F-0105
moftatt & nichol



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INDEX: 30 OF 42

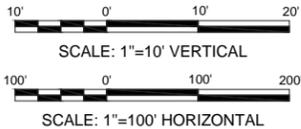


NOTES:

1. DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
2. FOR ADDITIONAL INFORMATION SEE BERM TYPICAL SECTION ON SHEET C-300.
3. EXISTING GROUND SHOWN IS BASED ON JUNE 2020 SURVEY BY MCKIM AND CREED AND REPRESENTS THE APPROXIMATE CONDITIONS AT THE TIME OF SURVEY.

LEGEND

- APPROXIMATE EXISTING GROUND
- [Hatched Box] LIMITS OF FILL (BASE BID)
- [Shaded Box] LIMITS OF CUT



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 ISSUED: 2021-09-03
 NOT TO BE USED FOR CONSTRUCTION



Rev.	Date	Description
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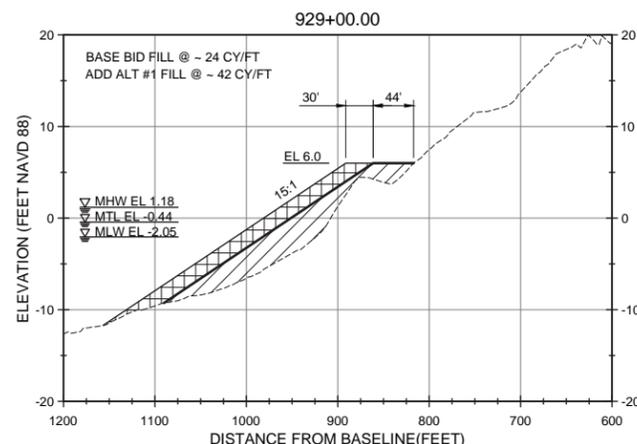
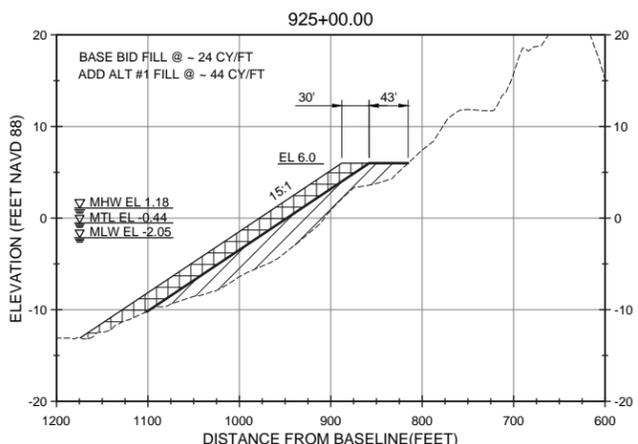
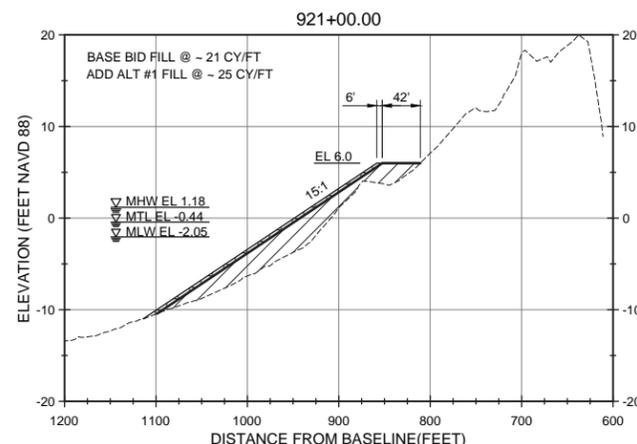
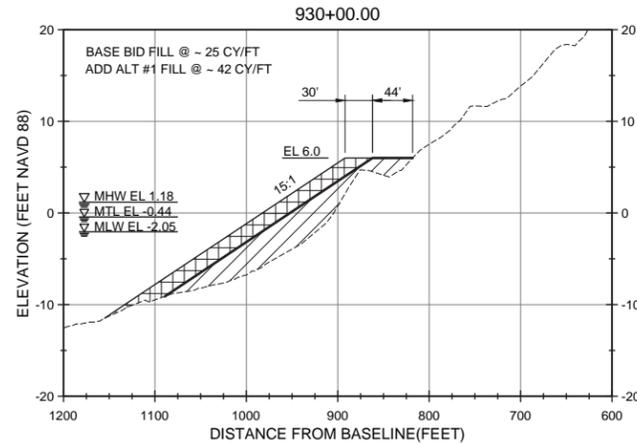
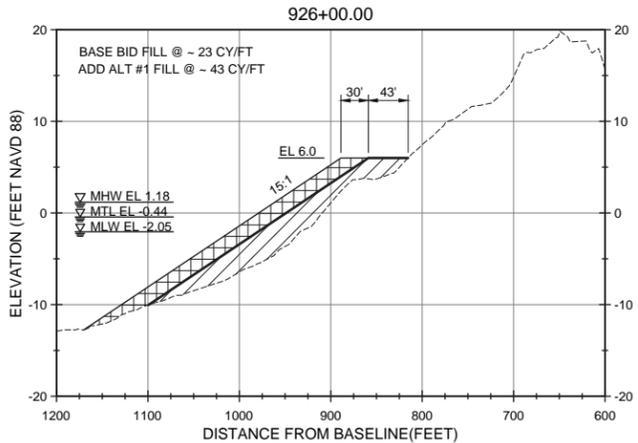
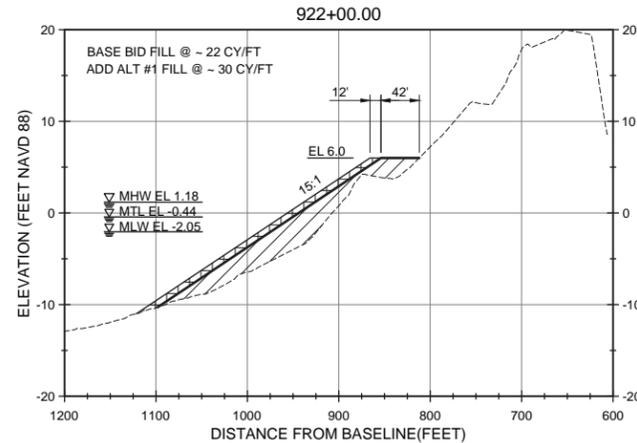
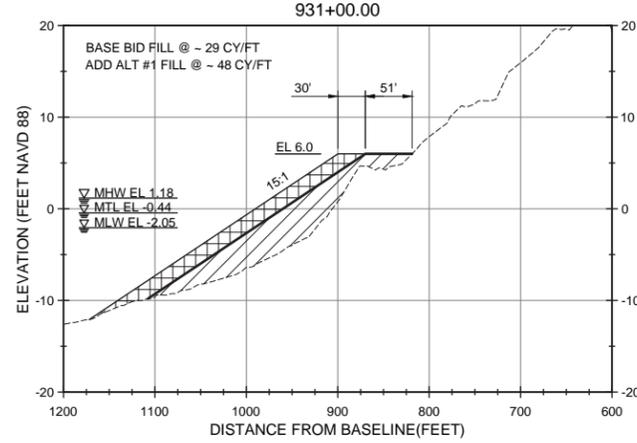
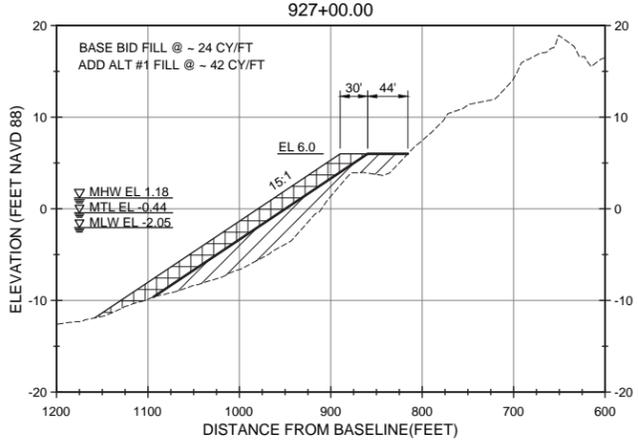
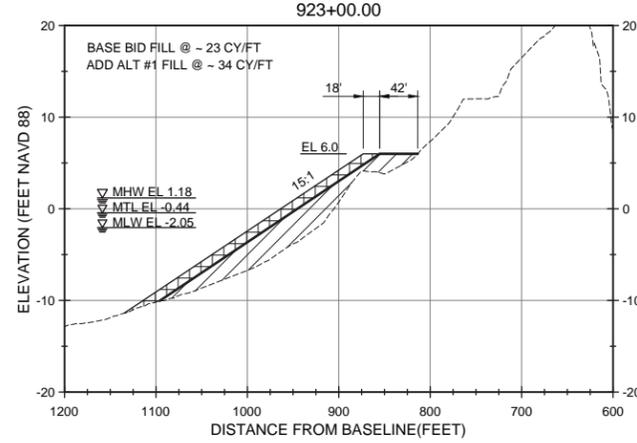
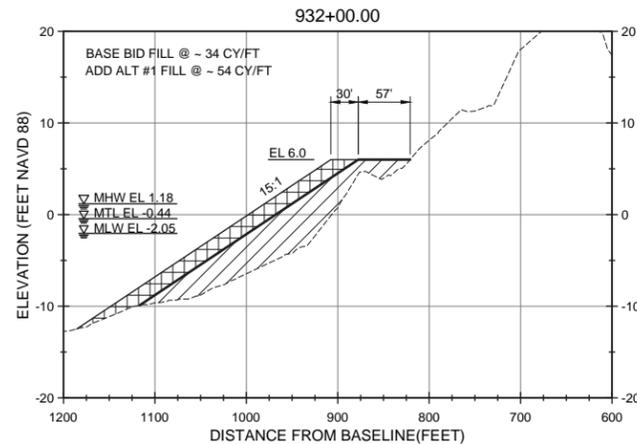
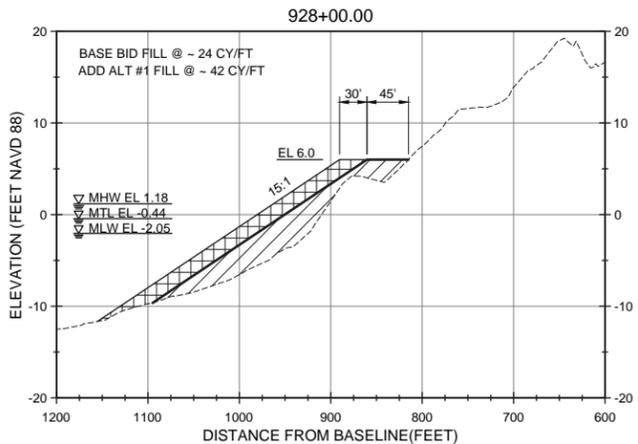
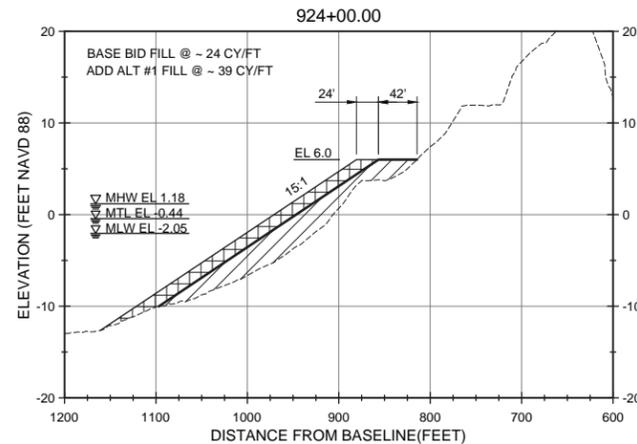
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
CROSS SECTIONS SHEET 11 OF 20

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Reviewed by: B. JOYNER	Drawn by: SMMB	
Submitted by: MOFFATT & NICHOL	Drawing code:	AS SHOWN
	Per scale: 1" = 10' (0 SHEET)	

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 FARMINGTON, NC 27834
 919-781-4626
 NC FIRM NO. F-0105
moffatt & nichol



Sheet Reference No.
C-311
 INDEX: 31 OF 42



- NOTES:**
- DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
 - FOR ADDITIONAL INFORMATION SEE BERM TYPICAL SECTION ON SHEET C-300.
 - EXISTING GROUND SHOWN IS BASED ON JUNE 2020 SURVEY BY MCKIM AND CREED AND REPRESENTS THE APPROXIMATE CONDITIONS AT THE TIME OF SURVEY.
 - ADD ALT #1 FILL, NOTED ON SECTIONS, IS A TOTAL FILL, INCLUDING BASE BID FILL.
 - OWNER RESERVES THE RIGHT TO ADJUST THE FILL DENSITY AND PLACEMENT LOCATION OF ADD ALT #1 FILL (WITHIN STATIONS 920+00 TO 1025+00).

LEGEND

- APPROXIMATE EXISTING GROUND
- [Hatched Box] LIMITS OF FILL (BASE BID)
- [Solid Grey Box] LIMITS OF CUT
- [Cross-hatched Box] LIMITS OF FILL (ADD ALT #1)



Rev.	Date	Description
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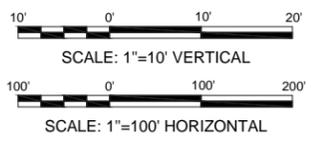
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

CROSS SECTIONS SHEET 12 OF 20

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Checked by: SMMB	Drawing code:	
Reviewed by: B. JOYNER	Submitted by: MCFATT & NICHOL	AS SHOWN
	Per scale: 1" = 10' (0 SHEET)	

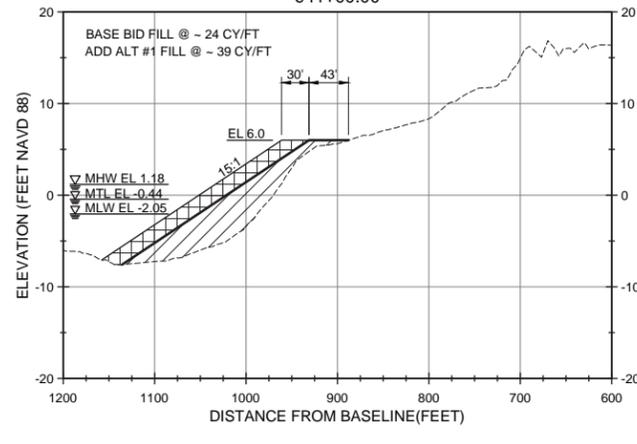
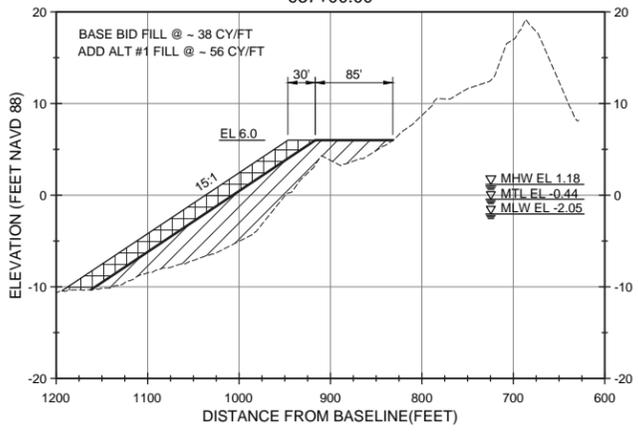
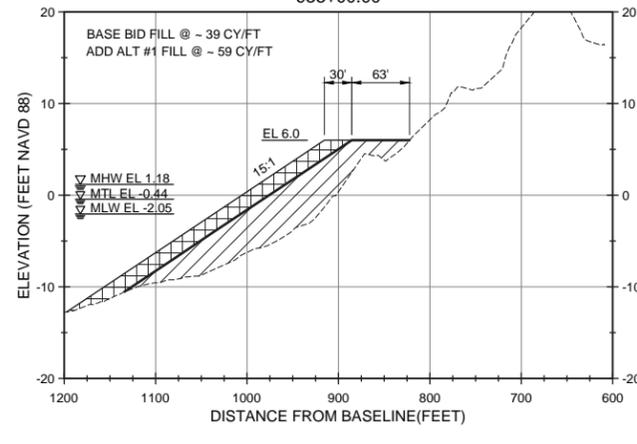
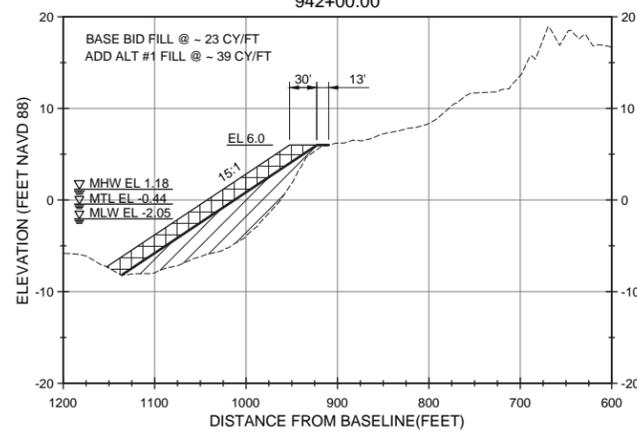
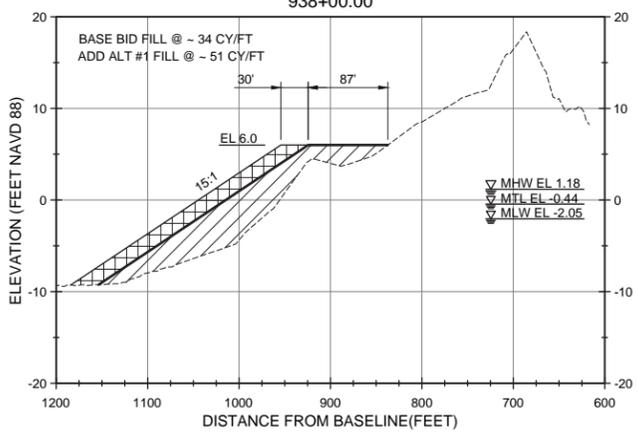
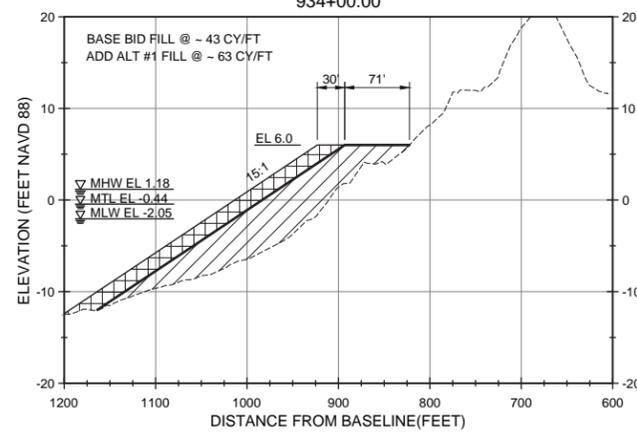
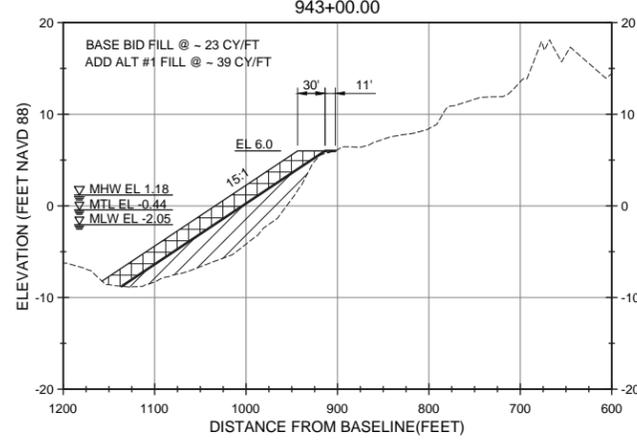
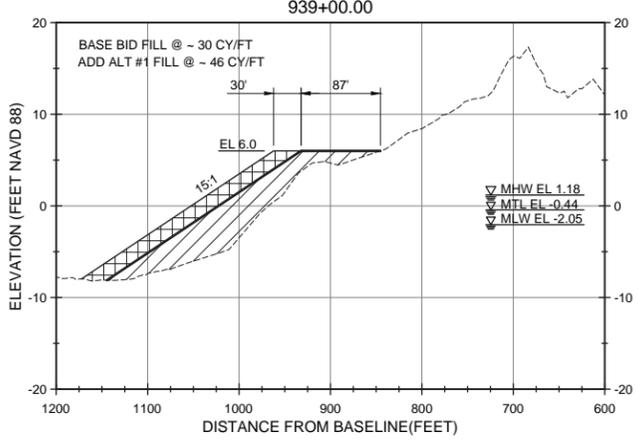
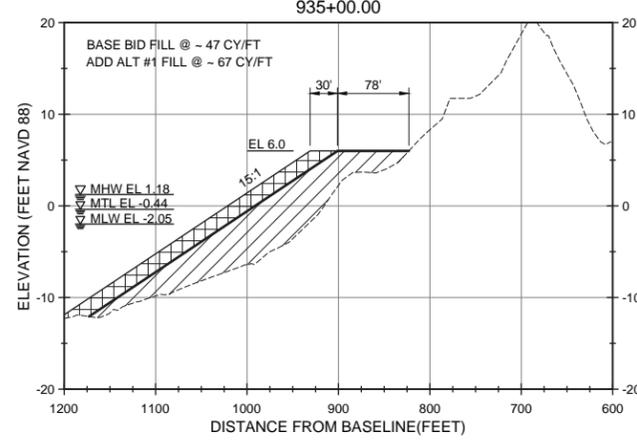
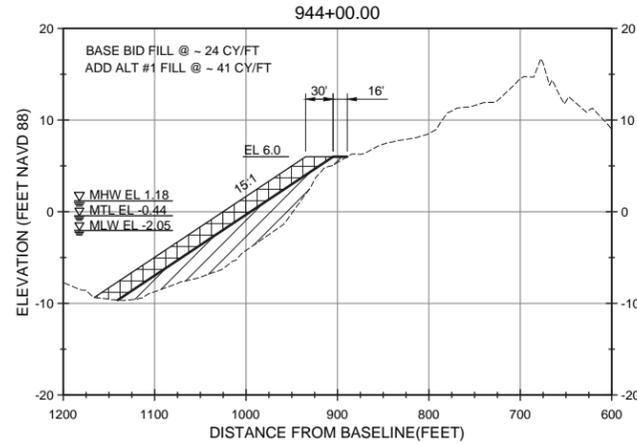
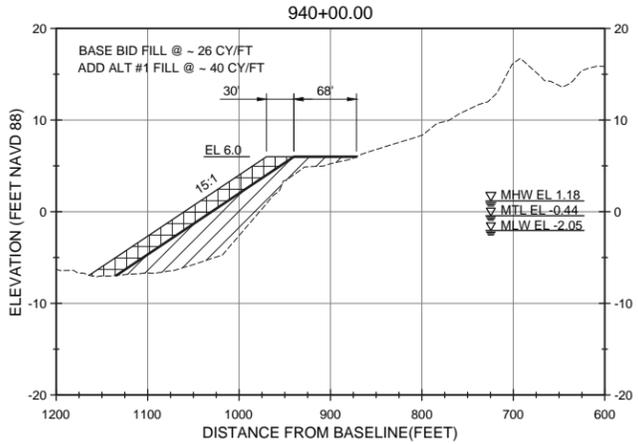
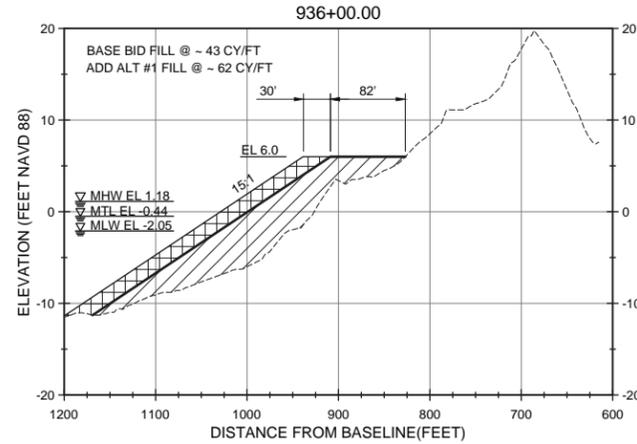
4700 FALLS OF NEUSE RD., SUITE 300
 FARMINGTON, NC 27834
 919-781-4626
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ISSUED FOR BID
 ISSUED: 2021-09-03
 NOT TO BE USED FOR CONSTRUCTION

Sheet Reference No. **C-312**
 INDEX: 32 OF 42



- NOTES:**
- DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
 - FOR ADDITIONAL INFORMATION SEE BERM TYPICAL SECTION ON SHEET C-300.
 - EXISTING GROUND SHOWN IS BASED ON JUNE 2020 SURVEY BY MCKIM AND CREED AND REPRESENTS THE APPROXIMATE CONDITIONS AT THE TIME OF SURVEY.
 - ADD ALT #1 FILL, NOTED ON SECTIONS, IS A TOTAL FILL, INCLUDING BASE BID FILL.
 - OWNER RESERVES THE RIGHT TO ADJUST THE FILL DENSITY AND PLACEMENT LOCATION OF ADD ALT #1 FILL (WITHIN STATIONS 920+00 TO 1025+00).

LEGEND

- APPROXIMATE EXISTING GROUND
- [Hatched Box] LIMITS OF FILL (BASE BID)
- [Solid Grey Box] LIMITS OF CUT
- [Cross-hatched Box] LIMITS OF FILL (ADD ALT #1)



Rev.	Date	Description
0	2021-09-03	ISSUED FOR BID

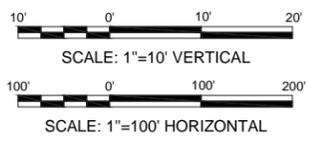
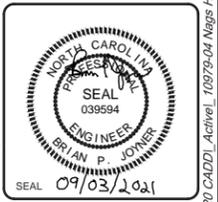
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

CROSS SECTIONS SHEET 13 OF 20

Designed by: NV/SMMB	Drawn by: VNM	Reviewed by: B. JOYNER	Submitted by: MOFATT & NICHEL
Checked by: SMMB	MAN Project No: 10979-04	Drawing code:	Drawing Scale: AS SHOWN
Date: 2021-09-03	Per scale: 1"=100' (0 SHEET)		

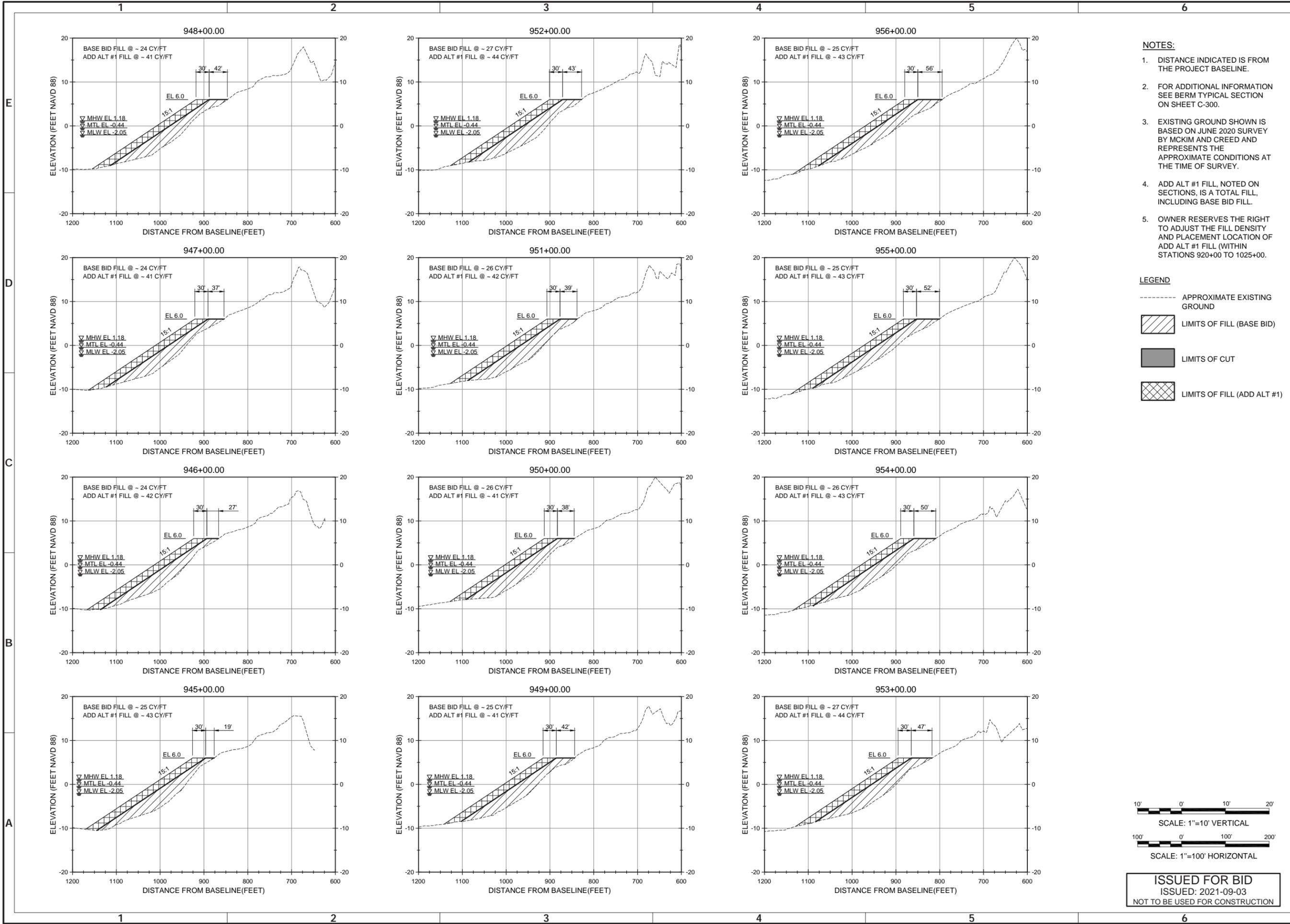
4700 FALLS OF NEUSE RD., SUITE 300
 FARMINGTON, NC 27834
 919-781-4626
 NC FIRM NO. F-0105

motatt & nichel



ISSUED FOR BID
 ISSUED: 2021-09-03
 NOT TO BE USED FOR CONSTRUCTION

Sheet Reference No. **C-313**
 INDEX: 33 OF 42



NOTES:

- DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
- FOR ADDITIONAL INFORMATION SEE BERM TYPICAL SECTION ON SHEET C-300.
- EXISTING GROUND SHOWN IS BASED ON JUNE 2020 SURVEY BY MCKIM AND CREED AND REPRESENTS THE APPROXIMATE CONDITIONS AT THE TIME OF SURVEY.
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- OWNER RESERVES THE RIGHT TO ADJUST THE FILL DENSITY AND PLACEMENT LOCATION OF ADD ALT #1 FILL (WITHIN STATIONS 920+00 TO 1025+00).

LEGEND

- APPROXIMATE EXISTING GROUND
- [Hatched Box] LIMITS OF FILL (BASE BID)
- [Solid Grey Box] LIMITS OF CUT
- [Cross-hatched Box] LIMITS OF FILL (ADD ALT #1)



Mark	Description	Date	By
0	ISSUED FOR BID	2021-09-03	BJ

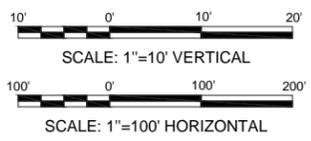
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

CROSS SECTIONS SHEET 14 OF 20

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Checked by: SM/MB	Drawing code:	
Reviewed by: B. JOYNER	Submitted by: MOFATT & NICHOL	AS SHOWN
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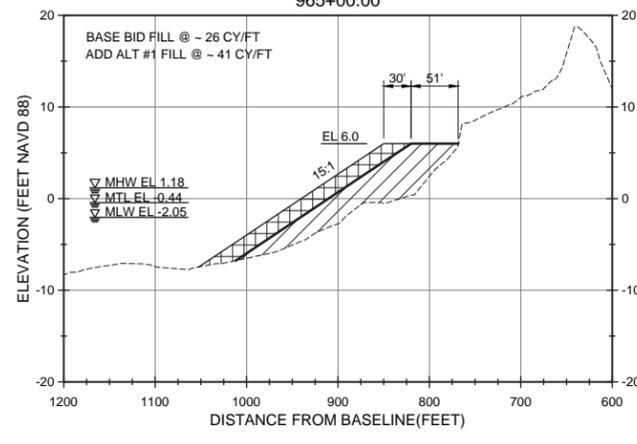
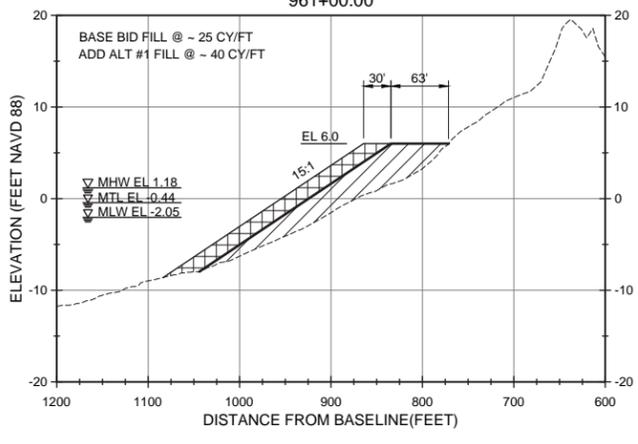
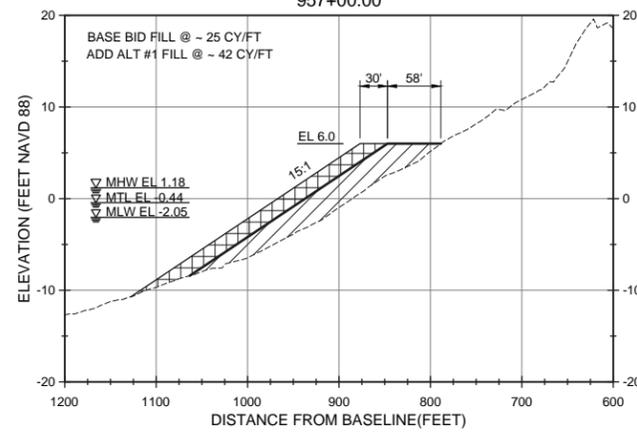
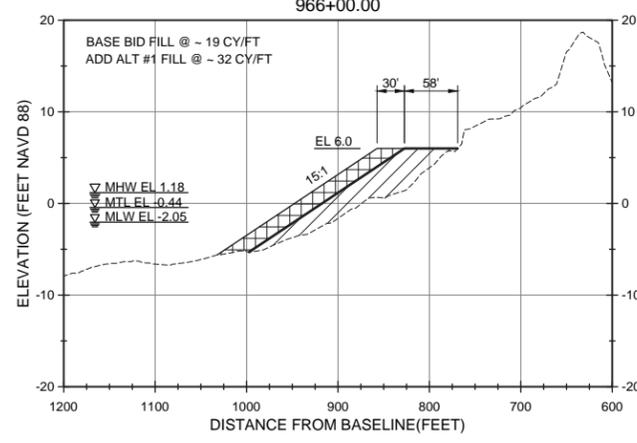
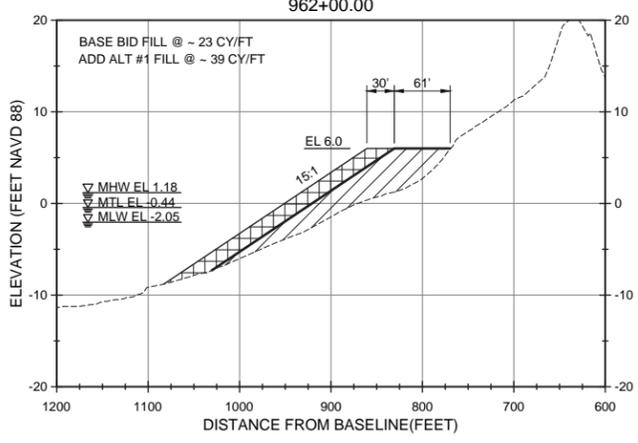
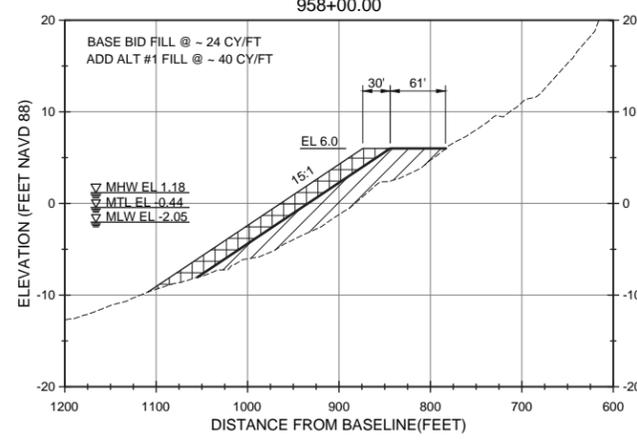
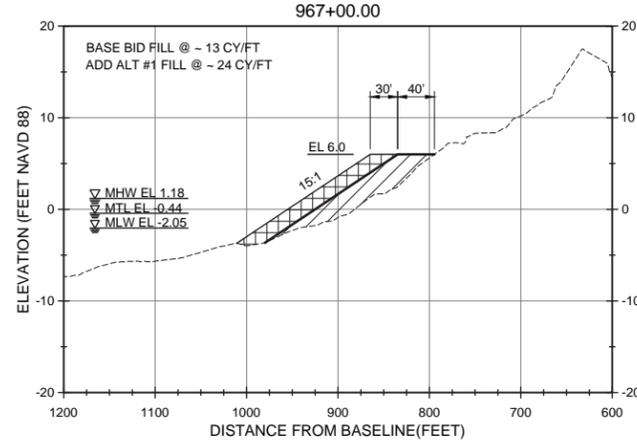
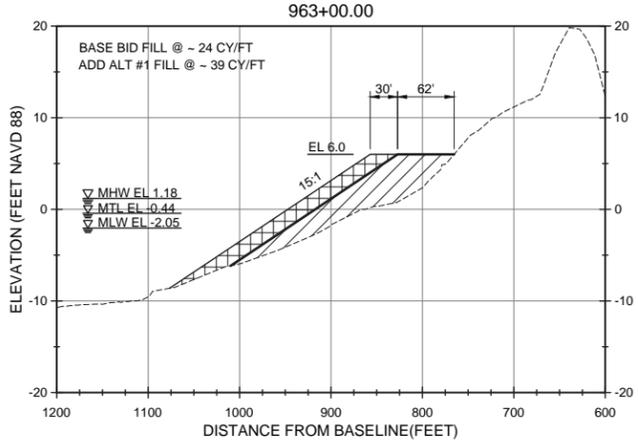
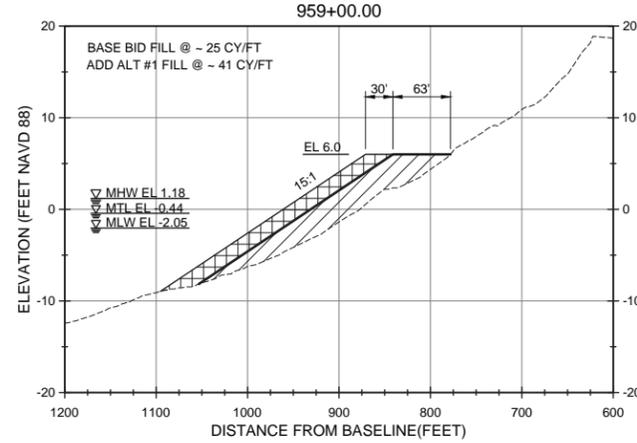
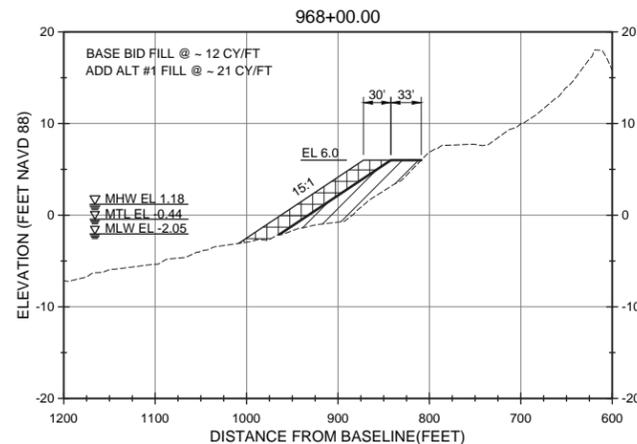
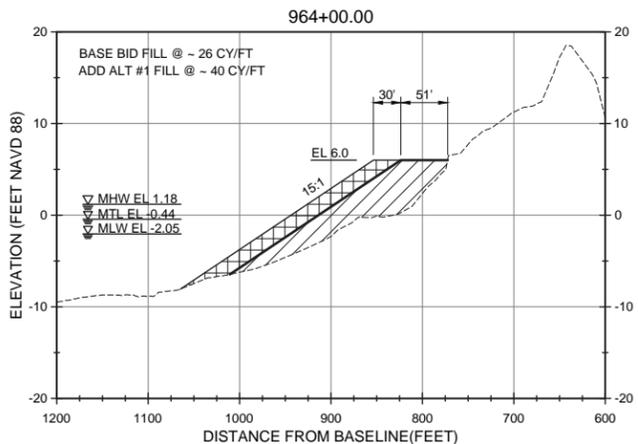
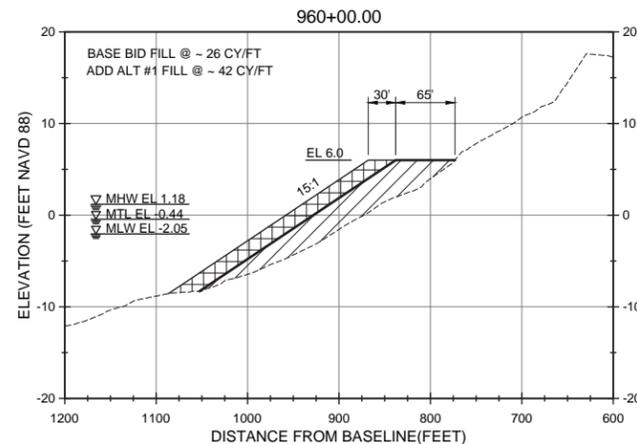
4700 FALLS OF NEUSE RD., SUITE 300
 FARMINGTON, NC 27834
 919-781-4626
 NC FIRM NO. F-0105

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ISSUED FOR BID
 ISSUED: 2021-09-03
 NOT TO BE USED FOR CONSTRUCTION

Sheet Reference No.
C-314
 INDEX: 34 OF 42



- NOTES:**
- DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
 - FOR ADDITIONAL INFORMATION SEE BERM TYPICAL SECTION ON SHEET C-300.
 - EXISTING GROUND SHOWN IS BASED ON JUNE 2020 SURVEY BY MCKIM AND CREED AND REPRESENTS THE APPROXIMATE CONDITIONS AT THE TIME OF SURVEY.
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 - OWNER RESERVES THE RIGHT TO ADJUST THE FILL DENSITY AND PLACEMENT LOCATION OF ADD ALT #1 FILL (WITHIN STATIONS 920+00 TO 1025+00).

LEGEND

- APPROXIMATE EXISTING GROUND
- [Hatched Box] LIMITS OF FILL (BASE BID)
- [Solid Grey Box] LIMITS OF CUT
- [Cross-hatched Box] LIMITS OF FILL (ADD ALT #1)



Rev.	Date	Description
0	2021-09-03	ISSUED FOR BID

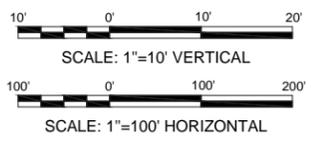
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOVATION PROJECT

CROSS SECTIONS SHEET 15 OF 20

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Reviewed by: B. JOYNER	Drawn by: SMMB	
Submitted by: MOFFATT & NICHEL	Drawing code:	AS SHOWN
	Per scale: 1"=100' SHEET	

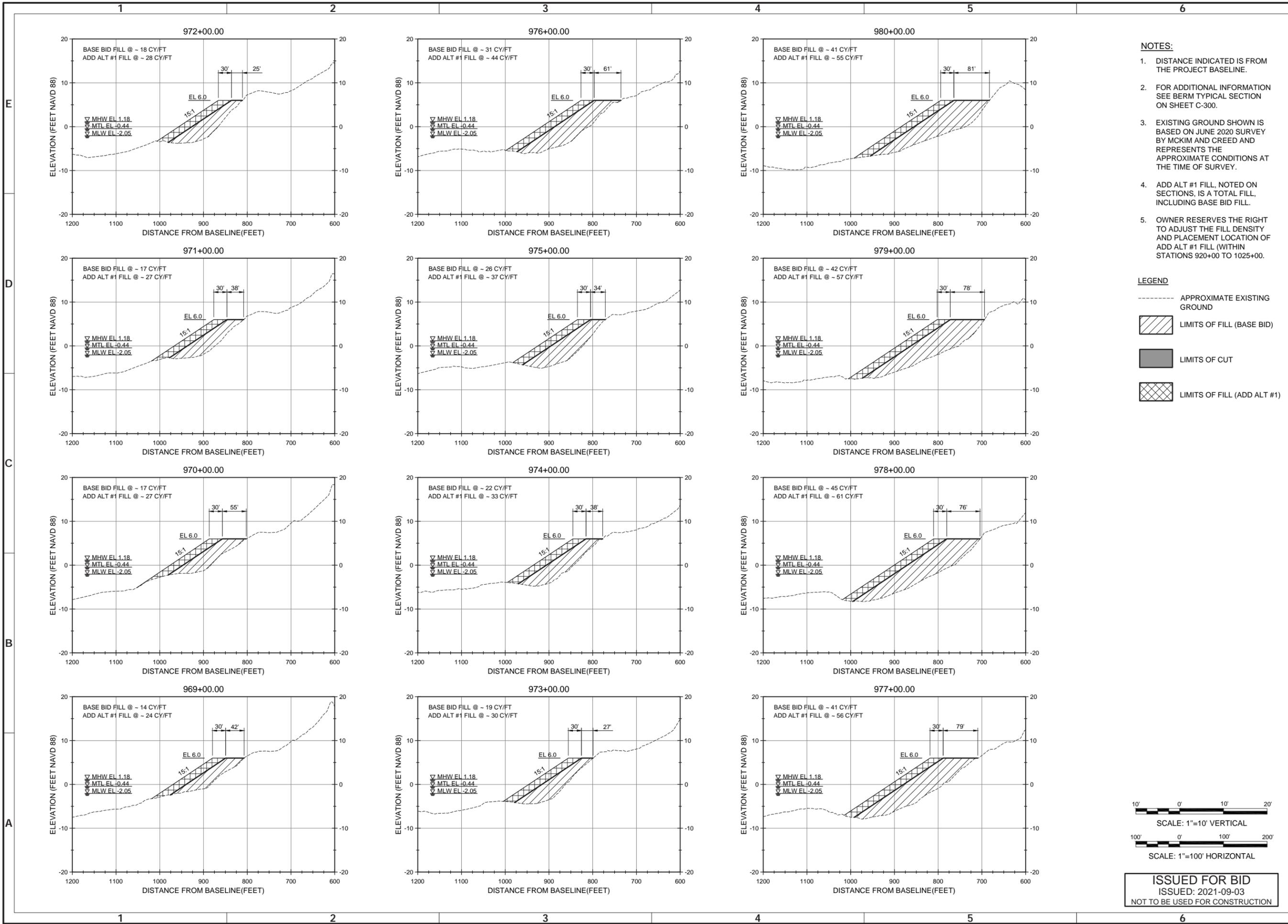
4700 FALLS OF NEUSE RD., SUITE 300
 FARMINGTON, NC 27834
 919-781-4626
 NC FIRM NO. F-0105

motoffatt & nichel



ISSUED FOR BID
 ISSUED: 2021-09-03
 NOT TO BE USED FOR CONSTRUCTION

Sheet Reference No. **C-315**
 INDEX: 35 OF 42

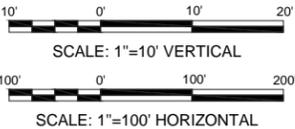


NOTES:

1. DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
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3. EXISTING GROUND SHOWN IS BASED ON JUNE 2020 SURVEY BY MCKIM AND CREED AND REPRESENTS THE APPROXIMATE CONDITIONS AT THE TIME OF SURVEY.
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LEGEND

- - - - - APPROXIMATE EXISTING GROUND
- [Hatched Box] LIMITS OF FILL (BASE BID)
- [Solid Grey Box] LIMITS OF CUT
- [Cross-hatched Box] LIMITS OF FILL (ADD ALT #1)



ISSUED FOR BID
 ISSUED: 2021-09-03
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Rev.	Date	Description
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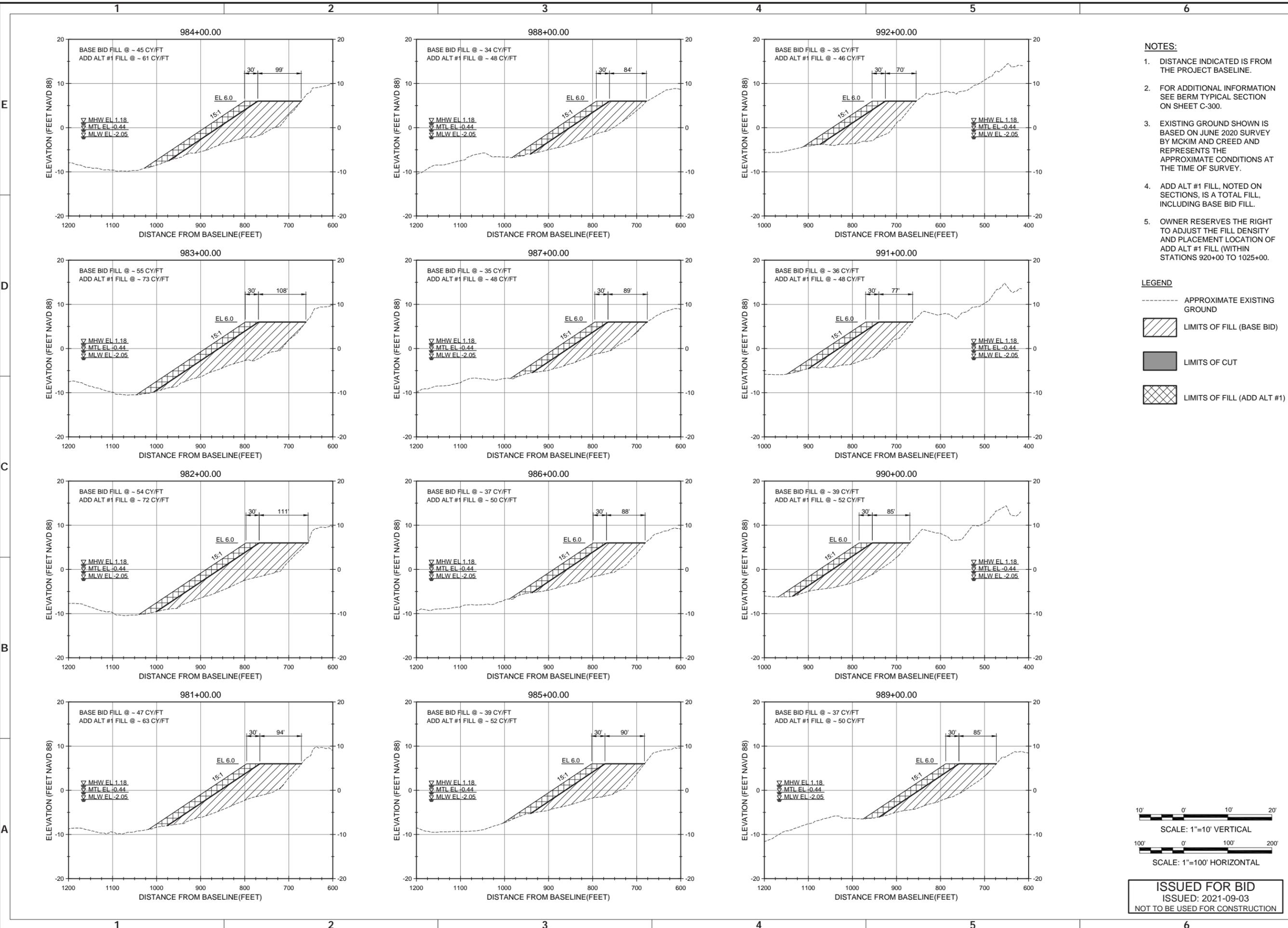
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOVATION PROJECT
 CROSS SECTIONS
 SHEET 16 OF 20

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	AS SHOWN
Reviewed by: B. JOYNER	Drawing code:	Per scale: 1" = 10' (0 SHEET)
Submitted by: MOFFATT & NICHEL	Drawing Scale:	

4700 FALLS OF NEUSE RD., SUITE 300
 FARMINGTON, NC 27834
 919-781-4626
 NC FIRM NO. F-0105
motoff & nichel

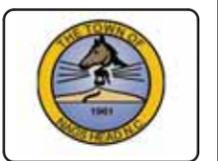


Sheet Reference No.
C-316
 INDEX: 36 OF 42



- NOTES:**
- DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
 - FOR ADDITIONAL INFORMATION SEE BERM TYPICAL SECTION ON SHEET C-300.
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- LEGEND**
- APPROXIMATE EXISTING GROUND
 - ▨ LIMITS OF FILL (BASE BID)
 - LIMITS OF CUT
 - ▩ LIMITS OF FILL (ADD ALT #1)



Rev.	Date	Description
0	2021-09-03	ISSUED FOR BID

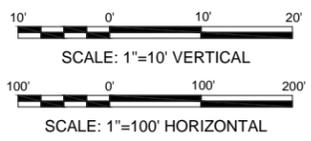
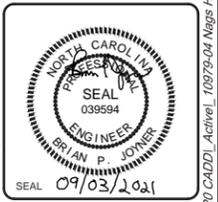
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

CROSS SECTIONS SHEET 17 OF 20

Designed by: NV/SMMB	Drawn by: VNM	Reviewed by: B. JOYNER	Submitted by: MOFFATT & NICHEL
Checked by: SMMB	MAN Project No: 10979-04	Drawing code:	Drawing Scale: AS SHOWN
Date: 2021-09-03	Per scale: 1" = 10' (0 SHEET)		

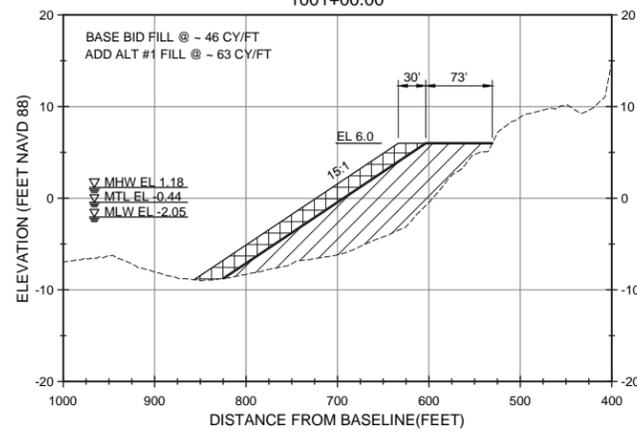
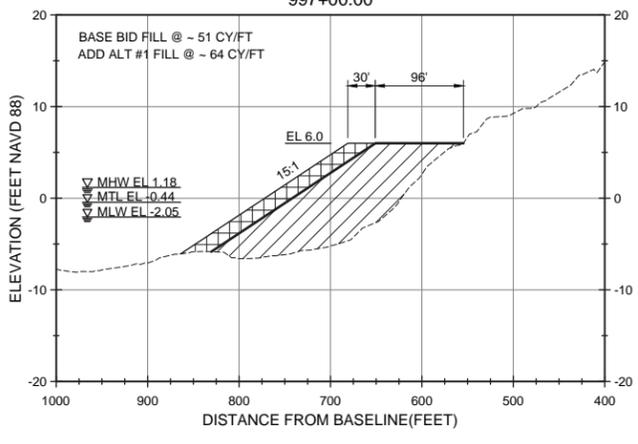
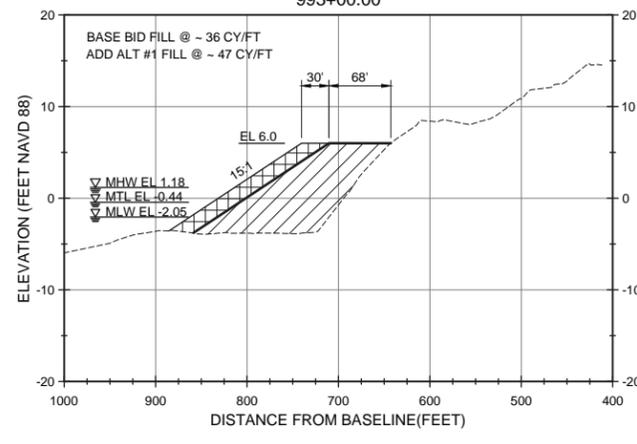
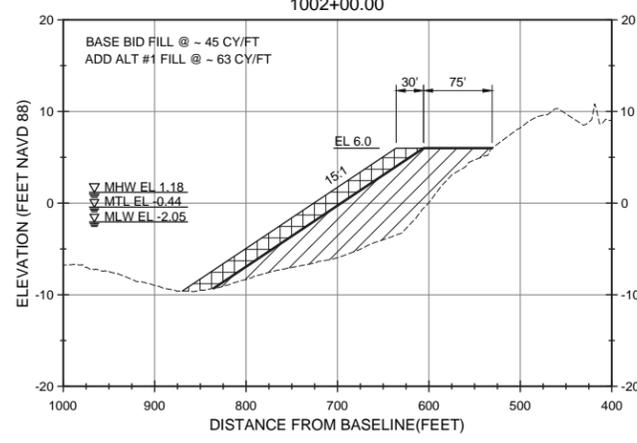
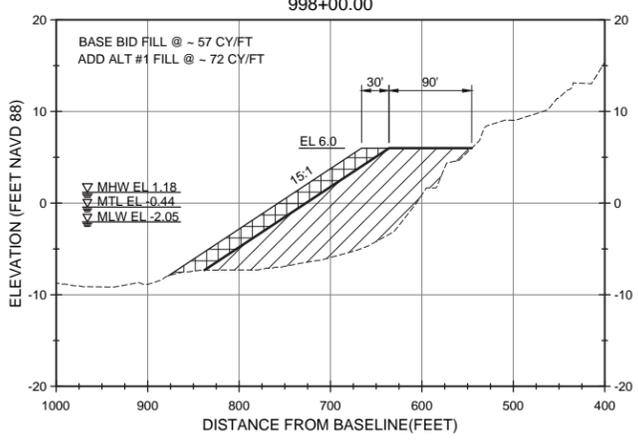
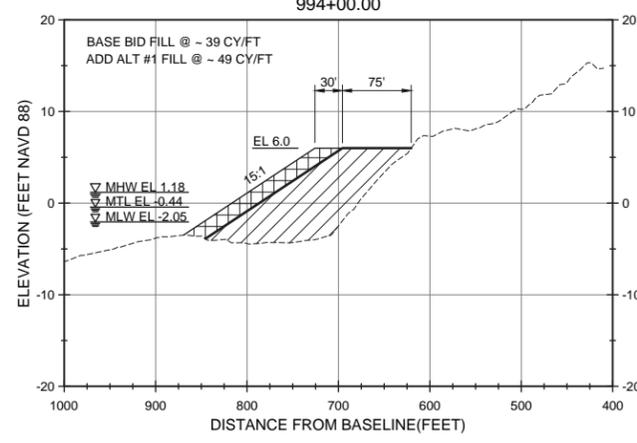
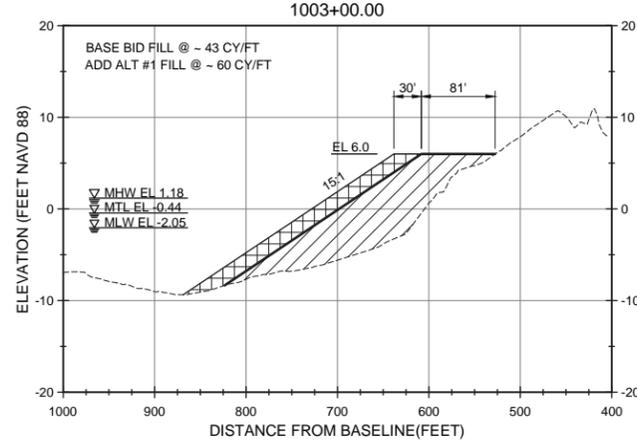
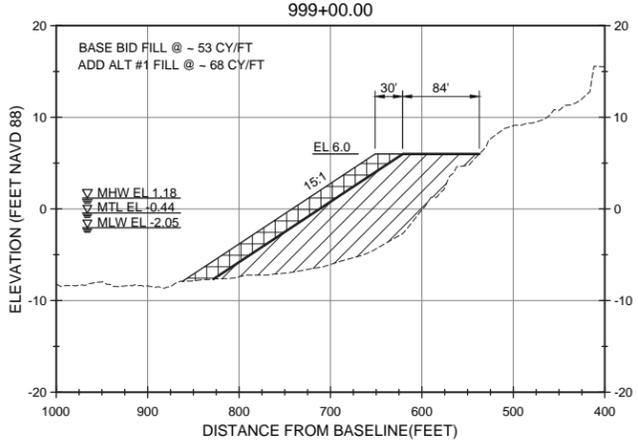
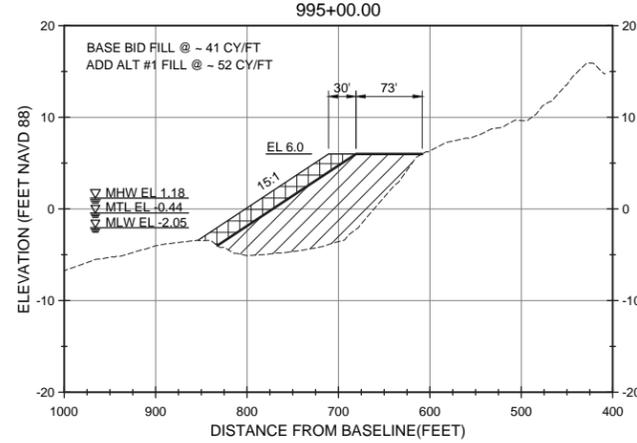
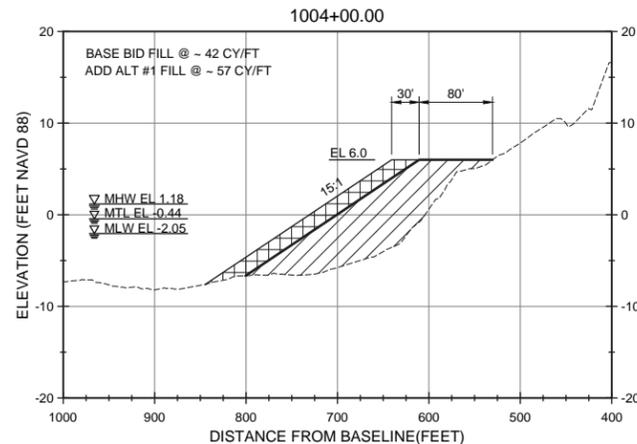
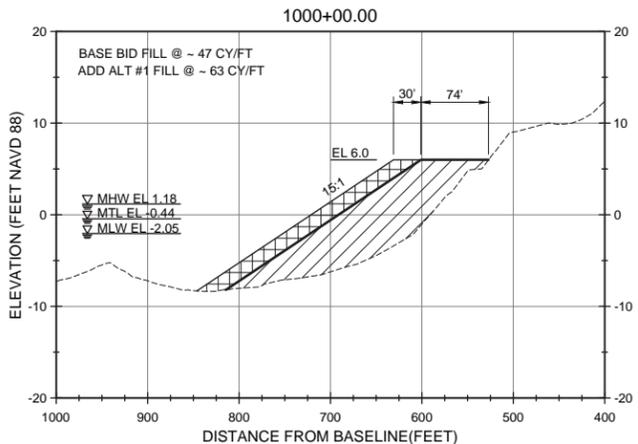
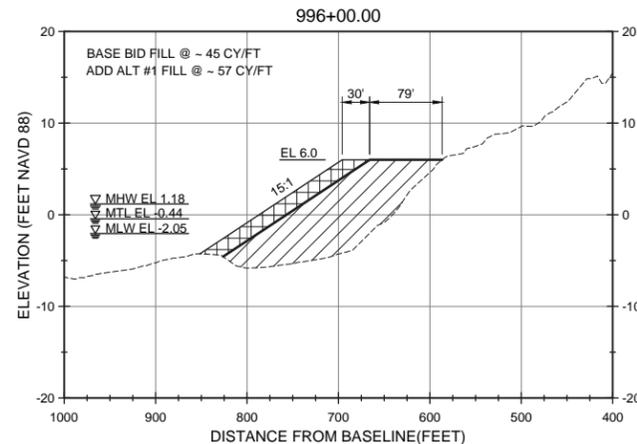
4700 FALLS OF NEUSE RD., SUITE 300
 FARMINGTON, NC 27531
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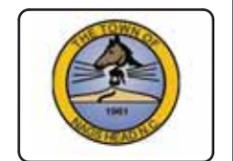
Sheet Reference No. **C-317**
 INDEX: 37 OF 42



- NOTES:**
- DISTANCE INDICATED IS FROM THE PROJECT BASELINE.
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LEGEND

- APPROXIMATE EXISTING GROUND
- [Hatched Box] LIMITS OF FILL (BASE BID)
- [Solid Grey Box] LIMITS OF CUT
- [Cross-hatched Box] LIMITS OF FILL (ADD ALT #1)



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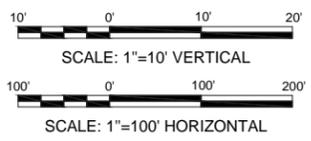
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOVATION PROJECT

CROSS SECTIONS SHEET 18 OF 20

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Reviewed by: B. JOYNER	Drawn by: SMMB	
Submitted by: MOFATT & NICHEL	Drawing code:	AS SHOWN
	Per scale: 1" = 10' (0 SHEET)	

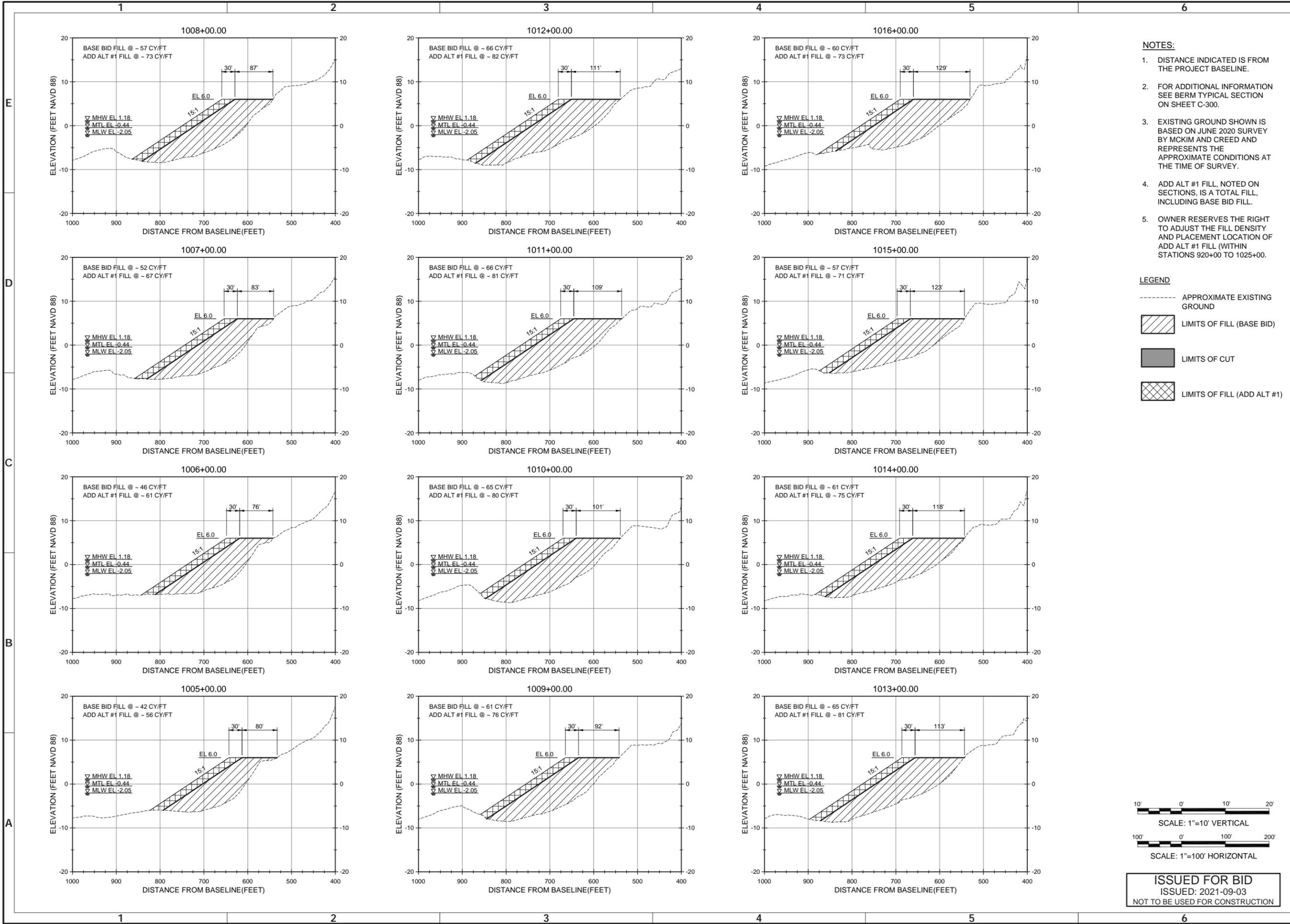
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 919-781-4626
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motatt & nichel



ISSUED FOR BID
 ISSUED: 2021-09-03
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Sheet Reference No. **C-318**
 INDEX: 38 OF 42

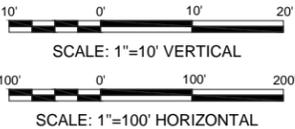


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LEGEND

- APPROXIMATE EXISTING GROUND
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- LIMITS OF CUT
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ISSUED FOR BID
 ISSUED: 2021-09-03
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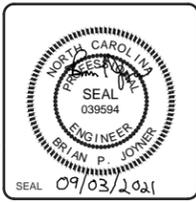


Rev.	Date	Description
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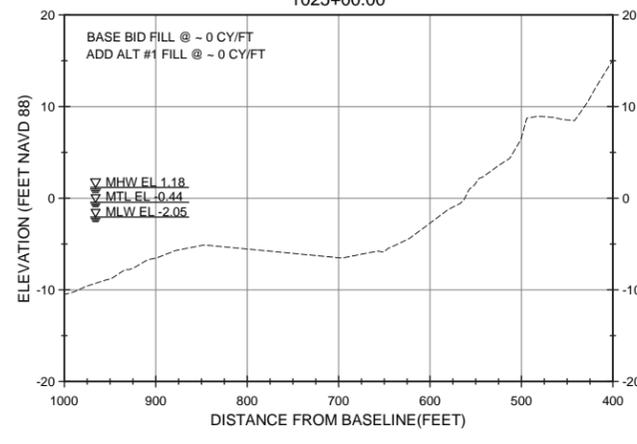
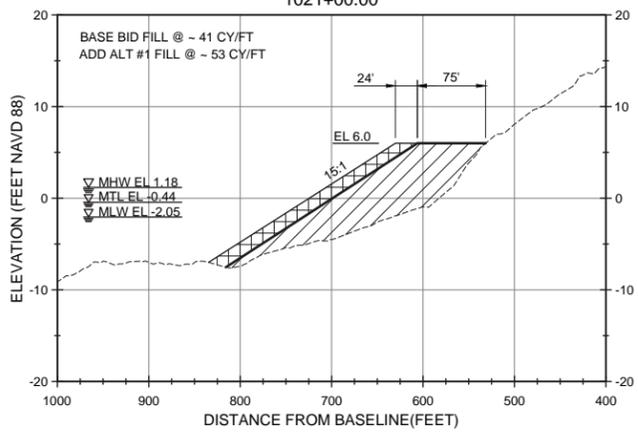
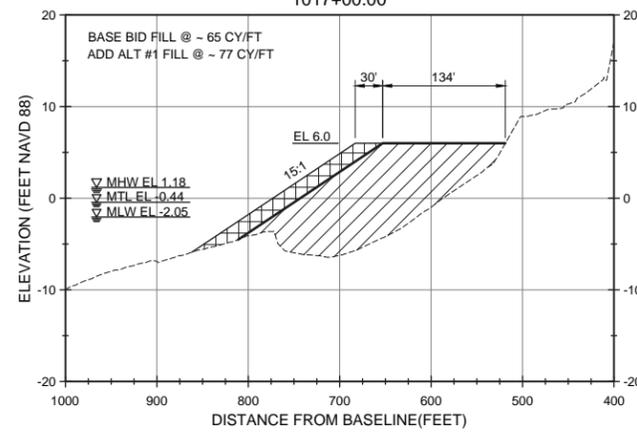
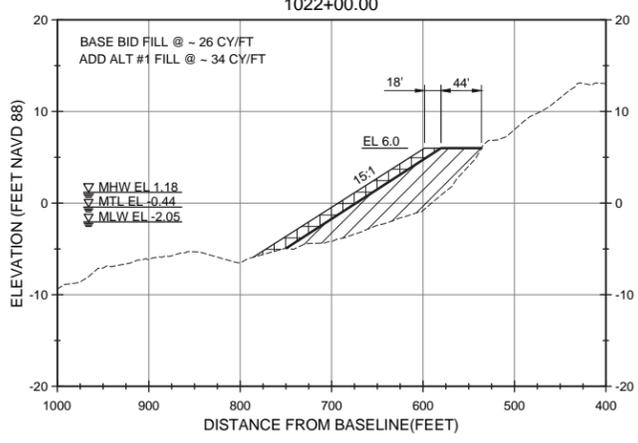
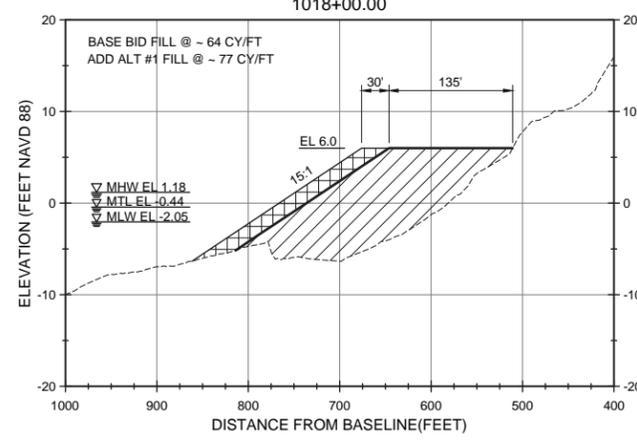
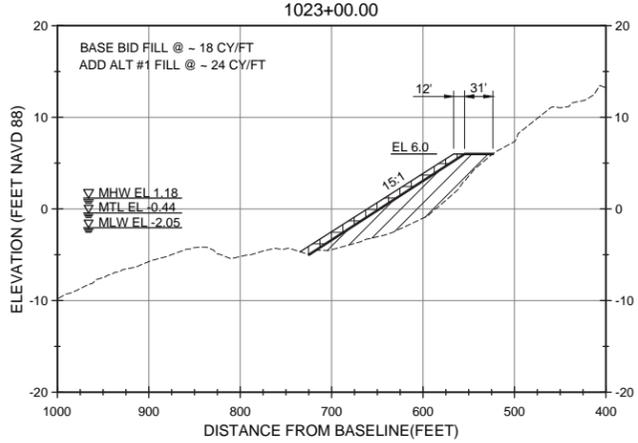
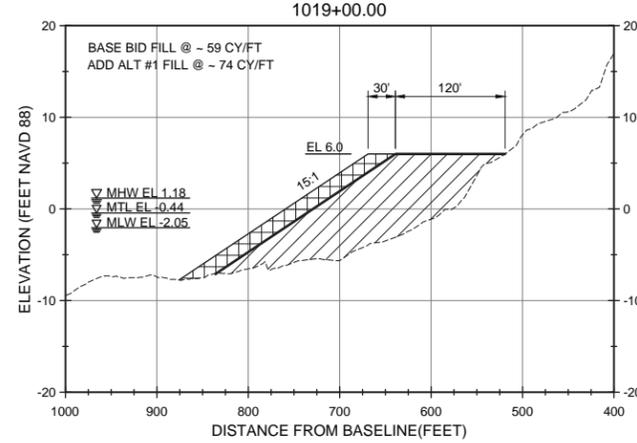
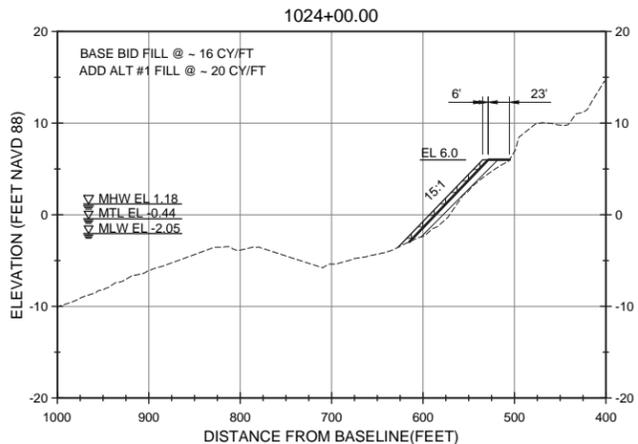
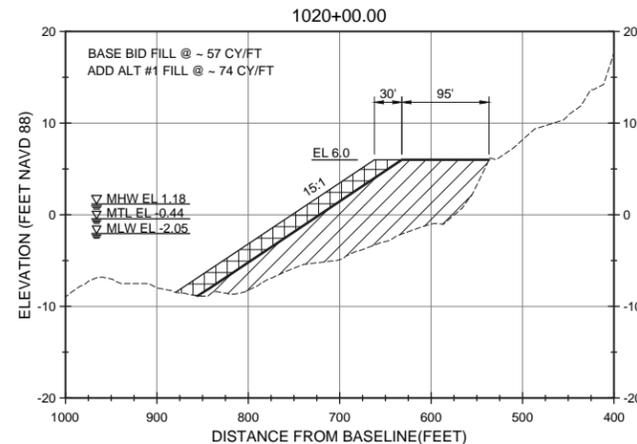
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT
CROSS SECTIONS SHEET 19 OF 20

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	MAN Project No: 10979-04	
Reviewed by: B. JOYNER	Drawn by: SMMB	
Submitted by: MOFFATT & NICHEL	Drawing code:	AS SHOWN
	Drawing Scale: 1" = 10' (0 SHEET)	

4700 FALLS OF NEUSE RD., SUITE 300
 FARMINGTON, NC 27834
 919-781-4626
 NC FIRM NO. F-0105
moftatt & nichel



Sheet Reference No.
C-319
 INDEX: 39 OF 42



- NOTES:**
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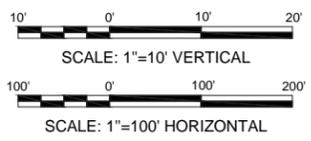
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

CROSS SECTIONS SHEET 20 OF 20

Designed by: NV/SMMB	Drawn by: VNM	Reviewed by: B. JOYNER	Submitted by: MOFATT & NICHOL
Checked by: SM/MB	Checked by: VNM	Checked by: B. JOYNER	Checked by: MOFATT & NICHOL
Date: 2021-09-03	M&N Project No: 10979-04	Drawing Code:	Drawing Scale: AS SHOWN
Per scale: 1"=10' (0 SHEET)			

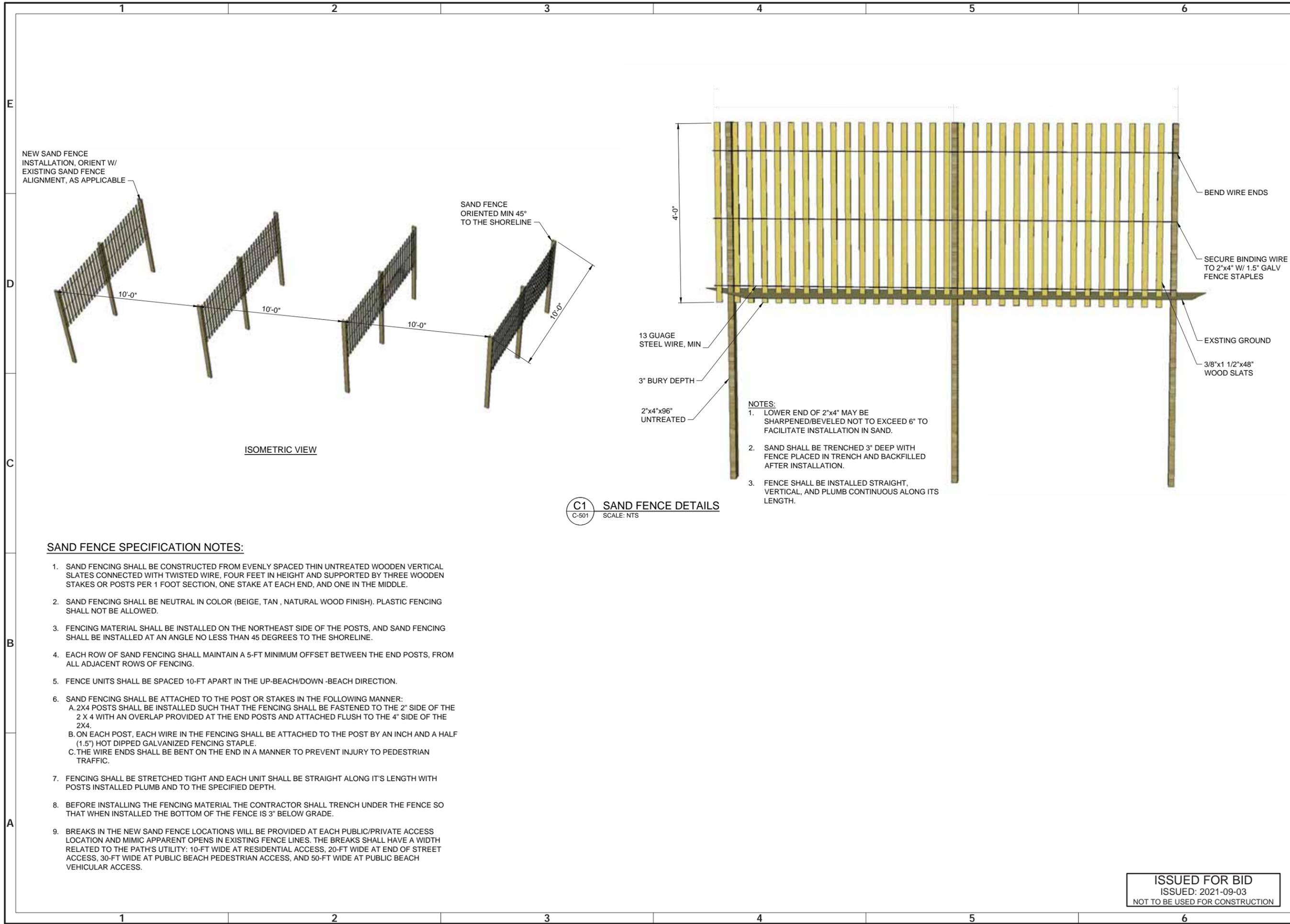
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 FARMINGTON, NC 27834
 919-781-4626
 NC FIRM NO. F-0105

moftatt & nichol



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 ISSUED: 2021-09-03
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Sheet Reference No. **C-320**
 INDEX: 40 OF 42



NEW SAND FENCE
INSTALLATION, ORIENT W/
EXISTING SAND FENCE
ALIGNMENT, AS APPLICABLE

SAND FENCE
ORIENTED MIN 45°
TO THE SHORELINE

ISOMETRIC VIEW

13 GAUGE
STEEL WIRE, MIN

3" BURY DEPTH

2"x4"x96"
UNTREATED

NOTES:

1. LOWER END OF 2"x4" MAY BE SHARPENED/BEVELED NOT TO EXCEED 6" TO FACILITATE INSTALLATION IN SAND.
2. SAND SHALL BE TRENCHED 3" DEEP WITH FENCE PLACED IN TRENCH AND BACKFILLED AFTER INSTALLATION.
3. FENCE SHALL BE INSTALLED STRAIGHT, VERTICAL, AND PLUMB CONTINUOUS ALONG ITS LENGTH.

BEND WIRE ENDS

SECURE BINDING WIRE TO 2"x4" W/ 1.5" GALV FENCE STAPLES

EXISTING GROUND

3/8"x1 1/2"x48"
WOOD SLATS

C1 SAND FENCE DETAILS
SCALE: NTS

SAND FENCE SPECIFICATION NOTES:

1. SAND FENCING SHALL BE CONSTRUCTED FROM EVENLY SPACED THIN UNTREATED WOODEN VERTICAL SLATES CONNECTED WITH TWISTED WIRE, FOUR FEET IN HEIGHT AND SUPPORTED BY THREE WOODEN STAKES OR POSTS PER 1 FOOT SECTION, ONE STAKE AT EACH END, AND ONE IN THE MIDDLE.
2. SAND FENCING SHALL BE NEUTRAL IN COLOR (BEIGE, TAN, NATURAL WOOD FINISH). PLASTIC FENCING SHALL NOT BE ALLOWED.
3. FENCING MATERIAL SHALL BE INSTALLED ON THE NORTHEAST SIDE OF THE POSTS, AND SAND FENCING SHALL BE INSTALLED AT AN ANGLE NO LESS THAN 45 DEGREES TO THE SHORELINE.
4. EACH ROW OF SAND FENCING SHALL MAINTAIN A 5-FT MINIMUM OFFSET BETWEEN THE END POSTS, FROM ALL ADJACENT ROWS OF FENCING.
5. FENCE UNITS SHALL BE SPACED 10-FT APART IN THE UP-BEACH/DOWN-BEACH DIRECTION.
6. SAND FENCING SHALL BE ATTACHED TO THE POST OR STAKES IN THE FOLLOWING MANNER:
 - A. 2X4 POSTS SHALL BE INSTALLED SUCH THAT THE FENCING SHALL BE FASTENED TO THE 2" SIDE OF THE 2 X 4 WITH AN OVERLAP PROVIDED AT THE END POSTS AND ATTACHED FLUSH TO THE 4" SIDE OF THE 2X4.
 - B. ON EACH POST, EACH WIRE IN THE FENCING SHALL BE ATTACHED TO THE POST BY AN INCH AND A HALF (1.5") HOT DIPPED GALVANIZED FENCING STAPLE.
 - C. THE WIRE ENDS SHALL BE BENT ON THE END IN A MANNER TO PREVENT INJURY TO PEDESTRIAN TRAFFIC.
7. FENCING SHALL BE STRETCHED TIGHT AND EACH UNIT SHALL BE STRAIGHT ALONG ITS LENGTH WITH POSTS INSTALLED PLUMB AND TO THE SPECIFIED DEPTH.
8. BEFORE INSTALLING THE FENCING MATERIAL THE CONTRACTOR SHALL TRENCH UNDER THE FENCE SO THAT WHEN INSTALLED THE BOTTOM OF THE FENCE IS 3" BELOW GRADE.
9. BREAKS IN THE NEW SAND FENCE LOCATIONS WILL BE PROVIDED AT EACH PUBLIC/PRIVATE ACCESS LOCATION AND MIMIC APPARENT OPENS IN EXISTING FENCE LINES. THE BREAKS SHALL HAVE A WIDTH RELATED TO THE PATH'S UTILITY: 10-FT WIDE AT RESIDENTIAL ACCESS, 20-FT WIDE AT END OF STREET ACCESS, 30-FT WIDE AT PUBLIC BEACH PEDESTRIAN ACCESS, AND 50-FT WIDE AT PUBLIC BEACH VEHICULAR ACCESS.



Rev.	Date	Description
0	2021-09-03	ISSUED FOR BID

TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURISHMENT PROJECT

SAND FENCE DETAILS

Designed by: NV/SMMB	Date: 2021-09-03	Rev: 0
Drawn by: VNM	M&N Project No: 10979-04	
Checked by: SM/MB	Drawing code:	
Reviewed by: B. JOYNER	Submitted by: MOFATT & NICHOL	Drawing Scale: AS SHOWN
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Sheet Reference No.
C-501
 INDEX: 41 OF 42

File: Q:\RA110979-04\20 CAD\1_AchiveL_10979-04 Nags Head Sheets\1097904-C-501 - Plotted: 9/2/2021 3:03 PM by CAMPBELL, IRA - Saved: 8/31/2021 5:28 PM by ICAMPBELL

WORK POINT TABLE				
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2	WP2	802258.70	3008566.07	6.0
3	WP3	801792.21	3008749.94	6.0
4	WP4	801330.17	3008943.00	6.0
5	WP5	800876.58	3009153.52	6.0
6	WP6	800424.73	3009367.63	6.0
7	WP7	799973.31	3009582.65	6.0
8	WP8	799519.31	3009792.26	6.0
9	WP9	799060.90	3009992.88	6.0
10	WP10	798616.89	3010223.21	6.0
11	WP11	798172.44	3010452.63	6.0
12	WP12	797723.64	3010673.05	6.0
13	WP13	797271.79	3010887.17	6.0
14	WP14	796819.50	3011100.39	6.0
15	WP15	796375.49	3011330.71	6.0
16	WP16	795937.14	3011572.73	6.0
17	WP17	795471.79	3011758.94	6.0
18	WP18	795028.58	3011990.93	6.0
19	WP19	794578.10	3012207.89	6.0
20	WP20	794133.22	3012436.41	6.0
21	WP21	793666.13	3012619.02	6.0
22	WP22	793211.22	3012826.84	6.0
23	WP23	792776.60	3013076.57	6.0
24	WP24	792326.68	3013294.68	6.0
25	WP25	791861.77	3013481.80	6.0
26	WP26	791413.84	3013704.02	6.0
27	WP27	790966.34	3013927.14	6.0
28	WP28	790521.02	3014154.76	6.0
29	WP29	790073.96	3014378.77	6.0
30	WP30	789625.59	3014600.10	6.0
31	WP31	789192.45	3014852.89	6.0
32	WP32	788759.31	3015105.71	6.0
33	WP33	788290.07	3015283.86	6.0
34	WP34	787834.29	3015489.86	6.0
35	WP35	787371.12	3015680.59	6.0
36	WP36	786914.48	3015884.80	6.0
37	WP37	786456.54	3016086.32	6.0
38	WP38	786022.51	3016337.29	6.0
39	WP39	785549.77	3016508.22	6.0
40	WP40	785081.82	3016689.07	6.0
41	WP41	784635.20	3016913.98	6.0
42	WP42	784177.63	3017116.28	6.0
43	WP43	783695.29	3017267.38	6.0
44	WP44	783166.88	3017431.79	6.0
45	WP45	782705.39	3017624.59	6.0
46	WP46	781793.31	3018038.13	6.0
47	WP47	781314.75	3018187.14	6.0
48	WP48	780802.04	3018248.58	6.0



Mark	0	ISSUED FOR BID	Description	2021-09-03	BJ	Appr
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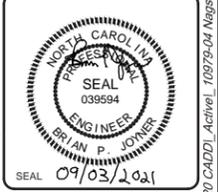
TOWN OF NAGS HEAD POST-DORIAN BEACH RENOURNISHMENT PROJECT

WORK POINTS TABLE

Designed by:	NVS/SMMB	Date:	2021-09-03	Rev:	0
Dwn by:	VNM	MAN Project No.:	10979-04	Drawing code:	
Reviewed by:	B. JOYNER	Drawing Scale:	AS SHOWN	Per scale:	1" = 10' (0 SHEET)
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 RALEIGH, NC 27609
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Sheet Reference No.
C-502
 INDEX: 42 OF 42

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