

APPENDIX F:

November 2022 & May 2023

Monitoring Survey Drawings

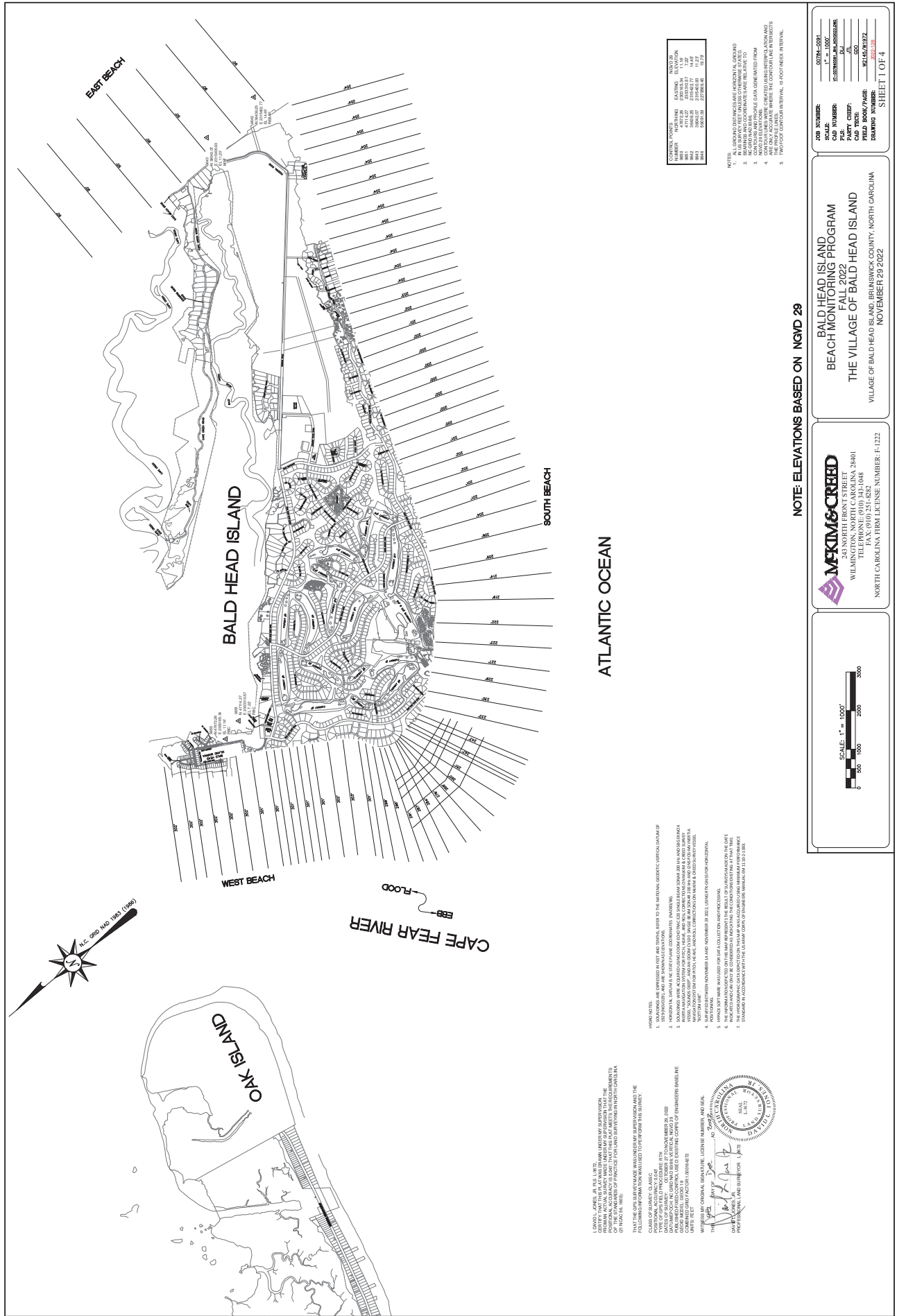
This appendix contains reduced versions of the survey drawings produced by McKim and Creed, Inc.¹ for the November 2022 (beach profiles only) and May 2023 (beach profiles and borrow site) Bald Head Island monitoring surveys.

¹ McKim & Creed, Inc.; 243 North Front Street; Wilmington, NC 28401

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November 2022 Drawings

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POINT NUMBER	NORTHING	EASTING	ELEVATION
9801	1114.42	2273.03	11.77
9802	1114.42	2273.03	11.77
9803	1114.42	2273.03	11.77
9804	1114.42	2273.03	11.77

- NOTES:
1. ALL ELEVATIONS ARE HORIZONTAL, UNLESS INDICATED OTHERWISE.
 2. BEACHES AND COASTLINE ARE SUBJECT TO CHANGE AND SHOULD BE VERIFIED BY VISUAL SURVEY.
 3. CONTOUR INTERVAL IS 1.0 FEET.
 4. CONTOUR INTERVALS ARE GREAT THAN 10 FEET UNLESS OTHERWISE INDICATED.
 5. THE PROPOSED COASTLINE IS BASED ON THE MOST RECENT AVAILABLE AERIAL PHOTOGRAPHY.

DESIGN: WARD, P.C., L.P.
 CERTIFY THAT THIS PLAN AND DRAWINGS WERE PREPARED BY ME OR UNDER MY SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NORTH CAROLINA. I AM NOT PROVIDING ANY PROFESSIONAL SERVICE TO ANY OTHER PARTY.
 DATE OF SURVEY: OCTOBER 17, 2022
 PROFESSIONAL ENGINEER: WARD, P.C., L.P.
 LICENSE NUMBER: 13877
 WITNESSED BY: J. M. WARD, PRESIDENT, WARD, P.C., L.P.
 DATE: OCTOBER 17, 2022
 PROFESSIONAL LAND SURVEYOR: J. M. WARD
 LICENSE NUMBER: 13877

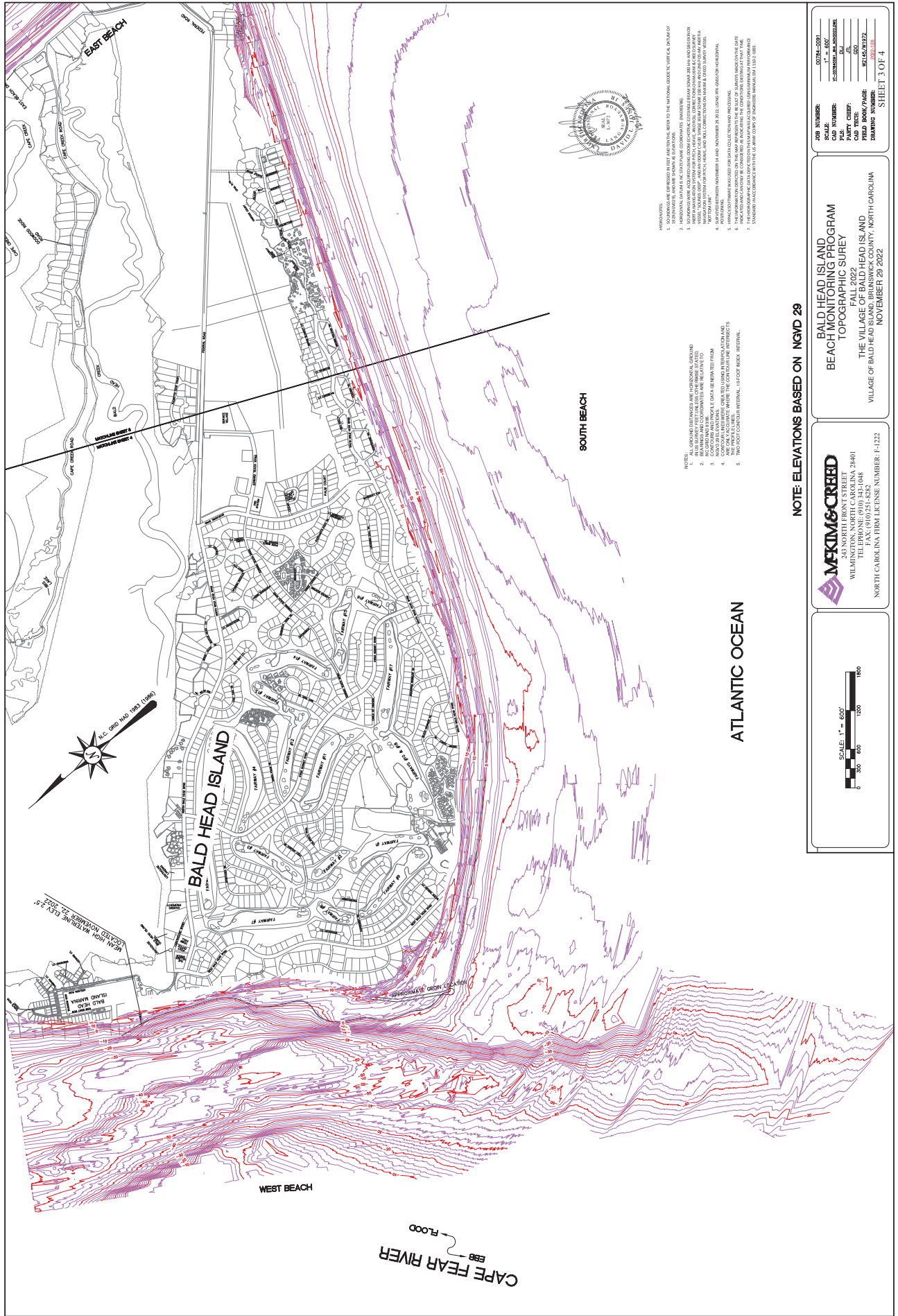
NOTE: ELEVATIONS BASED ON NGVD 29

BALD HEAD ISLAND BEACH MONITORING PROGRAM FALL 2022
 THE VILLAGE OF BALD HEAD ISLAND
 VILLAGE OF BALD HEAD ISLAND, BRUNSWICK COUNTY, NORTH CAROLINA
 NOVEMBER 29, 2022

MEKIM & CREED
 243 NORTH FRONT STREET
 WILMINGTON, NORTH CAROLINA 28401
 TEL: 910.342.1118
 FAX: 910.251.8322
 NORTH CAROLINA FIRM LICENSE NUMBER: F-1222

SCALE: 1" = 1000'
 0 500 1000 2000 3000

JOB NUMBER: 0024-0001
 CAD NUMBER: XZ-SERIAL_AK-00012204
 FILE NUMBER: DU
 CAD USER: GSO
 CAD DATE: 12/16/2022
 DRAWING NUMBER: 220203
 SHEET 1 OF 4



EAST BEACH

WOCALAN POINT A
WOCALAN POINT B



BALD HEAD ISLAND

WEST BEACH

CAPE FEAR RIVER
FLOOD

SOUTH BEACH

ATLANTIC OCEAN

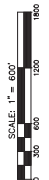


- REVISIONS:
1. SURVEYING LINE EXPOSED BY EET AND DITCHING, REFER TO THE NATIONAL GRID TO VERTICAL DATA OF THE SURVEYING LINE AND TO THE NATIONAL GRID TO HORIZONTAL DATA.
 2. SURVEYING LINE EXPOSED BY EET AND DITCHING, REFER TO THE NATIONAL GRID TO VERTICAL DATA OF THE SURVEYING LINE AND TO THE NATIONAL GRID TO HORIZONTAL DATA.
 3. SURVEYING LINE EXPOSED BY EET AND DITCHING, REFER TO THE NATIONAL GRID TO VERTICAL DATA OF THE SURVEYING LINE AND TO THE NATIONAL GRID TO HORIZONTAL DATA.
 4. SURVEYING LINE EXPOSED BY EET AND DITCHING, REFER TO THE NATIONAL GRID TO VERTICAL DATA OF THE SURVEYING LINE AND TO THE NATIONAL GRID TO HORIZONTAL DATA.
 5. SURVEYING LINE EXPOSED BY EET AND DITCHING, REFER TO THE NATIONAL GRID TO VERTICAL DATA OF THE SURVEYING LINE AND TO THE NATIONAL GRID TO HORIZONTAL DATA.
 6. SURVEYING LINE EXPOSED BY EET AND DITCHING, REFER TO THE NATIONAL GRID TO VERTICAL DATA OF THE SURVEYING LINE AND TO THE NATIONAL GRID TO HORIZONTAL DATA.
 7. SURVEYING LINE EXPOSED BY EET AND DITCHING, REFER TO THE NATIONAL GRID TO VERTICAL DATA OF THE SURVEYING LINE AND TO THE NATIONAL GRID TO HORIZONTAL DATA.

- NOTES:
1. ALL ELEVATION DATA POINTS ARE IN HORIZONTAL PLANE.
 2. ALL ELEVATION DATA POINTS ARE IN HORIZONTAL PLANE.
 3. ALL ELEVATION DATA POINTS ARE IN HORIZONTAL PLANE.
 4. ALL ELEVATION DATA POINTS ARE IN HORIZONTAL PLANE.
 5. ALL ELEVATION DATA POINTS ARE IN HORIZONTAL PLANE.

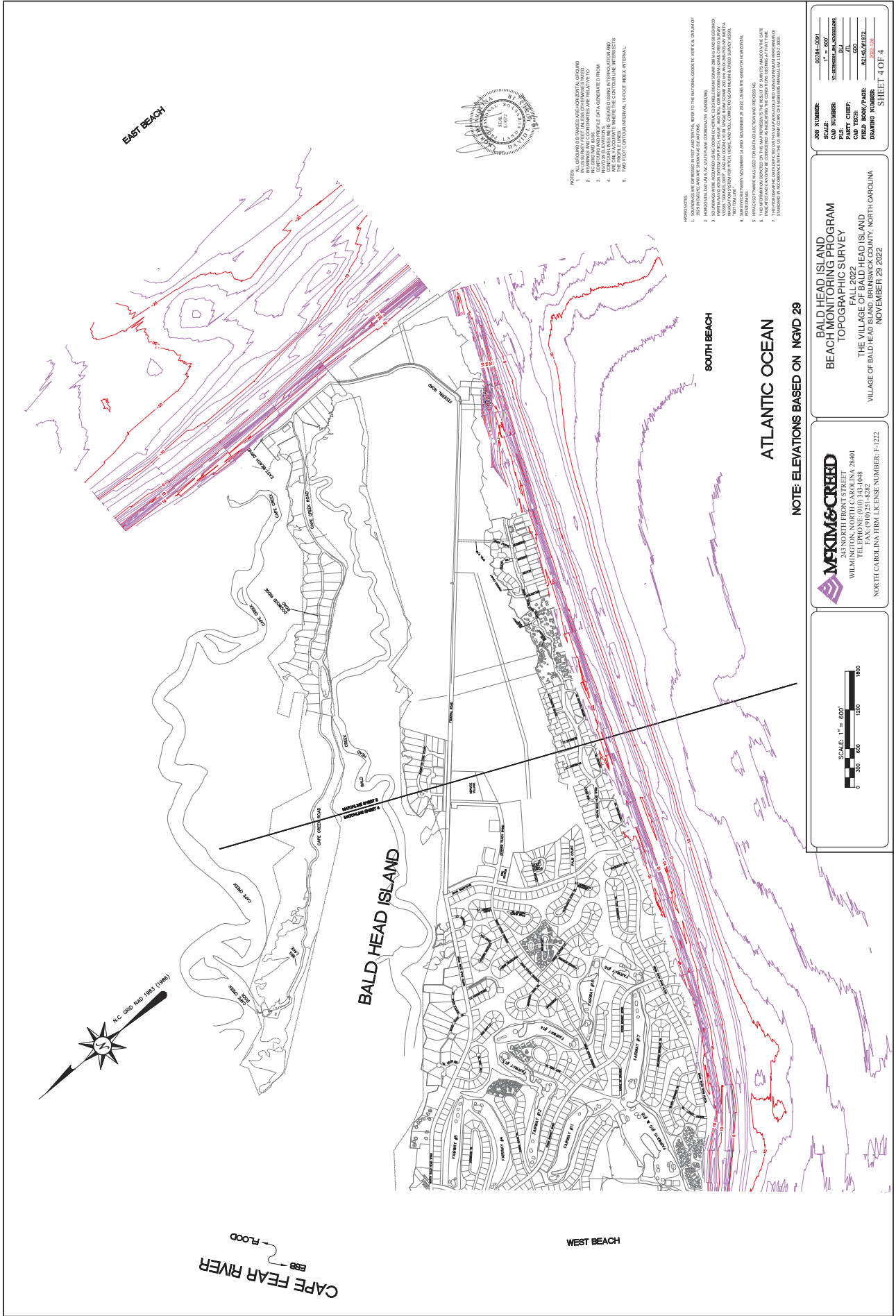
NOTE: ELEVATIONS BASED ON NGVD 29

MFKIM & CREED
 243 NORTH FRONT STREET
 WILMINGTON, NORTH CAROLINA 28401
 TEL: (910) 251-4348
 FAX: (910) 251-4342
 NORTH CAROLINA FIRM LICENSE NUMBER: F-1222



BALD HEAD ISLAND
 BEACH MONITORING PROGRAM
 TOPOGRAPHIC SURVEY
 FALL 2022
 THE VILLAGE OF BALD HEAD ISLAND
 COUNTY 11, NORTH CAROLINA
 NOVEMBER 29, 2022

JOB NUMBER:	00741-0001
CAD NUMBER:	02-00000000-0000000000
FILE:	DJI
CAD PROJECT:	050
DRAWING NUMBER:	11/14/2022
SHEET 3 OF 4	



EAST BEACH

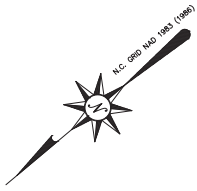
SOUTH BEACH

ATLANTIC OCEAN

BALD HEAD ISLAND

CAPE FEAR RIVER
FLOOD

WEST BEACH



- NOTES:
1. ALL GROUNDS SURVEYS ARE HORIZONTAL AND DO NOT TAKE INTO ACCOUNT CURVATURE OF THE EARTH.
 2. BEARING AND DISTANCE MEASUREMENTS ARE RELATIVE TO THE NORTH.
 3. CONTROLS AND POINTS DATA DERIVED FROM THE NATIONAL GEODETIC SURVEY.
 4. CONTROL POINTS WERE USED TO CORRECT FOR DISTORTION AND SCALE OF THE PHOTOGRAPHIC SURVEY.
 5. THE PHOTOGRAPHIC SURVEY WAS CONDUCTED IN NOVEMBER 2022.
 6. THE PHOTOGRAPHIC SURVEY WAS CONDUCTED IN NOVEMBER 2022.
 7. THE PHOTOGRAPHIC SURVEY WAS CONDUCTED IN NOVEMBER 2022.

PROVISIONS:
 1. THIS SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL GEODETIC SURVEY (NGS) OF THE UNITED STATES OF AMERICA.
 2. THIS SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL GEODETIC SURVEY (NGS) OF THE UNITED STATES OF AMERICA.
 3. THIS SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL GEODETIC SURVEY (NGS) OF THE UNITED STATES OF AMERICA.
 4. THIS SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL GEODETIC SURVEY (NGS) OF THE UNITED STATES OF AMERICA.
 5. THIS SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL GEODETIC SURVEY (NGS) OF THE UNITED STATES OF AMERICA.
 6. THIS SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL GEODETIC SURVEY (NGS) OF THE UNITED STATES OF AMERICA.
 7. THIS SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL GEODETIC SURVEY (NGS) OF THE UNITED STATES OF AMERICA.

JOB NUMBER:	0074-0001
CAD NUMBER:	22-000001-0000000000
FILE:	DJI
CAD PROJECT:	050
FIELD BOOK/PAGE:	1/145/1472
DRAWING NUMBER:	1/145/1472
SHEET 4 OF 4	

**BALD HEAD ISLAND
 BEACH MONITORING PROGRAM
 TOPOGRAPHIC SURVEY**
 FALL 2022
 THE VILLAGE OF BALD HEAD ISLAND
 WILMINGTON COUNTY, NORTH CAROLINA
 NOVEMBER 29, 2022

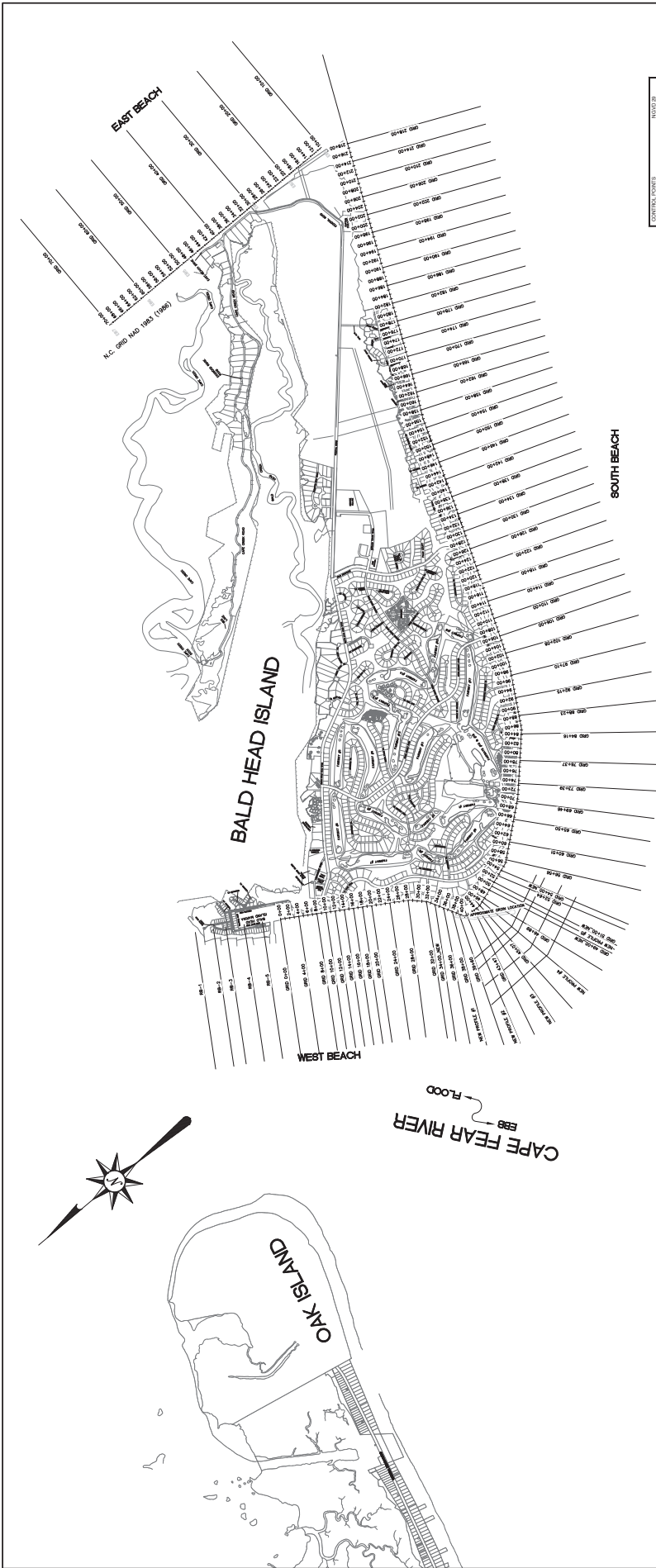
MFKIM & CREED
 243 NORTH FRONT STREET
 WILMINGTON, NORTH CAROLINA 28401
 TEL: 910.251.4348
 TEL FAX: 910.251.4322
 NORTH CAROLINA FIRM LICENSE NUMBER: F-1222

SCALE: 1" = 600'
 0 300 600 1200 1800

NOTE: ELEVATIONS BASED ON NGVD 29

May 2023 Drawings

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THAT THE GPS SURVEY WALK WAS UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED TO SUPPORT THIS SURVEY:

1. THE SURVEY WAS PERFORMED BY THE SURVEYORS LISTED ON THE PROFESSIONAL METADATA SHEET.
2. THE SURVEY WAS COMPLETED ON APRIL 27, 2023.
3. THE SURVEY WAS COMPLETED AT BALD HEAD ISLAND, NORTH CAROLINA.
4. THE SURVEY WAS COMPLETED AT BALD HEAD ISLAND, NORTH CAROLINA.
5. THE SURVEY WAS COMPLETED AT BALD HEAD ISLAND, NORTH CAROLINA.

WYATT C. WATSON, LICENSE NUMBER: 40160-BA
 DAVID L. GARDNER, LICENSE NUMBER: 40160-BA
 PROFESSIONAL LAND SURVEYOR



1. SURVEYORS HAVE REVIEWED AND CONFIRMED THAT THE SURVEY DATA IS ACCURATE AND COMPLETE.
2. SURVEYORS HAVE REVIEWED AND CONFIRMED THAT THE SURVEY DATA IS ACCURATE AND COMPLETE.
3. SURVEYORS HAVE REVIEWED AND CONFIRMED THAT THE SURVEY DATA IS ACCURATE AND COMPLETE.
4. SURVEYORS HAVE REVIEWED AND CONFIRMED THAT THE SURVEY DATA IS ACCURATE AND COMPLETE.
5. SURVEYORS HAVE REVIEWED AND CONFIRMED THAT THE SURVEY DATA IS ACCURATE AND COMPLETE.

BASELINE COORDINATES NAD 83 BH

EASTING	NORTHING	ELEVATION
100	100	100.00
200	200	200.00
300	300	300.00
400	400	400.00
500	500	500.00
600	600	600.00
700	700	700.00
800	800	800.00
900	900	900.00
1000	1000	1000.00

BASELINE COORDINATES NAD 83 BH

EASTING	NORTHING	ELEVATION
100	100	100.00
200	200	200.00
300	300	300.00
400	400	400.00
500	500	500.00
600	600	600.00
700	700	700.00
800	800	800.00
900	900	900.00
1000	1000	1000.00

BASELINE COORDINATES NAD 83 BH

EASTING	NORTHING	ELEVATION
100	100	100.00
200	200	200.00
300	300	300.00
400	400	400.00
500	500	500.00
600	600	600.00
700	700	700.00
800	800	800.00
900	900	900.00
1000	1000	1000.00

BASELINE COORDINATES NAD 83 BH

EASTING	NORTHING	ELEVATION
100	100	100.00
200	200	200.00
300	300	300.00
400	400	400.00
500	500	500.00
600	600	600.00
700	700	700.00
800	800	800.00
900	900	900.00
1000	1000	1000.00

NOTE:

1. THE SURVEY WAS PERFORMED BY THE SURVEYORS LISTED ON THE PROFESSIONAL METADATA SHEET.
2. THE SURVEY WAS COMPLETED ON APRIL 27, 2023.
3. THE SURVEY WAS COMPLETED AT BALD HEAD ISLAND, NORTH CAROLINA.
4. THE SURVEY WAS COMPLETED AT BALD HEAD ISLAND, NORTH CAROLINA.
5. THE SURVEY WAS COMPLETED AT BALD HEAD ISLAND, NORTH CAROLINA.

NOTE: ELEVATIONS BASED ON NGVD 29

MFKIM & CREED
 243 NORTH FRONT STREET
 WILMINGTON, NORTH CAROLINA 28401
 TEL: 910.251.8322
 FAX: 910.251.8322
 NORTH CAROLINA FIRM LICENSE NUMBER: F-1222

**BALD HEAD ISLAND
 BEACH MONITORING PROGRAM
 PROFILE SURVEY
 SPRING 2023
 THE VILLAGE OF BALD HEAD ISLAND
 COUNTY: NORTH CAROLINA
 MAY 11, 2023**

JOB NUMBER: 0074-0002
CAD NUMBER: 230301507
PLS. NUMBER: 230301507
CAD NOTES: M.A.
CAD PLOT: M.A.
DRAWING NUMBER: 230301507
SHEET 1 OF 3

STATION NUMBER

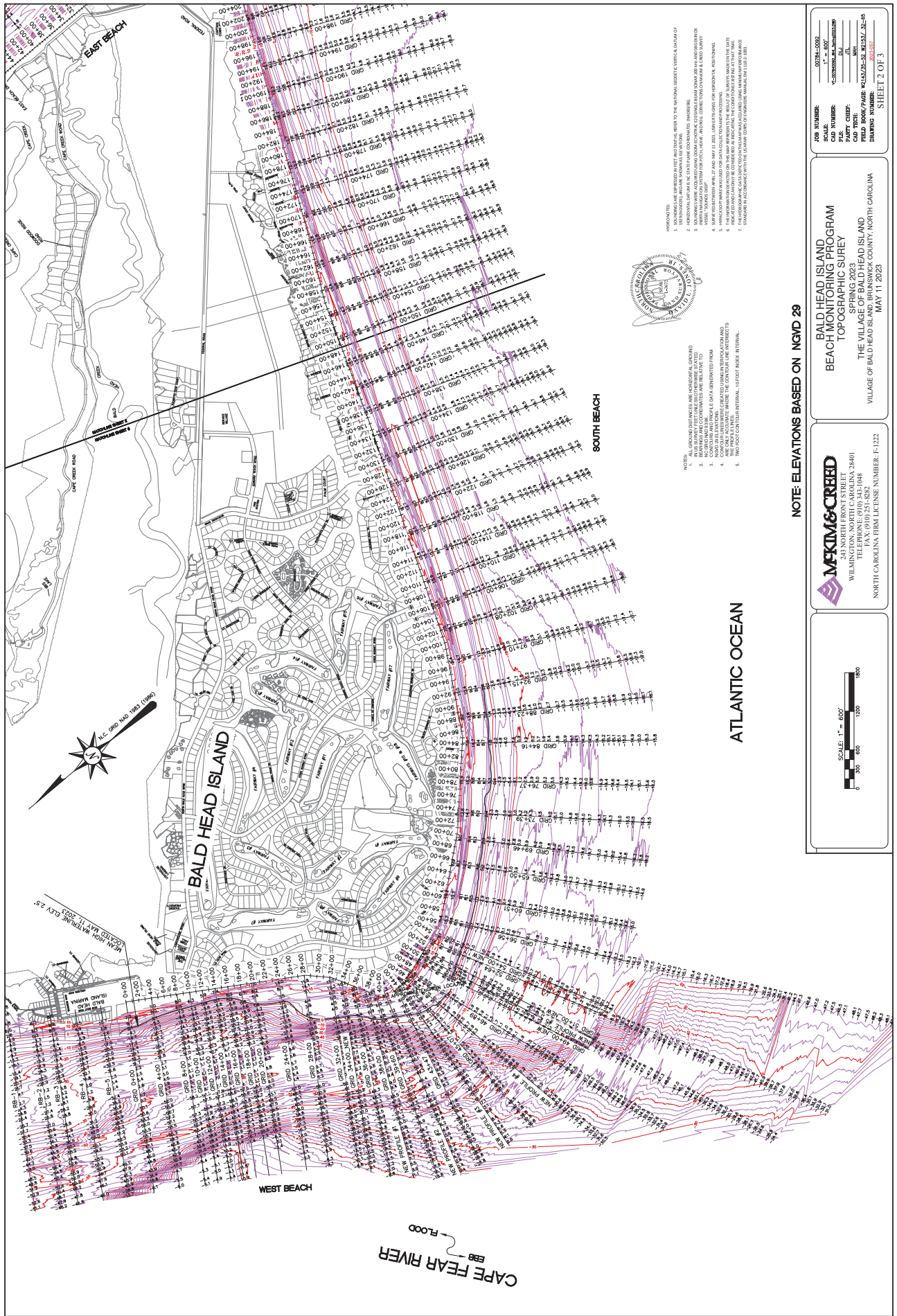
100	100	100.00
200	200	200.00
300	300	300.00
400	400	400.00
500	500	500.00
600	600	600.00
700	700	700.00
800	800	800.00
900	900	900.00
1000	1000	1000.00

NEW LINES NAD83 BH

EASTING	NORTHING	ELEVATION
100	100	100.00
200	200	200.00
300	300	300.00
400	400	400.00
500	500	500.00
600	600	600.00
700	700	700.00
800	800	800.00
900	900	900.00
1000	1000	1000.00

EAST BEACH BASELINE COORDINATES NAD83

EASTING	NORTHING	ELEVATION
100	100	100.00
200	200	200.00
300	300	300.00
400	400	400.00
500	500	500.00
600	600	600.00
700	700	700.00
800	800	800.00
900	900	900.00
1000	1000	1000.00



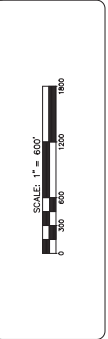
MEAN HIGH WATER, ELEV. 2.5'
 N.C. 588 MAR 1981 (1986)



- NOTES:
1. ELEVATIONS SHOWN ARE BASED ON NGVD 29.
 2. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC SURVEY DATUM OF 1929.
 3. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC SURVEY DATUM OF 1929.
 4. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC SURVEY DATUM OF 1929.
 5. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC SURVEY DATUM OF 1929.
 6. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC SURVEY DATUM OF 1929.
 7. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC SURVEY DATUM OF 1929.

ATLANTIC OCEAN

NOTE: ELEVATIONS BASED ON NGVD 29



MFKIM & CREED
 243 NORTH FRONT STREET
 WILMINGTON, NORTH CAROLINA 28401
 TEL: 910.251.8282
 FAX: 910.251.8282
 NORTH CAROLINA FIRM LICENSE NUMBER: F-1222

**BALD HEAD ISLAND
 BEACH MONITORING PROGRAM
 TOPOGRAPHIC SURVEY**
 SPRING 2023
 THE VILLAGE OF BALD HEAD ISLAND
 BALD HEAD ISLAND, NORTH CAROLINA
 MAY 11, 2023

JOB NUMBER: 00741.0002
 CAD NUMBER: 23-00000000000000000000
 FILE: 00741.DWG
 CAD USER: MFK
 CAD DATE: 05/11/2023
 PLOT BOOK/PAGE: 023/05-29, 023/30, 31-56
 DRAWING NUMBER: 00741.0002
 SHEET 2 OF 3

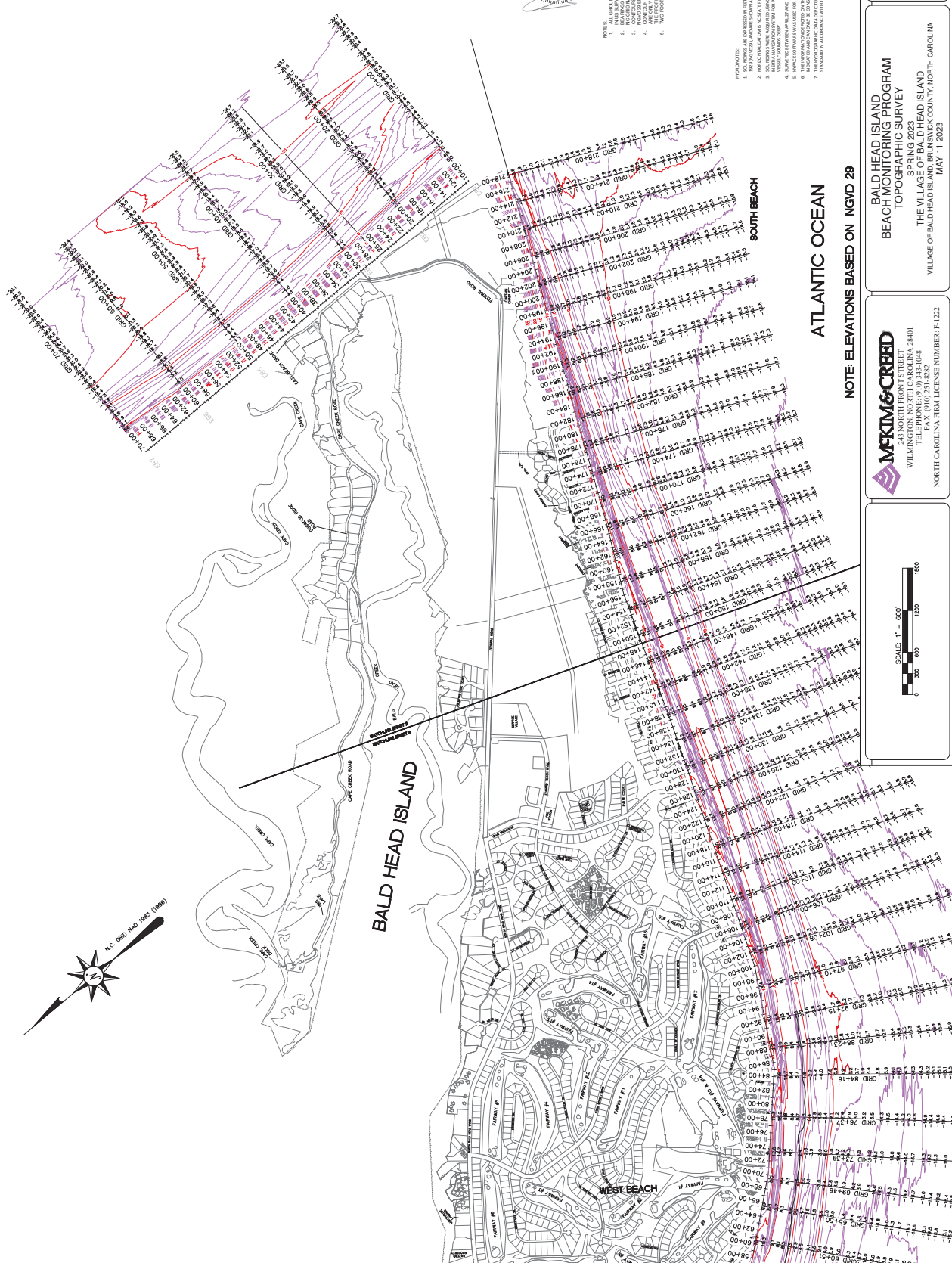
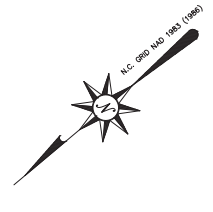
EAST BEACH

BALD HEAD ISLAND

WEST BEACH

SOUTH BEACH

ATLANTIC OCEAN



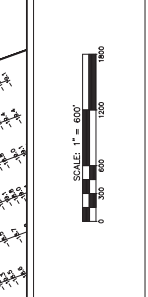
- 1. ALL GRID ELEVATIONS ARE HORIZONTAL ELEVATIONS.
- 2. BEACH PROFILES AND CROSS SECTIONS ARE RELATIVE TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1988.
- 3. CONTOUR INTERVAL AND PROFILE DATA DERIVED FROM 1/8"=100'.
- 4. CONTOUR DATA WERE DERIVED FROM THE INVENTION AND THE PROFILE DATA WERE DERIVED FROM THE INVENTION AND THE PROFILE DATA WERE DERIVED FROM THE INVENTION.
- 5. THE PROFILE DATA WERE DERIVED FROM THE INVENTION.

NOTE: ELEVATIONS ARE EXPRESSED IN FEET AND DECIMALS, REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1988 UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE RELATIVE TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1988 UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE RELATIVE TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1988 UNLESS OTHERWISE INDICATED.

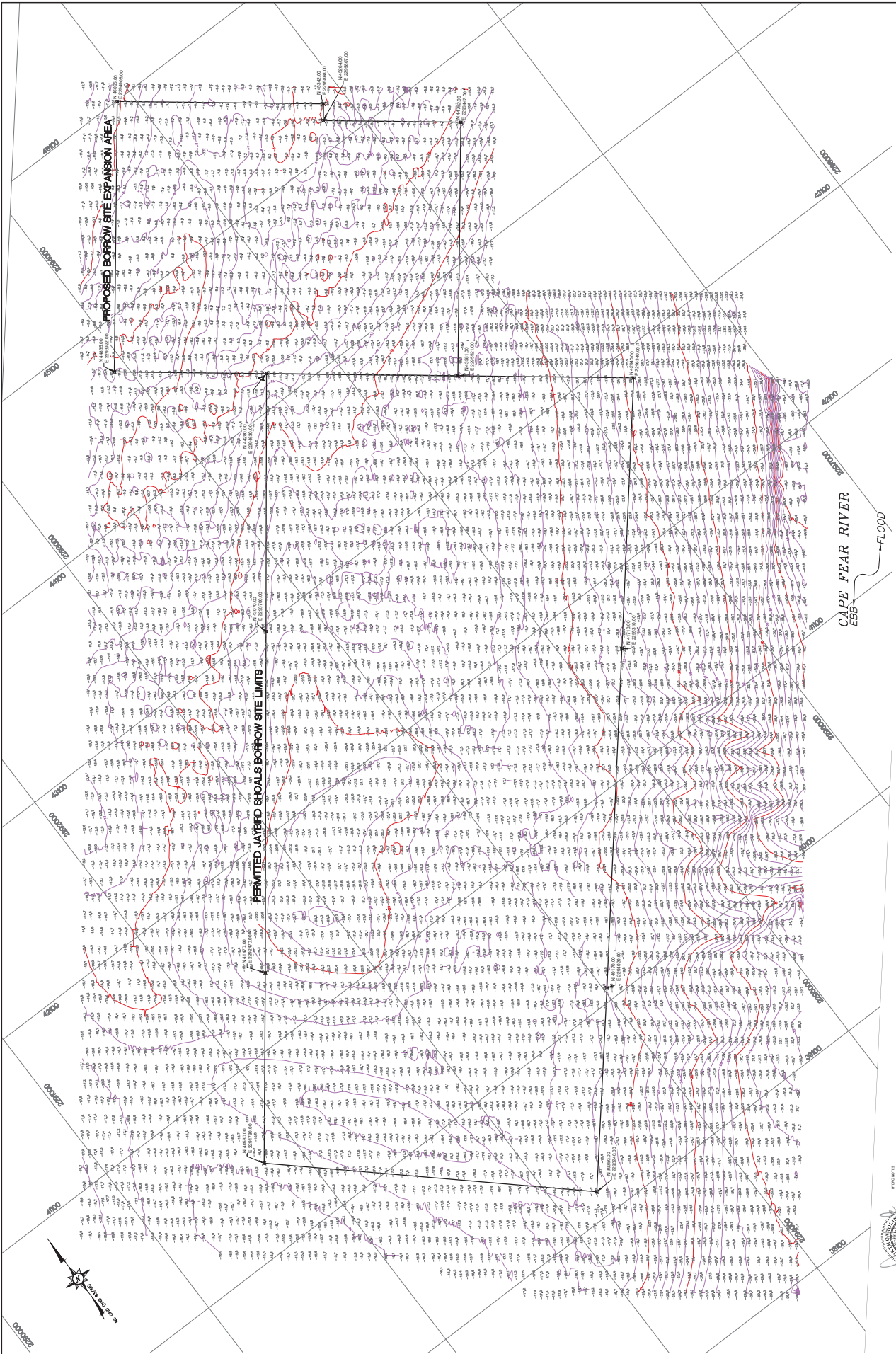
JOB NUMBER	00704.0002
CAD NUMBER	20230505000100000000
FILE	20230505000100000000
CAD PROJECT	MA
DRAWING NUMBER	00704.0002
FIELD BOOK/PAIR	#13/35-39, #13/37, #13-38
SHEET	3 OF 3

**BALD HEAD ISLAND
BEACH MONITORING PROGRAM
TOPOGRAPHIC SURVEY**
SPRING 2023
THE VILLAGE OF BALD HEAD ISLAND
COUNTY, NORTH CAROLINA
MAY 11, 2023

MFKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: 757.375.1111
FAX: 757.375.1112
NORTH CAROLINA FIRM LICENSE NUMBER: F-1222



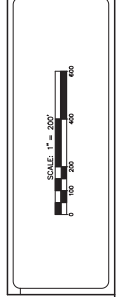
NOTE: ELEVATIONS BASED ON NGVD 29



JOB NUMBER: 00781-2007
 CLIENT: WILMINGTON AIRPORT AUTHORITY
 DATE: 05/31/2007
 DRAWN BY: J. HARRIS
 CHECKED BY: J. HARRIS
 SCALE: 1" = 200'
 SHEET 1 OF 1

JAY BIRD SHOAL BORROW AREA
 FOR
THE VILLAGE OF BALD HEAD ISLAND
 EXISTING CONDITIONS HYDROGRAPHIC SURVEY
 VILLAGE OF BALD HEAD ISLAND, BRUNSWICK COUNTY, NORTH CAROLINA
 MAY 31, 2007 SCALE 1" = 200'

MAKING & CREED
 243 NORTH FRONT STREET
 WILMINGTON, NORTH CAROLINA 28401
 TELEPHONE: (910) 442-1488
 FAX: (910) 251-8282
 NORTH CAROLINA LICENSE NUMBER: F-1222



PROVISIONS:
 1. THIS SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL ELECTRONIC POSITIONING SYSTEM (NEPOS) STANDARD.
 2. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL ELECTRONIC POSITIONING SYSTEM (NEPOS) STANDARD.
 3. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL ELECTRONIC POSITIONING SYSTEM (NEPOS) STANDARD.
 4. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL ELECTRONIC POSITIONING SYSTEM (NEPOS) STANDARD.
 5. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL ELECTRONIC POSITIONING SYSTEM (NEPOS) STANDARD.
 6. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL ELECTRONIC POSITIONING SYSTEM (NEPOS) STANDARD.
 7. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL ELECTRONIC POSITIONING SYSTEM (NEPOS) STANDARD.
 8. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL ELECTRONIC POSITIONING SYSTEM (NEPOS) STANDARD.
 9. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL ELECTRONIC POSITIONING SYSTEM (NEPOS) STANDARD.
 10. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE NATIONAL ELECTRONIC POSITIONING SYSTEM (NEPOS) STANDARD.

