PUBLISHED TIDAL INFORMATION

TIDAL DATUMS AT PUNTA GORDA, CHARLOTTE COUNTY
ARE BASED ON FLORIDA 872 5744 TIDE STATION,
PUBLISHED 10-18-2010.

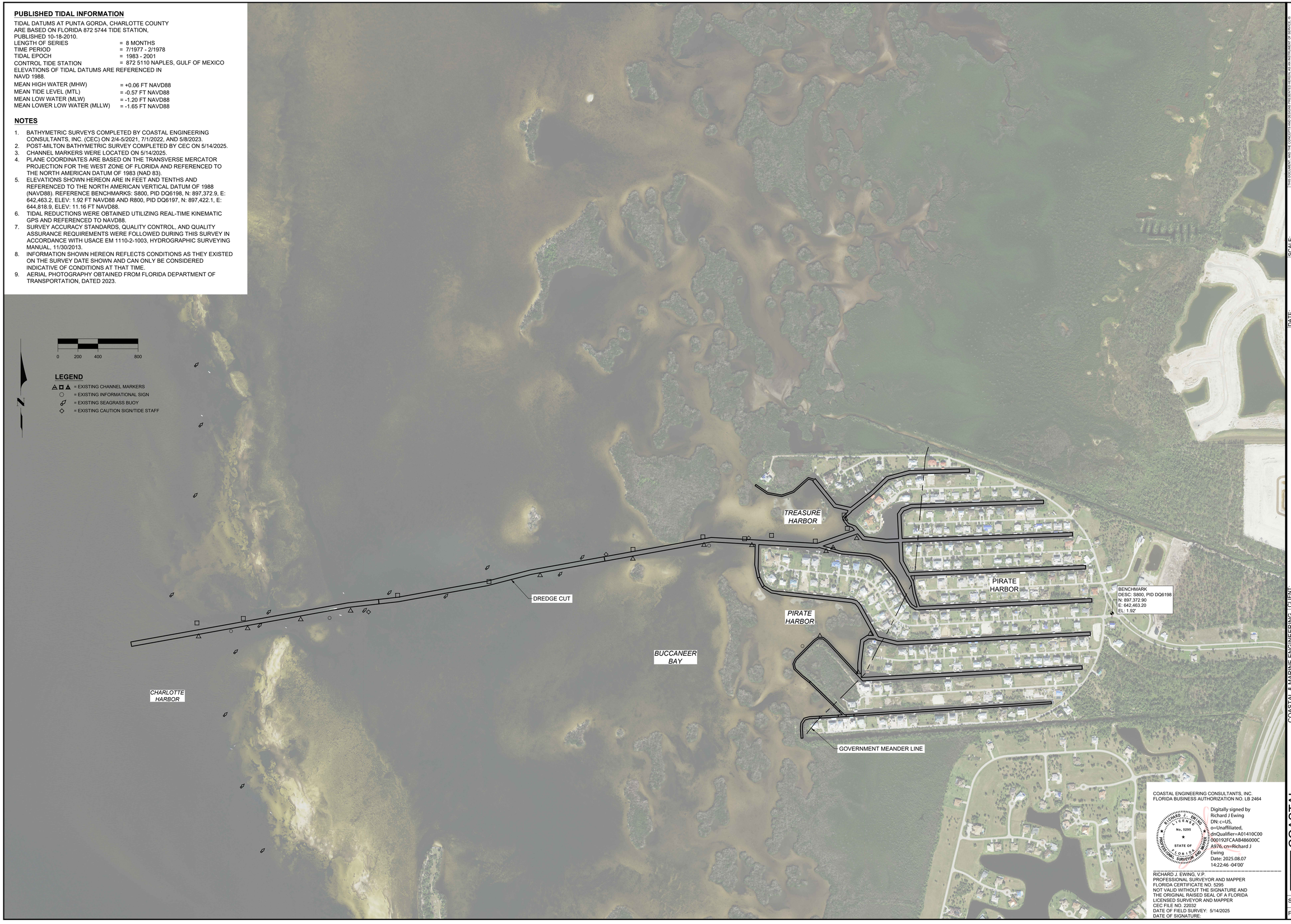
LENGTH OF SERIES	= 8 MONTHS
TIME PERIOD	= 7/1977 - 2/1978
TIDAL EPOCH	= 1983 - 2001
CONTROL TIDE STATION	= 872 5110 NAPLES, GULF OF MEXICO

ELEVATIONS OF TIDAL DATUMS ARE REFERENCED IN
NAVD 1988.

MEAN HIGH WATER (MHW)	= +0.06 FT NAVD88
MEAN TIDE LEVEL (MTL)	= -0.57 FT NAVD88
MEAN LOW WATER (MLW)	= -1.20 FT NAVD88
MEAN LOWER LOW WATER (MLLW)	= -1.65 FT NAVD88

NOTES

1. BATHYMETRIC SURVEYS COMPLETED BY COASTAL ENGINEERING CONSULTANTS, INC. (CEC) ON 2/4-5/2021, 7/1/2022, AND 5/8/2023.
2. POST-MILTON BATHYMETRIC SURVEY COMPLETED BY CEC ON 5/14/2025.
3. CHANNEL MARKERS WERE LOCATED ON 5/14/2025.
4. PLANE COORDINATES ARE BASED ON THE TRANSVERSE MERCATOR PROJECTION FOR THE WEST ZONE OF FLORIDA AND REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD 83).
5. ELEVATIONS SHOWN HEREON ARE IN FEET AND TENTHS AND REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). REFERENCE BENCHMARKS: S800, PID DQ6198, N: 897,372.9, E: 642,463.2, ELEV: 1.92 FT NAVD88 AND R800, PID DQ6197, N: 897,422.1, E: 644,818.9, ELEV: 11.16 FT NAVD88.
6. TIDAL REDUCTIONS WERE OBTAINED UTILIZING REAL-TIME KINEMATIC GPS AND REFERENCED TO NAVD88.
7. SURVEY ACCURACY STANDARDS, QUALITY CONTROL, AND QUALITY ASSURANCE REQUIREMENTS WERE FOLLOWED DURING THIS SURVEY IN ACCORDANCE WITH USACE EM 1110-2-1003, HYDROGRAPHIC SURVEYING MANUAL, 11/30/2013.
8. INFORMATION SHOWN HEREON REFLECTS CONDITIONS AS THEY EXISTED ON THE SURVEY DATE SHOWN AND CAN ONLY BE CONSIDERED INDICATIVE OF CONDITIONS AT THAT TIME.
9. AERIAL PHOTOGRAPHY OBTAINED FROM FLORIDA DEPARTMENT OF TRANSPORTATION, DATED 2023.



COASTAL ENGINEERING CONSULTANTS, INC.
FLORIDA BUSINESS AUTHORIZATION NO. LB 2464

RICHARD J. EWING, INC. 1957 LICENSED No. 5295 STATE OF FLORIDA PROFESSIONAL SURVEYOR AND MAPPER

Digitally signed by Richard J Ewing
DN: c=US, o=Unaffiliated, dnQualifier=A01410C00000192FCAAB486000CA976, cn=Richard J Ewing
Date: 2025.08.07 14:22:46 -04'00'

RICHARD J. EWING, V.P.
PROFESSIONAL SURVEYOR AND MAPPER
FLORIDA CERTIFICATE NO. 5295
NOT VALID WITHOUT THE SIGNATURE AND
THE ORIGINAL RAISED SEAL OF A FLORIDA
LICENSED SURVEYOR AND MAPPER
CEC FILE NO. 22032
DATE OF FIELD SURVEY: 5/14/2025
DATE OF SIGNATURE:

THIS DOCUMENT, AND THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROVEMENTS TO THE SUBJECT PROPERTY BY OTHERS THAN THE CLIENT FOR WHOM IT WAS PREPARED IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF COASTAL ENGINEERING CONSULTANTS, INC. (CEC) OR ITS SUBSIDIARIES. ANY SUCH REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY CEC SHALL BE WITHOUT LIABILITY TO CEC OR ITS SUBSIDIARIES.

NO.	DATE	BY	REVISION DESCRIPTION

DATE: 7/22/2025
SCALE: AS NOTED
DRAWN: SDB
F.B.
CHECKED: RJE
PG.
SEC.
TWP.
RNG.
ACAD NO. 22032-Pirate Harbor_Post-Milton.dwg
REF. NO. 22,032

CLIENT: CHARLOTTE COUNTY

TITLE: PIRATE HARBOR BATHYMETRIC SURVEY PLAN VIEW

COASTAL & MARINE ENGINEERING
ENVIRONMENTAL & GEOLOGICAL SERVICES
SURVEYING AND MAPPING
ENGINEERING: CA 2464
SURVEYING: LB 2464

PHONE: (239)643-2324
FAX: (239)643-1143
www.coastalengineering.com
E-Mail: info@cecilf.com

COASTAL ENGINEERING CONSULTANTS INC.
Serving Florida Since 1977
28421 BONITA CROSSINGS BLVD
BONITA SPRINGS, FLORIDA 34135

SHEET 1

FILE NO.: 22032-PH-1

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ACAD NO. 22032-Pirate Harbor_Post-Milton.dwg
REF. NO. 22,032

CLIENT: CHARLOTTE COUNTY

TITLE: PIRATE HARBOR BATHYMETRIC SURVEY DETAILED PLAN VIEW

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SHEET 2

FILE NO.: 22032-PH-2

LEGEND

- = DREDGE AREA
- = EXISTING GRADE (FEB. 2021)
- = EXISTING GRADE (JULY 2022)
- = EXISTING GRADE (MAY 2023)
- = EXISTING GRADE (MAY 2025)

SCALE
H: 1" = 40'
V: 1" = 4'

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SCALE: AS NOTED
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CHECKED: PG. MTP
SEC. TWP. RNG.
ACAD NO. 22032-Pirate Harbor_Post-Milton.dwg
REF. NO. 22,032

CLIENT: CHARLOTTE COUNTY

TITLE: PIRATE HARBOR BATHYMETRIC SURVEY CROSS SECTIONS: 6+50 TO 30+00

COASTAL & MARINE ENGINEERING
ENVIRONMENTAL & GEOLOGICAL SERVICES
SUPPLEMENTAL SERVICES
ENGINEERING: CA 2464
SURVEYING: LB 2464

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BONITA SPRINGS, FLORIDA 34135

SHEET 3

FILE NO.: 22032-PH-3

LEGEND

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CHECKED: MTP PG.
SEC. TWP. RNG.
ACAD NO. 22032-Pirate Harbor_Post-Milton.dwg
REF. NO. 22.032

CLIENT: CHARLOTTE COUNTY

TITLE: PIRATE HARBOR BATHYMETRIC SURVEY CROSS SECTIONS: 30+50 TO 47+00

COASTAL & MARINE ENGINEERING
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SURVEYING AND MAPPING
ENGINEERING: CA 2464
SURVEYING: LB 2464

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COASTAL ENGINEERING CONSULTANTS INC.
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BONITA SPRINGS, FLORIDA 34135

SHEET 4

FILE NO.: 22032-PH-4

LEGEND

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RNG.
ACAD NO. 22032-Pirate Harbor_Post-Milton.dwg
REF. NO.
22.032

CLIENT: CHARLOTTE COUNTY

TITLE: PIRATE HARBOR BATHYMETRIC SURVEY CROSS SECTIONS: 47+50 TO 64+00

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COASTAL ENGINEERING CONSULTANTS INC.
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SHEET 5

FILE NO.: 22032-PH-5

LEGEND

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CHECKED: MTP PG.
SEC. TWP. RNG.
ACAD NO. 22032-Pirate Harbor_Post-Milton.dwg
REF. NO. 22.032

CLIENT: CHARLOTTE COUNTY

TITLE: PIRATE HARBOR BATHYMETRIC SURVEY CROSS SECTIONS: 64+50 TO 80+00

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SHEET 6

FILE NO.: 22032-PH-6

LEGEND

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- = EXISTING GRADE (FEB. 2021)
- = EXISTING GRADE (MAY 2023)
- = EXISTING GRADE (MAY 2025)

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RNG.
ACAD NO. 22032-Pirate Harbor_Post-Milton.dwg
REF. NO.
22.032

CLIENT: CHARLOTTE COUNTY

TITLE: PIRATE HARBOR
BATHYMETRIC SURVEY
CROSS SECTIONS: 100+00 TO 111+50
AND 205+50 TO 216+00

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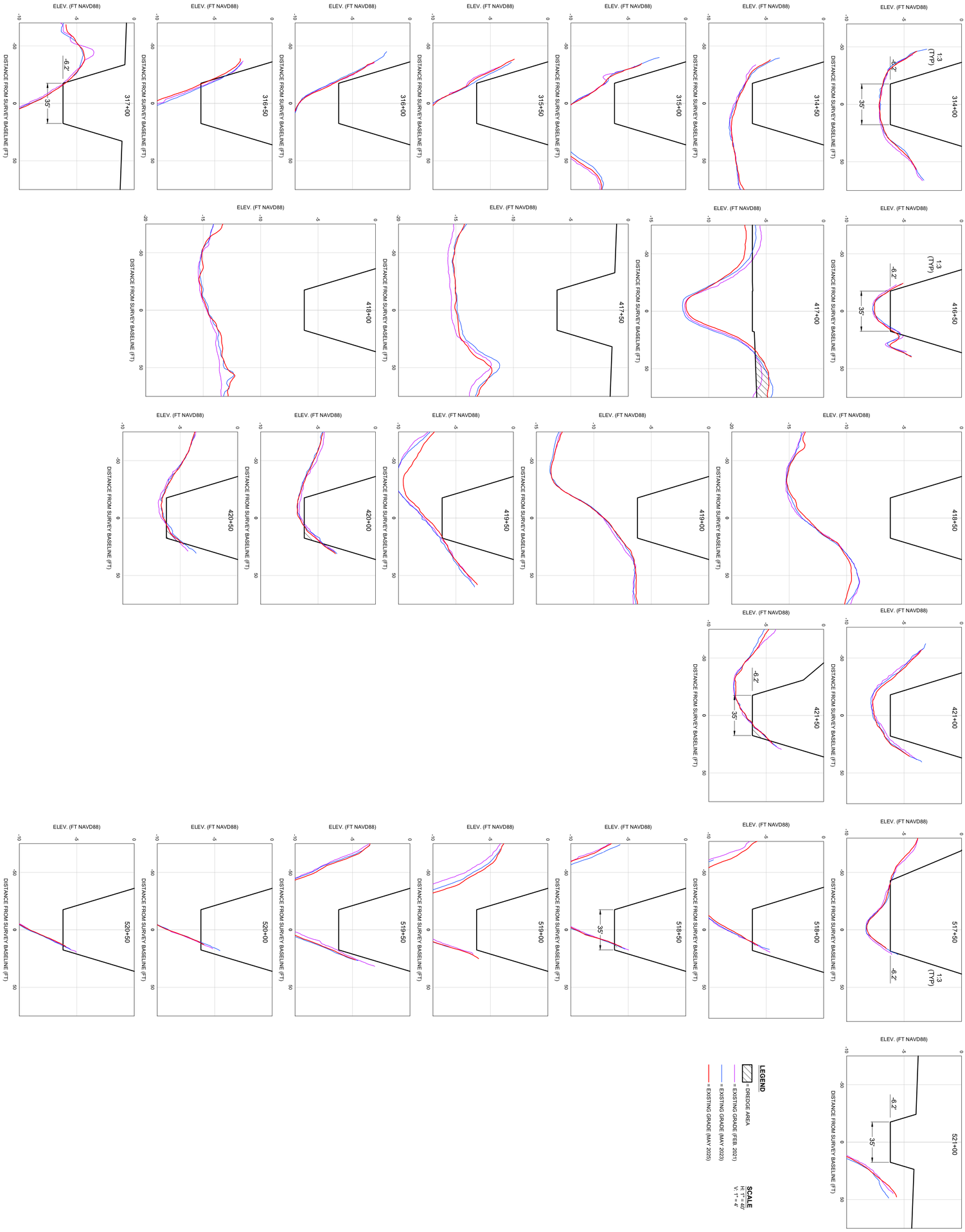
BONITA SPRINGS, FLORIDA 34135

SHEET 7

FILE NO.: 22032-PH-7



COASTAL ENGINEERING CONSULTANTS INC. Serving Florida Since 1977	COASTAL & MARINE ENGINEERING ENVIRONMENTAL & GEOLOGICAL SERVICES SURVEY AND MAPPING ENGINEERING: CA 2464 SURVEYING: LB 2464	CLIENT: CHARLOTTE COUNTY	DATE: 7/22/2025 SCALE: AS NOTED
28421 BONITA CROSSINGS BLVD BONITA SPRINGS, FLORIDA 34135	PHONE: (239)643-2324 FAX: (239)643-1143 www.coastalengineering.com E-Mail: info@cecifl.com	TITLE: PIRATE HARBOR BATHYMETRIC SURVEY CROSS SECTIONS: 314+00 TO 317+00, 416+50 TO 421+50, 517+50 TO 521+00	DRAWN: SDB F.B.
			CHECKED: MTP PG.
			SEC. TWP. RNG.
			ACAD NO. 22032-Pirate Harbor_Post-Milton.dwg
			REF. NO. 22.032

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NO.	DATE	BY	REVISION DESCRIPTION

SHEET 8

FILE NO.: 22032-PH-8

LEGEND

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- = EXISTING GRADE (FEB. 2021)
- = EXISTING GRADE (MAY 2023)
- = EXISTING GRADE (MAY 2025)

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ACAD NO. 22032-Pirate Harbor_Post-Milton.dwg
REF. NO.
22.032

CLIENT: CHARLOTTE COUNTY

TITLE: PIRATE HARBOR
BATHYMETRIC SURVEY
CROSS SECTIONS: 617+00 TO 620+50, 700+00 TO 712+50, 819+50 TO 829+50

COASTAL & MARINE ENGINEERING
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COASTAL ENGINEERING CONSULTANTS INC.
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BONITA SPRINGS, FLORIDA 34135

SHEET 9

FILE NO.: 22032-PH-9

LEGEND

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RNG.
ACAD NO. 22032-Pirate Harbor_Post-Milton.dwg
REF. NO. 22.032

CLIENT: CHARLOTTE COUNTY

TITLE: PIRATE HARBOR
BATHYMETRIC SURVEY
CROSS SECTIONS: 830+00 TO 839+50, 921+50 TO 927+00, 1019+00 TO 1029+50

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SURVEYING: LB 2464

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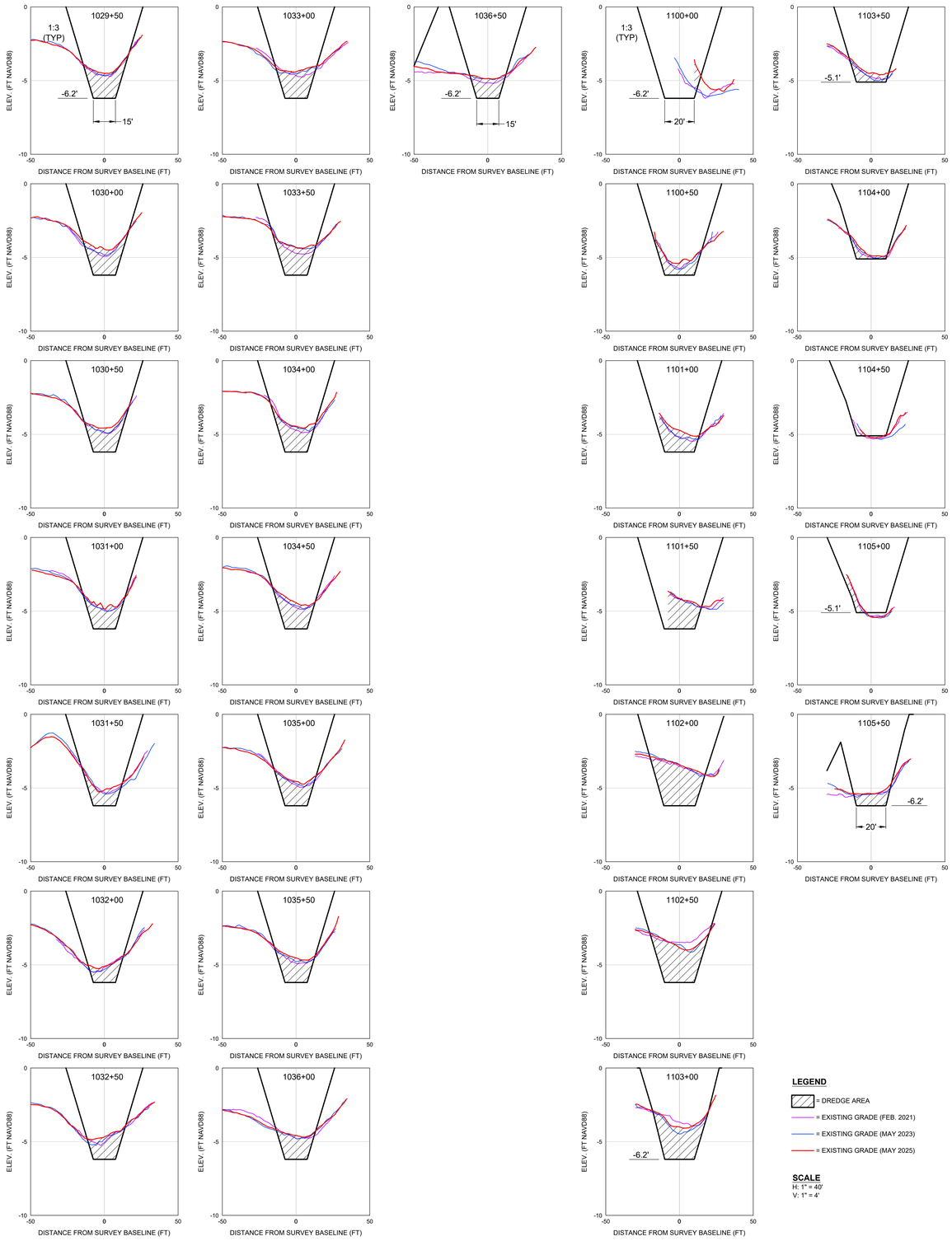
SHEET 10

FILE NO.: 22032-PH-10



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SURVEY BASELINE LINE TABLE

LINE #	DIRECTION	LENGTH	START POINT (X, Y)	END POINT (X, Y)
L1	S70° 31' 52"W	427.55'	(639927.35',898191.00')	(639524.25',898048.50')
L2	N86° 46' 41"W	1059.31'	(639524.25',898048.50')	(638466.61',898108.04')
L3	S79° 47' 01"W	480.98'	(638466.61',898108.04')	(637993.26',898022.73')
L4	S79° 47' 09"W	5400.00'	(637993.26',898022.73')	(632678.84',897065.16')
L5	S55° 55' 03"E	145.76'	(638906.47',898652.64')	(639027.19',898570.96')
L6	S80° 01' 10"E	143.61'	(639027.19',898570.96')	(639168.63',898546.07')
L7	N70° 42' 21"E	123.36'	(639168.63',898546.07')	(639285.06',898586.83')
L8	N48° 21' 52"E	200.50'	(639285.06',898586.83')	(639434.91',898720.04')
L9	S74° 01' 09"E	57.90'	(639434.91',898720.04')	(639490.57',898704.10')
L10	S39° 01' 36"E	331.25'	(639490.57',898704.10')	(639699.15',898446.77')
L11	S77° 23' 05"E	154.53'	(639699.15',898446.77')	(639849.95',898413.02')
L12	S88° 25' 15"W	596.88'	(641040.56',898797.20')	(640443.91',898780.75')
L13	S75° 04' 30"W	227.48'	(640443.91',898780.75')	(640224.10',898722.16')
L14	S46° 09' 49"W	213.79'	(640224.10',898722.16')	(640069.89',898574.09')
L15	S51° 58' 24"W	265.41'	(640069.89',898574.09')	(639860.82',898410.59')
L16	N77° 23' 55"W	11.14'	(639860.82',898410.59')	(639849.95',898413.02')
L17	S12° 36' 12"W	22.50'	(639849.95',898413.02')	(639845.04',898391.06')
L18	S34° 28' 27"W	18.85'	(639845.04',898391.06')	(639834.37',898375.52')
L19	S45° 33' 08"W	37.41'	(639834.37',898375.52')	(639807.66',898349.32')
L20	S40° 56' 46"W	27.21'	(639807.66',898349.32')	(639789.83',898328.77')
L21	S3° 12' 11"W	12.35'	(639789.83',898328.77')	(639789.14',898316.44')
L22	S27° 42' 04"E	16.24'	(639789.14',898316.44')	(639796.69',898302.06')
L23	S36° 35' 26"E	52.89'	(639796.69',898302.06')	(639828.22',898259.59')
L24	S69° 01' 21"E	63.16'	(639828.22',898259.59')	(639887.19',898236.98')
L25	S40° 15' 35"E	36.02'	(639887.19',898236.98')	(639910.47',898209.49')
L26	S42° 23' 38"E	25.04'	(639910.47',898209.49')	(639927.35',898191.00')
L27	S88° 10' 25"W	1320.57'	(641780.16',898484.71')	(640460.26',898442.62')
L28	S69° 14' 15"W	91.26'	(640460.26',898442.62')	(640374.93',898410.27')
L29	S34° 51' 12"W	60.53'	(640374.93',898410.27')	(640340.34',898360.60')
L30	S2° 43' 18"E	260.92'	(640340.34',898360.60')	(640352.73',898099.97')
L31	S87° 55' 30"W	1861.19'	(642069.40',898162.17')	(640209.43',898094.78')
L32	N82° 51' 59"W	226.12'	(640209.43',898094.78')	(639985.06',898122.86')
L33	N40° 15' 44"W	89.29'	(639985.06',898122.86')	(639927.35',898191.00')
L34	S87° 42' 39"W	1770.09'	(642199.96',897834.11')	(640431.28',897763.41')
L35	N27° 53' 14"W	146.92'	(640431.28',897763.41')	(640362.56',897893.27')
L36	N2° 43' 22"W	206.93'	(640362.56',897893.27')	(640352.73',898099.97')
L37	S87° 25' 56"W	1727.00'	(642261.31',897502.85')	(640536.04',897425.48')
L38	N17° 10' 02"W	154.22'	(640536.04',897425.48')	(640490.52',897572.83')
L39	N9° 30' 04"W	116.62'	(640490.52',897572.83')	(640471.27',897687.85')
L40	N27° 53' 24"W	85.49'	(640471.27',897687.85')	(640431.28',897763.41')
L41	S87° 26' 02"W	33.42'	(640536.04',897425.48')	(640502.65',897423.98')

SURVEY BASELINE LINE TABLE

LINE #	DIRECTION	LENGTH	START POINT (X, Y)	END POINT (X, Y)
L42	N57° 17' 00"W	50.92'	(640502.65',897423.98')	(640459.81',897451.51')
L43	N35° 02' 12"W	50.00'	(640459.81',897451.51')	(640431.10',897492.44')
L44	N28° 44' 13"W	270.00'	(640431.10',897492.44')	(640301.29',897729.19')
L45	N38° 44' 39"W	225.69'	(640301.29',897729.19')	(640160.04',897905.22')
L46	N67° 21' 32"W	122.40'	(640160.04',897905.22')	(640047.07',897952.34')
L47	N84° 46' 07"W	284.28'	(640047.07',897952.34')	(639763.97',897978.26')
L48	N73° 40' 08"W	249.80'	(639763.97',897978.26')	(639524.25',898048.50')
L49	S87° 11' 07"W	1927.32'	(642246.74',897169.79')	(640321.75',897075.15')
L50	N76° 23' 41"W	206.43'	(640321.75',897075.15')	(640121.11',897123.71')
L51	N29° 01' 02"W	366.25'	(640121.11',897123.71')	(639943.45',897443.99')
L52	N39° 42' 05"W	50.00'	(639943.45',897443.99')	(639911.51',897482.46')
L53	N72° 36' 45"W	49.99'	(639911.51',897482.46')	(639863.80',897497.40')
L54	N83° 48' 50"W	700.01'	(639863.80',897497.40')	(639167.87',897572.83')
L55	N81° 10' 55"W	100.00'	(639167.87',897572.83')	(639069.05',897588.16')
L56	N58° 03' 41"W	100.00'	(639069.05',897588.16')	(638984.19',897641.06')
L57	N27° 33' 43"W	100.00'	(638984.19',897641.06')	(638937.92',897729.71')
L58	N11° 42' 26"W	110.00'	(638937.92',897729.71')	(638915.60',897837.42')
L59	N1° 33' 35"E	245.06'	(638915.60',897837.42')	(638922.27',898082.39')
L60	S86° 56' 17"W	2198.67'	(642164.80',896832.89')	(639969.27',896715.45')
L61	N42° 43' 33"W	37.24'	(639969.27',896715.45')	(639944.00',896742.81')
L62	N0° 24' 08"E	133.94'	(639944.00',896742.81')	(639944.94',896876.75')
L63	N6° 56' 16"E	223.94'	(639944.94',896876.75')	(639971.99',897099.05')
L64	N56° 38' 19"E	66.25'	(639971.99',897099.05')	(640027.32',897135.48')
L65	S89° 35' 40"E	87.61'	(640027.32',897135.48')	(640114.93',897134.86')
L66	S86° 24' 53"W	2070.10'	(641858.72',896481.18')	(639792.67',896351.73')
L67	N45° 41' 33"W	478.60'	(639792.67',896351.73')	(639450.18',896686.04')
L68	N51° 44' 12"W	100.00'	(639450.18',896686.04')	(639371.66',896747.97')
L69	N46° 16' 32"W	103.43'	(639371.66',896747.97')	(639296.91',896819.46')
L70	N10° 59' 19"W	50.00'	(639296.91',896819.46')	(639287.38',896868.55')
L71	N24° 26' 44"E	50.00'	(639287.38',896868.55')	(639308.07',896914.06')
L72	N44° 47' 52"E	260.00'	(639308.07',896914.06')	(639491.27',897098.56')
L73	N54° 30' 54"E	50.00'	(639491.27',897098.56')	(639531.98',897127.58')
L74	S86° 16' 22"E	50.00'	(639531.98',897127.58')	(639581.88',897124.33')
L75	S50° 57' 53"E	50.00'	(639581.88',897124.33')	(639620.72',897092.84')
L76	S42° 43' 30"E	476.48'	(639620.72',897092.84')	(639944.00',896742.81')
L77	N3° 33' 25"W	100.00'	(639370.52',896127.35')	(639364.32',896227.16')
L78	N5° 12' 10"E	50.00'	(639364.32',896227.16')	(639368.85',896276.95')
L79	N34° 18' 20"E	50.00'	(639368.85',896276.95')	(639397.03',896318.25')
L80	N74° 29' 58"E	50.00'	(639397.03',896318.25')	(639445.21',896331.62')
L81	N86° 41' 13"E	348.04'	(639445.21',896331.62')	(639792.67',896351.73')

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NO.	DATE	BY	REVISION DESCRIPTION

DATE: 7/22/2022
SCALE: AS NOTED
DRAWN: SDB
F. B.
CHECKED: MTP
PG.
SEC.
TWP.
RNG.
ACAD NO. 22032-Pirate Harbor_Post-Milton.dwg
REF. NO.
22,032

CLIENT: CHARLOTTE COUNTY

TITLE: PIRATE HARBOR BATHYMETRIC SURVEY CROSS SECTIONS: 1030+00 TO 1036+50, 1100+00 TO 1105+50 AND ALIGNMENT LINE TABLE

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ENVIRONMENTAL & GEOLOGICAL SERVICES
SURVEYING AND MAPPING
ENGINEERING: CA 2464
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