STATE OF LOUISIANA
COASTAL PROTECTION AND RESTORATION AUTHORITY

GRAND LIARD MARSH AND RIDGE RESTORATION
BA-68
PLAQUEMINES PARISH

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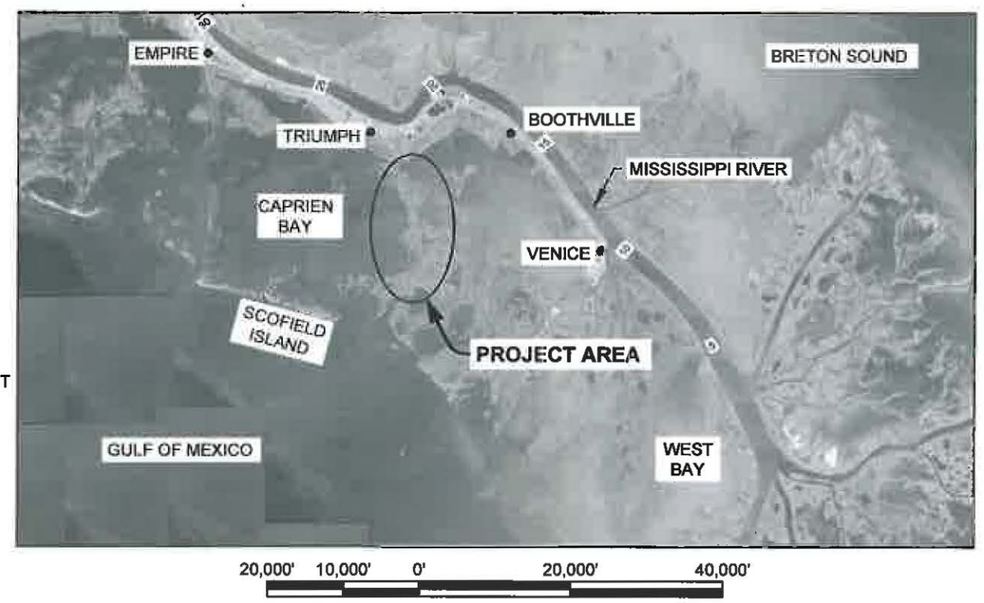

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/08/13

CHIEF, ENGINEERING DIVISION

ENGINEER MANAGER

ENGINEER SUPERVISOR

PROJECT ENGINEER

LICENSURE CLASSIFICATION REQUIREMENTS
MAJOR CLASSIFICATION: HEAVY CONSTRUCTION

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

TITLE SHEET
DATE: OCTOBER 2013
SHEET 1 OF 54

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GENERAL NOTES

1. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) GEOID 03 (2004.65), U.S. SURVEY FEET. ALL HORIZONTAL COORDINATES ARE GIVEN IN THE NORTH AMERICAN DATUM OF 1983 (NAD 83, LOUISIANA STATE PLANE SOUTH ZONE U.S. FEET). ELEVATIONS ARE BASED ON THE FOLLOWING SECONDARY MONUMENTS:

SECONDARY MONUMENT	ELEVATION	NORTHING	EASTING
CRMS BA-SM-14	2.27'	275,747.40	3,881,961.78
N 367	0.97'	314,850.54	3,878,540.64
C 279	-0.93'	318,589.90	3,846,907.90
J370	-4.20'	302,488.49	3,900,689.99

2. MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) WERE CALCULATED FROM THE GAGE CRMS0163 LOCATED 4 MILES SOUTH OF VENICE. DATA FROM JUNE 25, 2007 TO JUNE 22, 2010 WAS USED. ELEVATIONS ARE REFERENCED TO NAVD 88, US FEET. MHW=1.35' AND MLW =0.30'.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING SAFE ACCESS TO THE PROJECT AND FOR NAVIGATING WITHIN THE LIMITS OF THE PROJECT AREA. ALL EQUIPMENT SHALL BE FLOATING AT ALL TIMES DURING TRANSIT TO AND FROM THE PROJECT SITE. THE CPRA CONSTRUCTION ENGINEER OR THEIR REPRESENTATIVE SHALL MONITOR THE LOCATION OF EQUIPMENT DURING CONSTRUCTION.

4. THE CONTRACTOR SHALL NOT, AT ANYTIME, TRAVERSE EXISTING MARSH OR VEGETATIVE WETLANDS OUTSIDE FILL AREAS UNLESS OTHERWISE DIRECTED BY THE CPRA CONSTRUCTION ENGINEER.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING PIPELINE OPERATORS THREE (3) WORKING DAYS IN ADVANCE OF THE WORK. ALL PIPELINES SHALL BE MARKED BY THE CONTRACTOR. THE CONTRACTOR SHALL MAINTAIN BUOYS DURING CONSTRUCTION AND HAVE ADEQUATE NAVIGATIONAL EQUIPMENT ON THE DREDGE TO AVOID DREDGING IN RESTRICTED AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE CLEARANCES FROM THE PIPELINES SET FORTH IN THE PLANS AND SPECIFICATIONS. SEE SP-11 OF THE SPECIFICATIONS FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL NOT ANCHOR OR EXCAVATE WITHIN 50 FEET OF ANY PIPELINE. **CALL LOUISIANA ONE CALL AT 1-800-272-3020 48 HOURS PRIOR TO ANY EXCAVATION AND/OR DREDGING TO LOCATE ALL PIPELINES OR UTILITIES.**

GULF SOUTH PIPELINE
HAROLD SILL
(504) 415-1864

TEXAS EASTERN TRANSMISSION
JEROME SNYDER
(985) 876-6761 EXT. 6851

TENNESSEE GAS PIPELINE
PAT ADAMS
(985) 223-6139

CHEVRON PIPELINE
KEITH SCHAUBHUT
PARADIS DIVISION
(507) 415-0593

COLUMBIA GULF TRANSMISSION
DARREN DUHON
INTEGRITY MANAGEMENT
(337) 266-4672

LOUISIANA STATE GAS CORP.
MORRIS P. HEBERT
(985) 879-2731

SOUTHERN NATURAL GAS
KURT CHERAMIE
EMPIRE DIVISION
(985) 233-6417

HILCORP ENERGY COMPANY
GEORGE MOSS
(985) 397-1325

6. PLANS AND SPECIFICATIONS ARE COMPLEMENTARY; WHAT IS REQUIRED BY ONE IS BINDING AS IF REQUIRED BY ALL. CLARIFICATIONS AND INTERPRETATIONS OF, OR NOTIFICATIONS OF MINOR VARIATIONS AND DEVIATIONS IN THE CONTRACT DOCUMENTS, WILL BE ISSUED IN WRITING BY THE ENGINEER.

7. ANY DAMAGE TO EXISTING U.S. COAST GUARD NAVIGATION AIDS OR PRIVATE NAVIGATION AIDS SHALL BE REPAIRED BY THE CONTRACTOR TO U.S. COAST GUARD STANDARDS AT THE EXPENSE OF THE CONTRACTOR.

8. MARSH CREATION AREA ELEVATIONS SHOWN ON THE PLANS ARE BASED ON THE SURVEYS PERFORMED BETWEEN AUGUST 05, 2010 AND SEPTEMBER 23, 2010 BY SIGMA CONSULTING GROUP, INC. FOR THE CPRA. BORROW AREA ELEVATIONS SHOWN ON THE PLANS ARE BASED ON THE SURVEYS PERFORMED BETWEEN FEBRUARY 2, 2010 AND FEBRUARY 4, 2010 BY COASTAL PLANNING & ENGINEERING, INC. FOR THE CPRA. AN UPDATED PRE-CONSTRUCTION SURVEY SHALL BE PERFORMED AS PART OF THIS CONTRACT PER TS-2.3 OF THE SPECIFICATIONS.

9. THE EARTHEN RIDGE, EARTHEN CONTAINMENT DIKES, MARSH CREATION AREAS, OFFSHORE BORROW AREAS, AND SHEET PILE CLOSURE STRUCTURES MAY BE REVISED BY THE CPRA CONSTRUCTION ENGINEER AT THE TIME OF CONSTRUCTION TO REFLECT CHANGES IN FIELD CONDITIONS.

10. ESTIMATED HYDRAULIC DREDGING QUANTITIES SHOWN ARE FOR BIDDING PURPOSES ONLY AND WERE CALCULATED ACCORDING TO CONDITIONS SURVEYED FROM 08-05-2010 TO 09-23-2010. QUANTITIES WERE CALCULATED USING AUTOCAD AND AERIAL PHOTOGRAPHY FOR SECTIONS 20+00 THROUGH 190+50.

11. THE CONTRACTOR SHALL PERFORM A MAGNETOMETER SURVEY OF THE BORROW AREAS AND ALL PROPOSED ACCESS CORRIDORS PRIOR TO MOBILIZATION FOR CONSTRUCTION. DRAWINGS SHOWING THE TRACK LINES, ANY MAGNETOMETER HITS, COORDINATES, AMPLITUDE, SIGNATURE TYPE, AND SIGNATURE WIDTH OF ALL MAGNETOMETER HITS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO MOBILIZATION. ADDITIONAL TRACK LINES SHALL BE RUN IN ACCORDANCE WITH TS-2.3.9 OF THE SPECIFICATIONS.

12. THE GEOTECHNICAL INVESTIGATION AND ANALYSES WERE PERFORMED FROM JANUARY 2010 THROUGH SEPTEMBER 2011 BY GEOENGINEERS, INC. AND COASTAL PLANNING AND ENGINEERING, INC. THE LOCATIONS OF THE SOIL BORINGS ARE SHOWN ON SHEET 28. THE GEOTECHNICAL BORING LOGS CAN BE FOUND IN APPENDIX H OF THE SPECIFICATIONS.

13. THE CONTRACTOR IS RESPONSIBLE FOR CONTAINING ALL DREDGED MATERIAL WITHIN THE BOUNDARIES OF THE PROPOSED MARSH CREATION AREAS.

SUMMARY OF ESTIMATED QUANTITIES

ITEM No.	DESCRIPTION	UNIT	ESTIMATED[3] QUANTITY
1	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	1
2	CLEARING AND GRUBBING	LUMP SUM	1
3	MARSH CREATION HYDRAULIC DREDGING (BORROW CUT VOLUME)[2]	CUBIC YARDS	3,442,824
4	EARTHEN CONTAINMENT DIKES [1]	LINEAR FOOT	29,275
5	EARTHEN RIDGE [1]	LINEAR FOOT	16,780
6	CONSTRUCTION SURVEYS	LUMP SUM	1
7	STEEL SHEET PILING	SQUARE FOOT	45,626
8	SAND FILL	CUBIC YARDS	22,569
9	SETTLEMENT PLATES	EACH	11
10	ACCESS DREDGING	LUMP SUM	1
11	PIPELINE REMOVAL	LUMP SUM	1

1. THE LINEAR FOOTAGE OF EARTHEN CONTAINMENT DIKES AND EARTHEN RIDGE WAS ESTIMATED FOR CONSTRUCTION USING AERIAL PHOTOGRAPHY, FIELD SURVEYS, AND AUTOCAD. THE OWNER RESERVES THE RIGHT TO REQUEST THAT ADDITIONAL EARTHEN CONTAINMENT DIKES AND EARTHEN RIDGE BE BUILT FOR CONSTRUCTION AT THE CONTRACTOR'S BID PRICE/LINEAR FOOT.
2. THE HYDRAULIC DREDGING QUANTITIES FOR THE MARSH CREATION AREAS ARE BASED ON THE OFFSHORE BORROW AREA CUT VOLUME. ACTUAL QUANTITIES FOR PAYMENT WILL BE BASED ON SURVEYS PERFORMED AS PART OF THIS CONTRACT AS REQUIRED IN TS-2 "CONSTRUCTION SURVEYS" OF THE SPECIFICATIONS.
3. WHERE THE QUANTITY OF WORK WITH RESPECT TO ANY ITEM IS COVERED BY A UNIT PRICE, SUCH QUANTITIES ARE ESTIMATED QUANTITIES TO BE USED WHEN COMPARING BIDS AND THE RIGHT IS RESERVED BY THE OWNER TO INCREASE/DECREASE SUCH QUANTITIES AS MAY BE NECESSARY TO COMPLETE THE WORK AND/OR REMAIN WITHIN FUNDING LIMITS.

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
Tye E. Fitzgerald
10/08/13

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-36
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

GENERAL NOTES
DATE: OCTOBER 2013
SHEET 2 OF 54

STATE OF LOUISIANA
TYE E. FITZGERALD
License No 38153
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BAYOU PETIT LIARD
MARSH CREATION AREA
CONSTRUCTION AND DREDGE DISCHARGE LINE ACCESS CHANNEL
BAY TAMBOUR
POTENTIAL DREDGING FOR CONSTRUCTION AND DREDGE DISCHARGE LINE ACCESS CHANNEL
SANDY POINT
HWY 11
LA HWY 23
8" SNG
4" LGS
2" LGS
TET
CHEVRON
30" GULF SOUTH
16" HILCORP
BAYOU GRAND LIARD
CHEVRON x 3
CHICHARAS BAY
22" SNG
BAY JACQUES
TEMPORARY WARNING SIGN
UNKNOWN PIPELINE
TRIUMPH
8" CHEVRON
COLUMBIA GULF
BAY COQUETTE
LOUISIANA STATE GAS CORP.
26" CHEVRON
MISSISSIPPI RIVER
MISSISSIPPI RIVER LEVEE
TENN. GAS x 2
SCOFIELD ISLAND
BORROW AREAS
CAPRIEN BAY
8" COLUMBIA GULF
GULF OF MEXICO
EQUIPMENT ACCESS ROUTE (SEE SHEET 30)
EMPIRE
EMPIRE WATERWAY
EMPIRE FLOOD GATE
EMPIRE JETTIES

6,000' 3,000' 0' 6,000' 12,000'

LEGEND

- MARSH CREATION AREA
- BORROW AREA
- CONSTRUCTION AND DREDGE DISCHARGE LINE ACCESS CHANNEL
- POTENTIAL DREDGING FOR CONSTRUCTION AND DREDGE DISCHARGE LINE ACCESS CHANNEL
- EQUIPMENT ACCESS ROUTE
- PIPELINE
- TEMPORARY WARNING SIGNS

NOTES:
1. BACKGROUND IMAGERY WAS TAKEN IN 2010.
2. PIPELINE INFORMATION SHOWN ON PLANS IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS PRIOR TO BEGINNING CONSTRUCTION.
3. PIPELINE LOCATIONS ARE BASED ON USGS DATABASE AND IS NOT GUARANTEED TO BE ACCURATE.
4. ALL PIPELINES LOCATED WITHIN 150' OF THE EARTHEN RIDGE AND DIKE ALIGNMENTS, MARSH CREATION AREAS, BORROW AREAS, AND SHEET PILE CLOSURES SHALL BE PROBED AND THEIR LOCATIONS MARKED FOR THE DURATION OF CONSTRUCTION ACTIVITIES. SEE SP-11 OF THE SPECIFICATIONS FOR ADDITIONAL DETAILS.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

ACCESS ROUTE

STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
DATE: OCTOBER 2013
APPROVED BY: RUDOLPH SIMONEAUX, P.E.
SHEET 3 OF 54

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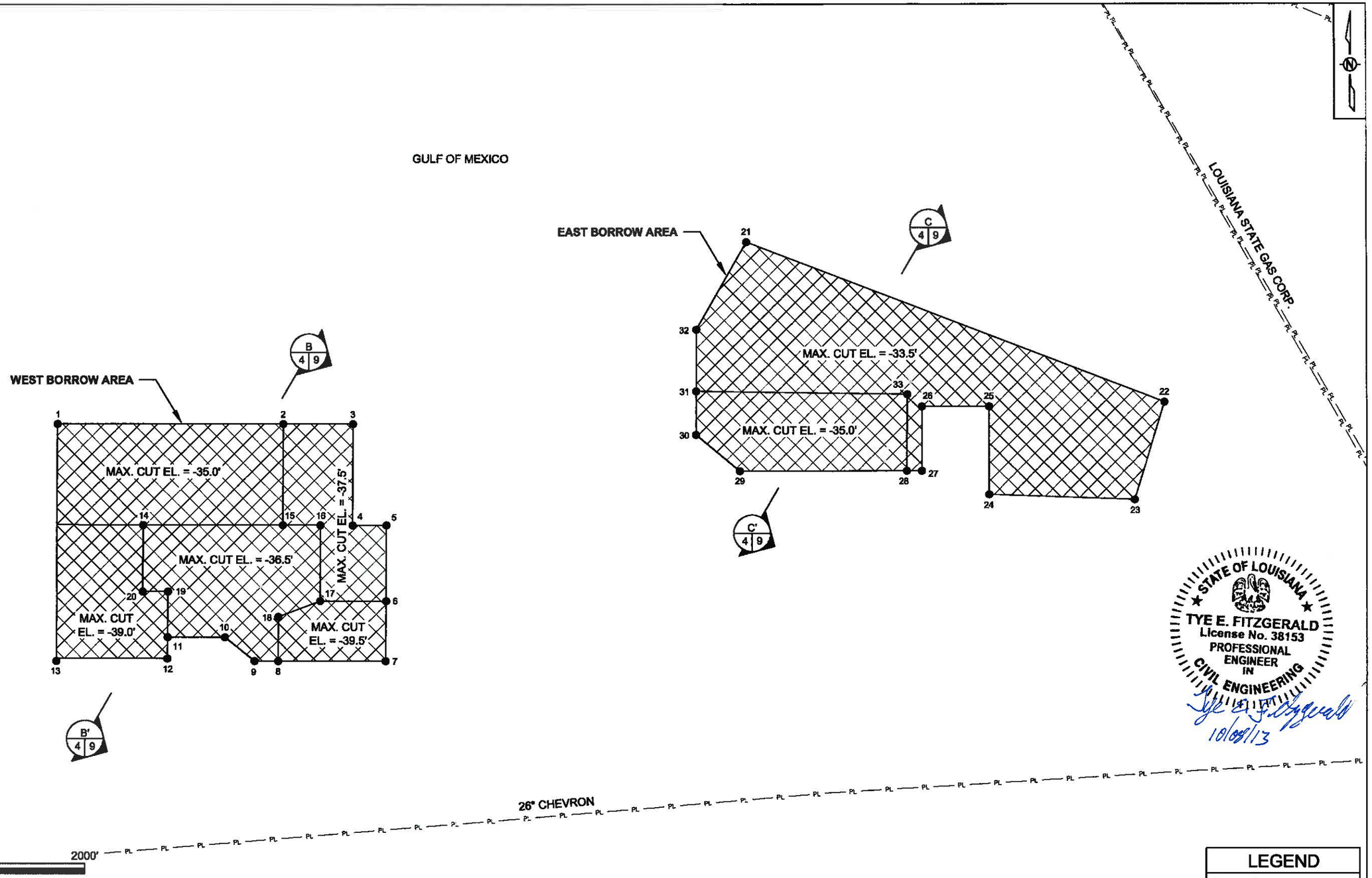
WEST BORROW AREA		
	NORTHING	EASTING
1	267,055.94	3,845,785.04
2	267,055.96	3,848,029.68
3	267,055.94	3,848,723.04
4	266,048.61	3,848,723.04
5	266,048.61	3,849,056.64
6	265,294.95	3,849,056.83
7	264,698.11	3,849,055.36
8	264,698.11	3,847,989.13
9	264,698.77	3,847,755.37
10	264,934.53	3,847,458.71
11	264,935.39	3,846,889.33
12	264,723.34	3,846,888.60
13	264,698.16	3,845,785.04
14	266,050.28	3,846,642.26
15	266,049.27	3,848,029.68
16	266,048.91	3,848,402.96
17	265,294.95	3,848,403.01
18	265,138.60	3,847,990.03
19	265,389.54	3,846,890.88
20	265,389.61	3,846,641.27

EAST BORROW AREA		
	NORTHING	EASTING
21	268,861.16	3,852,624.70
22	267,266.13	3,856,785.51
23	266,296.16	3,856,488.54
24	266,349.82	3,855,039.86
25	267,224.70	3,855,039.86
26	267,224.70	3,854,371.88
27	266,584.86	3,854,371.88
28	266,584.86	3,854,222.63
29	266,584.86	3,852,564.14
30	266,946.00	3,852,128.69
31	267,379.60	3,852,128.69
32	267,991.93	3,852,128.69
33	267,345.73	3,854,227.40



STATE OF LOUISIANA
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Tye E. Fitzgerald
10/08/13

LEGEND	
	BORROW AREA
— PL —	PIPELINE

NOTES:
1. PIPELINE INFORMATION SHOWN ON PLANS IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS PRIOR TO BEGINNING CONSTRUCTION.
2. ALL PIPELINES LOCATED WITHIN 150' OF THE BORROW AREAS SHALL BE PROBED AND THEIR LOCATIONS MARKED FOR THE DURATION OF CONSTRUCTION ACTIVITIES. SEE SP-11 OF THE SPECIFICATIONS FOR DETAILS.
3. THE WEST BORROW AREA CONTAINS APPROXIMATELY 4.01 M CUBIC YARDS OF MATERIAL.
4. THE EAST BORROW AREA CONTAINS APPROXIMATELY 4.31 M CUBIC YARDS OF MATERIAL.

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450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

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DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

BORROW AREA LAYOUT
DATE: OCTOBER 2013
SHEET 4 OF 54

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STATE OF LOUISIANA
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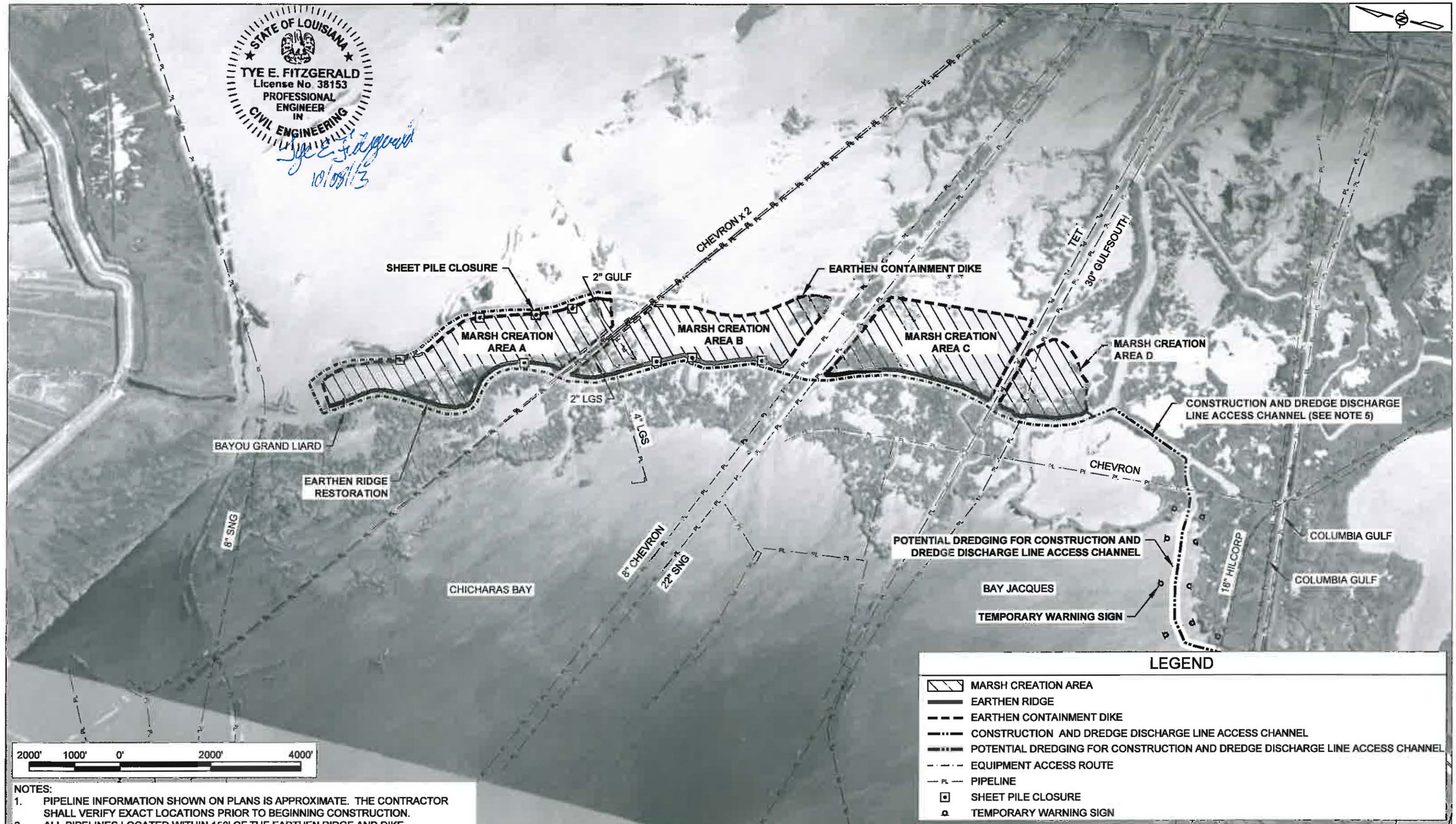

NOTES:

1. PIPELINE INFORMATION SHOWN ON PLANS IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS PRIOR TO BEGINNING CONSTRUCTION.
2. ALL PIPELINES LOCATED WITHIN 150' OF THE EARTHEN RIDGE AND DIKE ALIGNMENTS, FILL AREAS, BORROW AREA, OR SHEET PILE CLOSURES SHALL BE PROBED AND THEIR LOCATIONS MARKED FOR THE DURATION OF CONSTRUCTION ACTIVITIES. SEE SP-11 OF THE SPECIFICATIONS FOR DETAILS.
3. NO EXCAVATION SHALL OCCUR WITHIN 50.0' OF A PIPELINE.
4. THE CONTRACTOR SHALL CONSTRUCT THE MARSH CREATION AREAS IN A TWO CONSTRUCTION LIFT SEQUENCE AS SPECIFIED IN TS-8.5.
5. THE DREDGE DISCHARGE LINE MAY BE LAID WITHIN THE EQUIPMENT ACCESS ROUTE.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

GRAND LIARD MARSH AND RIDGE RESTORATION

MARSH CREATION AREA LAYOUT

STATE PROJECT NUMBER: BA-68

FEDERAL PROJECT NUMBER: BA-68

DATE: OCTOBER 2013

DRAWN BY: KRISTI CANTU | DESIGNED BY: TYE FITZGERALD, P.E. | APPROVED BY: RUDOLPH SIMONEAUX, P.E.

SHEET 5 OF 54

ESTIMATED MECHANICAL DREDGING VOLUMES MARSH CREATION AREA A	QTY. (CU. YD.)
EARTHEN RIDGE: BAYOU BORROW	44,013
EARTHEN RIDGE: INTERIOR BORROW	119,961
EARTHEN CONTAINMENT: BAYOU BORROW	98,328
EARTHEN CONTAINMENT: INTERIOR BORROW	24,690

STATE OF LOUISIANA
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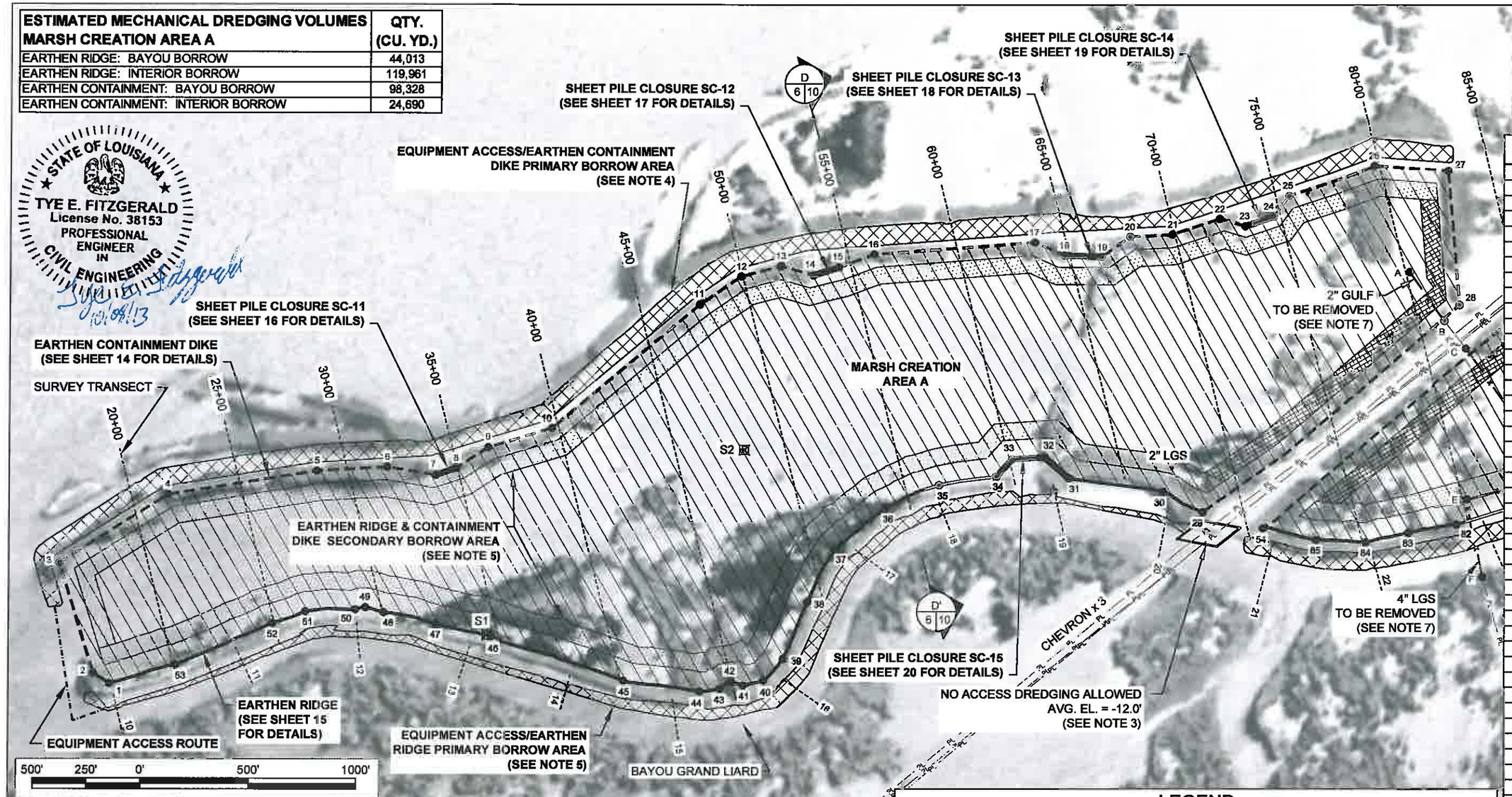


SETTLEMENT PLATES	NORTHING	EASTING
S1	298,974.97	3,872,339.85
S2	298,047.05	3,873,483.87

MARSH CREATION AREA A	NORTHING	EASTING
1	300,607.96	3,871,666.97
2	300,692.41	3,871,693.73
3	300,979.87	3,872,149.14
4	300,578.71	3,872,586.41
5	299,941.66	3,872,871.51
6	299,630.15	3,872,974.80
7	299,399.97	3,872,997.41
9	299,198.56	3,873,185.45
10	298,937.62	3,873,348.63
11	298,424.84	3,874,083.00
12	298,273.57	3,874,259.16
13	298,106.81	3,874,353.66
14	297,950.57	3,874,351.46
15	297,844.63	3,874,417.81
16	297,701.34	3,874,520.02
17	296,993.55	3,874,766.83
18	296,846.09	3,874,743.42
19	296,675.57	3,874,782.73
20	296,571.86	3,874,906.99
21	296,383.78	3,874,969.64
22	296,189.97	3,875,096.54
23	296,064.92	3,875,094.45
24	295,947.73	3,875,171.05
25	295,904.60	3,875,283.38
26	295,559.33	3,875,521.02
27	295,220.75	3,875,586.17
28	295,008.21	3,874,997.03
29	295,912.71	3,873,756.03
30	296,115.71	3,873,800.93
31	296,557.26	3,873,748.15
32	296,689.23	3,873,813.30
33	296,832.75	3,873,764.66
34	296,879.68	3,873,670.03
35	297,128.65	3,873,560.96
36	297,343.14	3,873,393.69
37	297,518.34	3,873,146.05
38	297,579.46	3,872,874.44
39	297,618.75	3,872,590.51
40	297,679.76	3,872,467.80
41	297,765.95	3,872,421.68
42	297,826.20	3,872,423.32
43	297,865.77	3,872,378.98
44	297,953.37	3,872,342.50
45	298,308.22	3,872,298.96
46	298,954.32	3,872,338.49
47	299,219.90	3,872,326.14
48	299,467.75	3,872,315.65
49	299,555.85	3,872,316.49
50	299,600.47	3,872,293.63
51	299,820.68	3,872,225.11
52	299,955.97	3,872,132.42
53	300,336.11	3,871,830.71

NOTES:

1. PIPELINE INFORMATION SHOWN ON PLANS IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS PRIOR TO BEGINNING CONSTRUCTION.
2. ALL PIPELINES LOCATED WITHIN 150' OF THE EARTHEN RIDGE AND DIKE ALIGNMENTS, FILL AREAS, BORROW AREA, OR SHEET PILE CLOSURES SHALL BE PROBED AND THEIR LOCATIONS MARKED FOR THE DURATION OF CONSTRUCTION ACTIVITIES. SEE SP-11 OF THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. NO EXCAVATION SHALL OCCUR WITHIN 50.0' OF A PIPELINE.
4. DREDGING OF EQUIPMENT ACCESS/BORROW CHANNEL EAST OF FILL AREA A WILL BE PERFORMED FOR EQUIPMENT ACCESS AND SHALL NOT EXCEED THE TEMPLATE SHOWN ON SHEET 14. SPOIL SHALL BE USED TO CONSTRUCT THE EASTERN EARTHEN CONTAINMENT DIKE ALIGNMENT OF MARSH CREATION FILL AREA A.
5. THE CONTRACTOR SHALL CONSTRUCT THE EARTHEN RIDGE AND EARTHEN CONTAINMENT DIKES BY DREDGING FROM BOTH PRIMARY AND SECONDARY BORROW AREAS. SEE TS-6.2 AND TS-7.2 OF THE SPECIFICATIONS FOR MORE DETAILS.
6. ESTIMATED BORROW VOLUMES SHOWN FOR THE EARTHEN RIDGE AND EARTHEN CONTAINMENT DIKES ARE FOR INFORMATIONAL PURPOSES ONLY.
7. THE 2" GULF SOUTH AND 4" LOUISIANA STATE GAS CORPORATION PIPELINES SHALL BE CUT AND REMOVED BY THE CONTRACTOR. SEE TS-3 OF THE SPECIFICATION AND SHEET 7 FOR MORE DETAILS.

LEGEND

- MARSH CREATION AREA
- EQUIPMENT ACCESS/PRIMARY BORROW AREA FOR EARTHEN RIDGE & CONTAINMENT DIKE
- SECONDARY BORROW AREA FOR EARTHEN RIDGE & EARTHEN CONTAINMENT DIKE
- SOLE BORROW AREA FOR CONTAINMENT DIKE
- EARTHEN RIDGE
- EARTHEN CONTAINMENT DIKE
- SHEET PILE CLOSURE
- EQUIPMENT ACCESS ROUTE
- PL — PIPELINE
- PIPELINE REMOVAL
- SURVEY TRANSECT
- SETTLEMENT PLATE

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

MARSH CREATION AREA A LAYOUT
DATE: OCTOBER 2013
SHEET 6 OF 54

MARSH CREATION AREA B

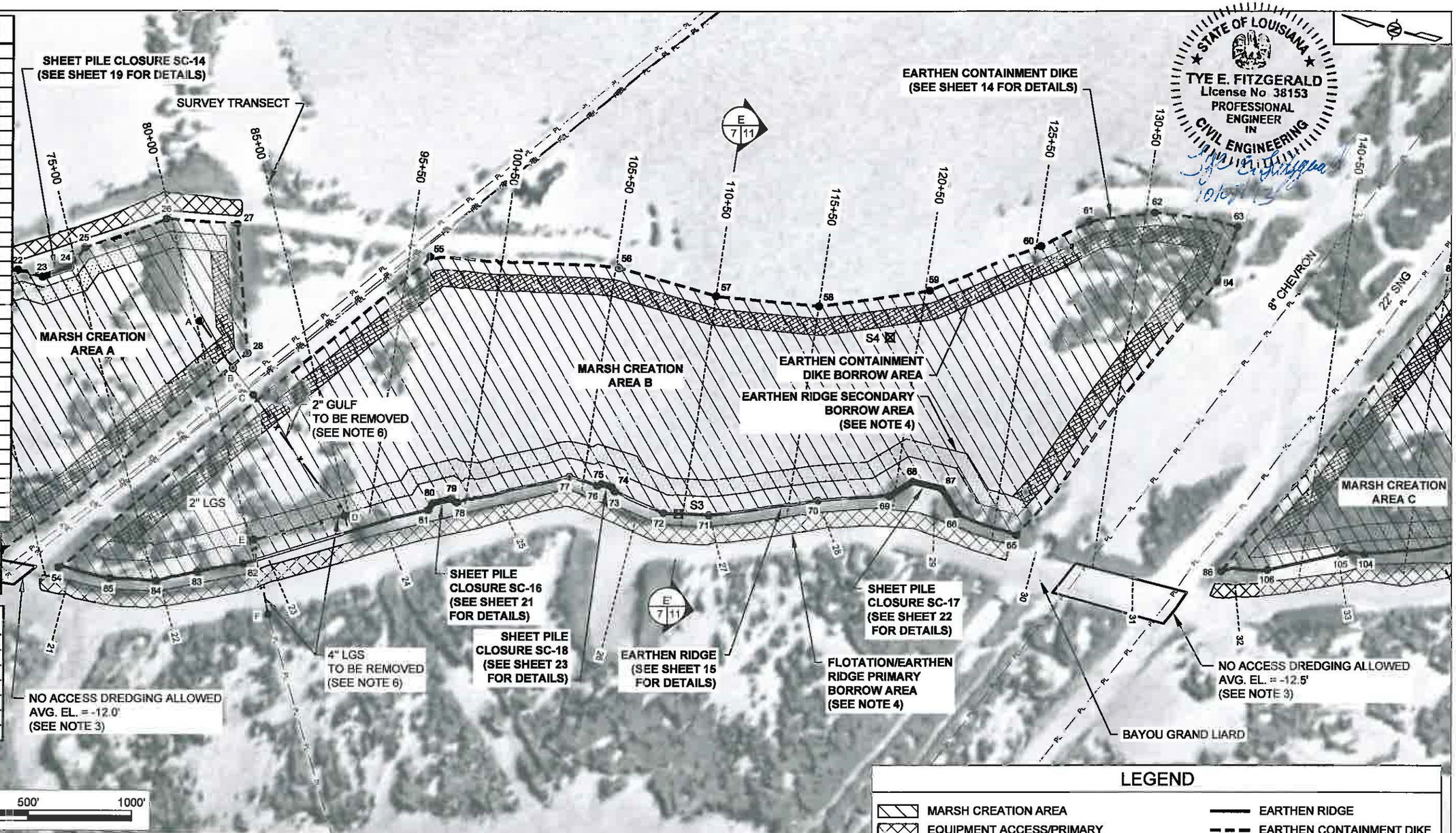
	NORTHING	EASTING
54	295,620.54	3,873,756.03
55	294,278.89	3,875,676.90
56	293,379.59	3,875,861.69
57	292,890.82	3,875,852.49
58	292,396.88	3,875,934.06
59	291,897.55	3,876,146.08
60	291,431.08	3,876,493.14
61	291,239.17	3,876,668.24
62	290,943.97	3,876,792.46
63	290,535.37	3,876,829.47
64	290,564.87	3,876,548.30
65	291,181.87	3,875,110.36
66	291,490.34	3,875,135.48
67	291,592.21	3,875,233.54
68	291,736.47	3,875,230.78
69	291,826.20	3,875,134.35
70	292,156.07	3,875,023.43
71	292,646.85	3,874,818.21
72	292,860.77	3,874,771.89
73	293,119.46	3,874,811.67
74	293,135.64	3,874,829.07
75	293,187.32	3,874,830.95
76	293,203.00	3,874,816.37
77	293,346.92	3,874,823.63
78	293,843.66	3,874,560.32
79	293,876.65	3,874,569.94
80	293,953.43	3,874,527.81
81	293,964.15	3,874,491.03
82	294,758.31	3,874,004.92
83	294,964.12	3,873,911.27
84	295,144.20	3,873,816.75
85	295,368.59	3,873,768.14

SETTLEMENT PLATES

	NORTHING	EASTING
S3	292,792.34	3,874,786.26
S4	292,024.04	3,875,878.98

PIPELINE REMOVAL

	NORTHING	EASTING
A	295,271.69	3,875,085.87
B	295,056.97	3,874,907.98
C	294,927.93	3,874,808.28
D	294,347.66	3,874,357.75
E	294,741.54	3,874,131.98
F	294,577.90	3,873,799.67



NOTES:

1. PIPELINE INFORMATION SHOWN ON PLANS IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS PRIOR TO BEGINNING CONSTRUCTION.
2. ALL PIPELINES LOCATED WITHIN 150' OF THE EARTHEN RIDGE AND DIKE ALIGNMENTS, FILL AREAS, BORROW AREA, OR SHEET PILE CLOSURES SHALL BE PROBED AND THEIR LOCATIONS MARKED FOR THE DURATION OF CONSTRUCTION ACTIVITIES. SEE SP-11 OF THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. NO EXCAVATION SHALL OCCUR WITHIN 50.0' OF A PIPELINE.
4. THE CONTRACTOR SHALL CONSTRUCT THE EARTHEN RIDGE BY DREDGING FROM BOTH PRIMARY AND SECONDARY BORROW AREAS. SEE TS-7.2 OF THE SPECIFICATIONS FOR MORE DETAILS.
5. ESTIMATED BORROW VOLUMES SHOWN FOR THE EARTHEN RIDGE AND EARTHEN CONTAINMENT DIKES ARE FOR INFORMATIONAL PURPOSES ONLY.
6. THE 2" GULF SOUTH AND 4" LOUISIANA STATE GAS CORPORATION PIPELINES SHALL BE CUT AND REMOVED BY THE CONTRACTOR. SEE TS-3 OF THE SPECIFICATIONS FOR MORE DETAILS.

ESTIMATED MECHANICAL DREDGING VOLUMES MARSH CREATION AREA B	QTY. (CU. YD.)
EARTHEN RIDGE: BAYOU BORROW	77,785
EARTHEN RIDGE: INTERIOR BORROW	12,111
EARTHEN CONTAINMENT: INTERIOR BORROW	122,433

LEGEND

- MARSH CREATION AREA
- EQUIPMENT ACCESS/PRIMARY BORROW AREA FOR EARTHEN RIDGE & CONTAINMENT DIKE
- SECONDARY BORROW AREA FOR EARTHEN RIDGE & EARTHEN CONTAINMENT DIKE
- SOLE BORROW AREA FOR CONTAINMENT DIKE
- EARTHEN RIDGE
- EARTHEN CONTAINMENT DIKE
- SHEET PILE CLOSURE
- PIPELINE REMOVAL
- PIPELINE
- SURVEY TRANSECT
- SETTLEMENT PLATE

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

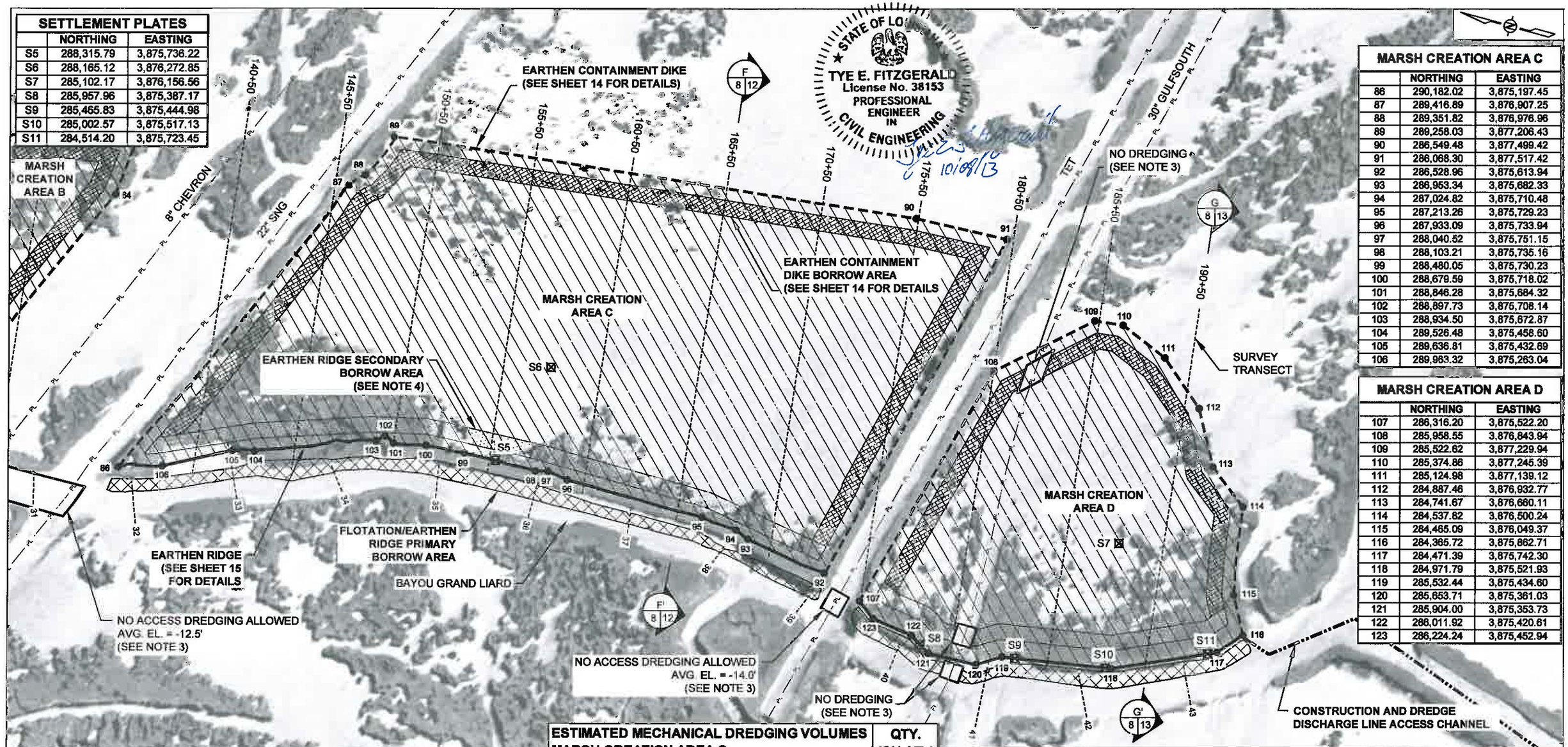
GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

MARSH CREATION AREA B LAYOUT

DATE: OCTOBER 2013
SHEET 7 OF 54

SETTLEMENT PLATES		
	NORTHING	EASTING
S5	288,315.79	3,875,736.22
S6	288,165.12	3,876,272.85
S7	285,102.17	3,876,156.56
S8	285,957.96	3,875,387.17
S9	285,465.83	3,875,444.98
S10	285,002.57	3,875,517.13
S11	284,514.20	3,875,723.45



MARSH CREATION AREA C		
	NORTHING	EASTING
86	290,182.02	3,875,197.45
87	289,416.89	3,876,907.25
88	289,351.82	3,876,976.96
89	289,258.03	3,877,206.43
90	286,549.48	3,877,499.42
91	286,068.30	3,877,517.42
92	286,528.96	3,875,613.94
93	286,953.34	3,875,682.33
94	287,024.82	3,875,710.48
95	287,213.26	3,875,729.23
96	287,933.09	3,875,733.94
97	288,040.52	3,875,751.15
98	288,103.21	3,875,735.16
99	288,480.05	3,875,730.23
100	288,679.59	3,875,718.02
101	288,846.28	3,875,684.32
102	288,897.73	3,875,708.14
103	288,934.50	3,875,672.87
104	289,526.48	3,875,458.60
105	289,636.81	3,875,432.69
106	289,963.32	3,875,263.04

MARSH CREATION AREA D		
	NORTHING	EASTING
107	286,316.20	3,875,522.20
108	285,958.55	3,876,843.94
109	285,522.62	3,877,229.94
110	285,374.86	3,877,245.39
111	285,124.98	3,877,139.12
112	284,887.46	3,876,932.77
113	284,741.67	3,876,660.11
114	284,537.82	3,876,500.24
115	284,465.09	3,876,049.37
116	284,365.72	3,875,862.71
117	284,471.39	3,875,742.30
118	284,971.79	3,875,521.93
119	285,532.44	3,875,434.60
120	285,653.71	3,875,361.03
121	285,904.00	3,875,353.73
122	286,011.92	3,875,420.61
123	286,224.24	3,875,452.94

ESTIMATED MECHANICAL DREDGING VOLUMES MARSH CREATION AREA C	QTY. (CU. YD.)
EARTHEN RIDGE: BAYOU BORROW	40,850
EARTHEN RIDGE: INTERIOR BORROW	8,475
EARTHEN CONTAINMENT: INTERIOR BORROW	83,708

ESTIMATED MECHANICAL DREDGING VOLUMES MARSH CREATION AREA D	QTY. (CU. YD.)
EARTHEN RIDGE: BAYOU BORROW	24,961
EARTHEN RIDGE: INTERIOR BORROW	5,201
EARTHEN CONTAINMENT: INTERIOR BORROW	48,565

LEGEND

- MARSH CREATION AREA
- EQUIPMENT ACCESS/PRIMARY BORROW AREA FOR EARTHEN RIDGE
- SECONDARY BORROW AREA FOR EARTHEN RIDGE & EARTHEN CONTAINMENT DIKE
- SOLE BORROW AREA FOR CONTAINMENT DIKE
- EARTHEN RIDGE
- EARTHEN CONTAINMENT DIKE
- CONSTRUCTION AND DREDGE DISCHARGE LINE ACCESS CHANNEL
- PIPELINE
- SURVEY TRANSECT
- SETTLEMENT PLATE

NOTES:

1. PIPELINE INFORMATION SHOWN ON PLANS IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS PRIOR TO BEGINNING CONSTRUCTION.
2. ALL PIPELINES LOCATED WITHIN 150' OF THE EARTHEN RIDGE AND DIKE ALIGNMENTS, FILL AREAS, BORROW AREAS, OR SHEET PILE CLOSURES SHALL BE PROBED AND THEIR LOCATIONS MARKED FOR THE DURATION OF CONSTRUCTION ACTIVITIES. SEE SP-11 OF THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. NO EXCAVATION SHALL OCCUR WITHIN 50.0' OF A PIPELINE.
4. THE CONTRACTOR SHALL CONSTRUCT THE EARTHEN RIDGE BY DREDGING FROM BOTH PRIMARY AND SECONDARY BORROW AREAS. SEE TS-7.2 FOR MORE DETAILS.
5. ESTIMATED BORROW VOLUMES SHOWN FOR THE EARTHEN RIDGE AND EARTHEN CONTAINMENT DIKES ARE FOR INFORMATIONAL PURPOSES ONLY.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU | DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68

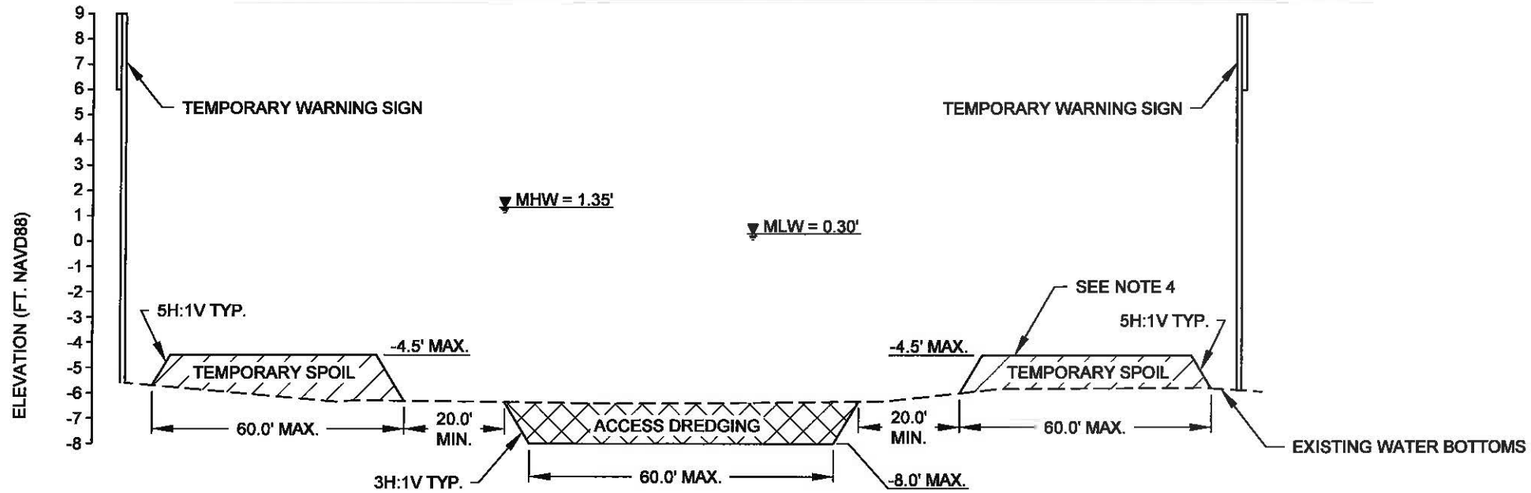
FEDERAL PROJECT NUMBER: BA-68

APPROVED BY: RUDOLPH SIMONEAUX, P.E.

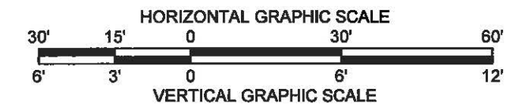
MARSH CREATION AREA C & D LAYOUT

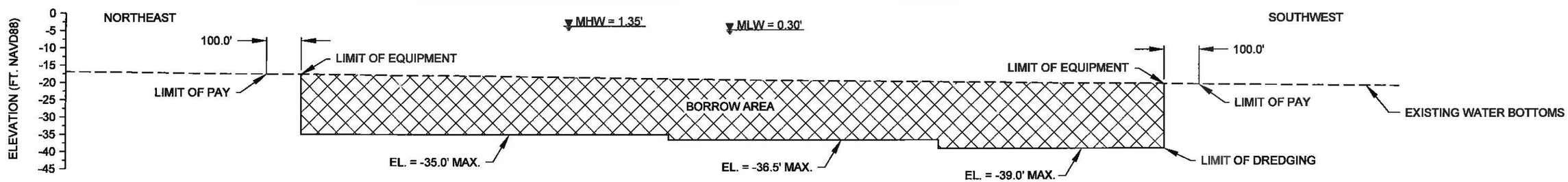
DATE: OCTOBER 2013

SHEET 8 OF 54

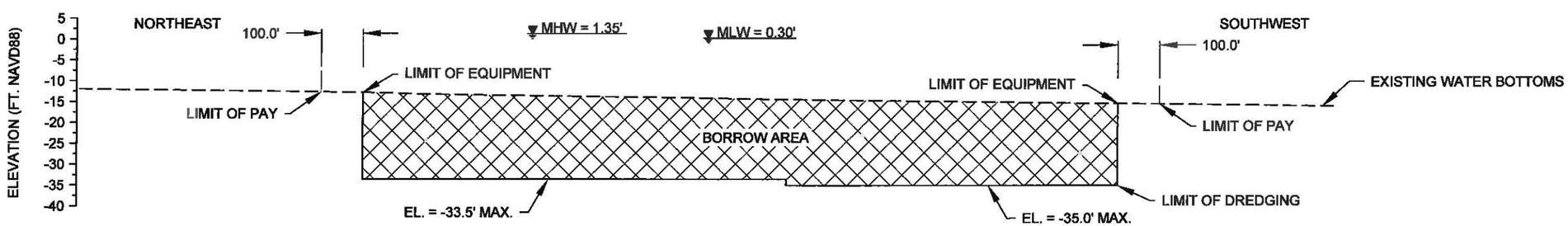


A-A' 9 3 **TYPICAL SECTION - POTENTIAL DREDGING FOR CONSTRUCTION AND DREDGE DISCHARGE LINE ACCESS CHANNEL**

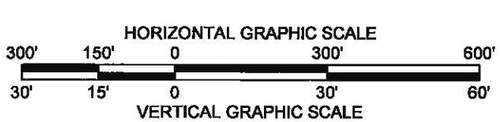


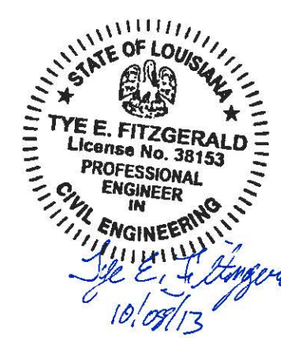


B-B' 9 4 **TYPICAL SECTION - WEST BORROW AREA**
TRANSECT WEST 3



C-C' 9 4 **TYPICAL SECTION - EAST BORROW AREA**
TRANSECT EAST 7





NOTES:

1. THE WEST BORROW AREA CONTAINS APPROXIMATELY 4.01 M. CUBIC YARDS OF MATERIAL.
2. THE EAST BORROW AREA CONTAINS APPROXIMATELY 4.31 M. CUBIC YARDS OF MATERIAL.
3. SEE SHEETS 4, 25, 26, AND 27 FOR PLAN VIEWS OF BORROW AREA LAYOUT.
4. ACCESS CHANNEL SHALL BE BACKFILLED IN ACCORDANCE WITH TS-5 AND MARKED IN ACCORDANCE WITH TS-16 OF THE SPECIFICATIONS.
5. DEPENDING ON DRAFT REQUIREMENTS OF THE CONTRACTOR'S EQUIPMENT, ACCESS DREDGING MAY NOT BE REQUIRED AT ALL LOCATIONS SHOWN. PERMITTED DEPTHS AND WIDTHS ARE AS SHOWN. IT IS NOT MANDATORY THAT THE CONTRACTOR DREDGE OR EXCAVATE TO THE FULL DEPTHS AND WIDTHS.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

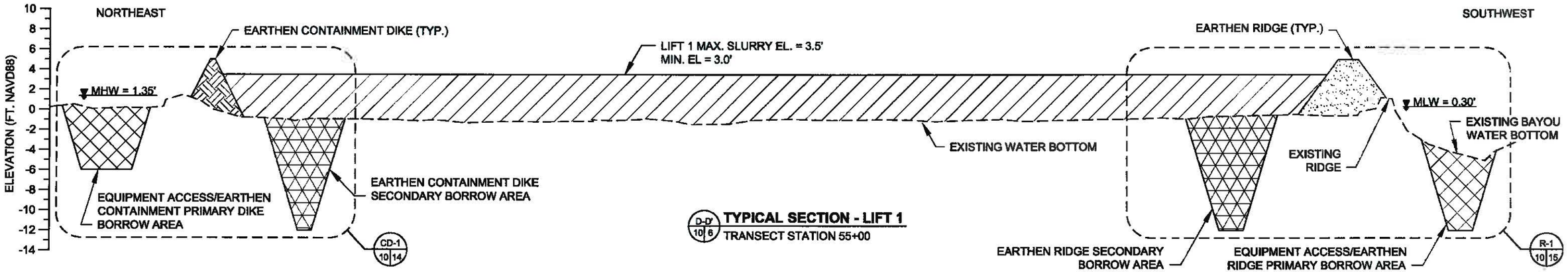
DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

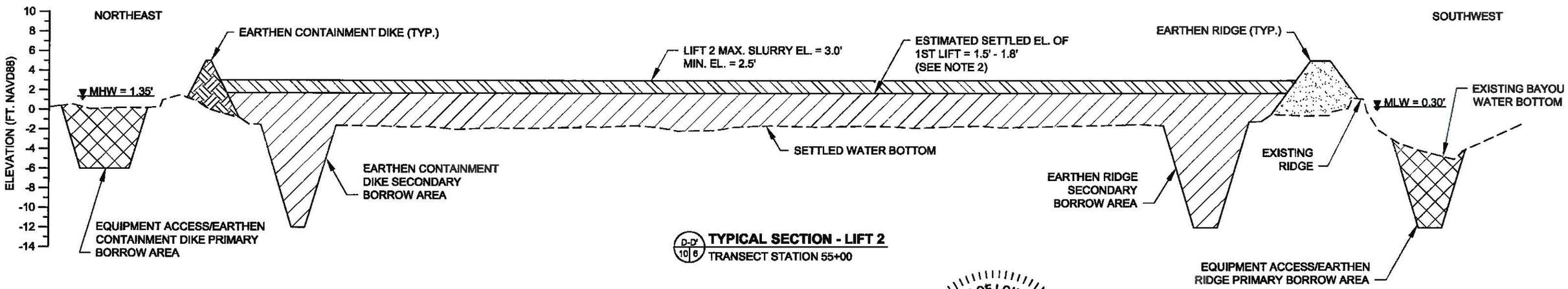
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

CONSTRUCTION/ACCESS DREDGEING & BORROW AREA TYPICAL SECTIONS

DATE: OCTOBER 2013
SHEET 9 OF 54



D-D' 10 6 **TYPICAL SECTION - LIFT 1**
TRANSECT STATION 55+00



D-D' 10 6 **TYPICAL SECTION - LIFT 2**
TRANSECT STATION 55+00

HORIZONTAL GRAPHIC SCALE
100' 50' 0 100' 200'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL
ENGINEER
IN
CIVIL ENGINEERING
Tye E. Fitzgerald
10/09/13

LEGEND

- EARTHEN CONTAINMENT DIKE
- EARTHEN RIDGE
- BORROW AREA
- SECONDARY BORROW AREA
- MARSH FILL - LIFT 1
- MARSH FILL - LIFT 2
- EXISTING WATER BOTTOM

NOTES:
1. BASED ON RECOMMENDATIONS FROM THE GEOTECHNICAL ANALYSIS A TWO LIFT SYSTEM IS REQUIRED TO MEET THE LONG TERM TARGET ELEVATIONS.
2. THE CONTRACTOR SHALL CONSTRUCT THE MARSH CREATION AREAS IN THE TWO CONSTRUCTION LIFT SEQUENCE AS SPECIFIED IN TS-8.5 OF THE SPECIFICATIONS.
3. ALL MARSH CREATION AREAS SHALL BE DEWATERED IN ACCORDANCE WITH TS-13 OF THE SPECIFICATIONS.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU | DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

MARSH CREATION AREA A
TYPICAL SECTION D-D'
DATE: OCTOBER 2013
SHEET 10 OF 54

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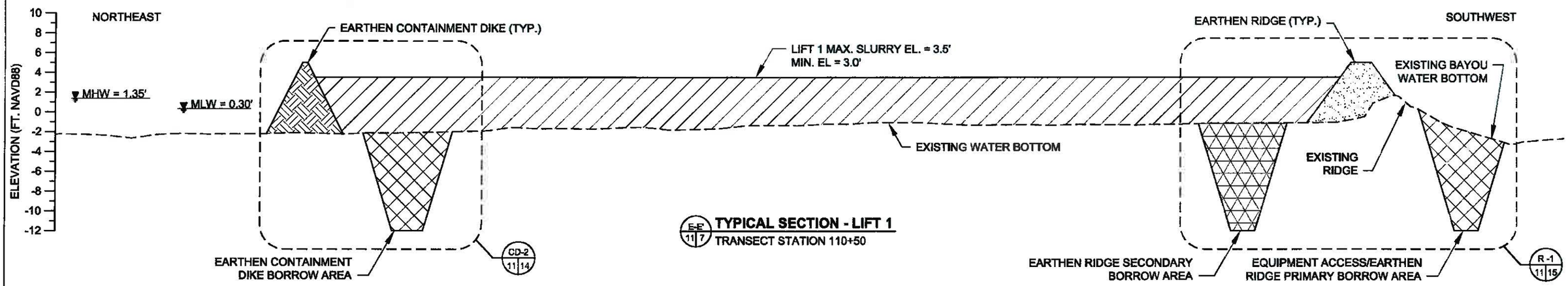
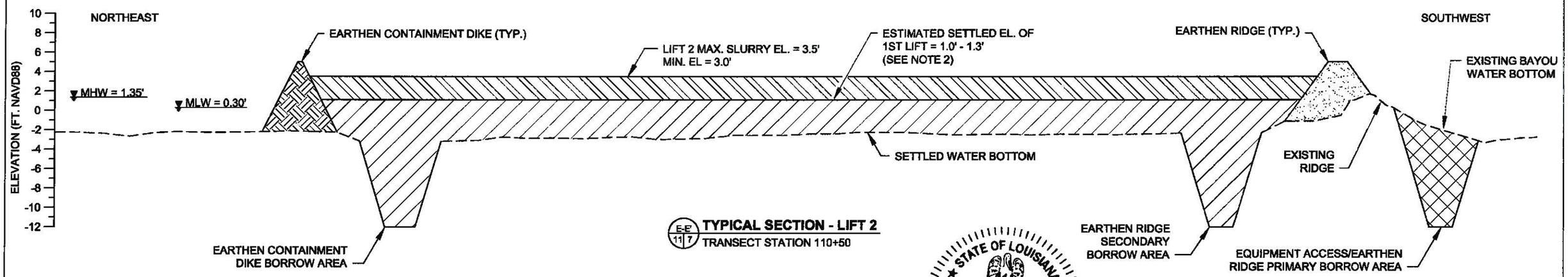


E-E' 11 7 **TYPICAL SECTION - LIFT 1**
TRANSECT STATION 110+50



E-E' 11 7 **TYPICAL SECTION - LIFT 2**
TRANSECT STATION 110+50

HORIZONTAL GRAPHIC SCALE
100' 50' 0 100' 200'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/09/13

LEGEND

- EARTHEN CONTAINMENT DIKE
- EARTHEN RIDGE
- BORROW AREA
- SECONDARY BORROW AREA
- MARSH FILL - LIFT 1
- MARSH FILL - LIFT 2
- EXISTING WATER BOTTOM

NOTES:
1. BASED ON RECOMMENDATIONS FROM THE GEOTECHNICAL ANALYSIS A TWO LIFT SYSTEM IS REQUIRED TO MEET THE LONG TERM TARGET ELEVATIONS.
2. THE CONTRACTOR SHALL CONSTRUCT THE MARSH CREATION AREAS IN THE TWO CONSTRUCTION LIFT SEQUENCE AS SPECIFIED IN TS-8.5 OF THE SPECIFICATIONS.
3. ALL MARSH CREATION AREAS SHALL BE DEWATERED IN ACCORDANCE WITH TS-13 OF THE SPECIFICATIONS.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

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GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

MARSH CREATION AREA B
TYPICAL SECTION E-E'
DATE: OCTOBER 2013
SHEET 11 OF 54

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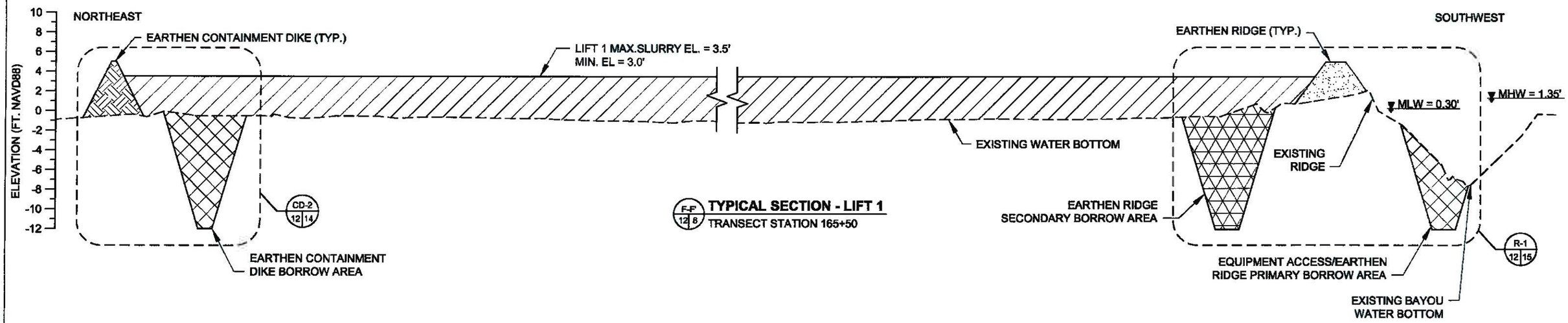
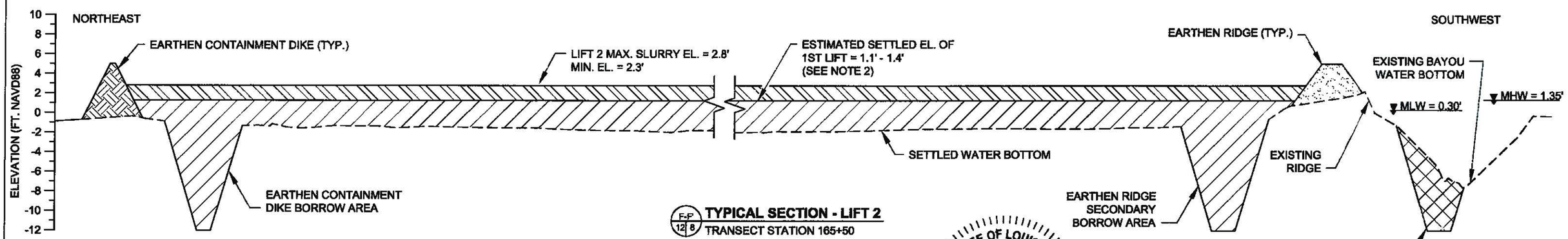


F-F 12 8 **TYPICAL SECTION - LIFT 1**
TRANSECT STATION 165+50



F-F' 12 8 **TYPICAL SECTION - LIFT 2**
TRANSECT STATION 165+50

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/09/13

HORIZONTAL GRAPHIC SCALE
100' 50' 0 100' 200'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

LEGEND

- EARTHEN CONTAINMENT DIKE
- EARTHEN RIDGE
- BORROW AREA
- SECONDARY BORROW AREA
- MARSH FILL - LIFT 1
- MARSH FILL - LIFT 2
- EXISTING WATER BOTTOM

NOTES:
1. BASED ON RECOMMENDATIONS FROM THE GEOTECHNICAL ANALYSIS A TWO LIFT SYSTEM IS REQUIRED TO MEET THE LONG TERM TARGET ELEVATIONS.
2. THE CONTRACTOR SHALL CONSTRUCT THE MARSH CREATION AREAS IN THE TWO CONSTRUCTION LIFT SEQUENCE AS SPECIFIED IN TS-8.5 OF THE SPECIFICATIONS.
3. ALL MARSH CREATION AREAS SHALL BE DEWATERED IN ACCORDANCE WITH TS-13 OF THE SPECIFICATIONS.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

MARSH CREATION AREA C
TYPICAL SECTION F-F'
DATE: OCTOBER 2013
SHEET 12 OF 54

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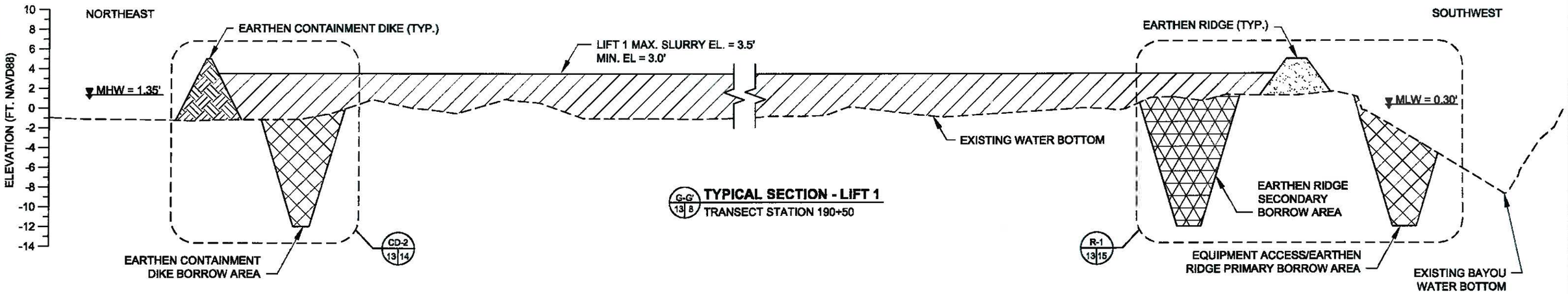
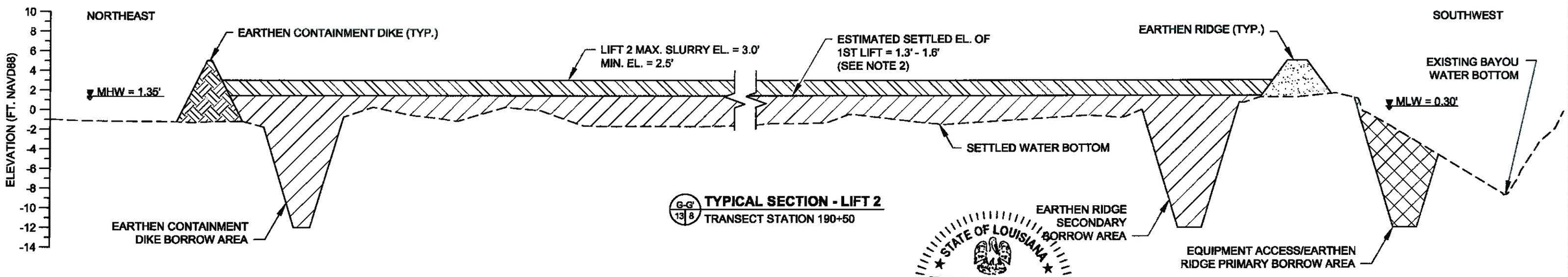


G-G' 13 8 **TYPICAL SECTION - LIFT 1**
TRANSECT STATION 190+50



G-G' 13 8 **TYPICAL SECTION - LIFT 2**
TRANSECT STATION 190+50

HORIZONTAL GRAPHIC SCALE
100' 50' 0 100' 200'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/09/13

LEGEND

- EARTHEN CONTAINMENT DIKE
- EARTHEN RIDGE
- BORROW AREA
- SECONDARY BORROW AREA
- MARSH FILL - LIFT 1
- MARSH FILL - LIFT 2
- EXISTING WATER BOTTOM

NOTES:
1. BASED ON RECOMMENDATIONS FROM THE GEOTECHNICAL ANALYSIS A TWO LIFT SYSTEM IS REQUIRED TO MEET THE LONG TERM TARGET ELEVATIONS.
2. THE CONTRACTOR SHALL CONSTRUCT THE MARSH CREATION AREAS IN THE TWO CONSTRUCTION LIFT SEQUENCE AS SPECIFIED IN TS-8.5 OF THE SPECIFICATIONS.
3. ALL MARSH CREATION AREAS SHALL BE DEWATERED IN ACCORDANCE WITH TS-13 OF THE SPECIFICATIONS.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU | DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

MARSH CREATION AREA D
TYPICAL SECTION G-G'
DATE: OCTOBER 2013
SHEET 13 OF 54

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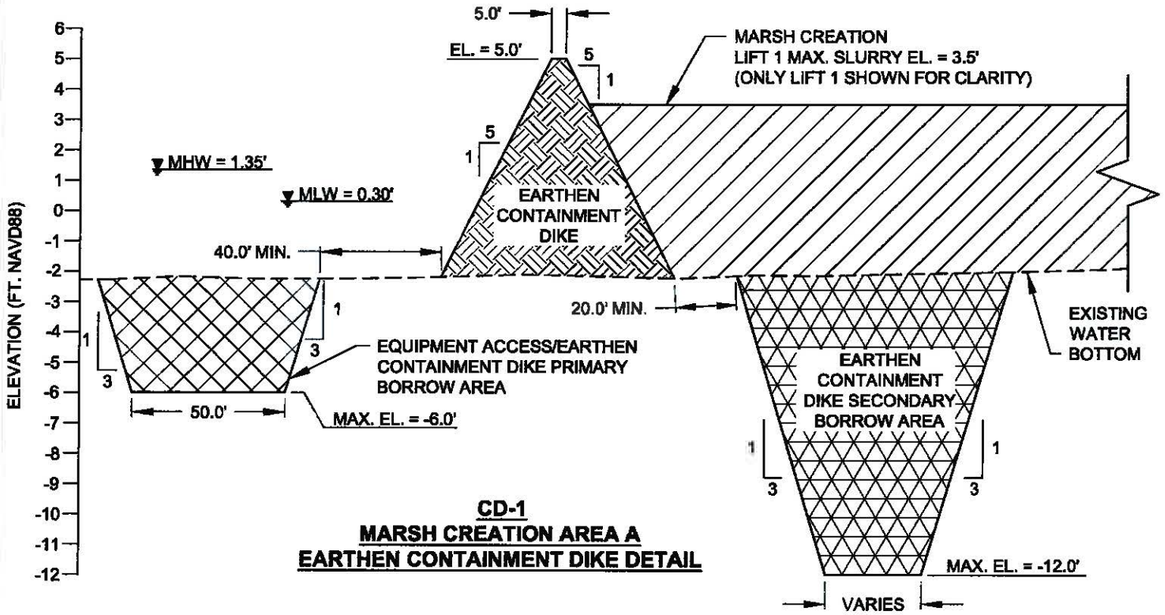
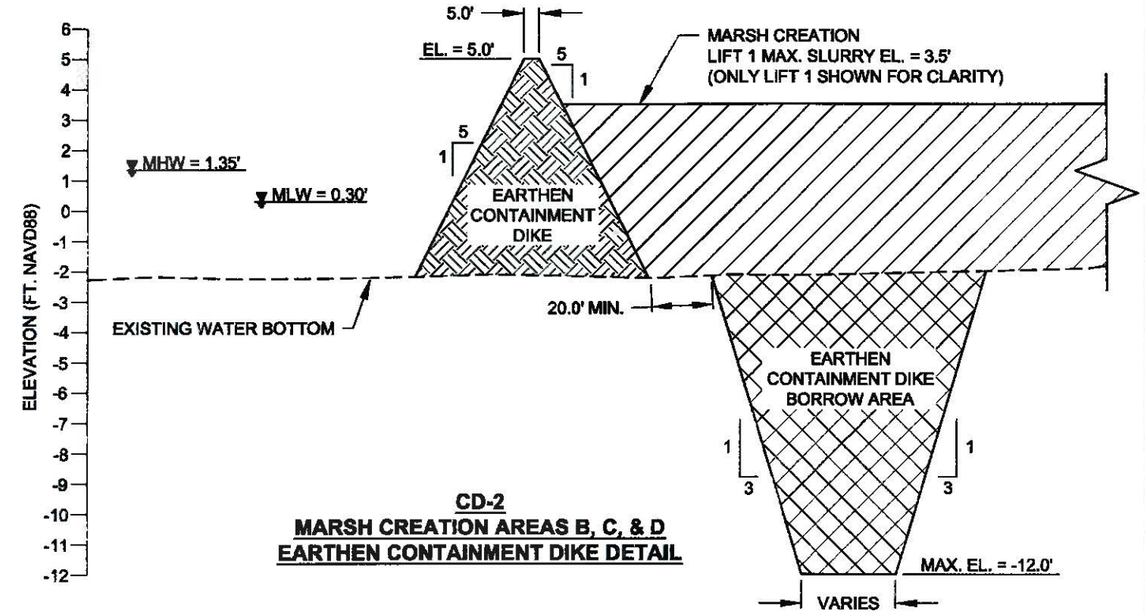


CD-1
MARSH CREATION AREA A
EARTHEN CONTAINMENT DIKE DETAIL



CD-2
MARSH CREATION AREAS B, C, & D
EARTHEN CONTAINMENT DIKE DETAIL

HORIZONTAL GRAPHIC SCALE
50' 25' 0 50' 100'
5' 2.5' 0 5' 10'
VERTICAL GRAPHIC SCALE

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/08/13

LEGEND

- EARTHEN CONTAINMENT DIKE
- BORROW AREA
- SECONDARY BORROW AREA
- MARSH FILL - LIFT 1
- EXISTING WATER BOTTOM

NOTES:
1. THE EARTHEN CONTAINMENT DIKES SHALL BE CONSTRUCTED USING IN-SITU MATERIAL. SEE SHEETS 6-8 FOR EARTHEN CONTAINMENT DIKE LOCATIONS.
2. THE LENGTHS OF EACH EARTHEN CONTAINMENT DIKE WERE ESTIMATED USING AUTOCAD AND AERIAL PHOTOGRAPHY.
3. THE OWNER RESERVES THE RIGHT TO REQUEST ADDITIONAL LINEAR FEET OF EARTHEN CONTAINMENT DIKE FOR CONSTRUCTION AT THE CONTRACTOR'S UNIT BID PRICE.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

EARTHEN CONTAINMENT DIKE DETAILS

DATE: OCTOBER 2013
SHEET 14 OF 54

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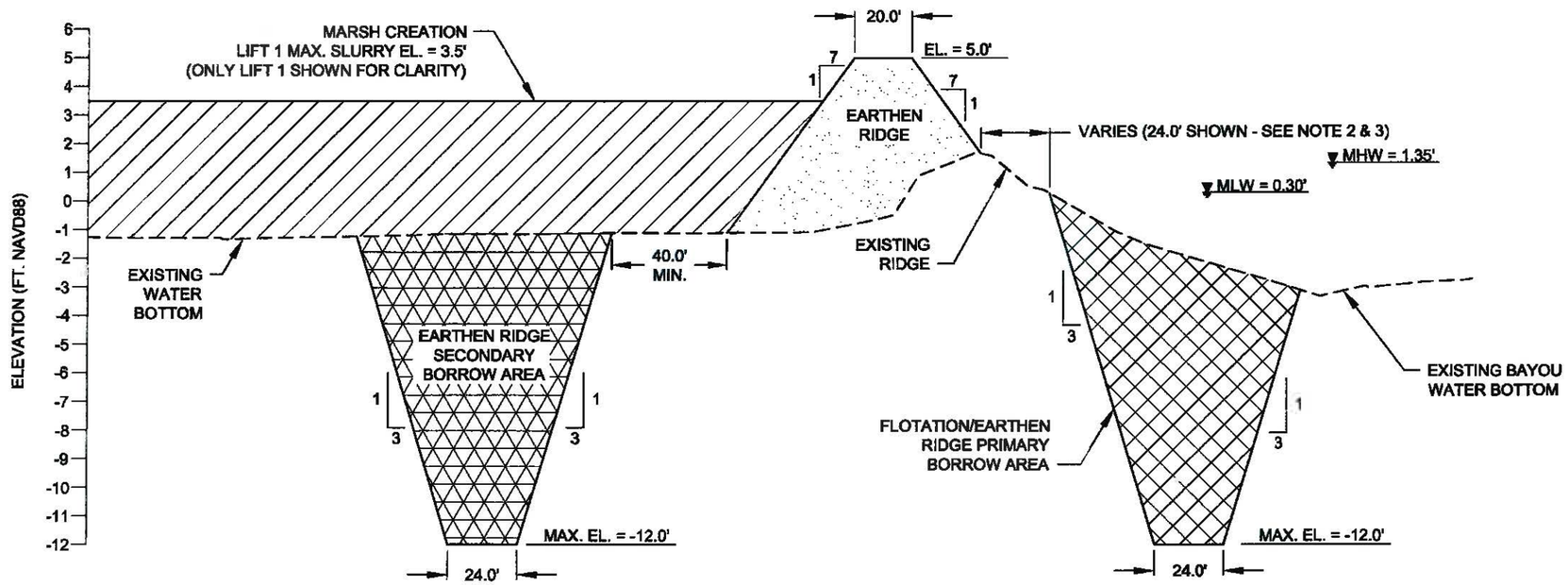

R-1
EARTHEN RIDGE DETAIL

HORIZONTAL GRAPHIC SCALE
50' 25' 0 50' 100'
5' 2.5' 0 5' 10'
VERTICAL GRAPHIC SCALE

NOTES:
1. THE EARTHEN RIDGE SHALL BE CONSTRUCTED USING IN-SITU MATERIAL. SEE SHEETS 6-8 FOR EARTHEN RIDGE LOCATIONS.
2. THE MINIMUM DISTANCE FROM THE EARTHEN RIDGE TOE TO THE FLOTATION/EARTHEN RIDGE PRIMARY BORROW AREA IS 20.0' FOR MARSH CREATION AREAS A AND C.
3. THE MINIMUM DISTANCE FROM THE EARTHEN RIDGE TOE TO THE FLOTATION/EARTHEN RIDGE PRIMARY BORROW AREA IS 35.0' FOR MARSH CREATION AREAS B AND D.
4. THE LENGTHS OF EACH EARTHEN RIDGE WERE ESTIMATED USING AUTOCAD AND AERIAL PHOTOGRAPHY.
5. THE OWNER RESERVES THE RIGHT TO REQUEST ADDITIONAL EARTHEN RIDGE MATERIAL BE PLACED FOR CONSTRUCTION AT THE CONTRACTOR'S UNIT BID PRICE.

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/09/13

LEGEND
- EARTHEN RIDGE
- BORROW AREA
- SECONDARY BORROW AREA
- MARSH FILL - LIFT 1
- EXISTING WATER BOTTOM

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

EARTHEN RIDGE DETAILS
DATE: OCTOBER 2013
SHEET 15 OF 54

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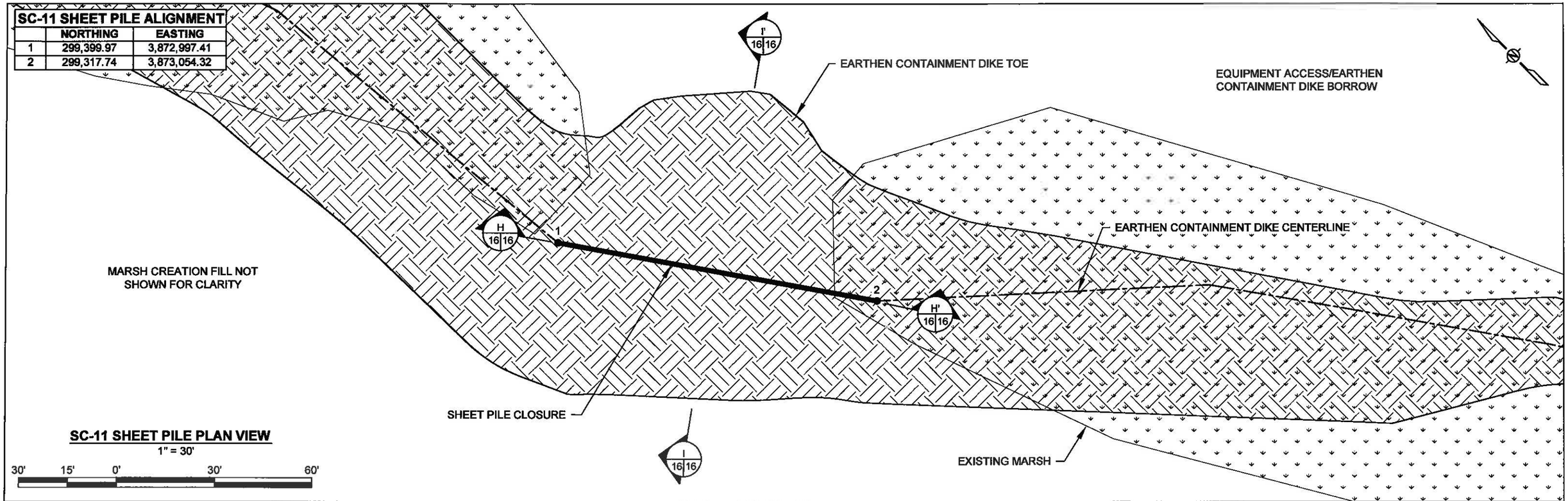
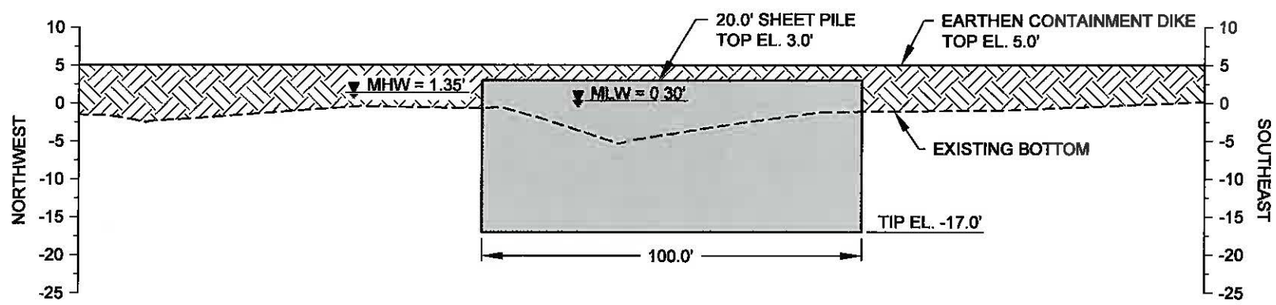
SC-11 SHEET PILE ALIGNMENT	NORTHING	EASTING
1	299,399.97	3,872,997.41
2	299,317.74	3,873,054.32

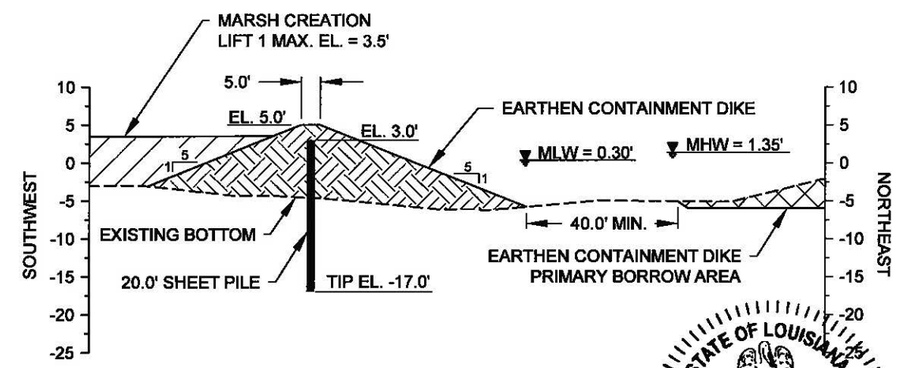


SC-11 SHEET PILE PLAN VIEW
1" = 30'

30' 15' 0' 30' 60'



H-H' 16 16 SC-11 SHEET PILE PROFILE
1" = 40' HORIZONTAL
1" = 20' VERTICAL



I-I' 16 16 SC-11 SHEET PILE SECTION
1" = 40' HORIZONTAL
1" = 20' VERTICAL

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/09/13

HORIZONTAL GRAPHIC SCALE
40' 20' 0 40' 80'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

NOTES:
1. ALL STEEL SHEET PILES SHALL BE PZ-27 (MINIMUM SECTION MODULUS: 30.20 IN^3/FT., MOMENT OF INERTIA: 184.20 IN^4/FT.) OR ENGINEER APPROVED EQUIVALENT.
2. STEEL SHEET PILES SHALL BE ENCAPSULATED WITH IN-SITU MATERIAL AS SPECIFIED IN TS-10.7 OF THE SPECIFICATIONS.
3. SEE SHEET 6 FOR SHEET PILE LOCATION.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU | DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68

FEDERAL PROJECT NUMBER: BA-68

APPROVED BY: RUDOLPH SIMONEAUX, P.E.

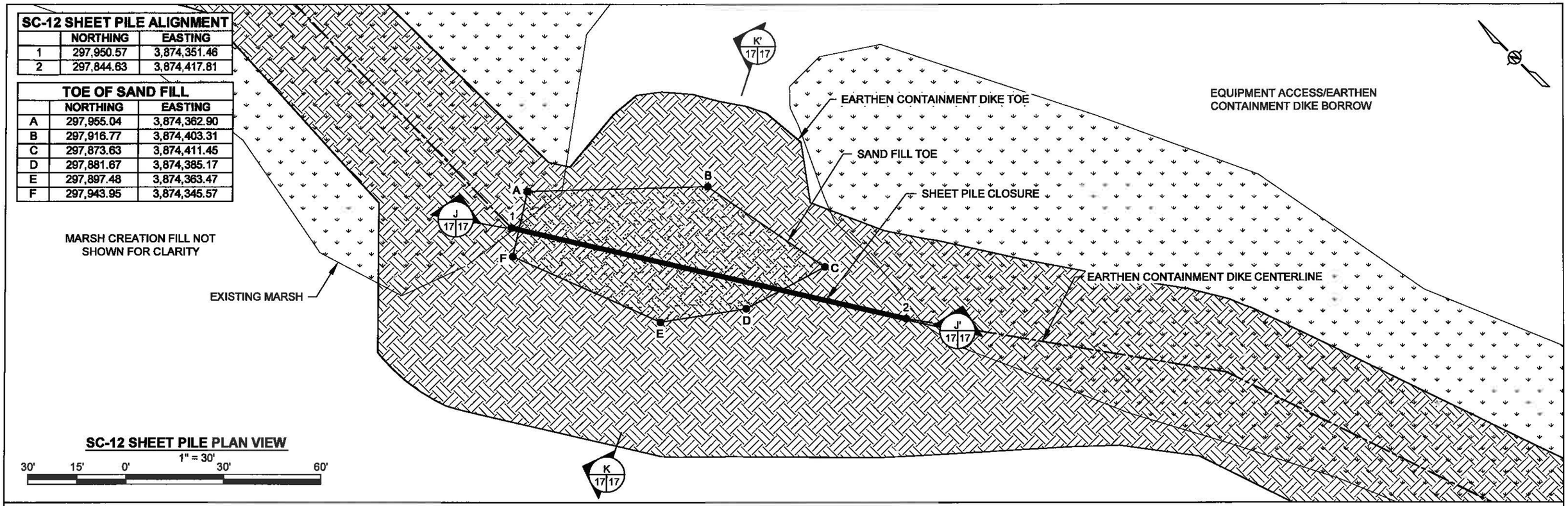
SC-11 SHEET PILE CLOSURE DETAILS

DATE: OCTOBER 2013

SHEET 16 OF 54

SC-12 SHEET PILE ALIGNMENT	NORTHING	EASTING
1	297,950.57	3,874,351.46
2	297,844.63	3,874,417.81

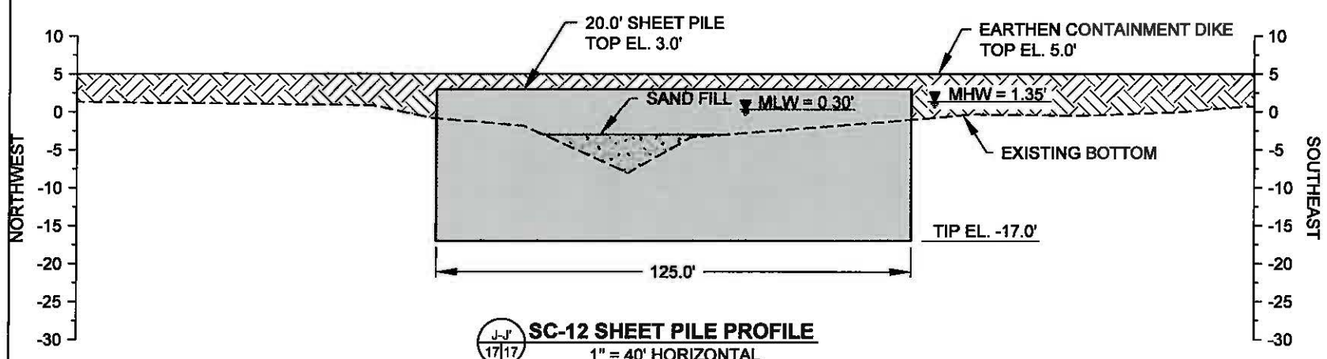
TOE OF SAND FILL	NORTHING	EASTING
A	297,955.04	3,874,362.90
B	297,916.77	3,874,403.31
C	297,873.63	3,874,411.45
D	297,881.67	3,874,385.17
E	297,897.48	3,874,363.47
F	297,943.95	3,874,345.57



SC-12 SHEET PILE PLAN VIEW

1" = 30'

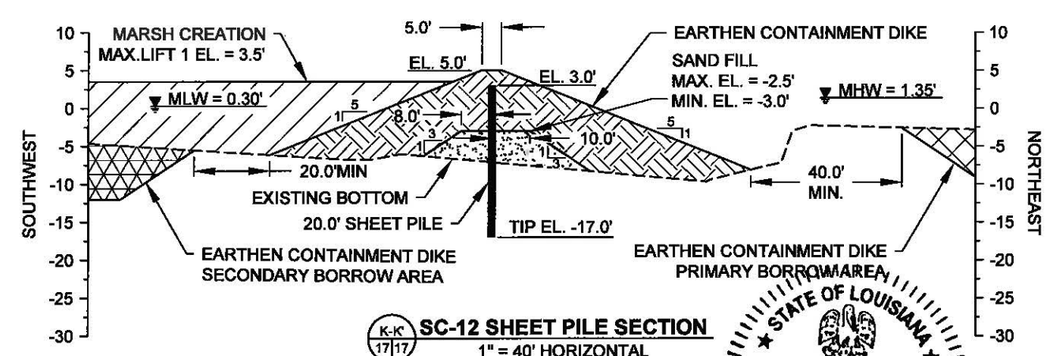
30' 15' 0' 30' 60'



J-J' 17 17 SC-12 SHEET PILE PROFILE

1" = 40' HORIZONTAL

1" = 20' VERTICAL



K-K' 17 17 SC-12 SHEET PILE SECTION

1" = 40' HORIZONTAL

1" = 20' VERTICAL

HORIZONTAL GRAPHIC SCALE

40' 20' 0 40' 80'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/09/13

NOTES:

1. ALL STEEL SHEET PILES SHALL BE PZ-27 (MINIMUM SECTION MODULUS: 30.20 $IN.^3$/FT., MOMENT OF INERTIA: 184.20 $IN.^4$/FT.) OR ENGINEER APPROVED EQUIVALENT.
2. STEEL SHEET PILES SHALL BE ENCAPSULATED WITH IN-SITU MATERIAL AS SPECIFIED IN TS-10.7 OF THE SPECIFICATIONS.
3. SAND FILL SHALL BE BARGED IN FROM AN OFFSITE BORROW SOURCE. SEE TS-9 OF THE SPECIFICATIONS FOR MORE INFORMATION.
4. SEE SHEET 6 FOR SHEET PILE LOCATION.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU | DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68

FEDERAL PROJECT NUMBER: BA-68

APPROVED BY: RUDOLPH SIMONEAUX, P.E.

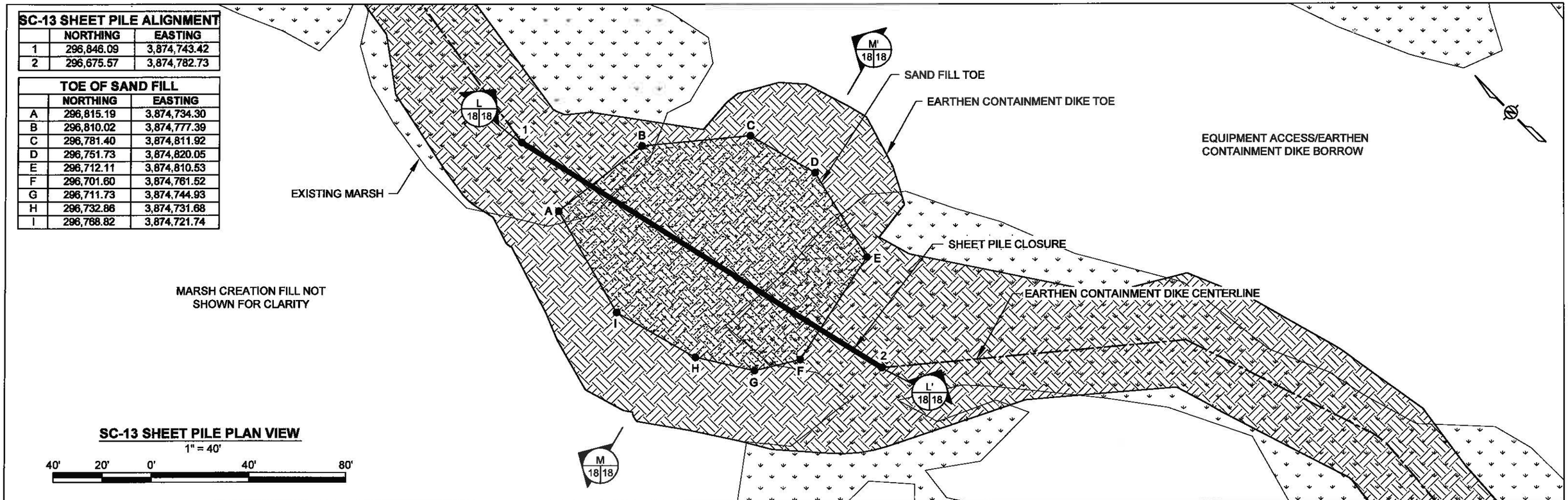
SC-12 SHEET PILE CLOSURE DETAILS

DATE: OCTOBER 2013

SHEET 17 OF 54

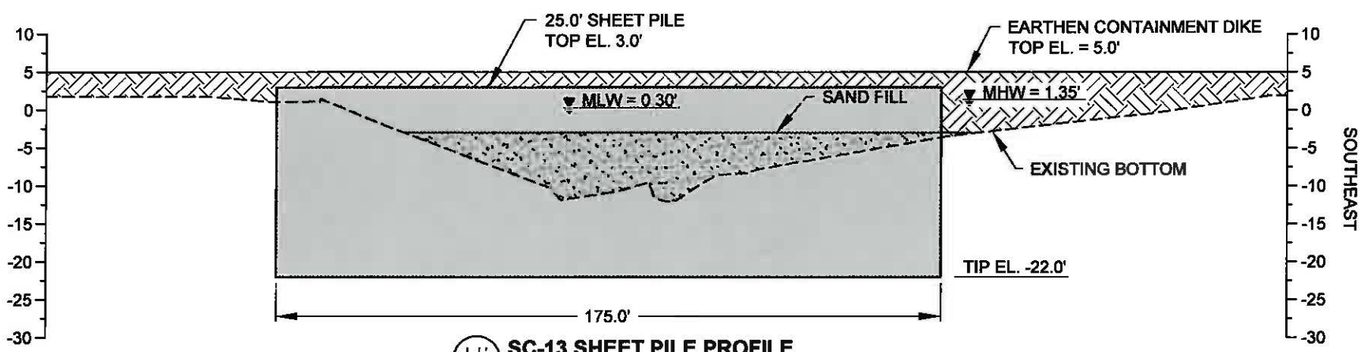
SC-13 SHEET PILE ALIGNMENT		
	NORTHING	EASTING
1	296,846.09	3,874,743.42
2	296,675.57	3,874,782.73

TOE OF SAND FILL		
	NORTHING	EASTING
A	296,815.19	3,874,734.30
B	296,810.02	3,874,777.39
C	296,781.40	3,874,811.92
D	296,751.73	3,874,820.05
E	296,712.11	3,874,810.53
F	296,701.60	3,874,761.52
G	296,711.73	3,874,744.93
H	296,732.86	3,874,731.68
I	296,768.82	3,874,721.74

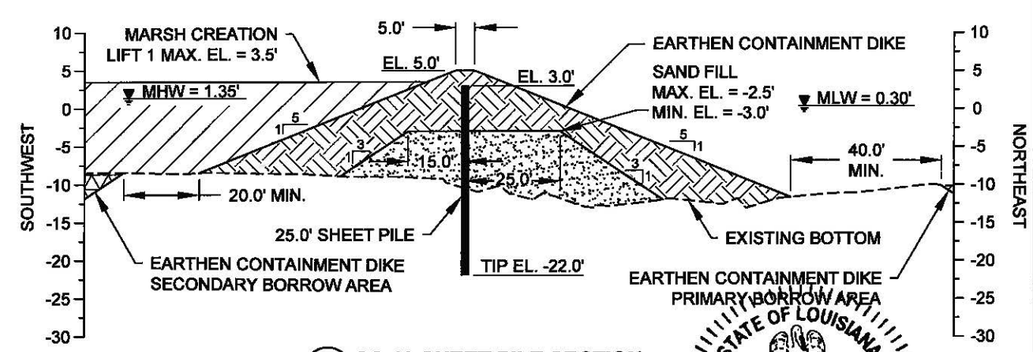


SC-13 SHEET PILE PLAN VIEW
1" = 40'

40' 20' 0' 40' 80'



L-L' 18 18 **SC-13 SHEET PILE PROFILE**
1" = 40' HORIZONTAL
1" = 20' VERTICAL



M-M' 18 18 **SC-13 SHEET PILE SECTION**
1" = 40' HORIZONTAL
1" = 20' VERTICAL

HORIZONTAL GRAPHIC SCALE
40' 20' 0 40' 80'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/08/13

NOTES:
1. ALL STEEL SHEET PILES SHALL BE PZ-27 (MINIMUM SECTION MODULUS: 30.20 IN^3./FT., MOMENT OF INERTIA: 184.20 IN^4./FT.) OR ENGINEER APPROVED EQUIVALENT.
2. STEEL SHEET PILES SHALL BE ENCAPSULATED WITH IN-SITU MATERIAL AS SPECIFIED IN TS-10.7 OF THE SPECIFICATIONS.
3. SAND FILL SHALL BE BARGED IN FROM AN OFFSITE BORROW SOURCE. SEE TS-9 OF THE SPECIFICATIONS FOR MORE INFORMATION.
4. SEE SHEET 6 FOR SHEET PILE LOCATION.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68

FEDERAL PROJECT NUMBER: BA-68

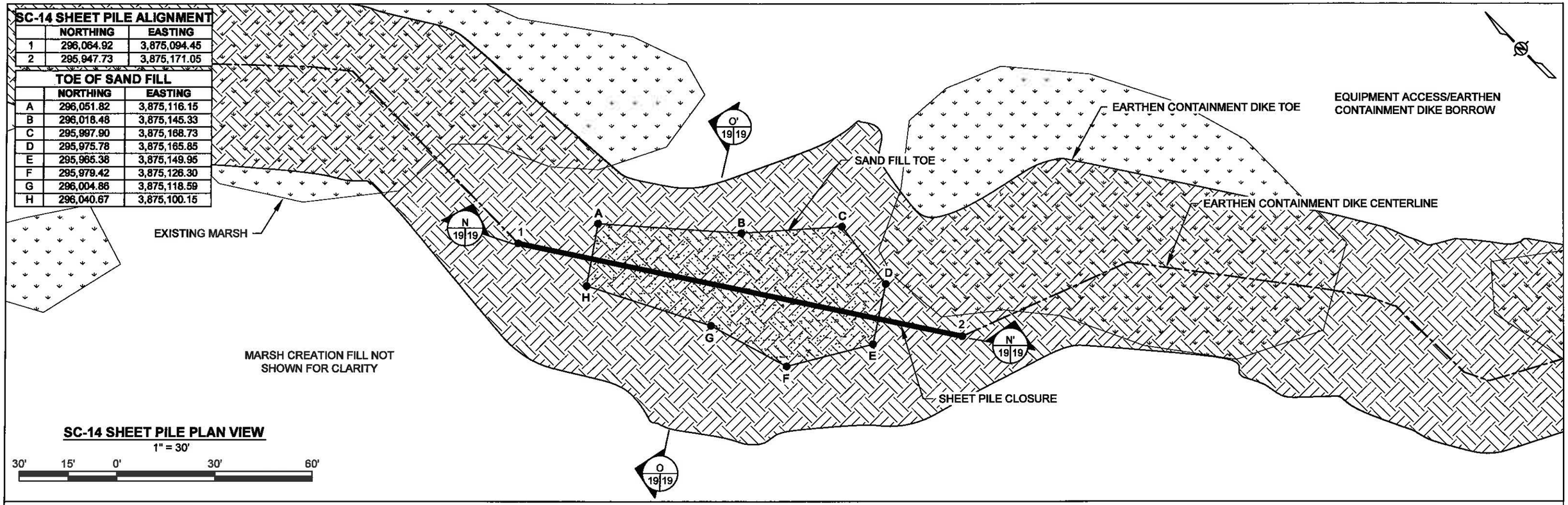
SC-13 SHEET PILE CLOSURE DETAILS

DATE: OCTOBER 2013

DRAWN BY: KRISTI CANTU | DESIGNED BY: TYE FITZGERALD, P.E. | APPROVED BY: RUDOLPH SIMONEAUX, P.E.

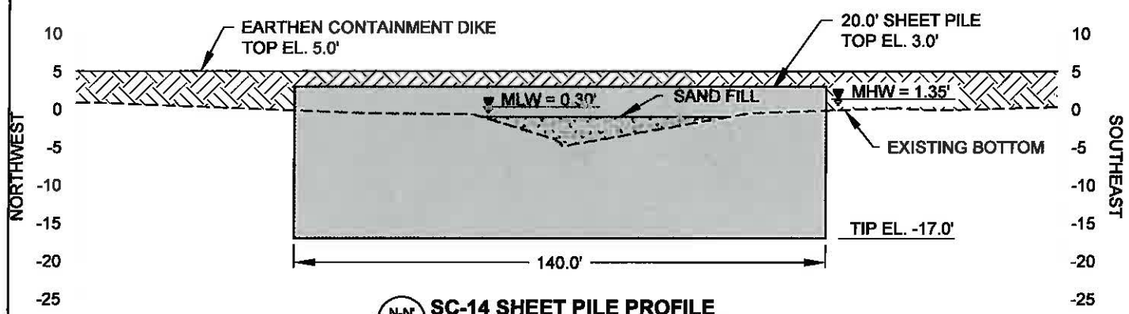
SC-14 SHEET PILE ALIGNMENT	NORTHING	EASTING
1	296,064.92	3,875,094.45
2	295,947.73	3,875,171.05

TOE OF SAND FILL	NORTHING	EASTING
A	296,051.82	3,875,116.15
B	296,018.48	3,875,145.33
C	295,997.90	3,875,168.73
D	295,975.78	3,875,165.85
E	295,965.38	3,875,149.95
F	295,979.42	3,875,126.30
G	296,004.86	3,875,118.59
H	296,040.67	3,875,100.15

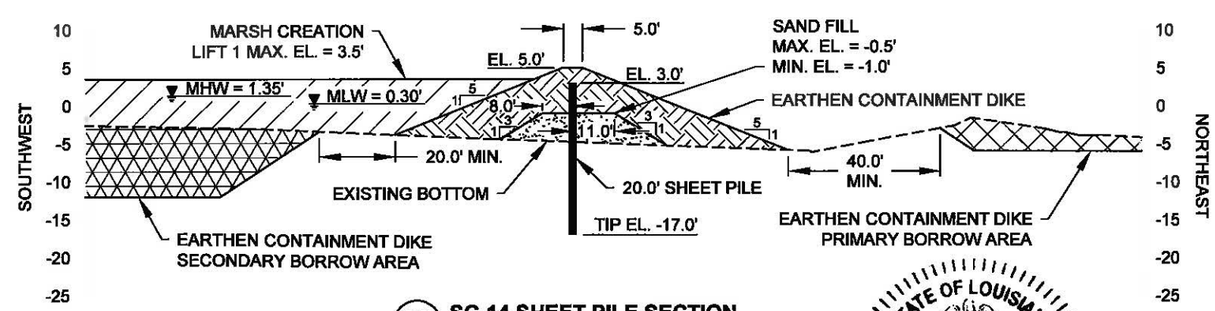


SC-14 SHEET PILE PLAN VIEW
1" = 30'

30' 15' 0' 30' 60'



N-N' 19 19 **SC-14 SHEET PILE PROFILE**
1" = 40' HORIZONTAL
1" = 20' VERTICAL



O-O' 19 19 **SC-14 SHEET PILE SECTION**
1" = 40' HORIZONTAL
1" = 20' VERTICAL

HORIZONTAL GRAPHIC SCALE
40' 20' 0 40' 80'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/04/13

NOTES:
1. ALL STEEL SHEET PILES SHALL BE PZ-27 (MINIMUM SECTION MODULUS: 30.20 IN^3/FT., MOMENT OF INERTIA: 184.20 IN^4/FT.) OR ENGINEER APPROVED EQUIVALENT.
2. STEEL SHEET PILES SHALL BE ENCAPSULATED WITH IN-SITU MATERIAL AS SPECIFIED IN TS-10.7 OF THE SPECIFICATIONS.
3. SAND FILL SHALL BE BARGED IN FROM AN OFFSITE BORROW SOURCE. SEE TS-9 OF THE SPECIFICATIONS FOR MORE INFORMATION.
4. SEE SHEET 6 FOR SHEET PILE LOCATION.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68

SC-14 SHEET PILE CLOSURE DETAILS

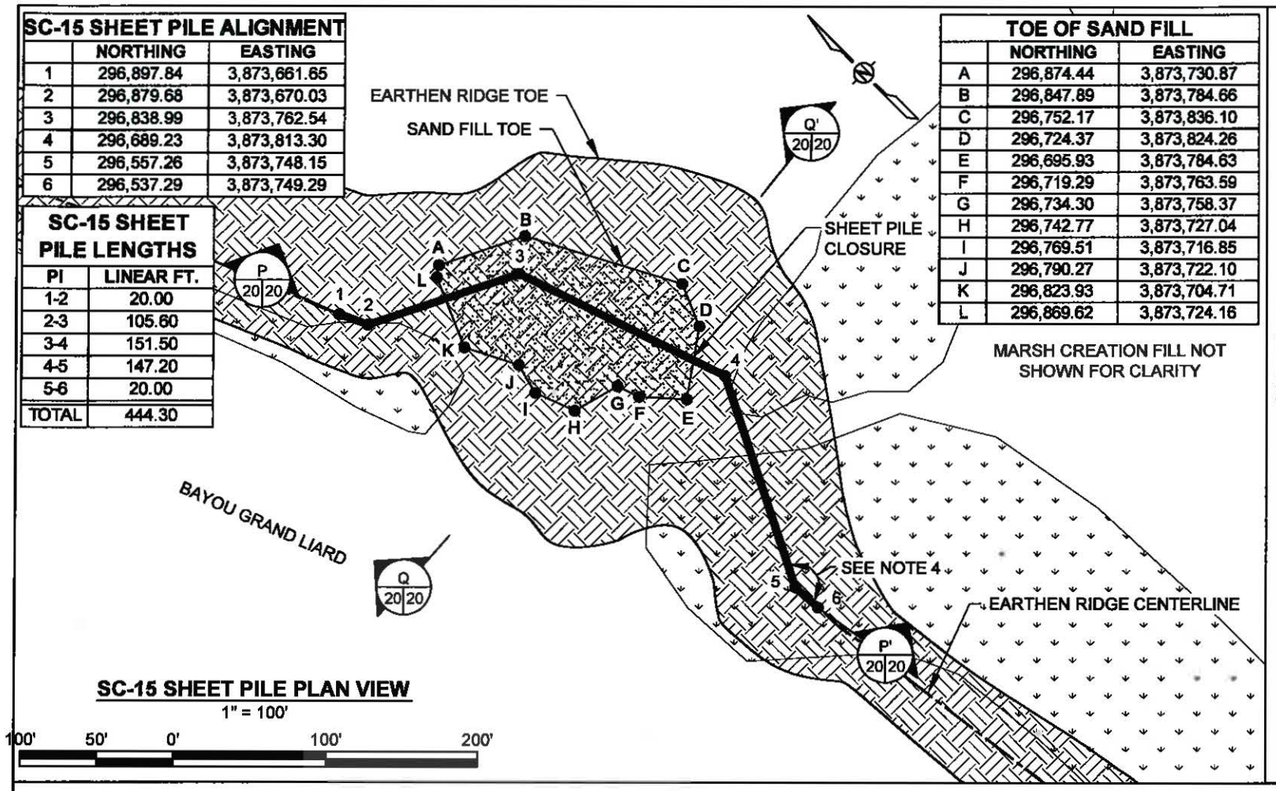
DATE: OCTOBER 2013

DRAWN BY: KRISTI CANTU | DESIGNED BY: TYE FITZGERALD, P.E. | APPROVED BY: RUDOLPH SIMONEAUX, P.E.

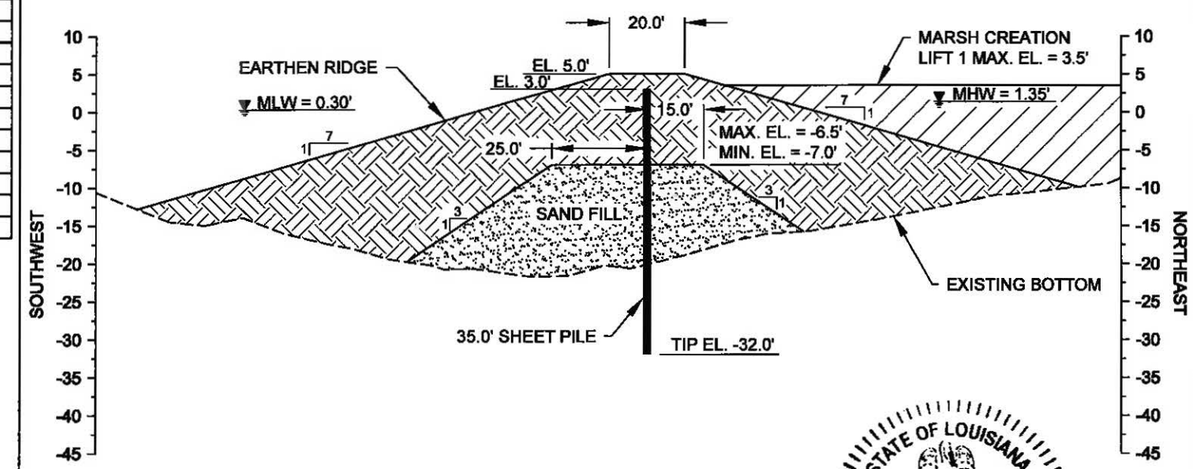
SC-15 SHEET PILE ALIGNMENT		
	NORTHING	EASTING
1	296,897.84	3,873,661.65
2	296,879.68	3,873,670.03
3	296,838.99	3,873,762.54
4	296,689.23	3,873,813.30
5	296,557.26	3,873,748.15
6	296,537.29	3,873,749.29

SC-15 SHEET PILE LENGTHS	
PI	LINEAR FT.
1-2	20.00
2-3	105.60
3-4	151.50
4-5	147.20
5-6	20.00
TOTAL	444.30

TOE OF SAND FILL		
	NORTHING	EASTING
A	296,874.44	3,873,730.87
B	296,847.89	3,873,784.66
C	296,752.17	3,873,836.10
D	296,724.37	3,873,824.26
E	296,695.93	3,873,784.63
F	296,719.29	3,873,763.59
G	296,734.30	3,873,758.37
H	296,742.77	3,873,727.04
I	296,769.51	3,873,716.85
J	296,790.27	3,873,722.10
K	296,823.93	3,873,704.71
L	296,869.62	3,873,724.16



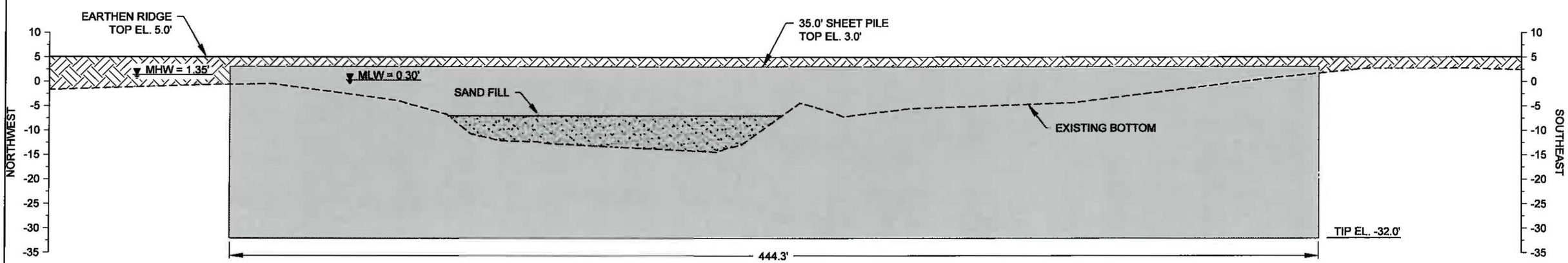
SC-15 SHEET PILE PLAN VIEW
1" = 100'



Q-Q' 20 20 SC-15 SHEET PILE SECTION
1" = 40' HORIZONTAL
1" = 20' VERTICAL

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/09/13



P-P' 20 20 SC-15 SHEET PILE PROFILE
1" = 40' HORIZONTAL
1" = 20' VERTICAL

HORIZONTAL GRAPHIC SCALE
40' 20' 0 40' 80'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

NOTES:
1. ALL STEEL SHEET PILES SHALL BE PZ-27 (MINIMUM SECTION MODULUS: 30.20 IN^3/FT., MOMENT OF INERTIA: 184.20 IN^4/FT.) OR ENGINEER APPROVED EQUIVALENT.
2. STEEL SHEET PILES SHALL BE ENCAPSULATED WITH IN-SITU MATERIAL AS SPECIFIED IN TS-10.7 OF THE SPECIFICATIONS.
3. SAND FILL SHALL BE BARGED IN FROM AN OFFSITE BORROW SOURCE. SEE TS-9 OF THE SPECIFICATIONS FOR MORE INFORMATION.
4. ALL INTERIOR SHEET PILE ANGLES ARE 135°.
5. SEE SHEET 6 FOR SHEET PILE LOCATION.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

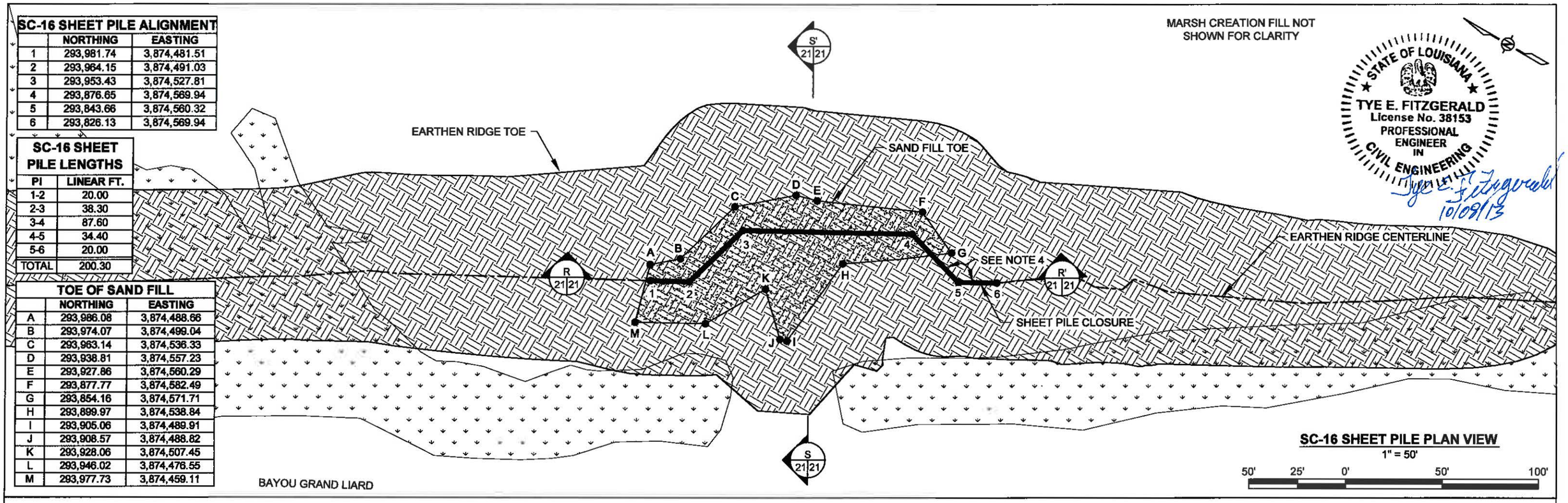
GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

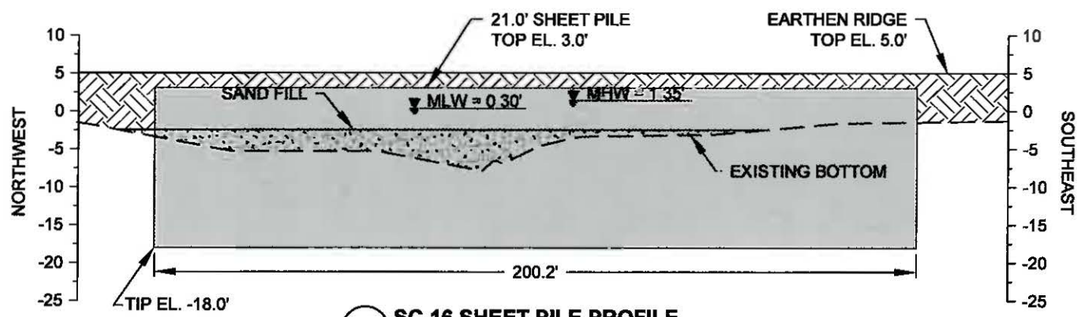
SC-15 SHEET PILE CLOSURE DETAILS
DATE: OCTOBER 2013
SHEET 20 OF 54

SC-16 SHEET PILE ALIGNMENT		
	NORTHING	EASTING
1	293,981.74	3,874,481.51
2	293,964.15	3,874,491.03
3	293,953.43	3,874,527.81
4	293,876.65	3,874,569.94
5	293,843.66	3,874,560.32
6	293,826.13	3,874,569.94

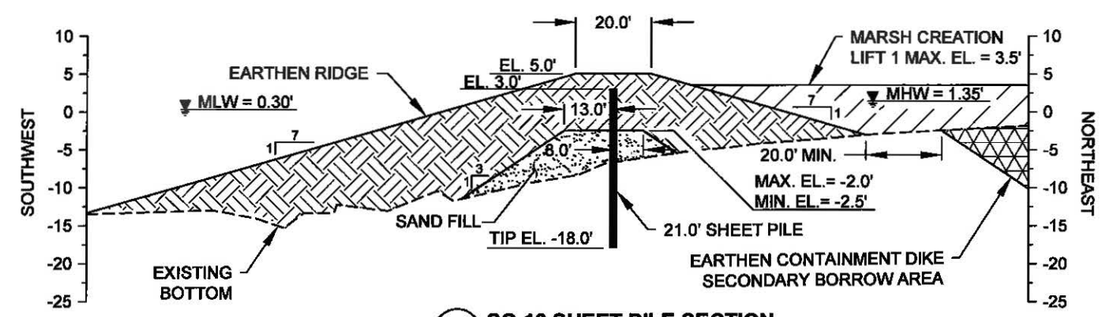
SC-16 SHEET PILE LENGTHS	
PI	LINEAR FT.
1-2	20.00
2-3	38.30
3-4	87.60
4-5	34.40
5-6	20.00
TOTAL	200.30

TOE OF SAND FILL		
	NORTHING	EASTING
A	293,986.08	3,874,488.66
B	293,974.07	3,874,499.04
C	293,963.14	3,874,536.33
D	293,938.81	3,874,557.23
E	293,927.86	3,874,560.29
F	293,877.77	3,874,582.49
G	293,854.16	3,874,571.71
H	293,899.97	3,874,538.84
I	293,905.06	3,874,489.91
J	293,908.57	3,874,488.82
K	293,928.06	3,874,507.45
L	293,946.02	3,874,476.55
M	293,977.73	3,874,459.11





R-R' 21 21 **SC-16 SHEET PILE PROFILE**
1" = 40' HORIZONTAL
1" = 20' VERTICAL



S-S' 21 21 **SC-16 SHEET PILE SECTION**
1" = 40' HORIZONTAL
1" = 20' VERTICAL

HORIZONTAL GRAPHIC SCALE
40' 20' 0 40' 80'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

NOTES:
1. ALL STEEL SHEET PILES SHALL BE PZ-27 (MINIMUM SECTION MODULUS: 30.20 $IN.^3$/FT., MOMENT OF INERTIA: 184.20 $IN.^4$/FT.) OR ENGINEER APPROVED EQUIVALENT.
2. STEEL SHEET PILES SHALL BE ENCAPSULATED WITH IN-SITU MATERIAL AS SPECIFIED IN TS-10.7 OF THE SPECIFICATIONS.
3. SAND FILL SHALL BE BARGED IN FROM AN OFFSITE BORROW SOURCE. SEE TS-9 OF THE SPECIFICATIONS FOR MORE INFORMATION.
4. ALL INTERIOR SHEET PILE ANGLES ARE 135°.
5. SEE SHEET 7 FOR SHEET PILE LOCATION.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU | DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

SC-16 SHEET PILE CLOSURE DETAILS
DATE: OCTOBER 2013
SHEET 21 OF 54

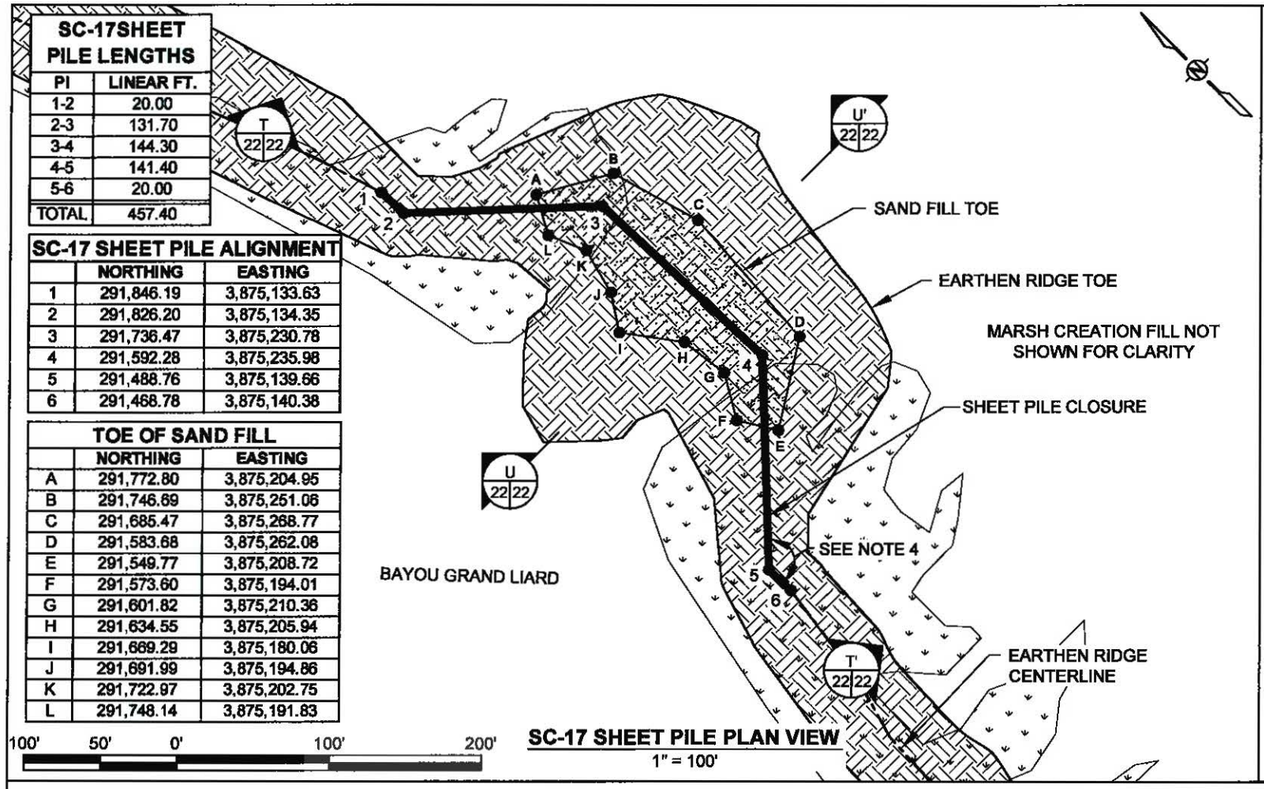
SC-17SHEET PILE LENGTHS	
PI	LINEAR FT.
1-2	20.00
2-3	131.70
3-4	144.30
4-5	141.40
5-6	20.00
TOTAL	457.40

SC-17 SHEET PILE ALIGNMENT

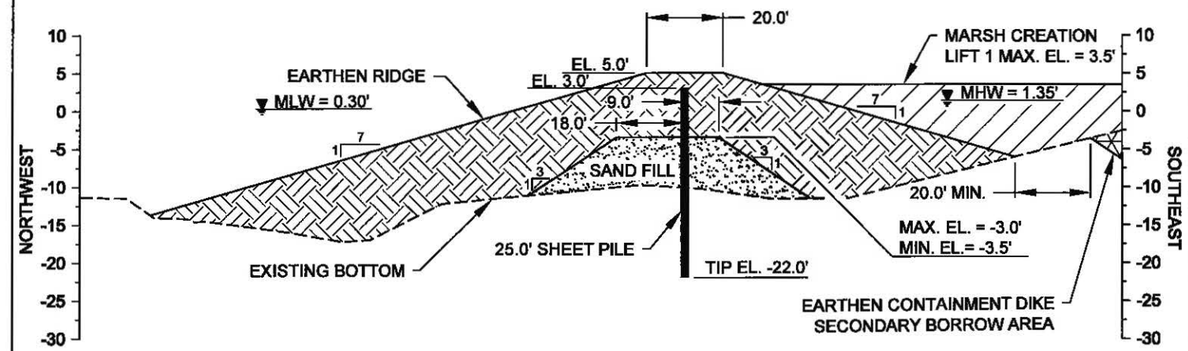
	NORTHING	EASTING
1	291,846.19	3,875,133.63
2	291,826.20	3,875,134.35
3	291,736.47	3,875,230.78
4	291,592.28	3,875,235.98
5	291,488.76	3,875,139.66
6	291,468.78	3,875,140.38

TOE OF SAND FILL

	NORTHING	EASTING
A	291,772.80	3,875,204.95
B	291,746.69	3,875,251.06
C	291,685.47	3,875,268.77
D	291,583.68	3,875,262.08
E	291,549.77	3,875,208.72
F	291,573.60	3,875,194.01
G	291,601.82	3,875,210.36
H	291,634.55	3,875,205.94
I	291,669.29	3,875,180.06
J	291,691.99	3,875,194.86
K	291,722.97	3,875,202.75
L	291,748.14	3,875,191.83



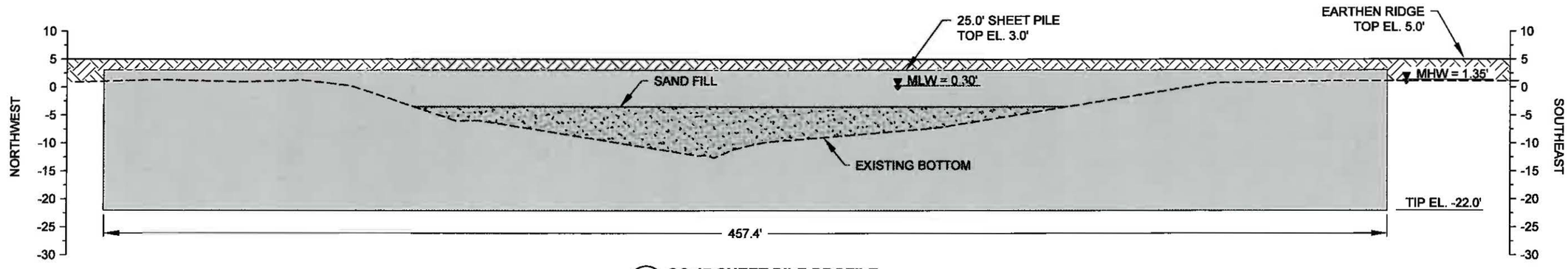
SC-17 SHEET PILE PLAN VIEW
1" = 100'



U-U' 22 22 SC-17 SHEET PILE SECTION
1" = 40' HORIZONTAL
1" = 20' VERTICAL

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/08/13



T-T' 22 22 SC-17 SHEET PILE PROFILE
1" = 40' HORIZONTAL
1" = 20' VERTICAL

HORIZONTAL GRAPHIC SCALE
40' 20' 0 40' 80'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

NOTES:
1. ALL STEEL SHEET PILES SHALL BE PZ-27 (MINIMUM SECTION MODULUS: 30.20 IN^3/FT., MOMENT OF INERTIA: 184.20 IN^4/FT.) OR ENGINEER APPROVED EQUIVALENT.
2. STEEL SHEET PILES SHALL BE ENCAPSULATED WITH IN-SITU MATERIAL AS SPECIFIED IN TS-10.7 OF THE SPECIFICATIONS.
3. SAND FILL SHALL BE BARGED IN FROM AN OFFSITE BORROW SOURCE. SEE TS-9 OF THE SPECIFICATIONS FOR MORE INFORMATION.
4. ALL INTERIOR SHEET PILE ANGLES ARE 135°.
5. SEE SHEET 7 FOR SHEET PILE LOCATION.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU | DESIGNED BY: TYE FITZGERALD, P.E.

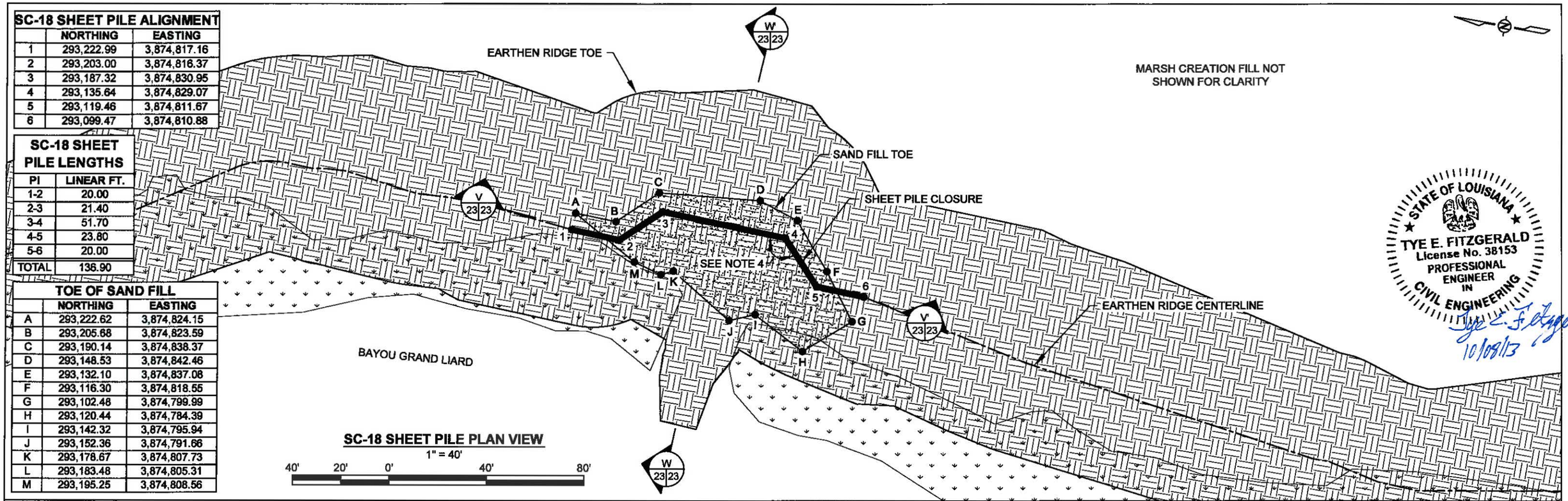
GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

SC-17 SHEET PILE CLOSURE DETAILS
DATE: OCTOBER 2013
SHEET 22 OF 54

SC-18 SHEET PILE ALIGNMENT		
	NORTHING	EASTING
1	293,222.99	3,874,817.16
2	293,203.00	3,874,816.37
3	293,187.32	3,874,830.95
4	293,135.64	3,874,829.07
5	293,119.46	3,874,811.67
6	293,099.47	3,874,810.88

SC-18 SHEET PILE LENGTHS	
PI	LINEAR FT.
1-2	20.00
2-3	21.40
3-4	51.70
4-5	23.80
5-6	20.00
TOTAL	136.90

TOE OF SAND FILL		
	NORTHING	EASTING
A	293,222.62	3,874,824.15
B	293,205.68	3,874,823.59
C	293,190.14	3,874,838.37
D	293,148.53	3,874,842.46
E	293,132.10	3,874,837.08
F	293,116.30	3,874,818.55
G	293,102.48	3,874,799.99
H	293,120.44	3,874,784.39
I	293,142.32	3,874,795.94
J	293,152.36	3,874,791.66
K	293,178.67	3,874,807.73
L	293,183.48	3,874,805.31
M	293,195.25	3,874,808.56

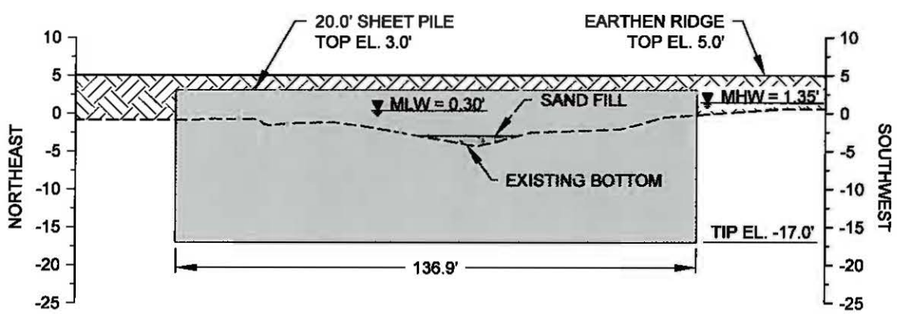


STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/08/13

SC-18 SHEET PILE PLAN VIEW

1" = 40'

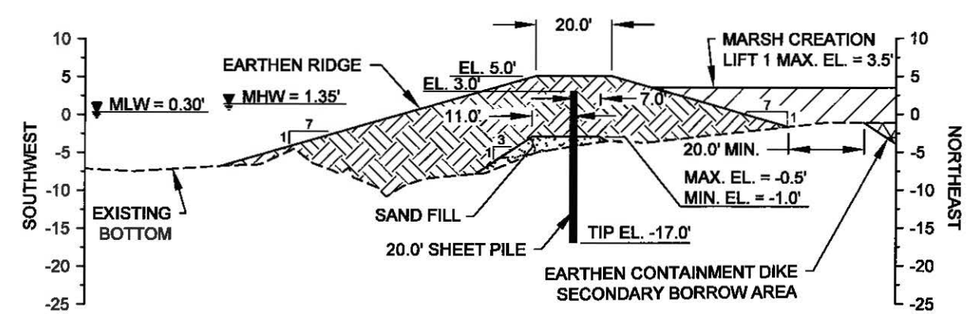
40' 20' 0' 40' 80'



SC-18 SHEET PILE PROFILE

V-V' 23 23

1" = 40' HORIZONTAL
1" = 20' VERTICAL



SC-18 SHEET PILE SECTION

W-W' 23 23

1" = 40' HORIZONTAL
1" = 20' VERTICAL

HORIZONTAL GRAPHIC SCALE

40' 20' 0 40' 80'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

NOTES:

1. ALL STEEL SHEET PILES SHALL BE PZ-27 (MINIMUM SECTION MODULUS: 30.20 $IN.^3$/FT., MOMENT OF INERTIA: 184.20 $IN.^4$/FT.) OR ENGINEER APPROVED EQUIVALENT.
2. STEEL SHEET PILES SHALL BE ENCAPSULATED WITH IN-SITU MATERIAL AS SPECIFIED IN TS-10.7 OF THE SPECIFICATIONS.
3. SAND FILL SHALL BE BARGED IN FROM AN OFFSITE BORROW SOURCE. SEE TS-9 OF THE SPECIFICATIONS FOR MORE INFORMATION.
4. ALL INTERIOR SHEET PILE ANGLES ARE 135°.
5. SEE SHEET 6 FOR SHEET PILE LOCATION.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

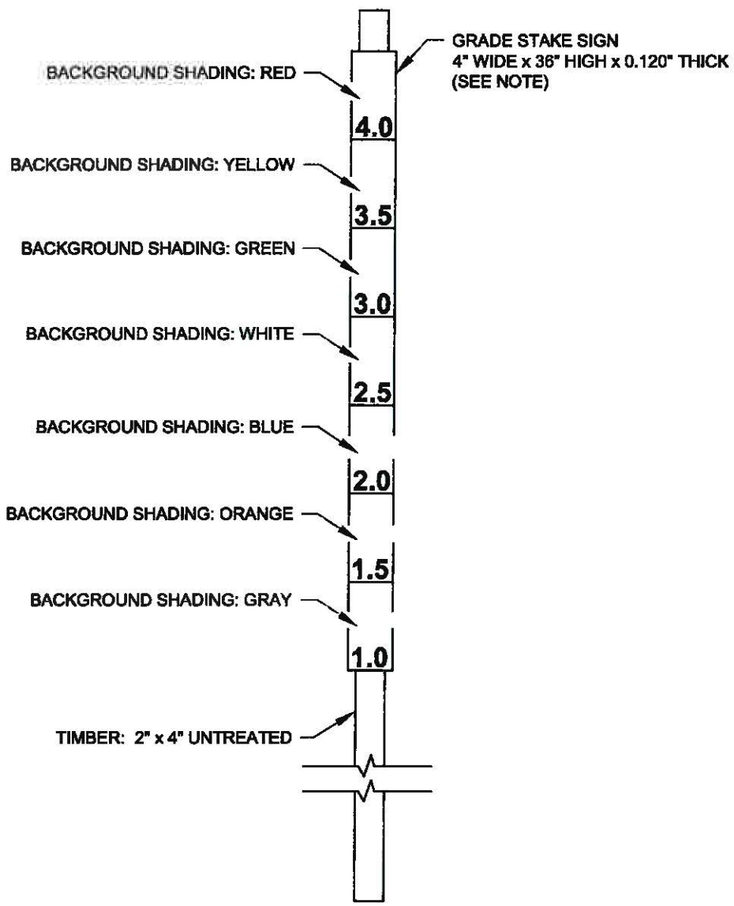
DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

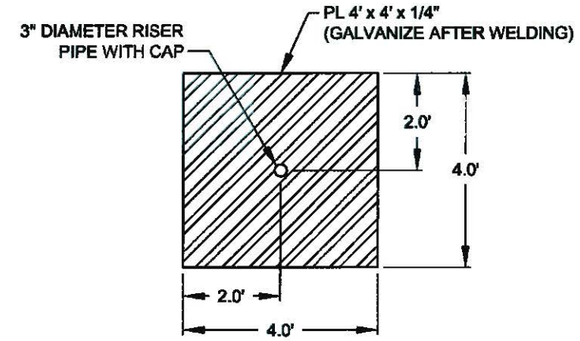
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

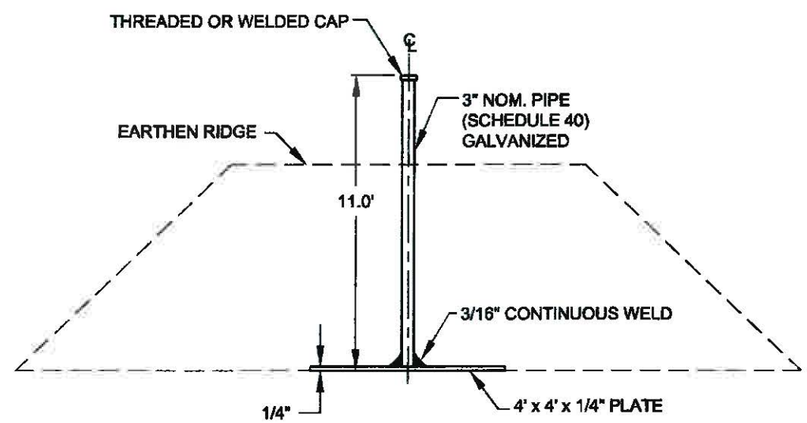
SC-18 SHEET PILE CLOSURE DETAILS

DATE: OCTOBER 2013
SHEET 23 OF 54

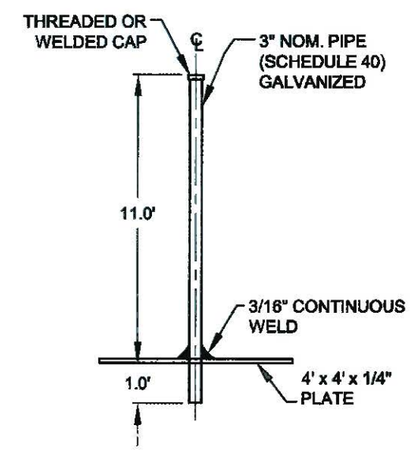


MARSH CREATION AREA
GRADE STAKE DETAIL
NOT TO SCALE





EARTHEN RIDGE
SETTLEMENT PLATE
(SEE NOTE 2)
NOT TO SCALE



MARSH CREATION
SETTLEMENT PLATE
NOT TO SCALE

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL
ENGINEER
IN
CIVIL ENGINEERING

Tye E. Fitzgerald
10/09/13

GRADE STAKE SIGN NOTE:
THE GRADE STAKE SIGN SHALL BE CONSTRUCTED USING A RIGID SUBSTRATE WITH ENGINEER-GRADE REFLECTIVE SHEETING. SEE TS-8.9 OF THE SPECIFICATIONS FOR ADDITIONAL DETAILS.

SETTLEMENT PLATE NOTES:
1. SETTLEMENT PLATES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
2. LOCATION AND ELEVATION WILL BE RECORDED AS SPECIFIED IN TS-2.0.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

GRADE STAKE AND SETTLEMENT PLATE DETAIL
DATE: OCTOBER 2013
SHEET 24 OF 54

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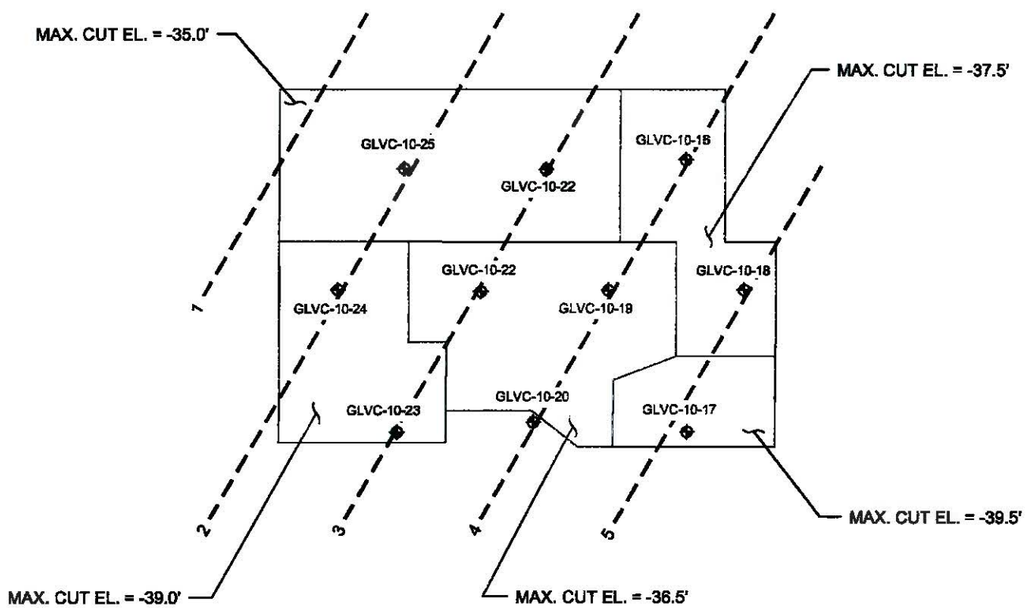
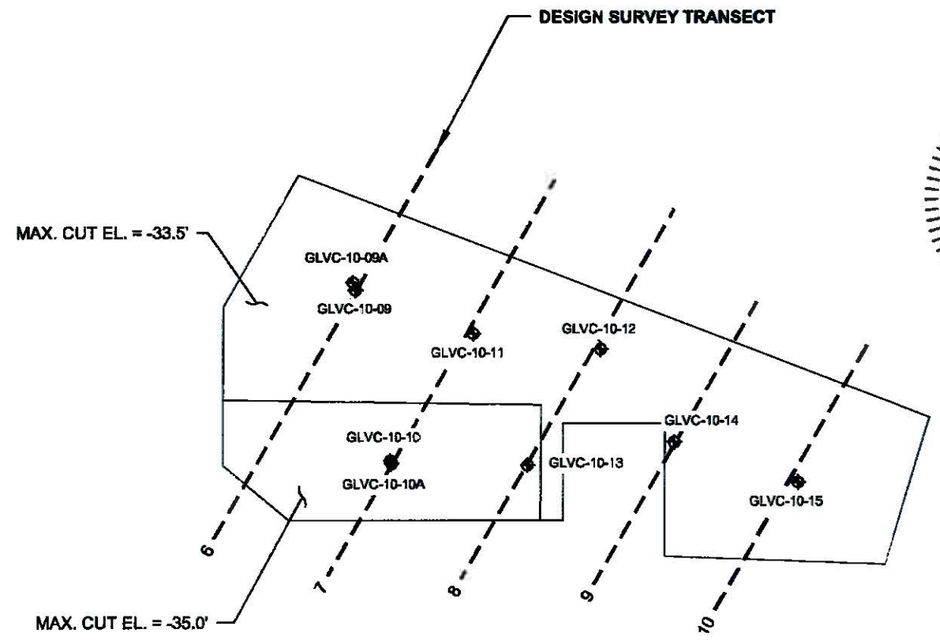
SOIL BORINGS					
WEST BORROW AREA			EAST BORROW AREA		
BORING	NORTHING	EASTING	BORING	NORTHING	EASTING
GLVC-10-16	266,592	3,848,463	GLVC-10-09	268,102	3,852,999
GLVC-10-17	264,798	3,848,476	GLVC-10-09A	268,152	3,852,984
GLVC-10-18	265,732	3,848,849	GLVC-10-10	266,978	3,853,230
GLVC-10-19	265,731	3,847,954	GLVC-10-10A	266,959	3,853,238
GLVC-10-20	264,860	3,847,466	GLVC-10-11	267,816	3,853,779
GLVC-10-21	265,722	3,847,116	GLVC-10-12	267,714	3,854,618
GLVC-10-22	266,529	3,847,544	GLVC-10-13	266,949	3,854,137
GLVC-10-23	264,794	3,846,569	GLVC-10-14	267,103	3,855,103
GLVC-10-24	265,733	3,846,174	GLVC-10-15	266,837	3,855,919
GLVC-10-25	266,533	3,846,609			

WEST BORROW AREA





EAST BORROW AREA

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/08/13

1000' 500' 0' 1000' 2000'

DESIGN SURVEY TRANSECTS				
	BEGINNING		ENDING	
	NORTHING	EASTING	NORTHING	EASTING
1	267,555.90	3,846,355.58	265,693.59	3,845,286.17
2	267,555.98	3,847,249.21	264,223.49	3,845,335.70
3	267,555.94	3,848,142.91	264,223.40	3,846,229.33
4	267,555.94	3,849,036.59	264,223.32	3,847,122.96
5	266,548.56	3,849,351.85	264,198.64	3,848,002.47
6	269,030.81	3,853,538.13	266,465.48	3,852,065.09
7	268,826.59	3,854,314.55	266,220.01	3,852,817.82
8	268,639.62	3,855,100.87	266,196.88	3,853,698.22
9	268,027.53	3,855,643.08	266,164.15	3,854,573.10
10	267,739.12	3,856,371.15	265,996.20	3,855,370.34

LEGEND
DESIGN SURVEY TRANSECTS
SOIL BORING

NOTES:
1. SURVEY CROSS-SECTIONS POINT FILES ARE AVAILABLE UPON REQUEST.
2. SEE APPENDIX H OF THE SPECIFICATIONS FOR BORING LOG INFORMATION.
3. TRANSECTS 1 THROUGH 10 REPRESENT DATA FROM THE DESIGN SURVEY TAKEN IN FEBRUARY 2010 BY CP&E.
4. SEE SHEETS 31 - 33 FOR CROSS-SECTIONS 1 THROUGH 10.
5. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) U.S. SURVEY FEET.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

BORROW AREA DESIGN SURVEY & BORING LAYOUT
DATE: OCTOBER 2013
SHEET 25 OF 54

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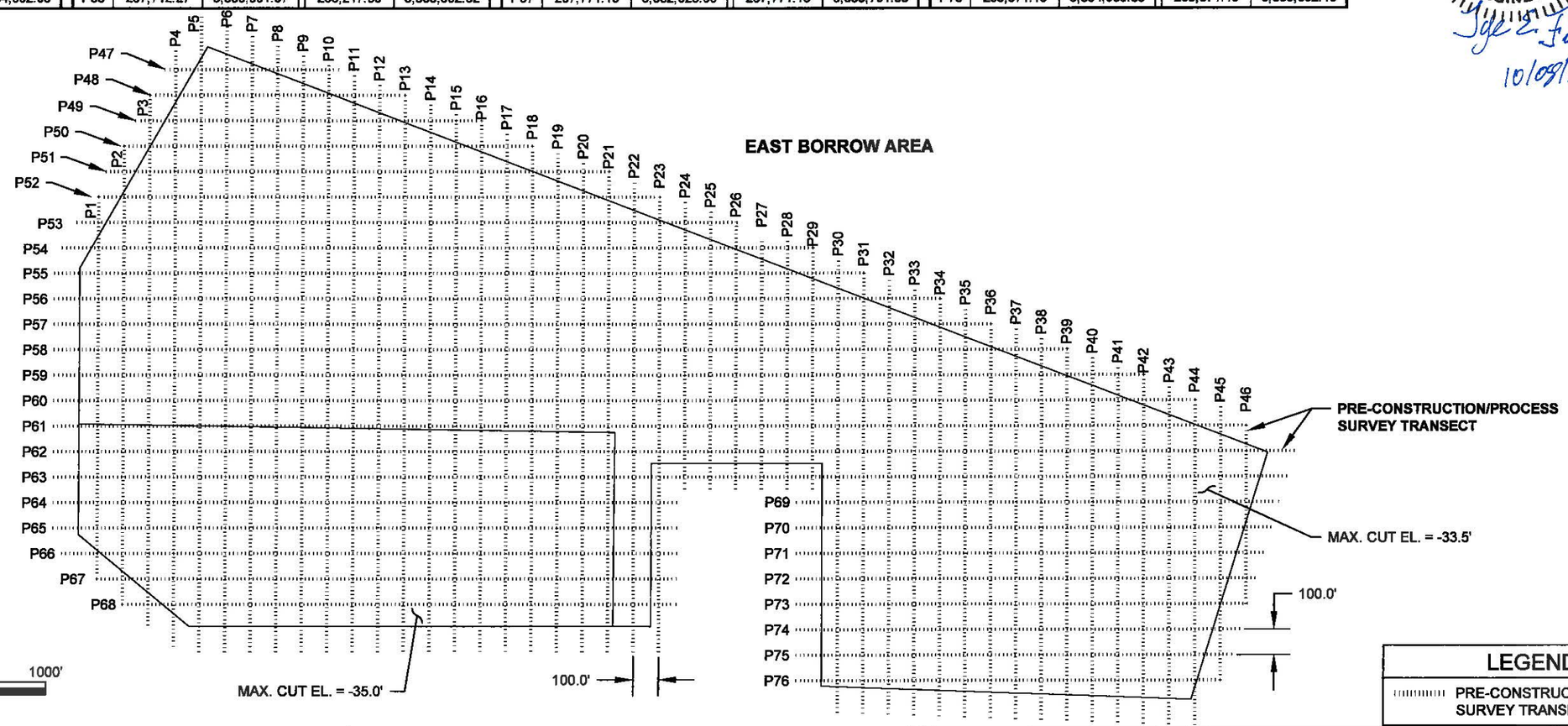
PROCESS SURVEY TRANSECTS

	BEGINNING		ENDING	
	NORTHING	EASTING	NORTHING	EASTING
P1	268,271.16	3,852,200.61	266,771.16	3,852,201.86
P2	268,471.16	3,852,300.44	266,671.16	3,852,301.94
P3	268,671.16	3,852,400.28	266,589.41	3,852,402.01
P4	268,844.60	3,852,500.13	266,506.41	3,852,502.08
P5	268,977.72	3,852,600.02	266,484.86	3,852,602.09
P6	268,939.38	3,852,700.05	266,484.86	3,852,702.09
P7	268,901.03	3,852,800.08	266,484.86	3,852,802.09
P8	268,862.68	3,852,900.12	266,484.94	3,852,902.09
P9	268,824.34	3,853,000.15	266,485.03	3,853,002.09
P10	268,785.99	3,853,100.18	266,484.86	3,853,102.09
P11	268,747.64	3,853,200.21	266,484.94	3,853,202.09
P12	268,709.29	3,853,300.24	266,485.03	3,853,302.09
P13	268,671.16	3,853,399.72	266,487.72	3,853,402.09
P14	268,632.60	3,853,500.31	266,487.80	3,853,502.09
P15	268,594.25	3,853,600.34	266,487.89	3,853,602.09
P16	268,571.16	3,853,700.36	266,487.27	3,853,702.09
P17	268,517.56	3,853,800.40	266,487.35	3,853,802.09
P18	268,471.16	3,853,900.44	266,487.43	3,853,902.09
P19	268,440.87	3,854,000.47	266,484.86	3,854,002.09

	BEGINNING		ENDING	
	NORTHING	EASTING	NORTHING	EASTING
P20	268,402.52	3,854,100.50	266,484.94	3,854,102.09
P21	268,371.16	3,854,200.53	266,485.03	3,854,202.09
P22	268,325.82	3,854,300.56	266,484.86	3,854,302.09
P23	268,271.16	3,854,400.61	266,484.94	3,854,402.09
P24	268,249.13	3,854,500.63	267,124.70	3,854,501.56
P25	268,210.78	3,854,600.66	267,124.87	3,854,601.56
P26	268,172.44	3,854,700.69	267,124.78	3,854,701.56
P27	268,134.09	3,854,800.72	267,124.62	3,854,801.56
P28	268,095.74	3,854,900.75	267,124.70	3,854,901.56
P29	268,071.16	3,855,000.78	267,124.78	3,855,001.56
P30	268,019.05	3,855,100.82	266,247.43	3,855,102.29
P31	267,971.16	3,855,200.86	266,243.73	3,855,202.29
P32	267,942.35	3,855,300.88	266,240.03	3,855,302.30
P33	267,904.01	3,855,400.91	266,236.32	3,855,402.30
P34	267,871.16	3,855,500.94	266,232.62	3,855,502.30
P35	267,827.31	3,855,600.98	266,228.92	3,855,602.31
P36	267,771.16	3,855,701.03	266,225.21	3,855,702.31
P37	267,750.62	3,855,801.04	266,221.51	3,855,802.31
P38	267,712.27	3,855,901.07	266,217.80	3,855,902.32

	BEGINNING		ENDING	
	NORTHING	EASTING	NORTHING	EASTING
P39	267,673.92	3,856,001.11	266,214.10	3,856,002.32
P40	267,635.58	3,856,101.14	266,210.40	3,856,102.32
P41	267,597.23	3,856,201.17	266,206.69	3,856,202.33
P42	267,571.16	3,856,301.19	266,202.99	3,856,302.33
P43	267,520.54	3,856,401.23	266,199.28	3,856,402.33
P44	267,471.16	3,856,501.27	266,195.58	3,856,502.34
P45	267,443.84	3,856,601.30	266,371.16	3,856,602.19
P46	267,371.16	3,856,701.36	266,671.16	3,856,701.94
P47	268,771.16	3,852,458.22	268,771.16	3,853,138.86
P48	268,671.16	3,852,400.28	268,671.16	3,853,399.72
P49	268,571.16	3,852,344.09	268,571.16	3,853,700.36
P50	268,471.16	3,852,300.44	268,471.16	3,853,900.44
P51	268,371.16	3,852,229.96	268,371.16	3,854,200.53
P52	268,271.16	3,852,200.61	268,271.16	3,854,400.61
P53	268,171.16	3,852,115.83	268,172.44	3,854,700.69
P54	268,071.16	3,852,058.77	268,071.16	3,855,000.78
P55	267,971.16	3,852,028.69	267,971.16	3,855,200.86
P56	267,871.16	3,852,028.69	267,871.16	3,855,500.94
P57	267,771.16	3,852,028.69	267,771.16	3,855,701.03

	BEGINNING		ENDING	
	NORTHING	EASTING	NORTHING	EASTING
P58	267,671.16	3,852,028.69	267,673.92	3,856,001.11
P59	267,571.16	3,852,028.69	267,571.16	3,856,301.19
P60	267,471.16	3,852,028.69	267,471.16	3,856,501.27
P61	267,371.16	3,852,028.69	267,371.16	3,856,701.36
P62	267,271.16	3,852,028.69	267,271.16	3,856,891.63
P63	267,171.16	3,852,028.69	267,171.16	3,856,861.02
P64	267,071.16	3,852,028.69	267,071.16	3,854,471.88
P65	266,971.16	3,852,028.69	266,971.16	3,854,471.88
P66	266,871.16	3,852,062.28	266,871.16	3,854,471.88
P67	266,771.16	3,852,201.86	266,771.16	3,854,471.88
P68	266,671.16	3,852,301.94	266,671.16	3,854,471.88
P69	267,071.16	3,854,939.86	267,071.16	3,856,830.40
P70	266,971.16	3,854,939.86	266,971.16	3,856,799.78
P71	266,871.16	3,854,939.86	266,871.16	3,856,769.17
P72	266,771.16	3,854,939.86	266,771.16	3,856,738.55
P73	266,671.16	3,854,939.86	266,671.16	3,856,701.94
P74	266,571.16	3,854,939.86	266,571.16	3,856,677.31
P75	266,471.16	3,854,939.86	266,471.16	3,856,646.70
P76	266,371.16	3,854,939.86	266,371.16	3,856,602.19



STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
Tye E. Fitzgerald
10/09/13

LEGEND

PRE-CONSTRUCTION/PROCESS SURVEY TRANSECTS

NOTES:
1. PRE-CONSTRUCTION/PROCESS SURVEY TRANSECTS P1 THROUGH P76, PROVIDE MORE ACCURATE VOLUME ESTIMATES THAN THE DESIGN SURVEY LAYOUT SHOWN ON SHEET 25.
2. THE PRE-CONSTRUCTION PROCESS SURVEY TRANSECTS SHALL EXTEND A MINIMUM OF A 100.0' PAST THE LIMITS OF PAY.
3. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) U.S. SURVEY FEET.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

BORROW AREA PRE-CONSTRUCTION/ PROCESS SURVEY LAYOUT
DATE: OCTOBER 2013
SHEET 26 OF 54

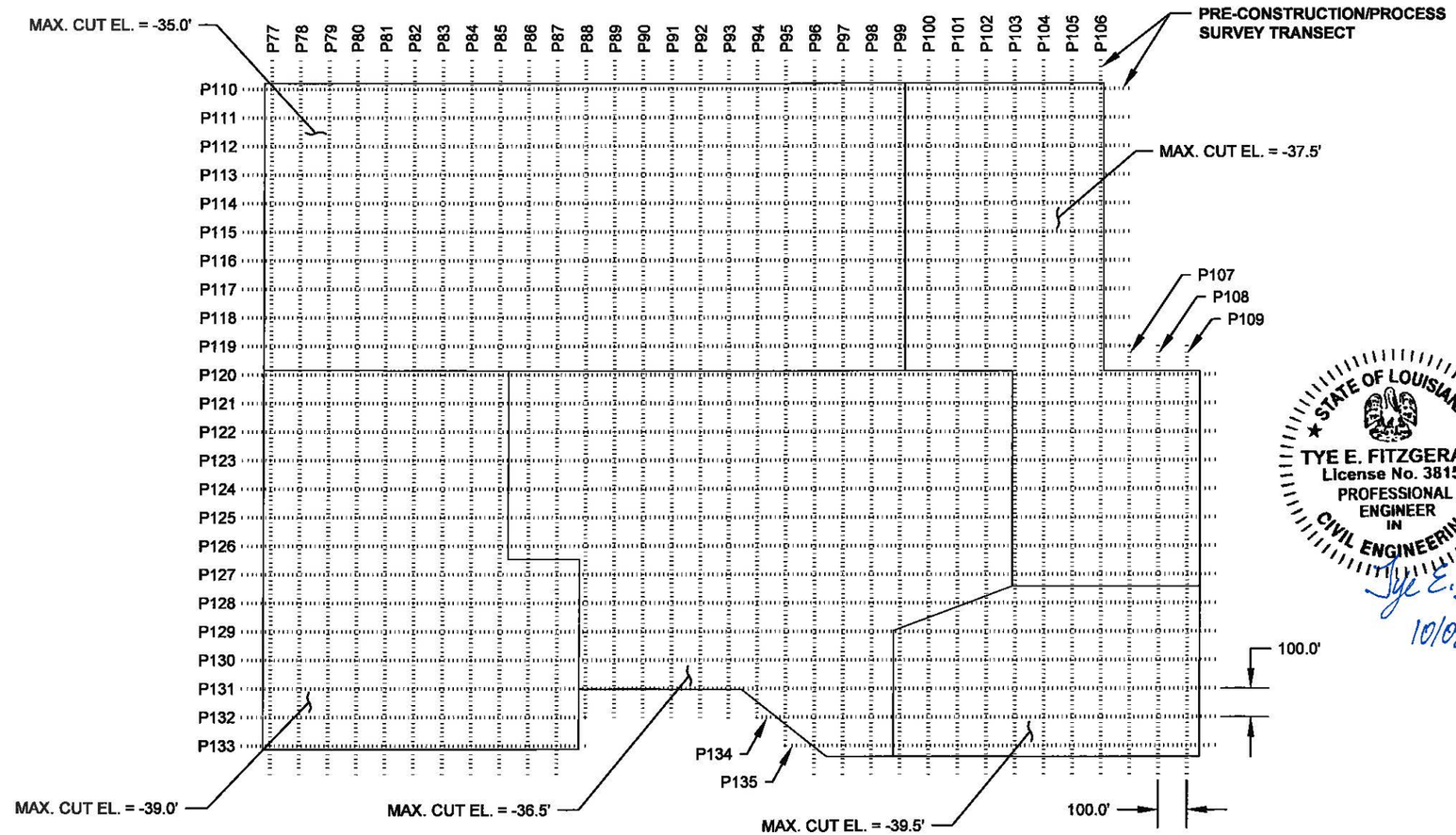
PROCESS SURVEY TRANSECTS

	BEGINNING		ENDING	
	NORTHING	EASTING	NORTHING	EASTING
P77	267,135.94	3,845,809.97	264,635.94	3,845,812.05
P78	267,135.94	3,845,909.97	264,635.94	3,845,912.05
P79	267,135.94	3,846,009.97	264,635.94	3,846,012.05
P80	267,135.94	3,846,109.97	264,635.94	3,846,112.05
P81	267,135.94	3,846,209.97	264,635.94	3,846,212.05
P82	267,135.94	3,846,309.97	264,635.94	3,846,312.05
P83	267,135.94	3,846,409.97	264,635.94	3,846,412.05
P84	267,135.94	3,846,509.97	264,635.94	3,846,512.05
P85	267,135.94	3,846,609.97	264,635.94	3,846,612.05
P86	267,135.94	3,846,709.97	264,635.94	3,846,712.05
P87	267,135.94	3,846,809.97	264,635.94	3,846,812.05
P88	267,135.94	3,846,909.97	264,835.94	3,846,911.88
P89	267,135.94	3,847,009.97	264,835.50	3,847,011.88
P90	267,135.94	3,847,109.97	264,835.06	3,847,111.88
P91	267,135.94	3,847,209.97	264,835.14	3,847,211.88
P92	267,135.94	3,847,309.97	264,835.22	3,847,311.88
P93	267,135.94	3,847,409.97	264,834.60	3,847,411.89
P94	267,135.94	3,847,509.97	264,834.69	3,847,511.88
P95	267,135.94	3,847,609.97	264,735.94	3,847,611.97
P96	267,135.94	3,847,709.97	264,635.94	3,847,712.05
P97	267,135.94	3,847,809.97	264,635.94	3,847,812.05
P98	267,135.94	3,847,909.97	264,635.94	3,847,912.05
P99	267,135.94	3,848,009.97	264,635.94	3,848,012.05
P100	267,135.94	3,848,109.97	264,635.94	3,848,112.05
P101	267,135.94	3,848,209.97	264,635.94	3,848,212.05
P102	267,135.94	3,848,309.97	264,635.94	3,848,312.05
P103	267,135.94	3,848,409.97	264,635.94	3,848,412.05
P104	267,135.94	3,848,509.97	264,635.94	3,848,512.05
P105	267,135.94	3,848,609.97	264,635.94	3,848,612.05
P106	267,135.94	3,848,709.97	264,635.94	3,848,712.05
P107	266,135.94	3,848,810.80	264,635.94	3,848,812.05
P108	266,135.94	3,848,910.80	264,635.94	3,848,912.05
P109	266,135.94	3,849,010.80	264,635.94	3,849,012.05
P110	267,035.94	3,845,710.05	267,035.94	3,848,810.06
P111	266,935.94	3,845,710.14	266,935.94	3,848,810.14
P112	266,835.94	3,845,710.22	266,835.94	3,848,810.22
P113	266,735.94	3,845,710.30	266,735.94	3,848,810.30
P114	266,635.94	3,845,710.39	266,635.94	3,848,810.39
P115	266,535.94	3,845,710.47	266,535.94	3,848,810.47
P116	266,435.94	3,845,710.55	266,435.94	3,848,810.55
P117	266,335.94	3,845,710.64	266,335.94	3,848,810.64
P118	266,235.94	3,845,710.72	266,235.94	3,848,810.72
P119	266,135.94	3,845,710.80	266,135.94	3,848,810.80
P120	266,035.94	3,845,710.89	266,035.94	3,849,110.89
P121	265,935.94	3,845,710.97	265,935.94	3,849,110.97
P122	265,835.94	3,845,711.05	265,835.94	3,849,111.05
P123	265,735.94	3,845,711.13	265,735.94	3,849,111.14
P124	265,635.94	3,845,711.22	265,635.94	3,849,111.22
P125	265,535.94	3,845,711.30	265,535.94	3,849,111.30
P126	265,435.94	3,845,711.38	265,435.94	3,849,111.39
P127	265,335.94	3,845,711.47	265,335.94	3,849,111.47
P128	265,235.94	3,845,711.55	265,235.94	3,849,111.55
P129	265,135.94	3,845,711.63	265,135.94	3,849,111.64
P130	265,035.94	3,845,711.72	265,035.94	3,849,111.72
P131	264,935.94	3,845,711.80	264,935.94	3,849,111.80
P132	264,835.94	3,845,711.88	264,835.94	3,846,911.88
P133	264,735.94	3,845,711.97	264,735.94	3,846,911.97
P134	264,834.69	3,847,511.88	264,835.94	3,849,111.88
P135	264,735.94	3,847,611.97	264,735.94	3,849,111.97

NOTES:

1. PRE-CONSTRUCTION/PROCESS SURVEY TRANSECTS P77 THROUGH P135, PROVIDE MORE ACCURATE VOLUME ESTIMATES THAN THE DESIGN SURVEY LAYOUT SHOWN ON SHEET 25.
2. THE PRE-CONSTRUCTION PROCESS SURVEY TRANSECTS SHALL EXTEND A MINIMUM OF A 100.0' PAST THE LIMITS OF PAY.
3. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) U.S. SURVEY FEET.

WEST BORROW AREA



STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/08/13

1000' 500' 0' 1000' 2000'

LEGEND

PRE-CONSTUCTION/PROCESS SURVEY TRANSECTS

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

BORROW AREA PRE-CONSTRUCTION/ PROCESS SURVEY LAYOUT

DATE: OCTOBER 2013
SHEET 27 OF 54

SOIL BORING

BORING	NORTHING	EASTING
B1	297,634.93	3,872,405.57
B2	294,063.77	3,874,155.11
B3	289,356.78	3,875,232.29
B4	298,977.66	3,872,300.06
B5	292,785.03	3,874,750.65
B6	288,315.79	3,875,686.22
B7	298,047.05	3,873,483.87
B8	292,097.00	3,876,023.00
B9	288,165.12	3,876,272.85
B10	285,102.17	3,876,156.56
B11	299,355.21	3,873,081.04
B12	297,922.80	3,874,459.07
B13	296,817.70	3,874,840.10
B14	296,107.65	3,875,285.56
B15	296,798.56	3,873,662.67
B16	293,902.11	3,874,471.29
B17	291,700.86	3,875,162.45
B18	293,159.46	3,874,775.61

MARSH CREATION TRANSECTS

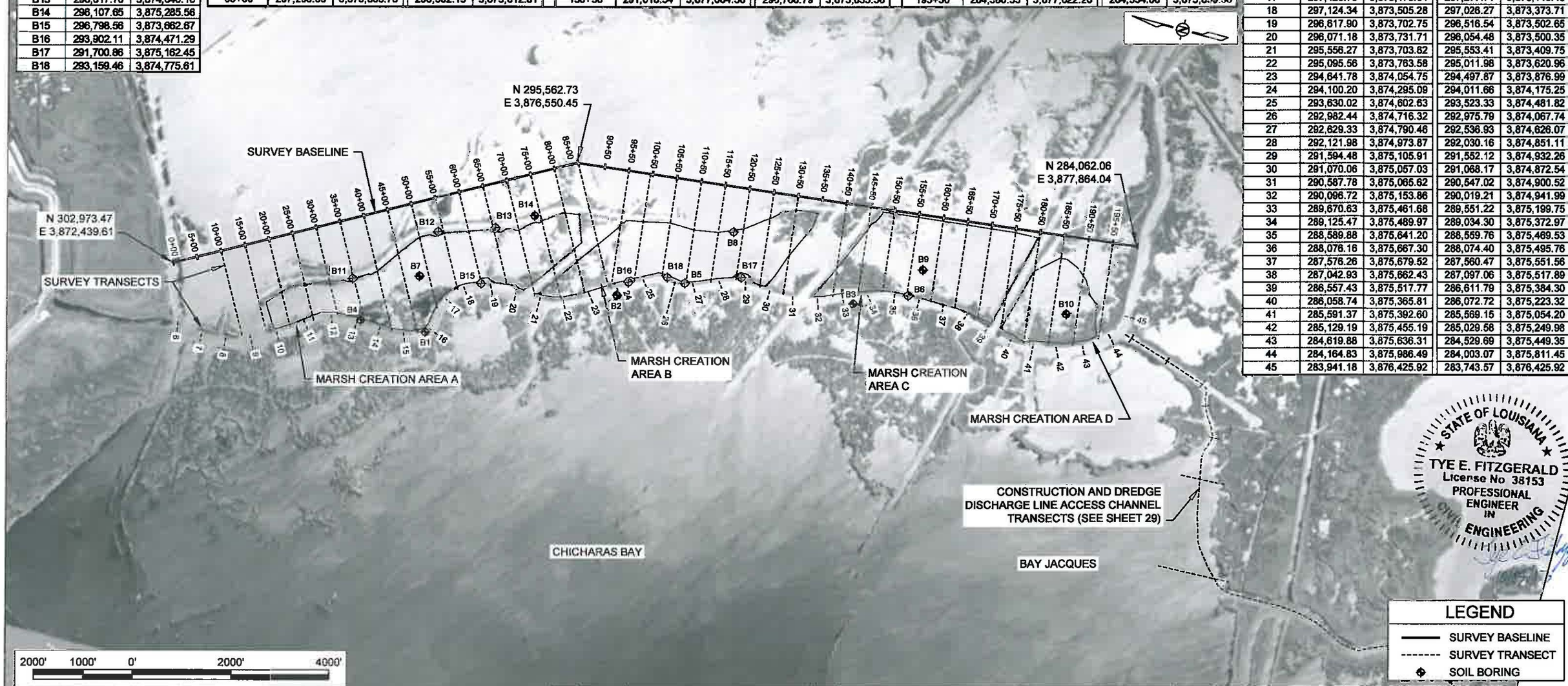
TRANSECT	BEGINNING NORTHING	BEGINNING EASTING	ENDING NORTHING	ENDING EASTING
10+00	302,098.83	3,872,924.90	301,229.68	3,871,357.53
15+00	301,661.77	3,873,167.23	300,774.90	3,871,568.44
20+00	301,231.81	3,873,422.89	300,322.96	3,871,784.48
25+00	300,750.62	3,873,586.19	299,895.19	3,872,044.07
30+00	300,357.34	3,873,907.97	299,456.93	3,872,284.76
35+00	299,920.10	3,874,150.51	298,896.81	3,872,305.78
40+00	299,482.87	3,874,393.05	298,297.06	3,872,255.36
45+00	299,045.63	3,874,635.59	297,777.15	3,872,348.85
50+00	298,608.40	3,874,878.13	297,522.36	3,872,920.29
55+00	298,171.16	3,875,120.67	297,226.51	3,873,417.70
60+00	297,733.93	3,875,363.21	296,787.22	3,873,656.54
65+00	297,296.69	3,875,605.75	296,302.13	3,873,812.61

TRANSECT	BEGINNING NORTHING	BEGINNING EASTING	ENDING NORTHING	ENDING EASTING
70+00	296,859.46	3,875,848.29	295,671.04	3,873,705.89
75+00	296,422.22	3,876,090.83	295,136.89	3,873,774.35
80+00	295,984.99	3,876,333.37	294,716.50	3,874,046.63
85+00	295,539.15	3,876,568.24	294,328.08	3,874,366.14
95+50	294,495.93	3,876,687.39	294,234.57	3,874,399.16
100+50	294,048.84	3,876,738.46	293,796.87	3,874,532.70
105+50	293,502.39	3,876,800.87	293,271.08	3,874,775.66
110+50	293,005.62	3,876,857.61	292,762.89	3,874,732.45
115+50	292,508.85	3,876,914.35	292,279.91	3,874,909.90
120+50	292,012.08	3,876,971.09	291,797.17	3,875,089.47
125+50	291,515.31	3,877,027.84	291,292.04	3,875,073.06
130+50	291,018.54	3,877,084.58	290,786.79	3,875,055.56

TRANSECT	BEGINNING NORTHING	BEGINNING EASTING	ENDING NORTHING	ENDING EASTING
140+50	290,025.00	3,877,196.06	289,805.30	3,875,272.69
145+50	289,528.23	3,877,254.80	289,318.71	3,875,420.45
150+50	289,031.46	3,877,311.54	288,838.22	3,875,619.67
155+50	288,534.69	3,877,368.28	288,340.15	3,875,665.00
160+50	288,037.92	3,877,425.02	287,839.19	3,875,685.10
165+50	287,541.15	3,877,481.76	287,335.56	3,875,681.77
170+50	287,044.38	3,877,538.50	286,825.37	3,875,621.01
175+50	286,547.61	3,877,595.24	286,312.80	3,875,539.45
180+50	286,050.84	3,877,651.98	285,787.66	3,875,347.83
185+50	285,554.07	3,877,708.72	285,296.82	3,875,456.46
190+50	285,057.30	3,877,765.46	284,806.48	3,875,569.48
195+50	284,560.53	3,877,822.20	284,334.06	3,875,839.38

BAYOU TRANSECTS

TRANSECT	BEGINNING NORTHING	BEGINNING EASTING	ENDING NORTHING	ENDING EASTING
6	302,556.85	3,871,299.68	302,523.06	3,871,099.96
7	302,043.07	3,871,278.96	302,020.70	3,871,024.94
8	301,550.40	3,871,322.16	301,523.18	3,871,064.48
9	301,084.56	3,871,414.61	300,944.99	3,871,154.29
10	300,574.04	3,871,621.32	300,482.04	3,871,453.30
11	300,088.95	3,871,980.23	299,968.63	3,871,838.37
12	299,576.77	3,872,236.14	299,516.21	3,872,080.29
13	299,036.97	3,872,269.93	299,046.31	3,872,109.26
14	298,552.27	3,872,263.67	298,552.25	3,872,095.77
15	298,064.43	3,872,277.52	297,988.22	3,872,100.98
16	297,582.95	3,872,495.96	297,407.46	3,872,432.83
17	297,426.75	3,873,170.01	297,277.71	3,873,110.46
18	297,124.34	3,873,505.28	297,026.27	3,873,373.71
19	296,817.90	3,873,702.75	296,516.54	3,873,502.65
20	296,071.18	3,873,731.71	296,054.48	3,873,500.35
21	295,556.27	3,873,703.62	295,553.41	3,873,409.75
22	295,095.56	3,873,763.58	295,011.98	3,873,620.96
23	294,641.78	3,874,054.75	294,497.87	3,873,876.99
24	294,100.20	3,874,295.09	294,011.66	3,874,175.25
25	293,630.02	3,874,602.63	293,523.33	3,874,481.82
26	292,982.44	3,874,716.32	292,975.79	3,874,067.74
27	292,629.33	3,874,790.46	292,536.93	3,874,626.07
28	292,121.98	3,874,973.87	292,030.16	3,874,851.11
29	291,594.48	3,875,105.91	291,552.12	3,874,932.26
30	291,070.06	3,875,057.03	291,068.17	3,874,872.54
31	290,587.78	3,875,065.62	290,547.02	3,874,900.52
32	290,096.72	3,875,153.86	290,019.21	3,874,941.99
33	289,670.63	3,875,461.68	289,551.22	3,875,199.75
34	289,125.47	3,875,489.97	289,034.30	3,875,372.97
35	288,589.88	3,875,641.20	288,559.76	3,875,469.53
36	288,076.16	3,875,667.30	288,074.40	3,875,495.76
37	287,576.26	3,875,679.52	287,560.47	3,875,551.56
38	287,042.93	3,875,662.43	287,097.06	3,875,517.89
39	286,557.43	3,875,517.77	286,611.79	3,875,384.30
40	286,058.74	3,875,365.81	286,072.72	3,875,223.32
41	285,591.37	3,875,392.60	285,569.15	3,875,054.20
42	285,129.19	3,875,455.19	285,029.58	3,875,249.98
43	284,619.88	3,875,636.31	284,529.69	3,875,449.35
44	284,164.83	3,875,986.49	284,003.07	3,875,811.45
45	283,941.18	3,876,425.92	283,743.57	3,876,425.92



STATE OF LOUISIANA
TYE E. FITZGERALD
License No 38153
PROFESSIONAL ENGINEER IN ENGINEERING

NOTES:
1. SURVEY CROSS-SECTION POINT FILES ARE AVAILABLE UPON REQUEST.
2. SEE APPENDIX H OF THE SPECIFICATIONS FOR BORING LOG INFORMATION.
3. SEE APPENDIX F OF THE SPECIFICATIONS FOR BENCHMARK DATA SHEETS.
4. SEE SHEETS 34-42 FOR MARSH CREATION CROSS-SECTIONS 10+00 THROUGH 190+50 AND SHEETS 43-46 FOR BAYOU CROSS-SECTIONS 6 THROUGH 45.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

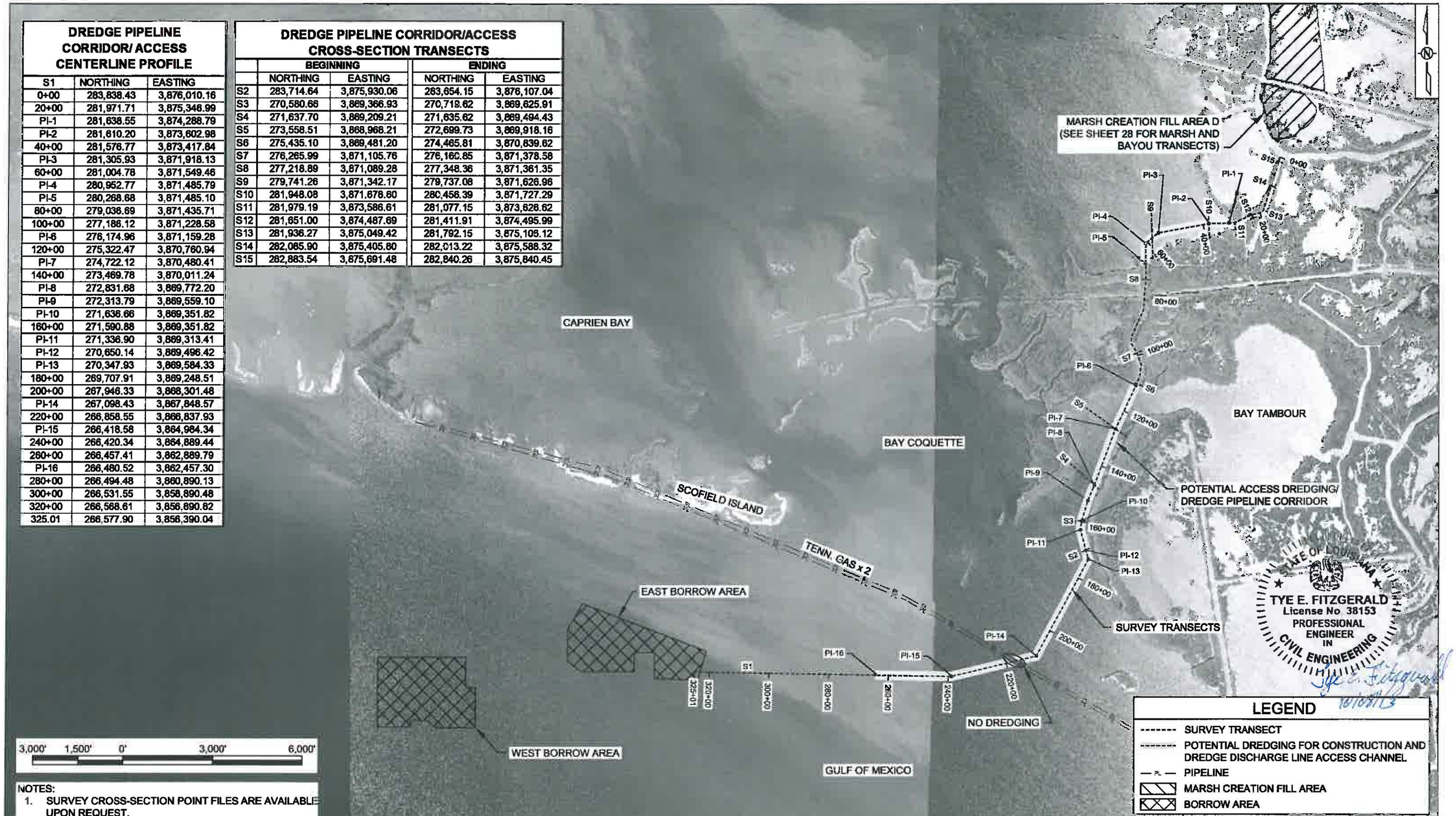
MARSH CREATION SURVEY & BORING LAYOUT
DATE: OCTOBER 2013
SHEET 28 OF 54

DREDGE PIPELINE CORRIDOR/ ACCESS CENTERLINE PROFILE

S1	NORTHING	EASTING
0+00	283,838.43	3,876,010.16
20+00	281,971.71	3,875,348.99
PI-1	281,638.55	3,874,288.79
PI-2	281,610.20	3,873,602.98
40+00	281,576.77	3,873,417.84
PI-3	281,305.93	3,871,918.13
60+00	281,004.78	3,871,549.46
PI-4	280,952.77	3,871,485.79
PI-5	280,268.68	3,871,485.10
80+00	279,036.69	3,871,435.71
100+00	277,186.12	3,871,228.58
PI-6	276,174.96	3,871,159.28
120+00	275,322.47	3,870,760.94
PI-7	274,722.12	3,870,480.41
140+00	273,469.78	3,870,011.24
PI-8	272,831.68	3,869,772.20
PI-9	272,313.79	3,869,559.10
PI-10	271,636.66	3,869,351.82
160+00	271,590.88	3,869,351.82
PI-11	271,336.90	3,869,313.41
PI-12	270,650.14	3,869,496.42
PI-13	270,347.93	3,869,584.33
180+00	269,707.91	3,869,248.51
200+00	267,946.33	3,868,301.48
PI-14	267,098.43	3,867,848.57
220+00	266,858.55	3,866,837.93
PI-15	266,418.58	3,864,984.34
240+00	266,420.34	3,864,889.44
260+00	266,457.41	3,862,889.79
PI-16	266,480.52	3,862,457.30
280+00	266,494.48	3,860,890.13
300+00	266,531.55	3,858,890.48
320+00	266,568.61	3,856,890.82
325.01	266,577.90	3,856,390.04

DREDGE PIPELINE CORRIDOR/ACCESS CROSS-SECTION TRANSECTS

	BEGINNING		ENDING	
	NORTHING	EASTING	NORTHING	EASTING
S2	283,714.64	3,875,930.06	283,654.15	3,876,107.04
S3	270,580.66	3,869,366.93	270,719.62	3,869,625.91
S4	271,637.70	3,869,209.21	271,635.62	3,869,494.43
S5	273,558.51	3,868,968.21	272,699.73	3,869,918.16
S6	275,435.10	3,869,481.20	274,465.81	3,870,839.62
S7	276,265.99	3,871,105.76	276,160.85	3,871,378.58
S8	277,218.89	3,871,089.28	277,348.36	3,871,361.35
S9	279,741.26	3,871,342.17	279,737.08	3,871,626.96
S10	281,948.08	3,871,678.60	280,456.39	3,871,727.29
S11	281,979.19	3,873,586.61	281,077.15	3,873,626.62
S12	281,651.00	3,874,487.69	281,411.91	3,874,495.99
S13	281,936.27	3,875,049.42	281,792.15	3,875,108.12
S14	282,085.90	3,875,405.80	282,013.22	3,875,588.32
S15	282,883.54	3,875,691.48	282,840.26	3,875,840.45



NOTES:
1. SURVEY CROSS-SECTION POINT FILES ARE AVAILABLE UPON REQUEST.
2. SEE SHEETS 47-50 FOR ACCESS CENTER LINE PROFILE, S1, AND CROSS-SECTIONS S2 THROUGH S15.
3. THE CONTRACTOR WILL HAVE SUFFICIENT DEPTH TO TRAVERSE FROM EAST TO WEST BORROW AREA.
4. SEE OYSTER ACQUISITION MAP IN APPENDIX I FOR ADDITIONAL DETAILS ON ACQUIRED AND EXTINGUISHED OYSTER LEASES.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU | DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

CONSTRUCTION & DREDGE DISCHARGE LINE ACCESS CHANNEL SURVEY LAYOUT

DATE: OCTOBER 2013
SHEET 29 OF 54

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EMPIRE WATERWAY EQUIPMENT ACCESS ROUTE

	NORTHING	EASTING
0+00	322,485.18	3,832,401.76
20+00	320,515.51	3,832,748.75
40+00	318,577.95	3,833,233.33
60+00	316,658.14	3,833,793.97
80+00	314,767.35	3,834,436.24
100+00	312,848.74	3,834,966.71
120+00	310,867.93	3,835,243.12
140+00	308,871.55	3,835,189.69
160+00	307,044.97	3,834,496.69
180+00	305,658.92	3,833,055.61
200+00	303,961.10	3,832,018.64
220+00	302,026.25	3,831,816.75
240+00	300,062.37	3,832,195.11
260+00	298,129.04	3,832,647.85
280+00	296,580.21	3,833,898.36
300+00	294,597.84	3,833,736.28
320+00	292,612.79	3,833,578.16
340+00	290,628.99	3,833,379.30
360+00	288,661.94	3,833,118.78
380+00	286,719.58	3,832,720.00
400+00	284,754.29	3,832,272.40
420+00	282,807.14	3,831,877.50
440+00	280,813.64	3,831,607.99
460+00	278,839.23	3,831,299.85
479+96	276,978.19	3,830,935.96

LEGEND

- - - - - SURVEY TRANSECT
— PL — PIPELINE

NOTES:
1. BACKGROUND IMAGERY WAS TAKEN IN 2010.
2. PIPELINE INFORMATION SHOWN ON PLANS IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS PRIOR TO BEGINNING CONSTRUCTION.
3. PIPELINE LOCATIONS ARE BASED ON USGS DATABASE AND IS NOT GUARANTEED TO BE ACCURATE.
4. SURVEY POINT FILES ARE AVAILABLE UPON REQUEST.
5. SEE SHEETS 51 - 54 FOR THE PROFILE OF THE EMPIRE WATERWAY EQUIPMENT ACCESS ROUTE.

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

EMPIRE WATERWAY ACCESS SURVEY LAYOUT

DATE: OCTOBER 2013
SHEET 30 OF 54

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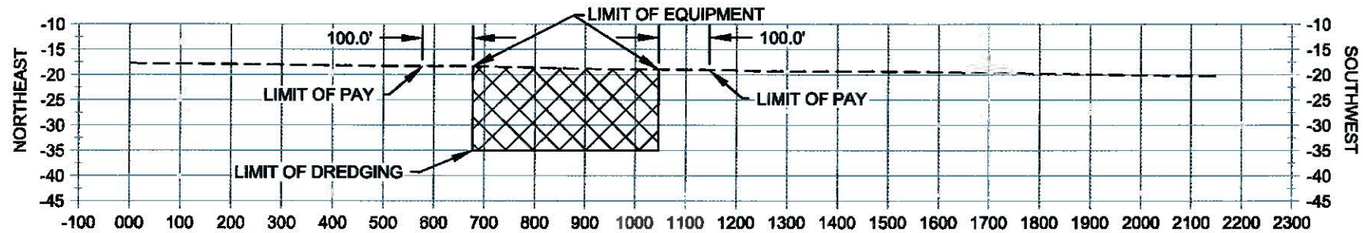
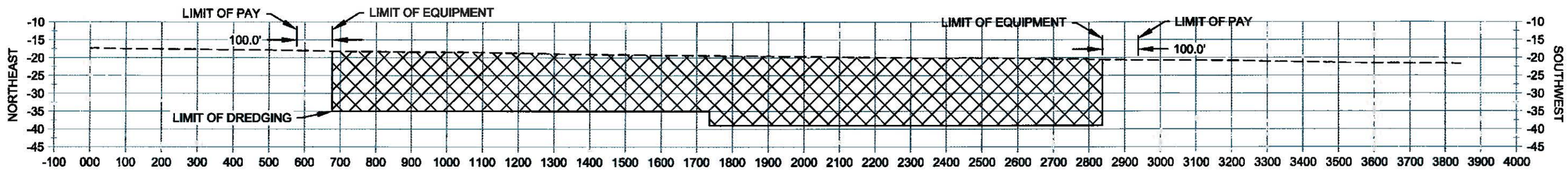
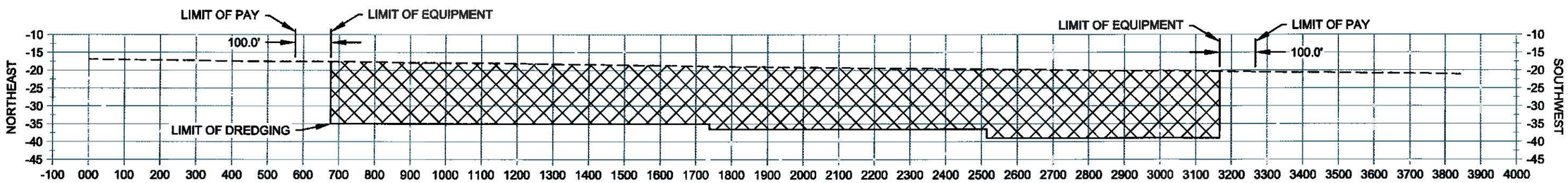


BORROW TRANSECT 1



BORROW TRANSECT 2



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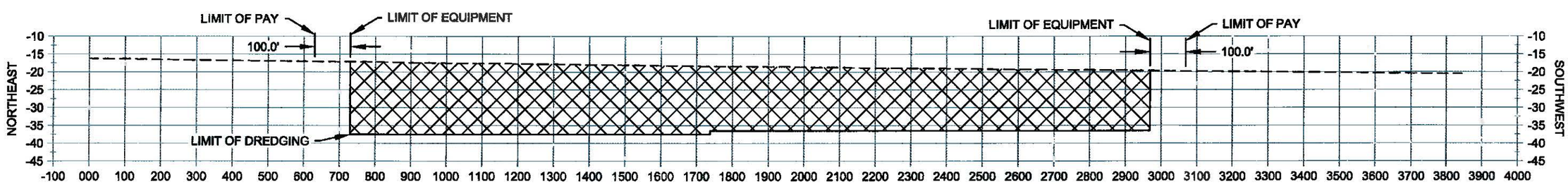

BORROW TRANSECT 4

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/08/13

LEGEND

- BORROW AREA
- EXISTING WATER BOTTOM

HORIZONTAL GRAPHIC SCALE
300' 150' 0 300' 600'
30' 15' 0 30' 60'
VERTICAL GRAPHIC SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

BORROW AREA SECTIONS
DATE: OCTOBER 2013
SHEET 31 OF 54

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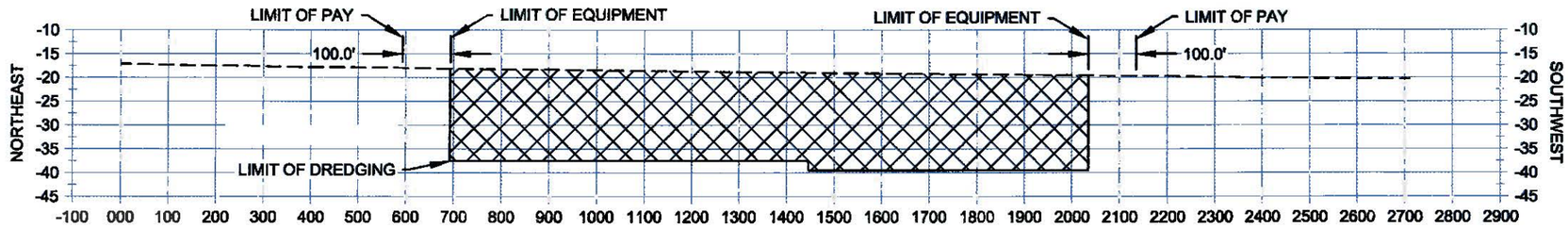
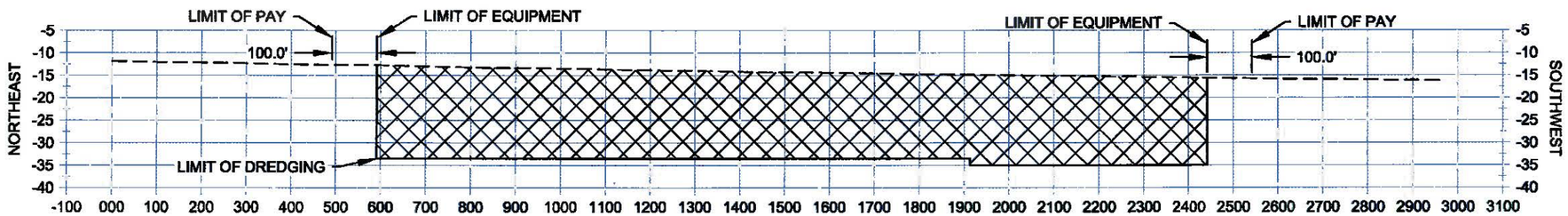


BORROW TRANSECT 5



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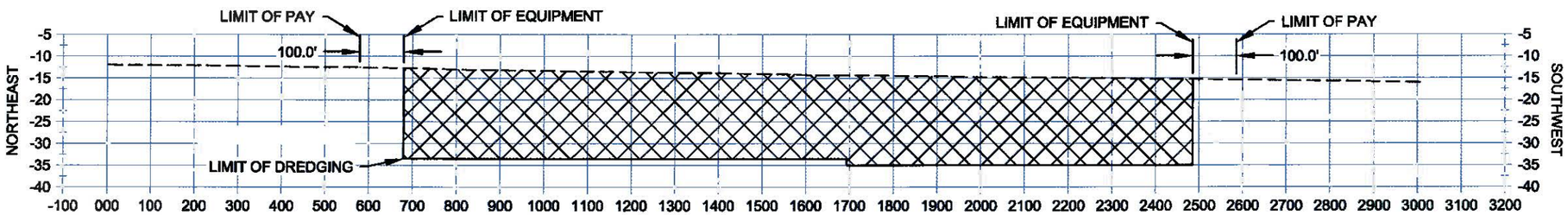
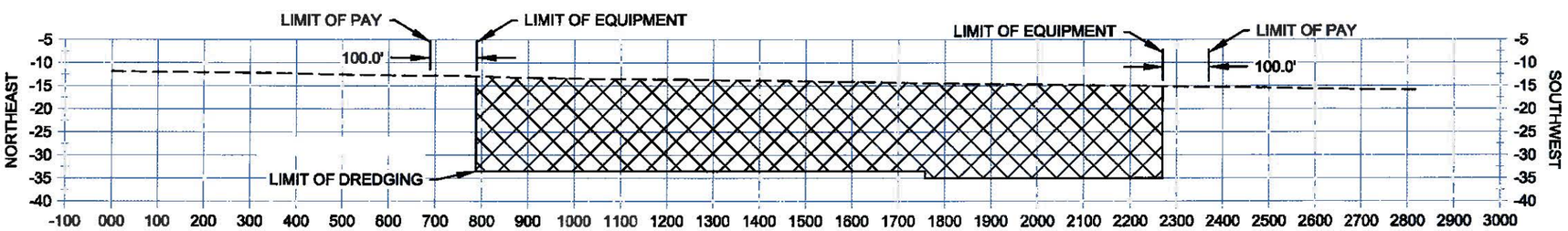


BORROW TRANSECT 7



BORROW TRANSECT 8

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/09/13

LEGEND	
XXX	BORROW AREA
- - -	EXISTING WATER BOTTOM

HORIZONTAL GRAPHIC SCALE
300' 150' 0 300' 600'
30' 15' 0 30' 60'
VERTICAL GRAPHIC SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

BORROW AREA SECTIONS
DATE: OCTOBER 2013
SHEET 32 OF 54

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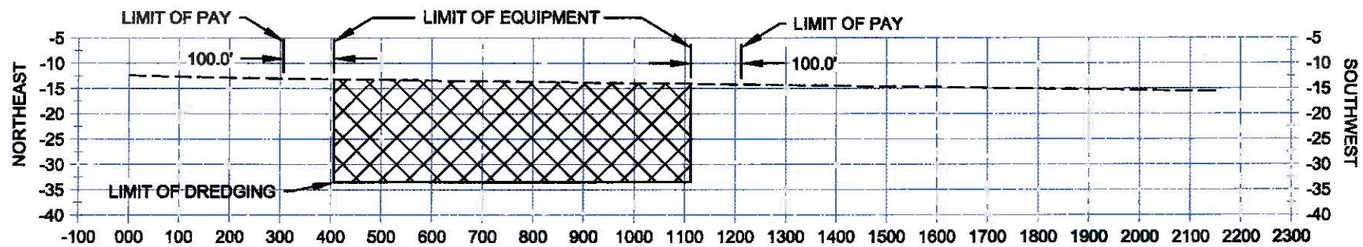
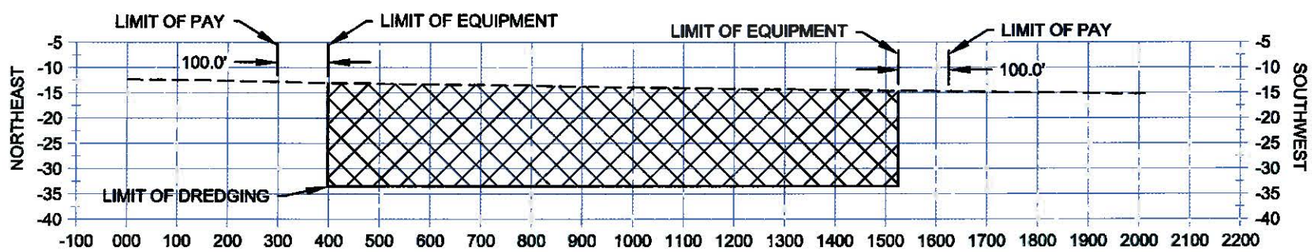


BORROW TRANSECT 9



BORROW TRANSECT 10

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/09/13

LEGEND	
XXX	BORROW AREA
— — —	EXISTING WATER BOTTOM

HORIZONTAL GRAPHIC SCALE
300' 150' 0 300' 600'
30' 15' 0 30' 60'
VERTICAL GRAPHIC SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

BORROW AREA SECTIONS
DATE: OCTOBER 2013
SHEET 33 OF 54

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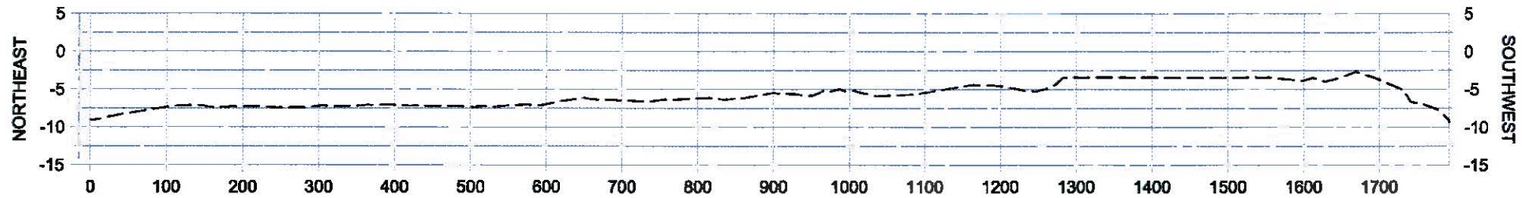

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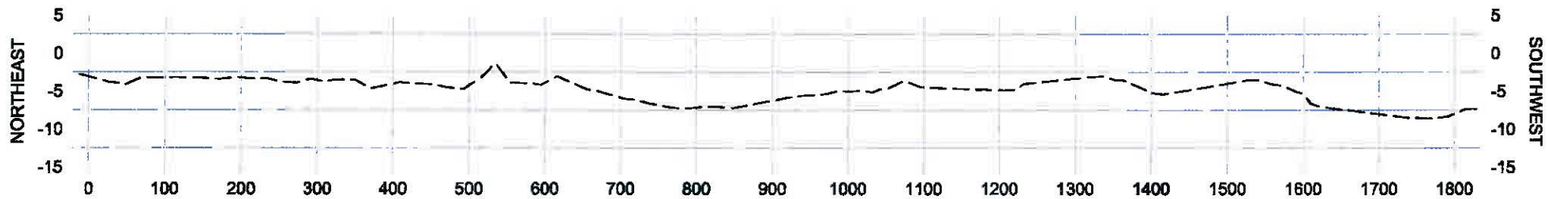

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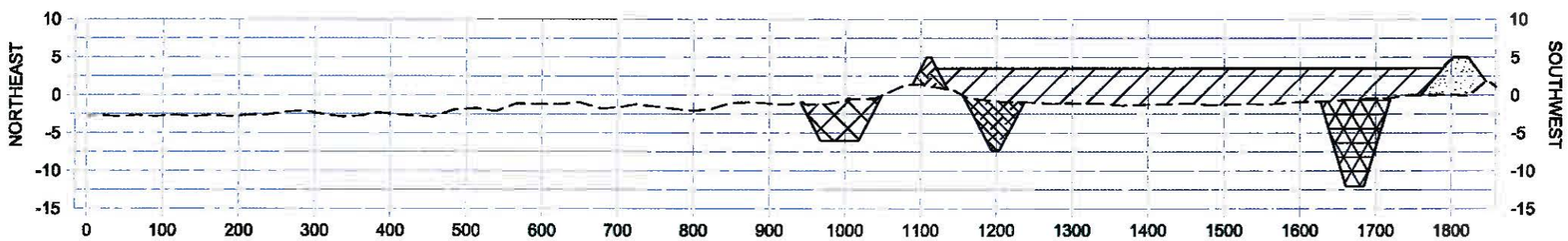

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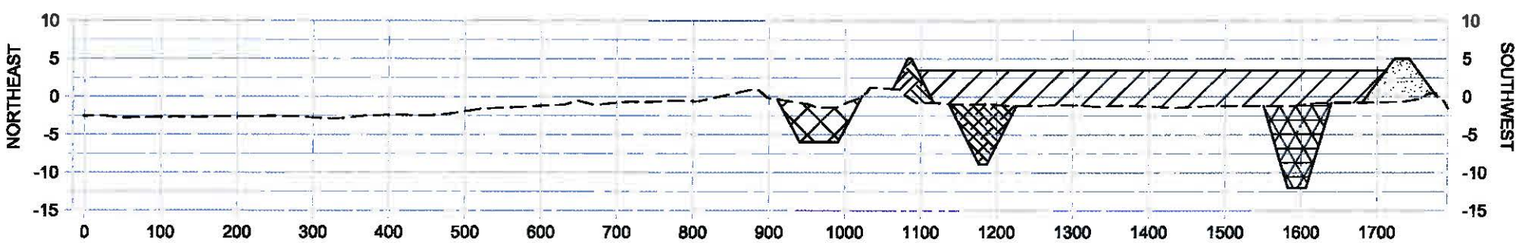

25+00

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/08/13

LEGEND

- MARSH CREATION AREA
- EARTHEN RIDGE
- EARTHEN CONTAINMENT DIKE
- EARTHEN CONTAINMENT DIKE PRIMARY BORROW AREA
- EARTHEN CONTAINMENT DIKE SECONDARY BORROW AREA
- EARTHEN RIDGE SECONDARY BORROW AREA
- EXISTING GROUND

HORIZONTAL GRAPHIC SCALE

200' 100' 0 200' 400'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68

FEDERAL PROJECT NUMBER: BA-68

APPROVED BY: RUDOLPH SIMONEAUX, P.E.

MARSH CREATION AREAS SECTIONS

DATE: OCTOBER 2013

SHEET 34 OF 54

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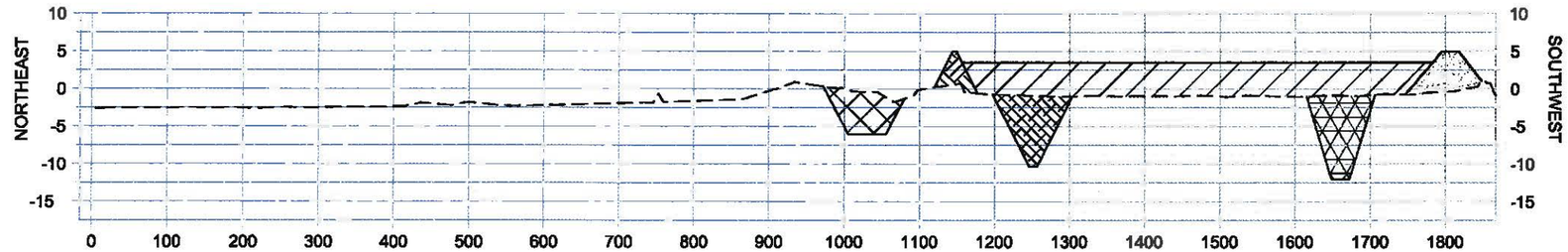

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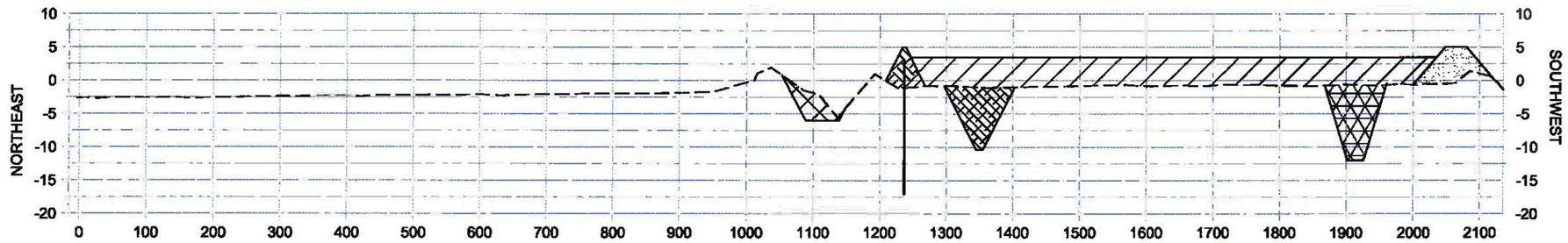

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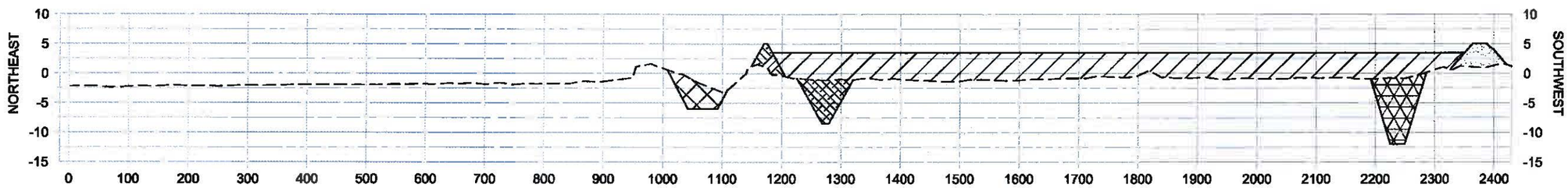

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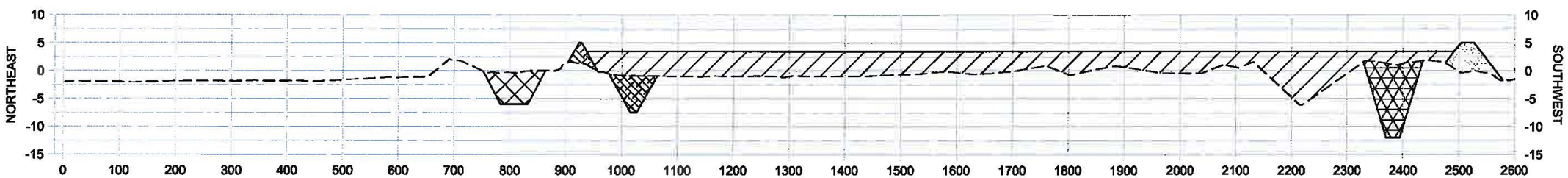

45+00

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/09/13

LEGEND

- MARSH CREATION AREA
- EARTHEN RIDGE
- EARTHEN CONTAINMENT DIKE
- EARTHEN CONTAINMENT DIKE PRIMARY BORROW AREA
- EARTHEN CONTAINMENT DIKE SECONDARY BORROW AREA
- EARTHEN RIDGE SECONDARY BORROW AREA
- EXISTING GROUND
- SHEET PILE CLOSURE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

HORIZONTAL GRAPHIC SCALE
200' 100' 0 200' 400'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

MARSH CREATION AREAS SECTIONS
DATE: OCTOBER 2013
SHEET 35 OF 54

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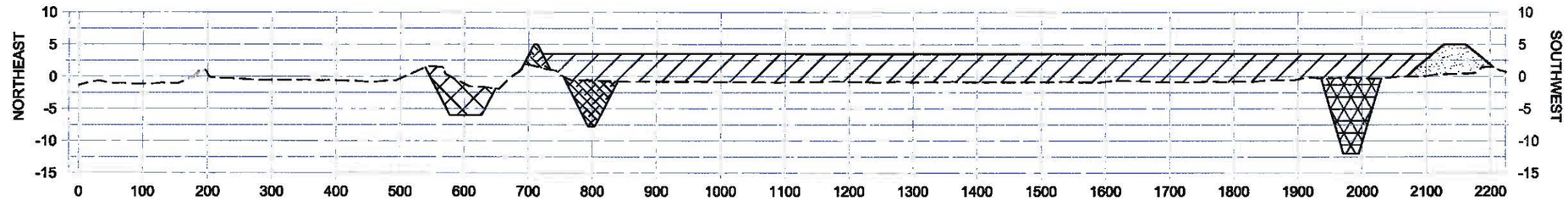

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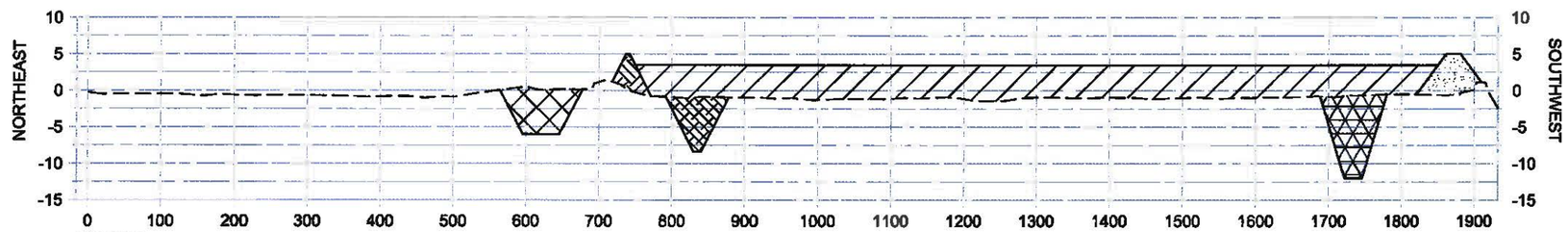

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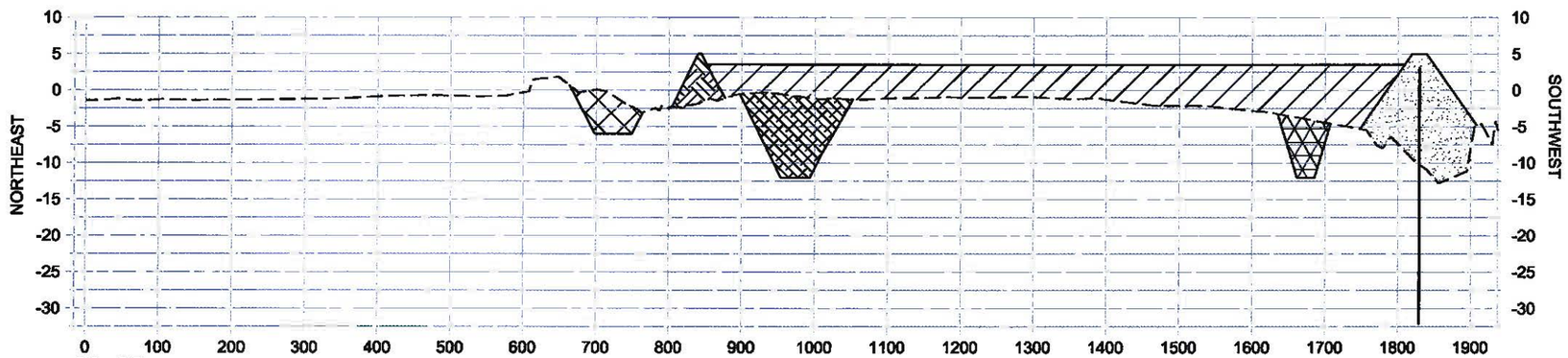

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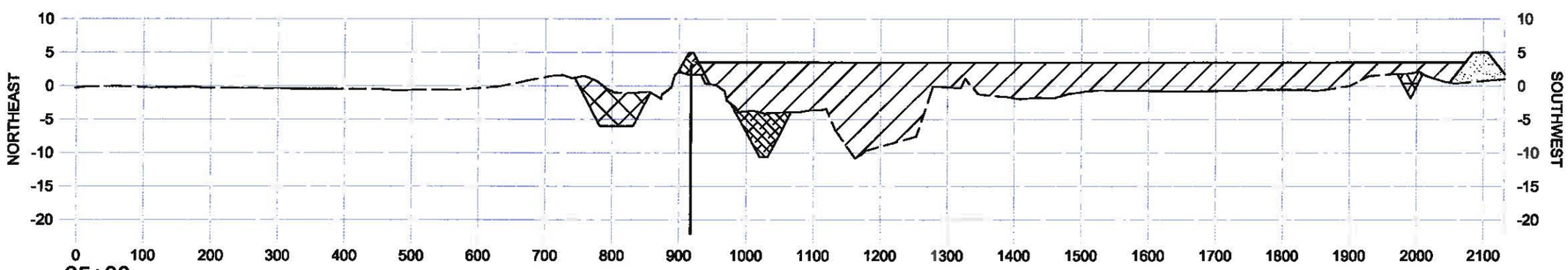

65+00

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/08/13

LEGEND

- MARSH CREATION AREA
- EARTHEN RIDGE
- EARTHEN CONTAINMENT DIKE
- EARTHEN CONTAINMENT DIKE PRIMARY BORROW AREA
- EARTHEN CONTAINMENT DIKE SECONDARY BORROW AREA
- EARTHEN RIDGE SECONDARY BORROW AREA
- EXISTING GROUND
- SHEET PILE CLOSURE

HORIZONTAL GRAPHIC SCALE

200' 100' 0 200' 400'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

MARSH CREATION AREAS SECTIONS

DATE: OCTOBER 2013
SHEET 36 OF 54

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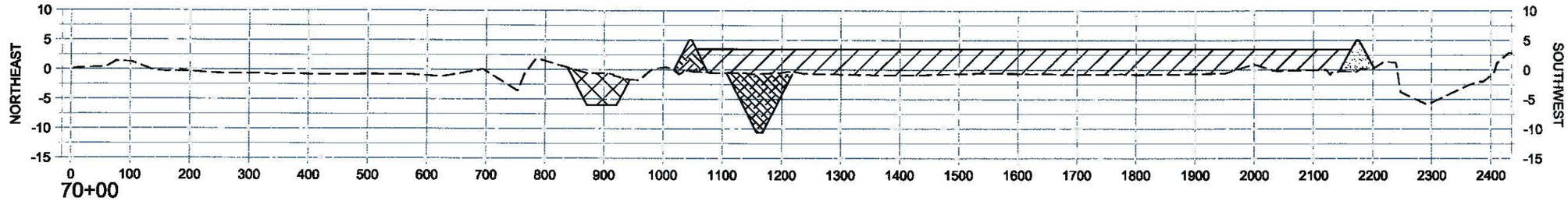

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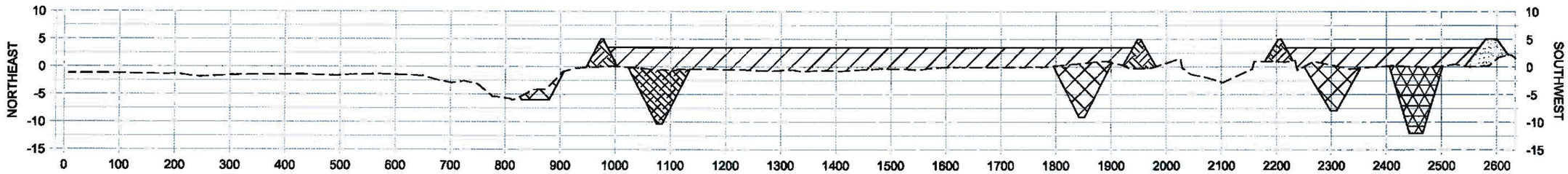

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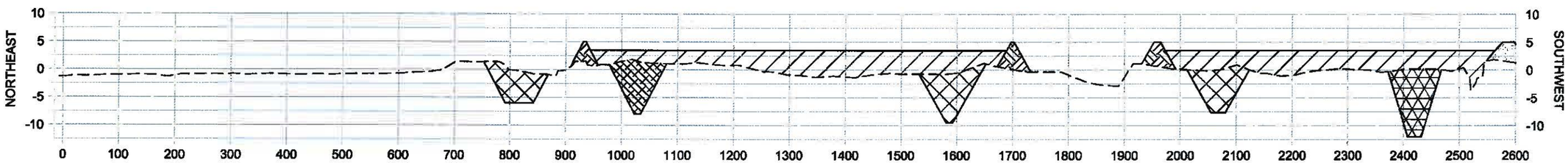

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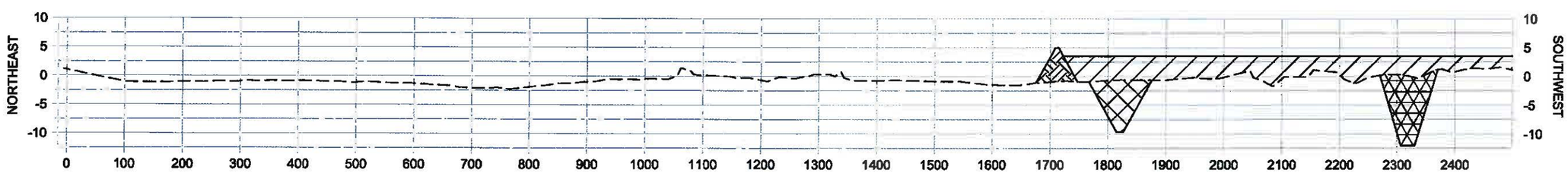

85+00

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/08/13

LEGEND

- MARSH CREATION AREA
- EARTHEN RIDGE
- EARTHEN CONTAINMENT DIKE
- EARTHEN CONTAINMENT DIKE PRIMARY BORROW AREA
- EARTHEN CONTAINMENT DIKE SECONDARY BORROW AREA
- EARTHEN RIDGE SECONDARY BORROW AREA
- EXISTING GROUND

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

HORIZONTAL GRAPHIC SCALE
200' 100' 0 200' 400'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

MARSH CREATION AREAS SECTIONS
DATE: OCTOBER 2013
SHEET 37 OF 54

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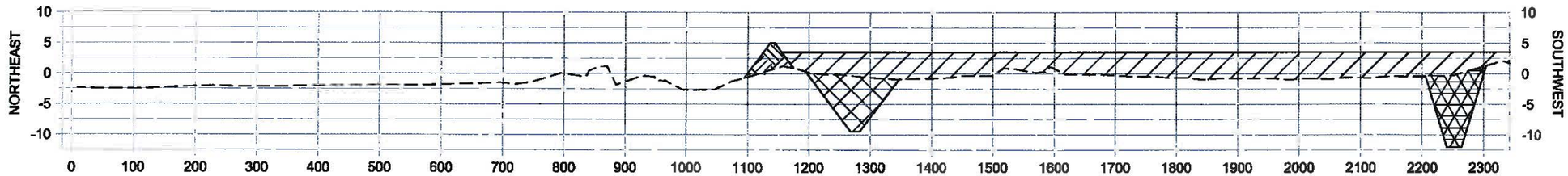

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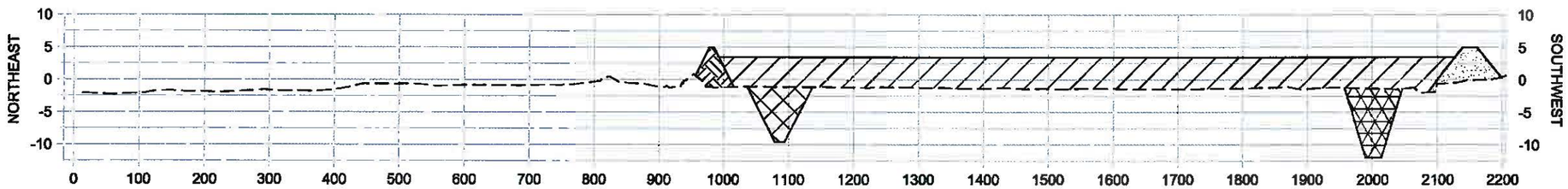

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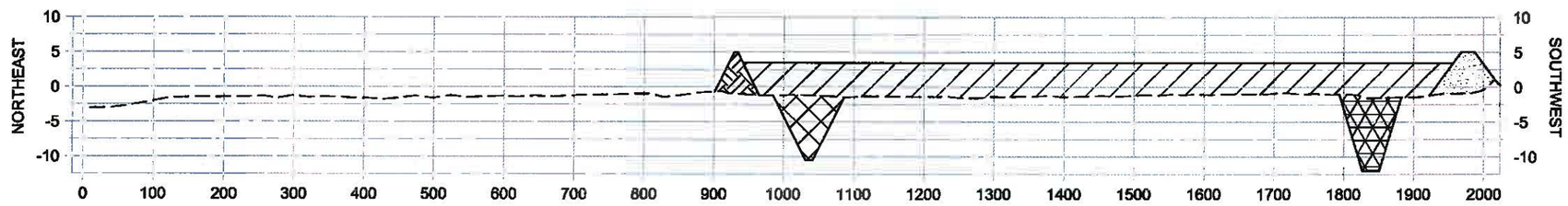

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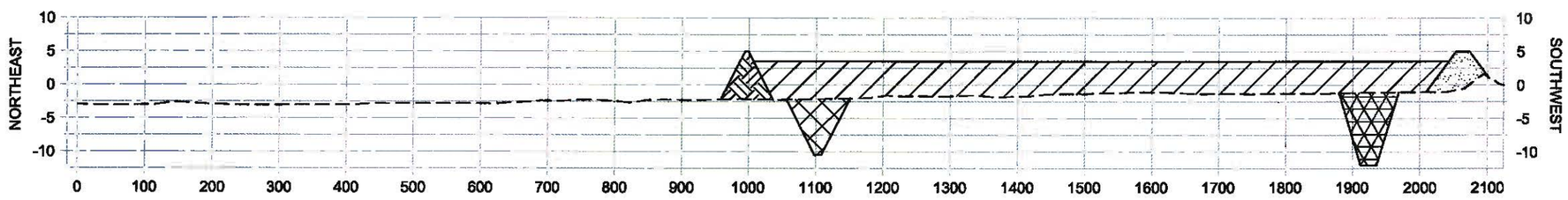

110+50

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/08/13

LEGEND

- MARSH CREATION AREA
- EARTHEN RIDGE
- EARTHEN CONTAINMENT DIKE
- EARTHEN CONTAINMENT DIKE BORROW AREA
- EARTHEN RIDGE SECONDARY BORROW AREA
- EXISTING GROUND

HORIZONTAL GRAPHIC SCALE

200' 100' 0 200' 400'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68

FEDERAL PROJECT NUMBER: BA-68

APPROVED BY: RUDOLPH SIMONEAUX, P.E.

MARSH CREATION AREAS SECTIONS

DATE: OCTOBER 2013

SHEET 38 OF 54

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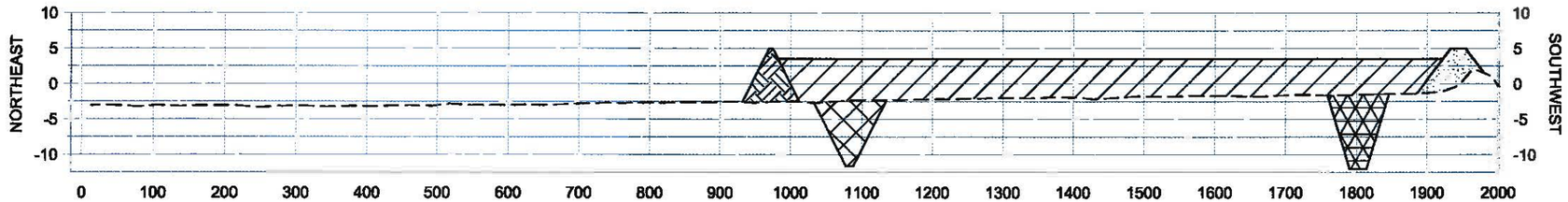
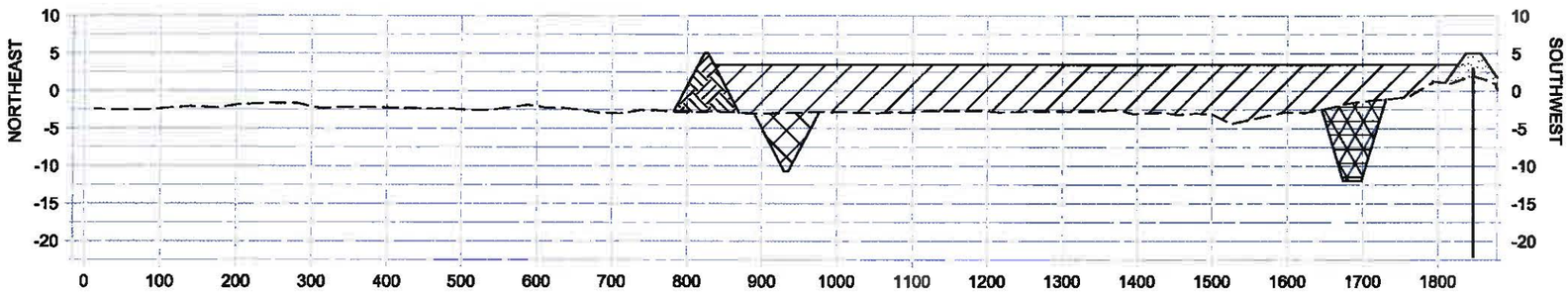


115+50



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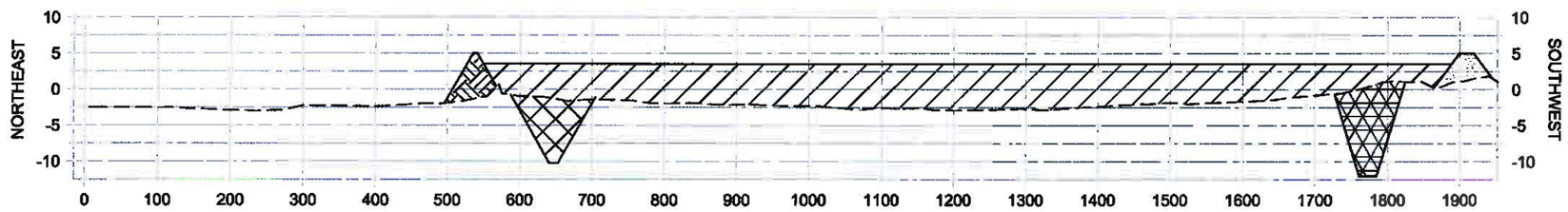

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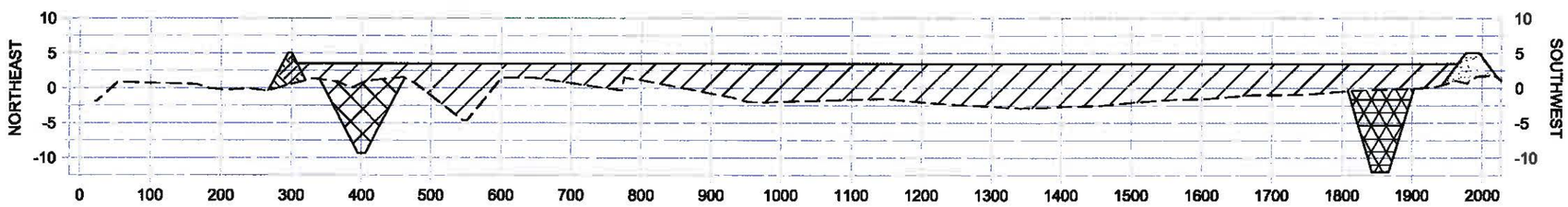

130+50

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/09/13

LEGEND

- MARSH CREATION AREA
- EARTHEN RIDGE
- EARTHEN CONTAINMENT DIKE
- EARTHEN CONTAINMENT DIKE BORROW AREA
- EARTHEN RIDGE SECONDARY BORROW AREA
- EXISTING GROUND
- SHEET PILE CLOSURE

HORIZONTAL GRAPHIC SCALE
200' 100' 0 200' 400'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

MARSH CREATION AREAS SECTIONS
DATE: OCTOBER 2013
SHEET 39 OF 54

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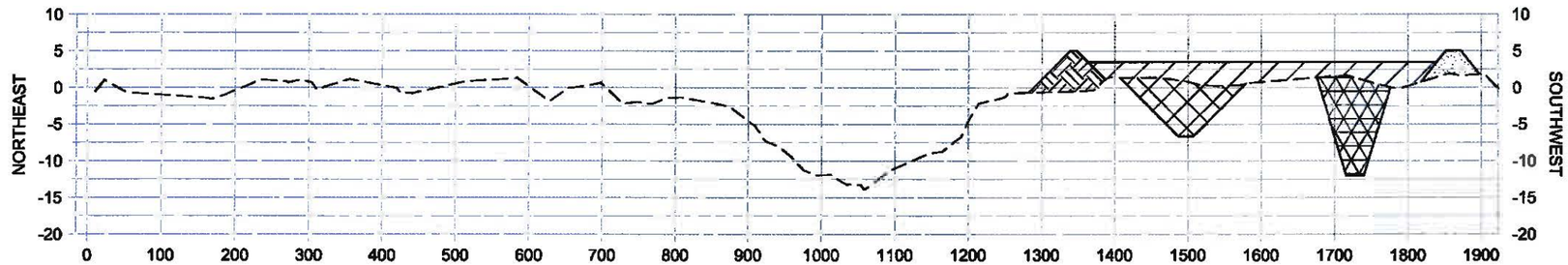
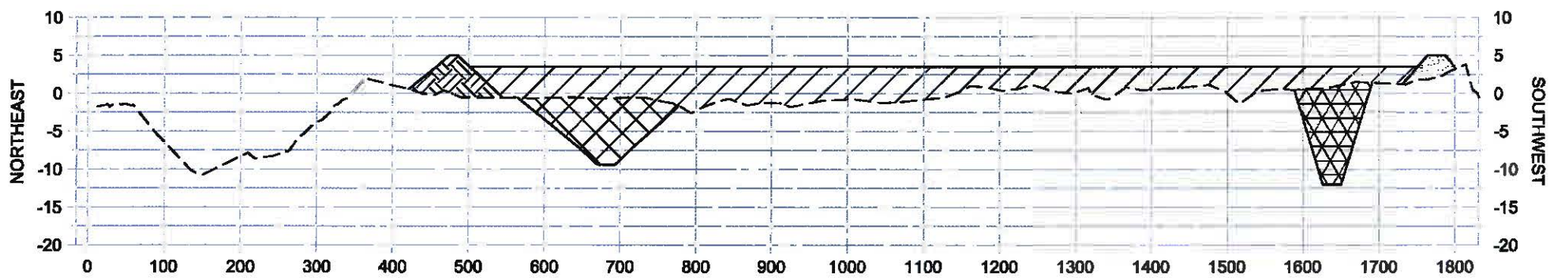


140+50



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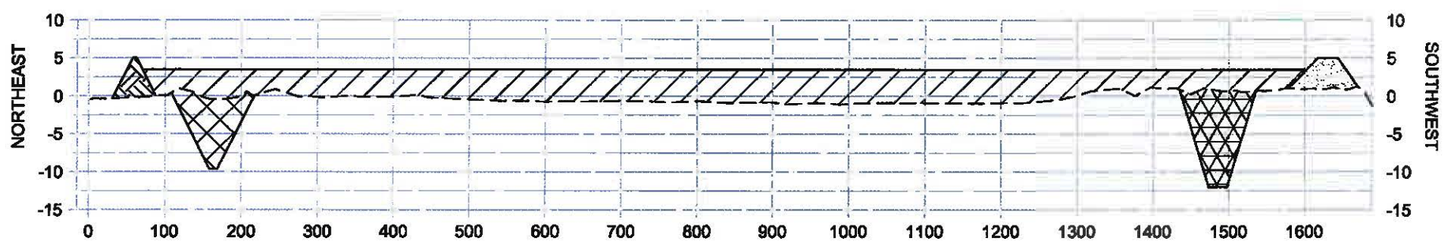

150+50

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/09/13

LEGEND

- MARSH CREATION AREA
- EARTHEN RIDGE
- EARTHEN CONTAINMENT DIKE
- EARTHEN CONTAINMENT DIKE BORROW AREA
- EARTHEN RIDGE SECONDARY BORROW AREA
- EXISTING GROUND

HORIZONTAL GRAPHIC SCALE

200' 100' 0 200' 400'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

NOTE:
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REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68

FEDERAL PROJECT NUMBER: BA-68

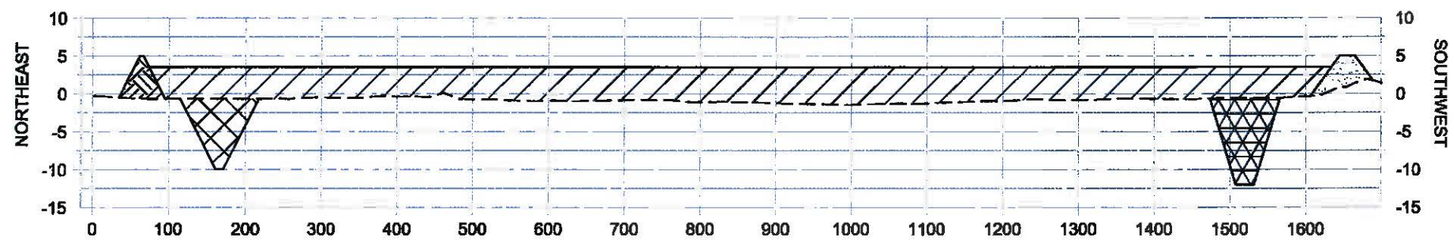
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

MARSH CREATION AREAS SECTIONS

DATE: OCTOBER 2013

SHEET 40 OF 54

G:\Users\Autocad\BASINS\BA\BA-68 Grand Liard Marsh and Ridge Restoration\Plan Drawings\34-54 Fill & Bayou Sections.dwg, 10/8/2013 8:35:40 AM



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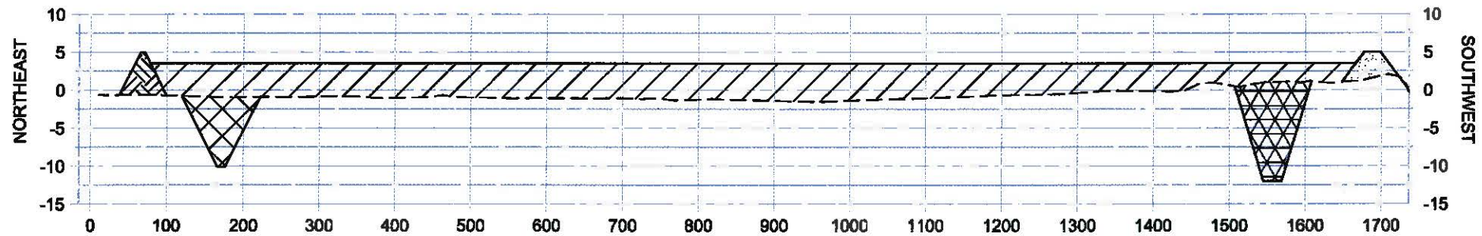

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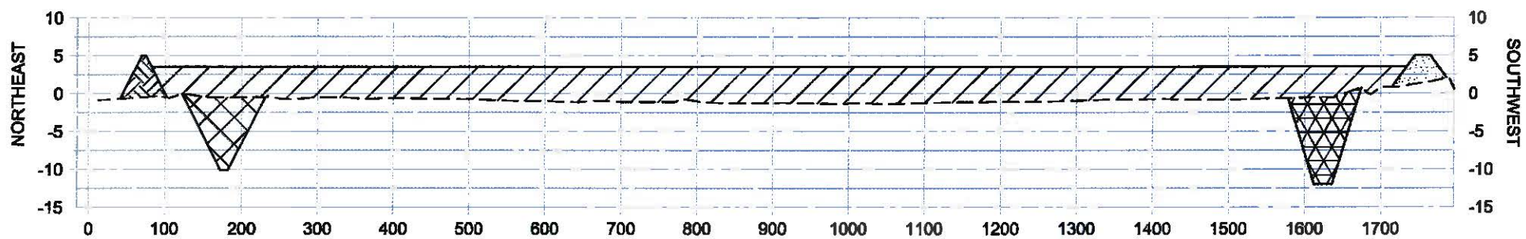

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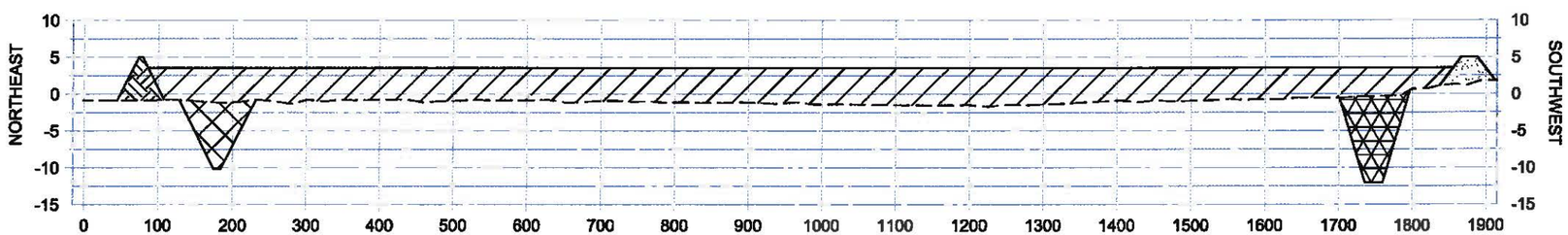


170+50

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/09/13

LEGEND

- MARSH CREATION AREA
- EARTHEN RIDGE
- EARTHEN CONTAINMENT DIKE
- EARTHEN CONTAINMENT DIKE BORROW AREA
- EARTHEN RIDGE SECONDARY BORROW AREA
- EXISTING GROUND

HORIZONTAL GRAPHIC SCALE

200' 100' 0 200' 400'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

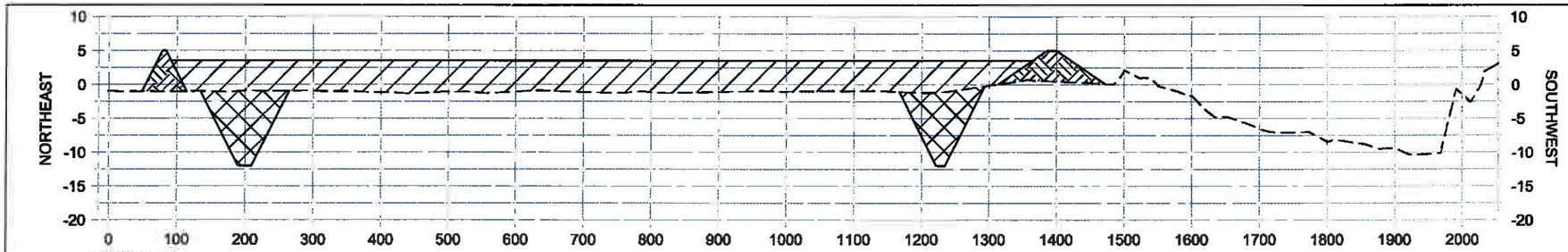
GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

MARSH CREATION AREAS SECTIONS

DATE: OCTOBER 2013
SHEET 41 OF 54

G:\Users\Autocad\BASINS\BA\BA-68 Grand Liard Marsh and Ridge Restoration\Plan Drawings\34-54 Fill & Bayou Sections.dwg, 10/8/2013 8:35:50 AM



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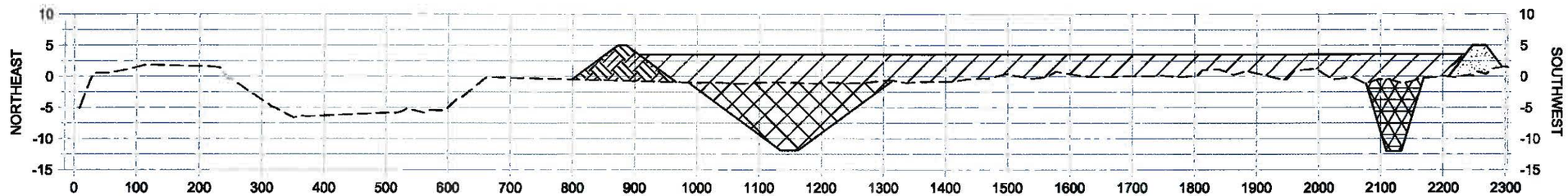

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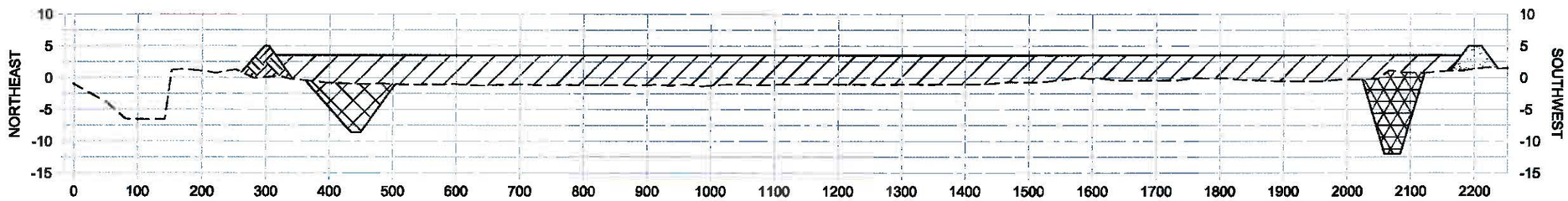

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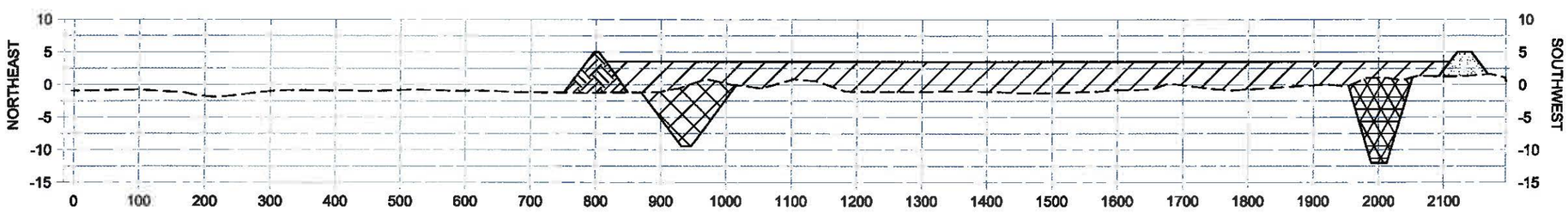

190+50

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/08/13

LEGEND

- MARSH CREATION AREA
- EARTHEN RIDGE
- EARTHEN CONTAINMENT DIKE
- EARTHEN CONTAINMENT DIKE BORROW AREA
- EARTHEN RIDGE SECONDARY BORROW AREA
- EXISTING GROUND

HORIZONTAL GRAPHIC SCALE

200' 100' 0 200' 400'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

NOTE:
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REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

MARSH CREATION AREAS SECTIONS

DATE: OCTOBER 2013
SHEET 42 OF 54

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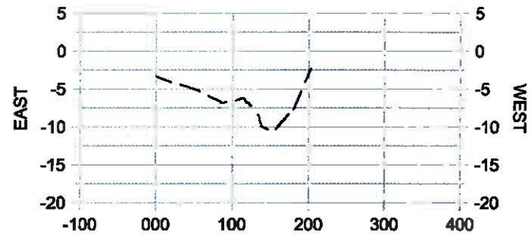

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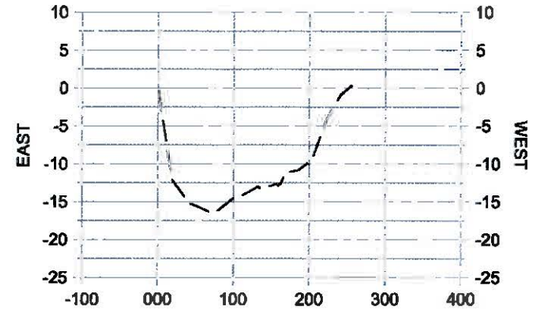

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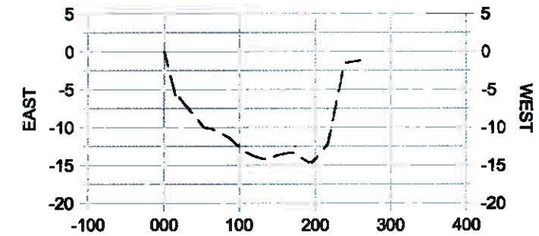

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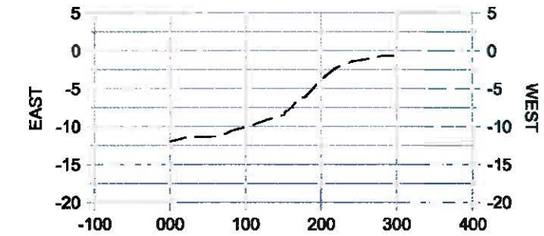

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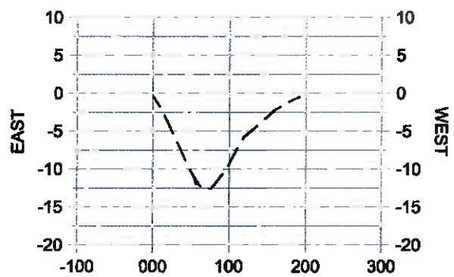

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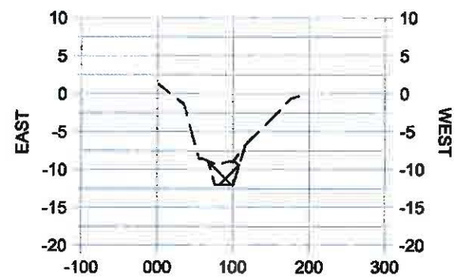

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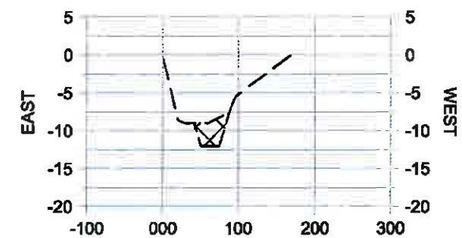

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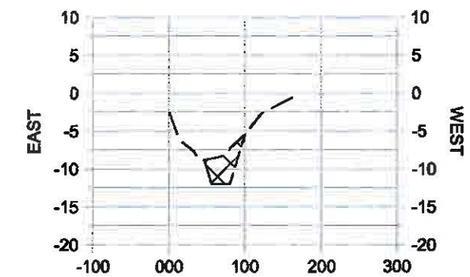

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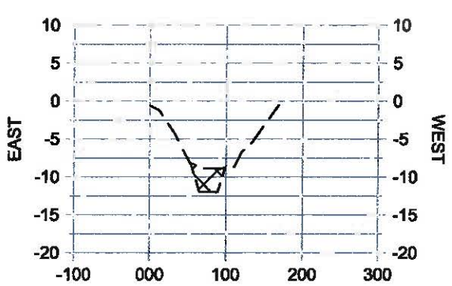

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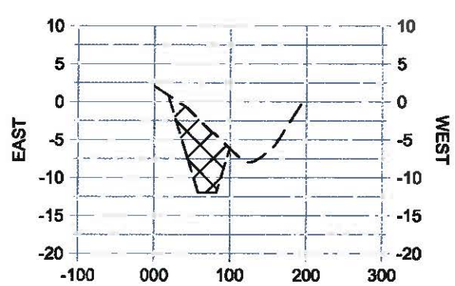

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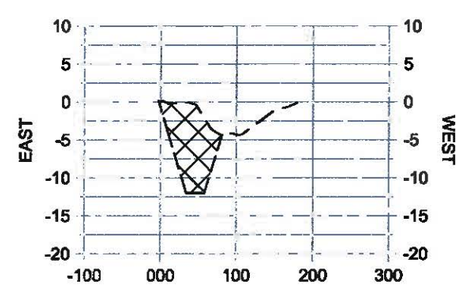

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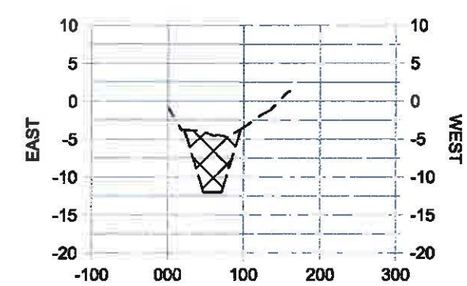

BAYOU TRANSECT 17

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

10/08/13

LEGEND

- FLOTATION/BORROW AREA
- EXISTING GROUND

HORIZONTAL GRAPHIC SCALE

200' 100' 0 200' 400'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

BAYOU SECTIONS

DATE: OCTOBER 2013
SHEET 43 OF 54

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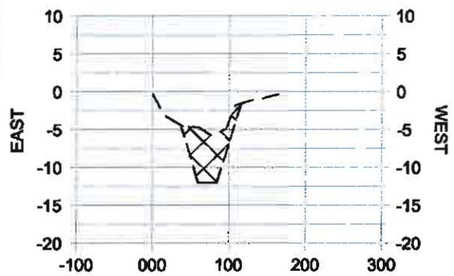

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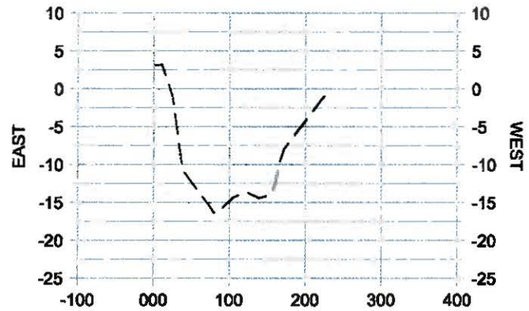

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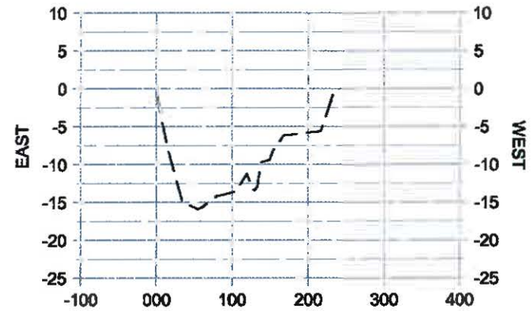

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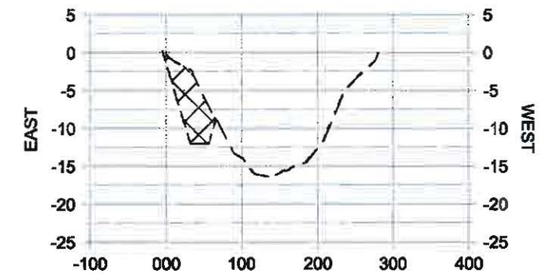

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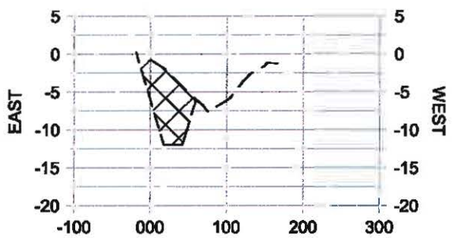

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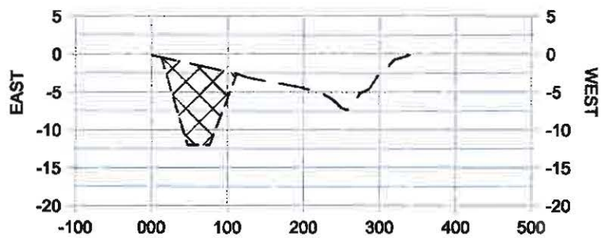

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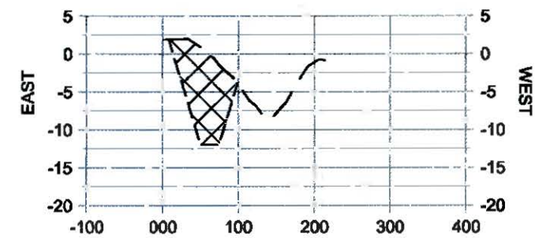
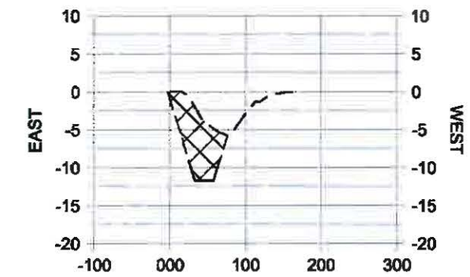
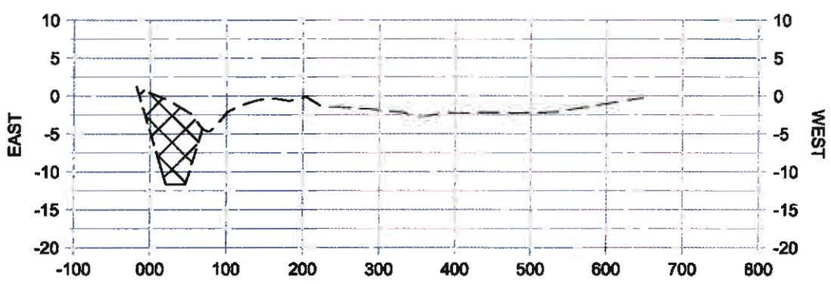


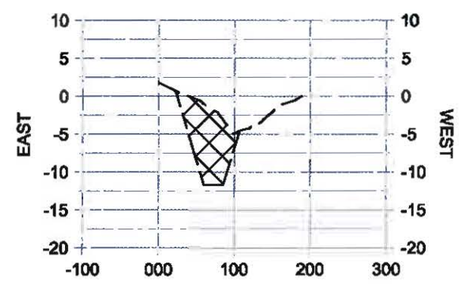
BAYOU TRANSECT 24



BAYOU TRANSECT 25



BAYOU TRANSECT 26



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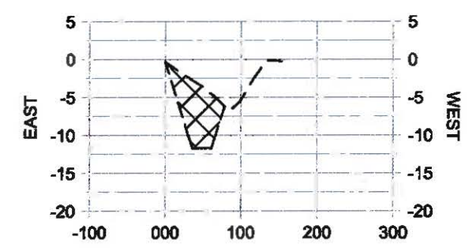

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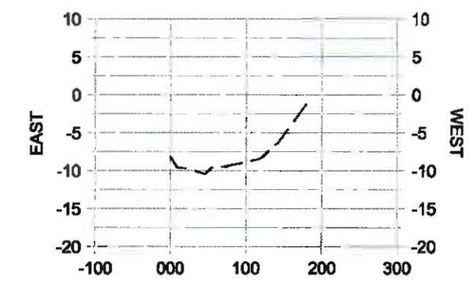

BAYOU TRANSECT 29

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

10/09/13

HORIZONTAL GRAPHIC SCALE
200' 100' 0 200' 400'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

- FLOTATION/BORROW AREA
- EXISTING GROUND

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

BAYOU SECTIONS

DATE: OCTOBER 2013
SHEET 44 OF 54

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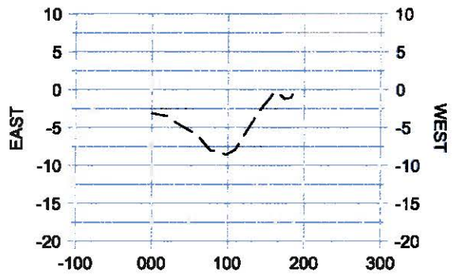

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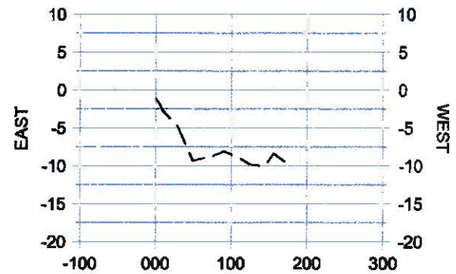
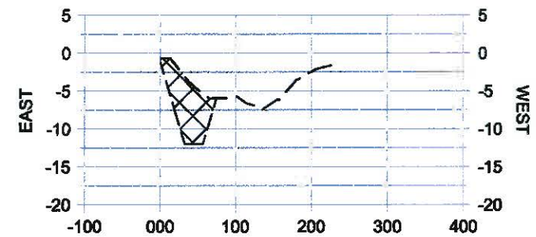
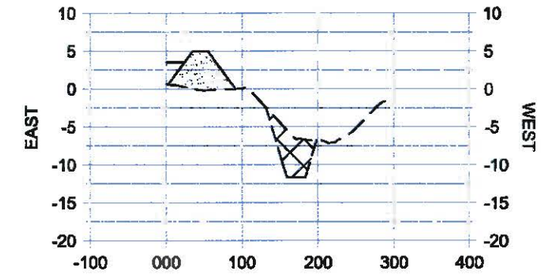


BAYOU TRANSECT 31



BAYOU TRANSECT 32



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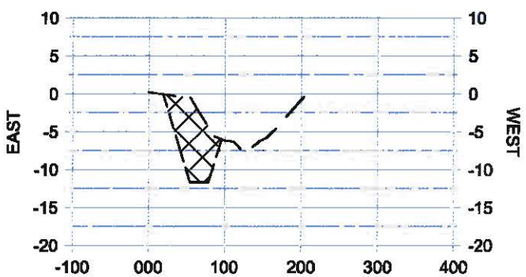

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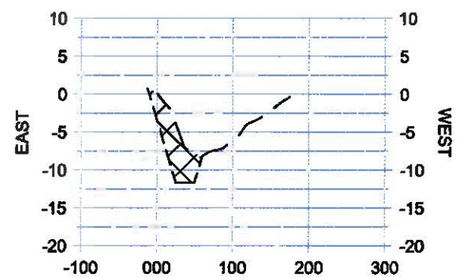

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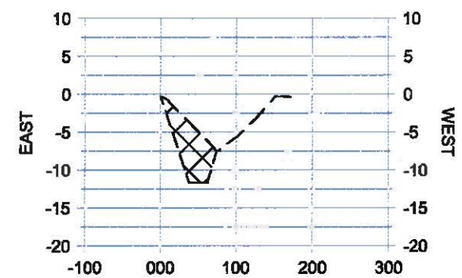

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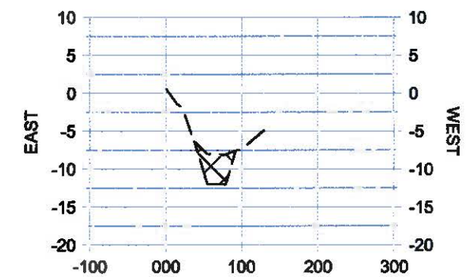
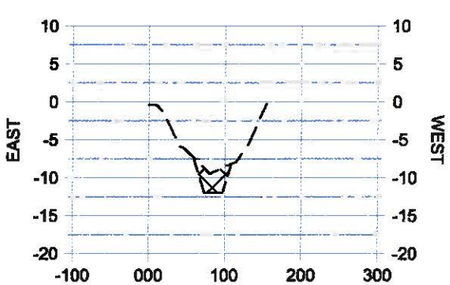


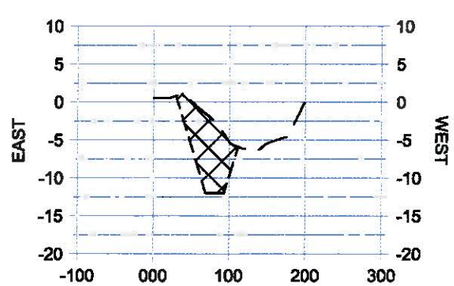
BAYOU TRANSECT 37

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

10/09/13



BAYOU TRANSECT 38



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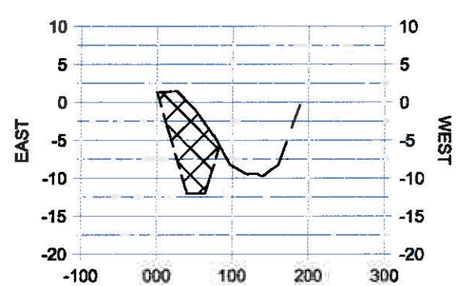

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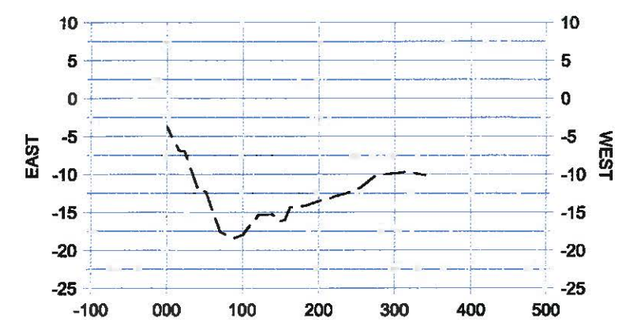

BAYOU TRANSECT 41

LEGEND

- FLOTATION/BORROW AREA
- EXISTING GROUND

HORIZONTAL GRAPHIC SCALE

200' 100' 0 200' 400'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

BAYOU SECTIONS

DATE: OCTOBER 2013
SHEET 45 OF 54

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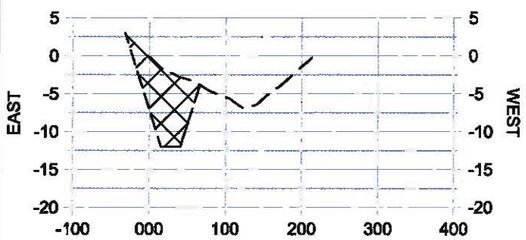

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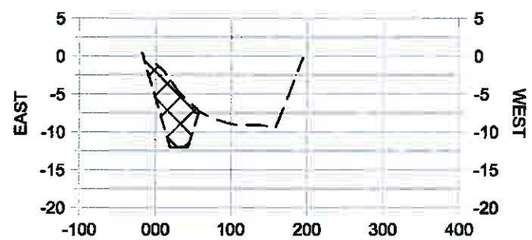

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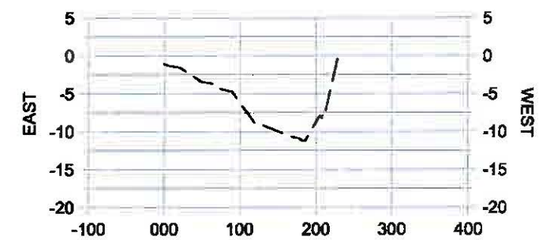
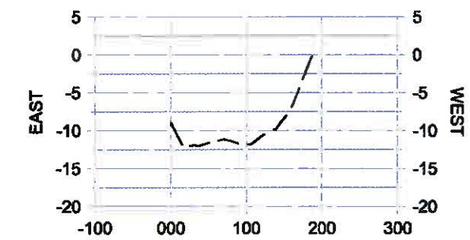


BAYOU TRANSECT 44



BAYOU TRANSECT 45

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/09/13

LEGEND	
	FLOTATION/BORROW AREA
— — —	EXISTING GROUND

HORIZONTAL GRAPHIC SCALE

200' 100' 0 200' 400'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68

FEDERAL PROJECT NUMBER: BA-68

APPROVED BY: RUDOLPH SIMONEAUX, P.E.

BAYOU SECTIONS

DATE: OCTOBER 2013

SHEET 46 OF 54

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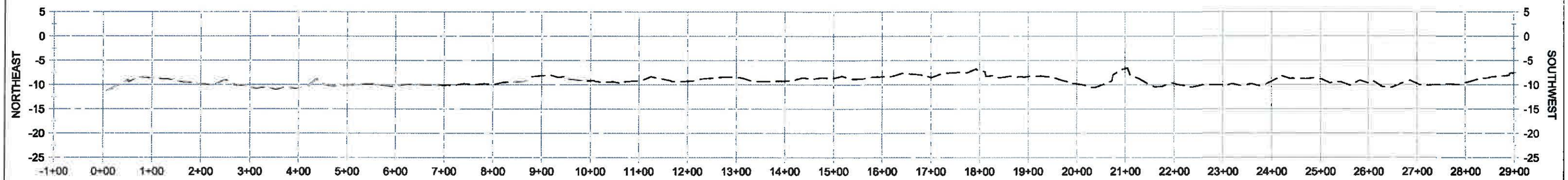

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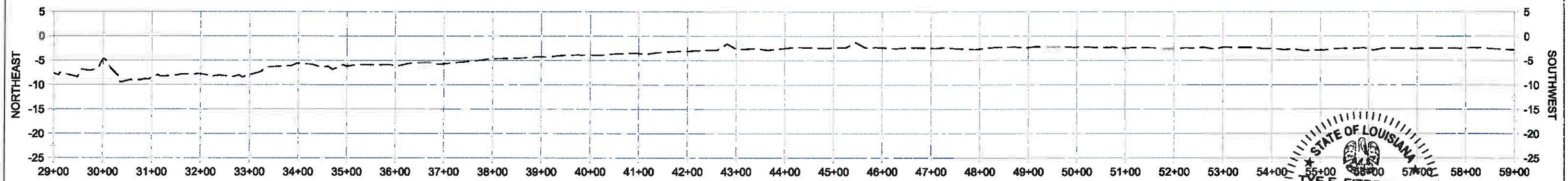
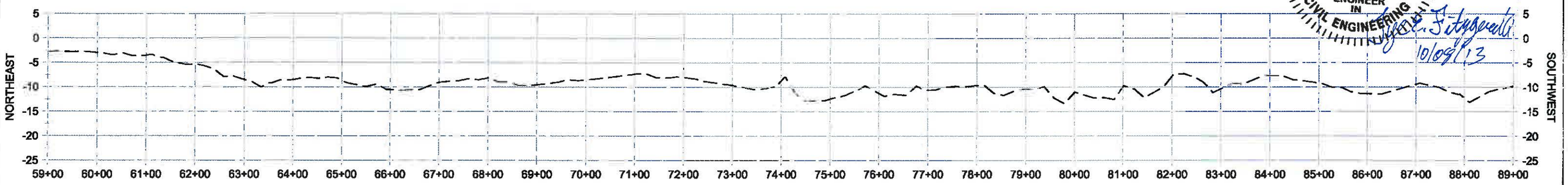


ACCESS PROFILE S1 CONTINUED

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/09/13



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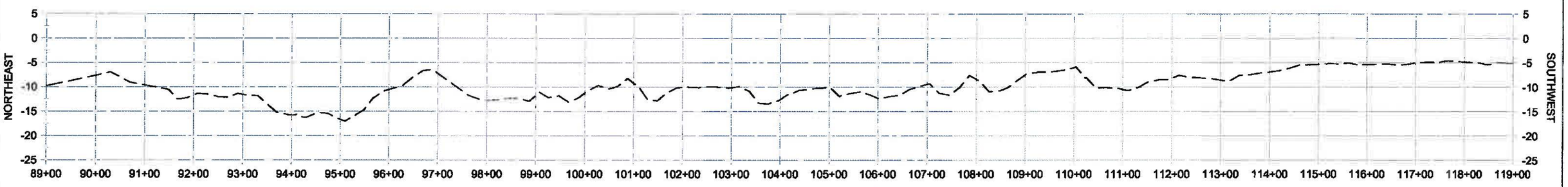

ACCESS PROFILE S1 CONTINUED

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND
— — — EXISTING GROUND

HORIZONTAL GRAPHIC SCALE
200' 100' 0 200' 400'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

CONSTRUCTION & DREDGE DISCHARGE LINE ACCESS CHANNEL SECTIONS
DATE: OCTOBER 2013
SHEET 47 OF 54

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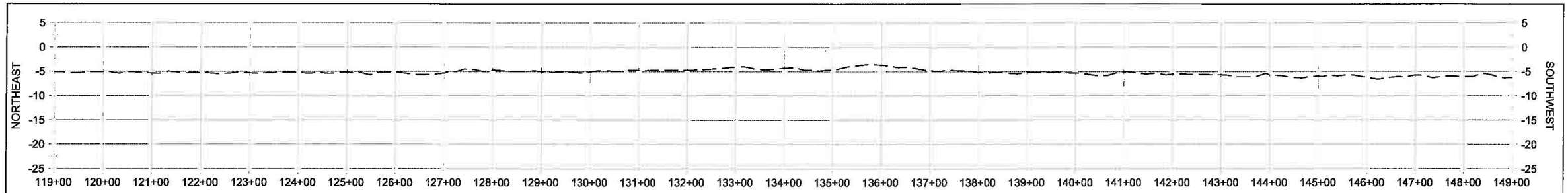

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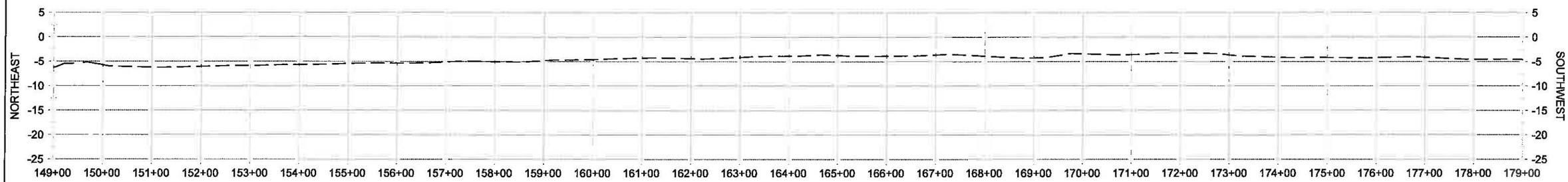

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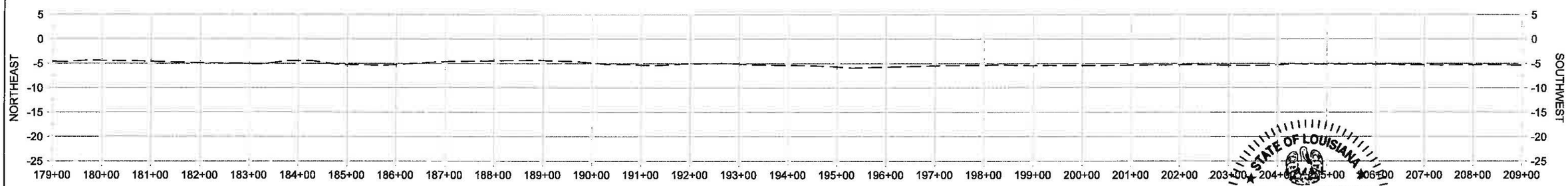
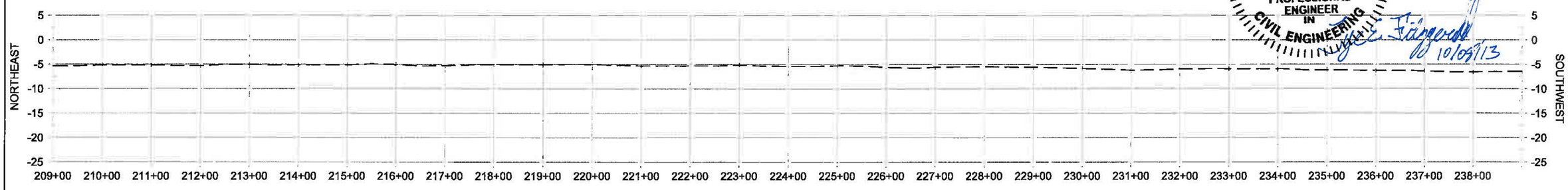


ACCESS PROFILE S1 CONTINUED

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

10/09/13



ACCESS PROFILE S1 CONTINUED

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND
— — — EXISTING GROUND

HORIZONTAL GRAPHIC SCALE
200' 100' 0 200' 400'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

CONSTRUCTION & DREDGE DISCHARGE LINE ACCESS CHANNEL SECTIONS
DATE: OCTOBER 2013
SHEET 48 OF 54

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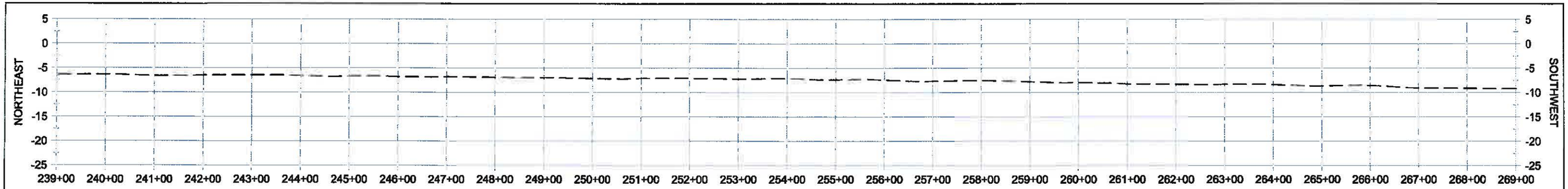

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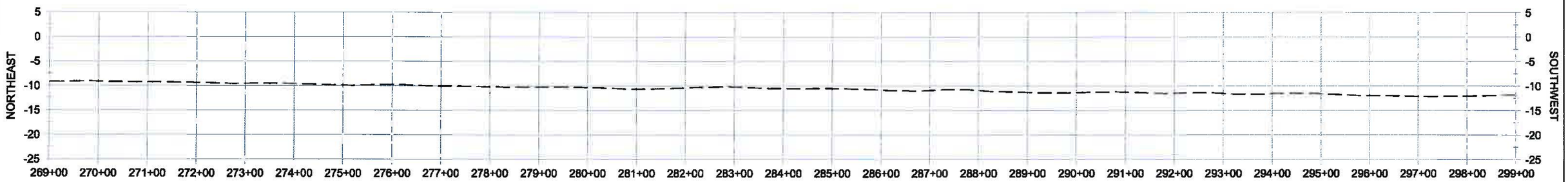

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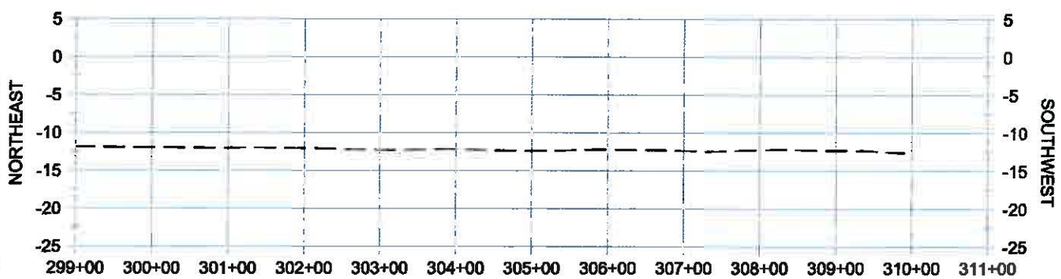

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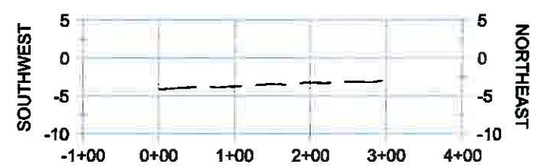
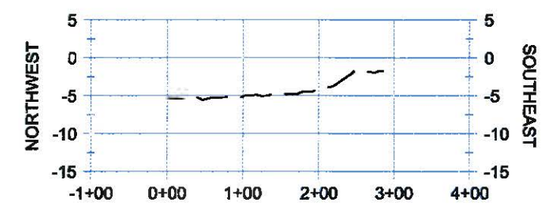
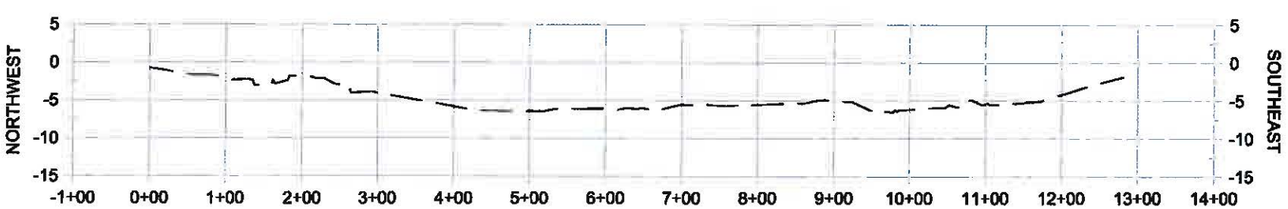


S2 PROFILE



S3 PROFILE



S4 PROFILE

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

10/08/13

LEGEND
- - - EXISTING GROUND

HORIZONTAL GRAPHIC SCALE
200' 100' 0 200' 400'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

CONSTRUCTION & DREDGE DISCHARGE LINE ACCESS CHANNEL SECTIONS
DATE: OCTOBER 2013
SHEET 49 OF 54

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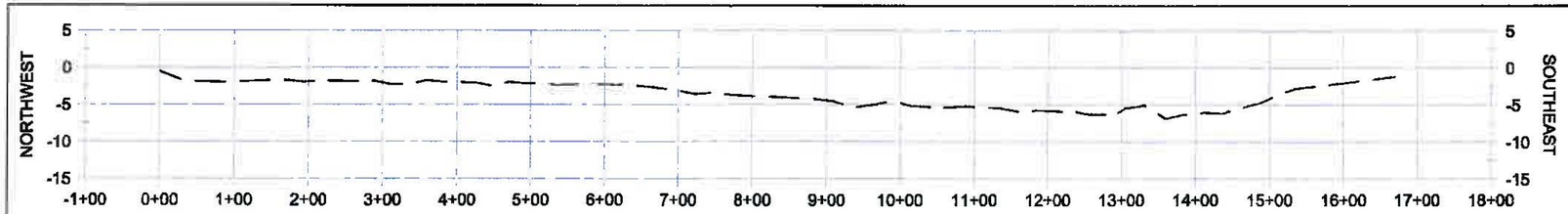
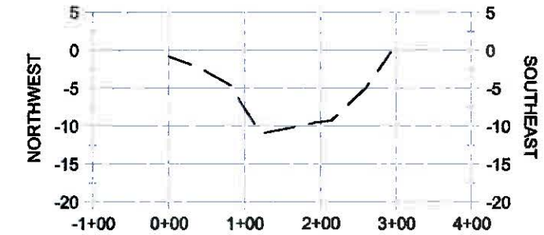


S5 PROFILE



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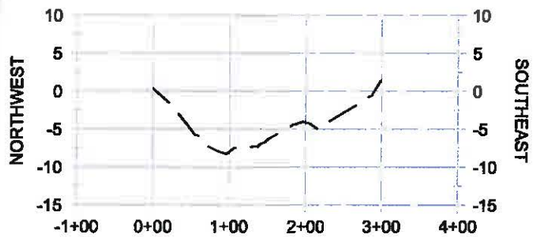
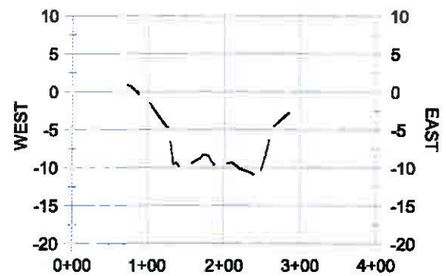


S7 PROFILE



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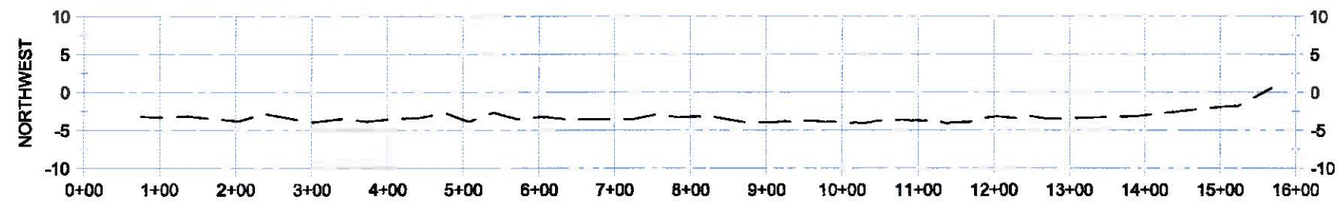
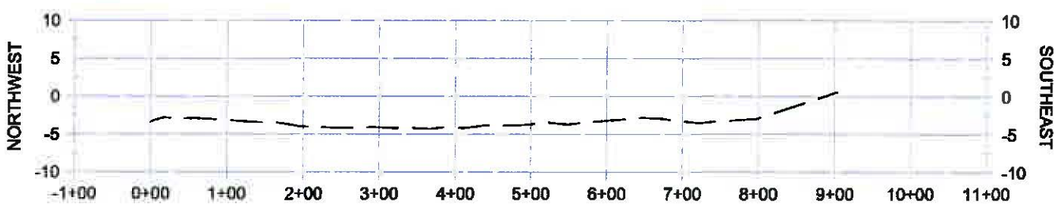


S9 PROFILE



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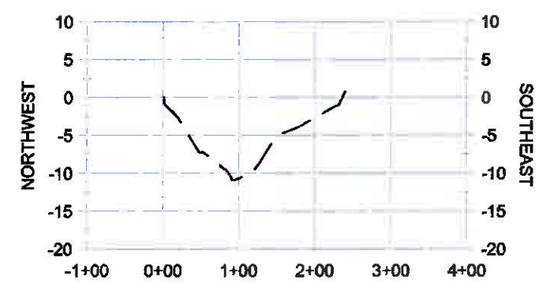
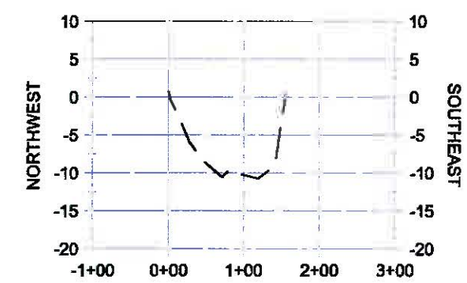
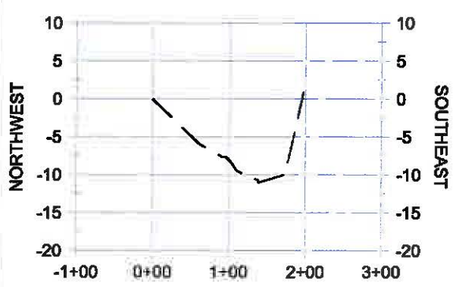


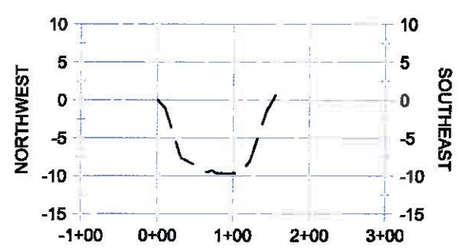
S11 PROFILE



S12 PROFILE



S13 PROFILE



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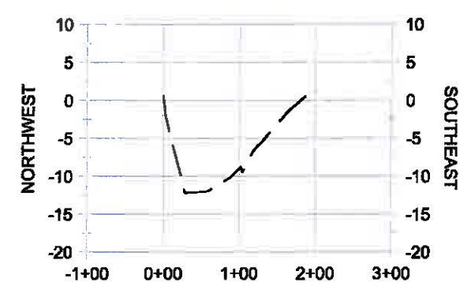

S15 PROFILE

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/09/13

LEGEND
– – – EXISTING GROUND

HORIZONTAL GRAPHIC SCALE
200' 100' 0 200' 400'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

CONSTRUCTION & DREDGE DISCHARGE LINE ACCESS CHANNEL SECTIONS
DATE: OCTOBER 2013
SHEET 50 OF 54

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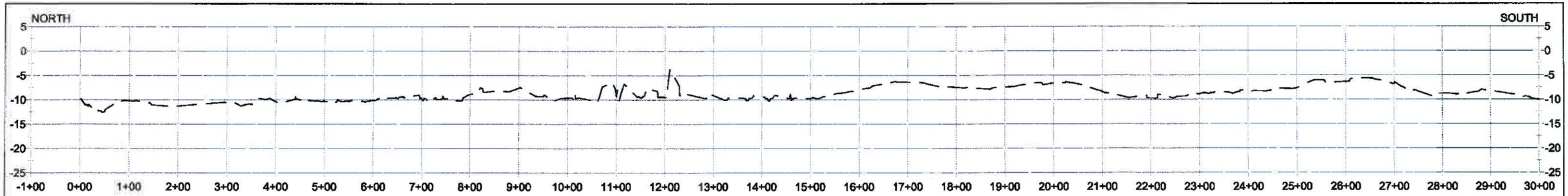
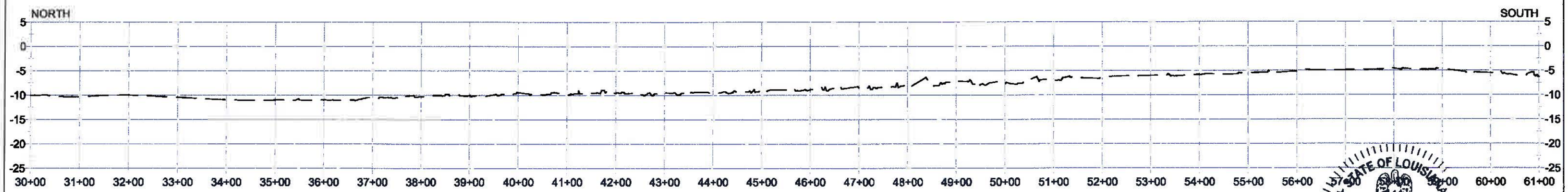
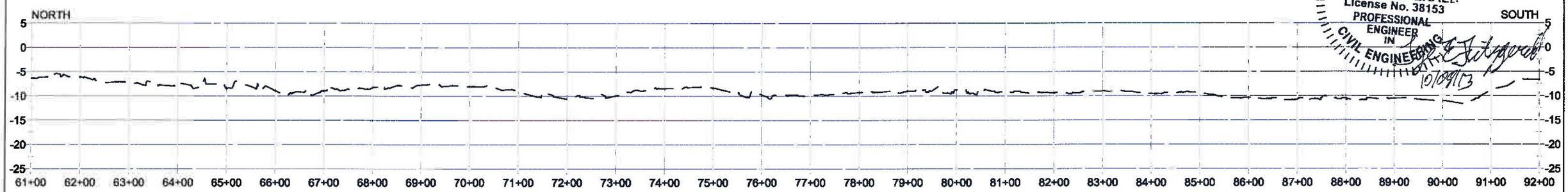


EMPIRE WATERWAY ACCESS PROFILE



EMPIRE WATERWAY ACCESS PROFILE CONTINUED

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/09/13



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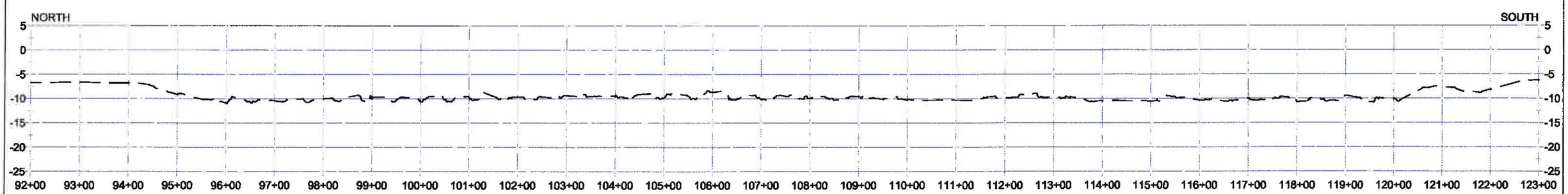

EMPIRE WATERWAY ACCESS PROFILE CONTINUED

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND
— — — EXISTING GROUND

HORIZONTAL GRAPHIC SCALE
200' 100' 0 200' 400'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

EMPIRE WATERWAY ACCESS PROFILE
DATE: OCTOBER 2013
SHEET 51 OF 54

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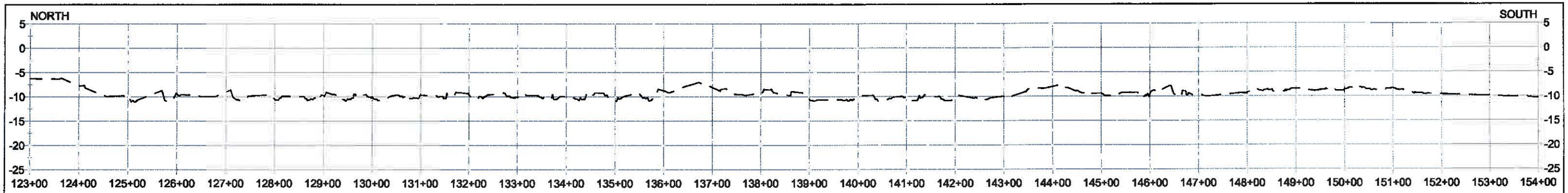

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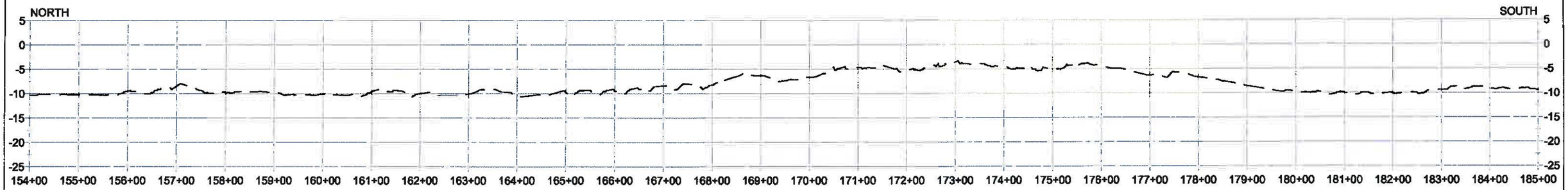

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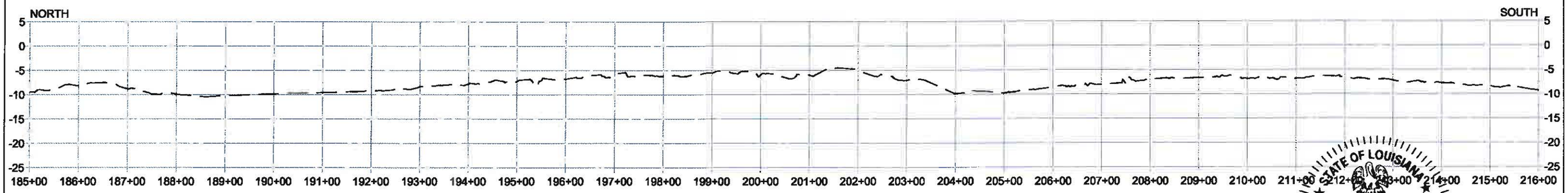
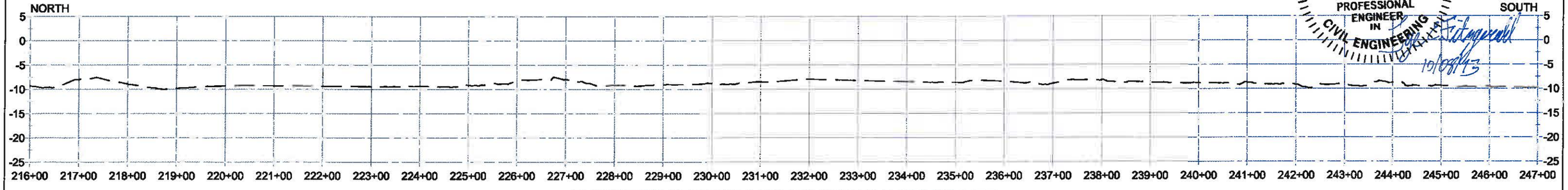


EMPIRE WATERWAY ACCESS PROFILE CONTINUED

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/08/13



EMPIRE WATERWAY ACCESS PROFILE CONTINUED

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

— — — EXISTING GROUND

HORIZONTAL GRAPHIC SCALE
200' 100' 0 200' 400'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION
STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

EMPIRE WATERWAY ACCESS PROFILE
DATE: OCTOBER 2013
SHEET 52 OF 54

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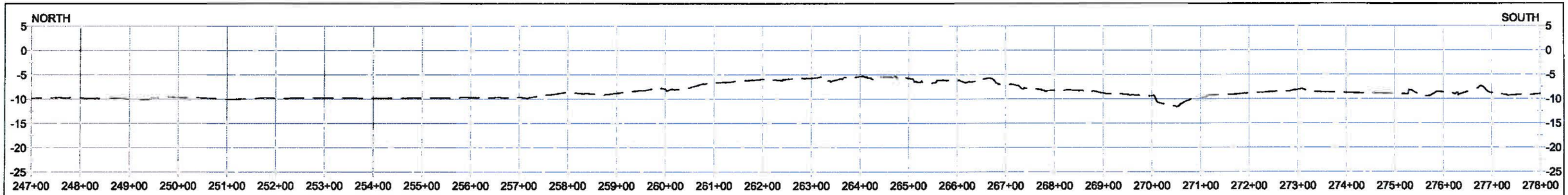

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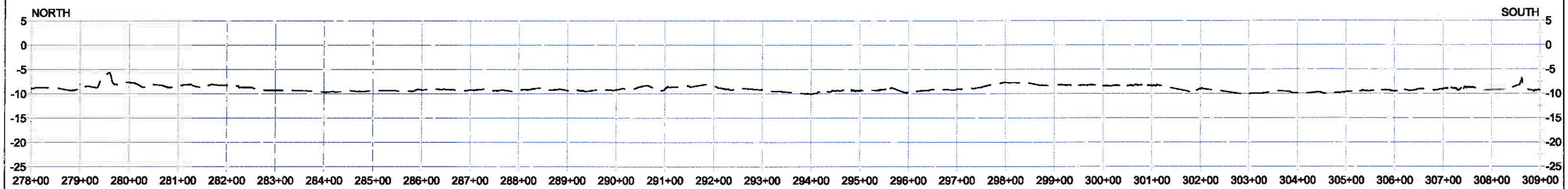

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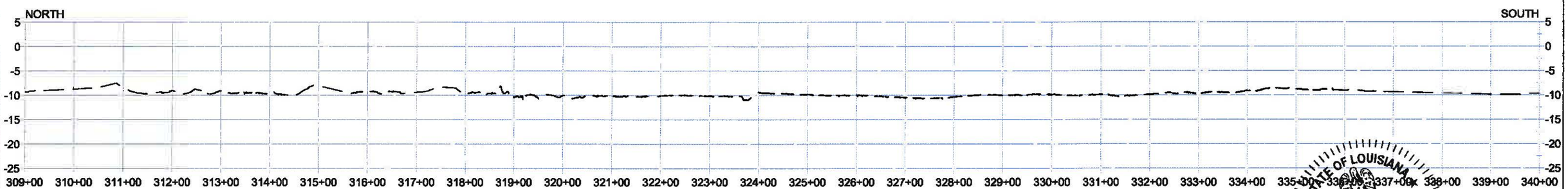
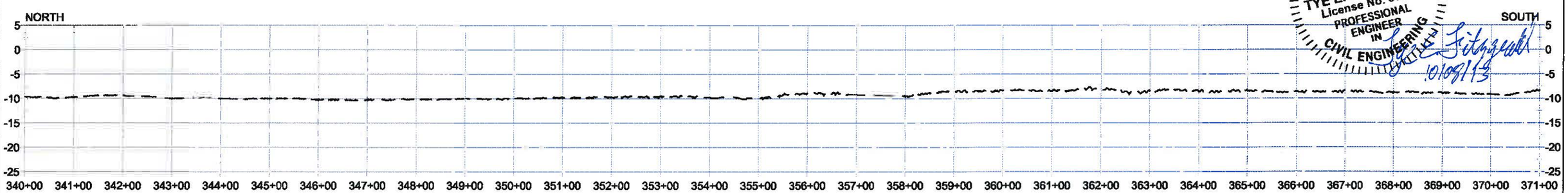


EMPIRE WATERWAY ACCESS PROFILE CONTINUED

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
10/09/13



EMPIRE WATERWAY ACCESS PROFILE CONTINUED

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

– – – EXISTING GROUND

HORIZONTAL GRAPHIC SCALE
200' 100' 0 200' 400'

VERTICAL GRAPHIC SCALE
20' 10' 0 20' 40'

REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68
FEDERAL PROJECT NUMBER: BA-68
APPROVED BY: RUDOLPH SIMONEAUX, P.E.

EMPIRE WATERWAY ACCESS PROFILE

DATE: OCTOBER 2013
SHEET 53 OF 54

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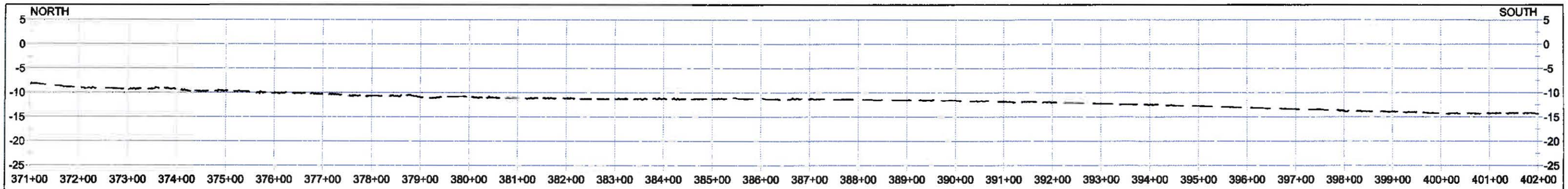

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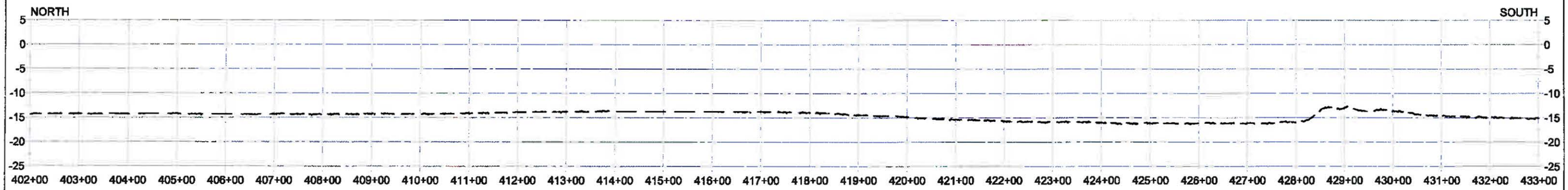

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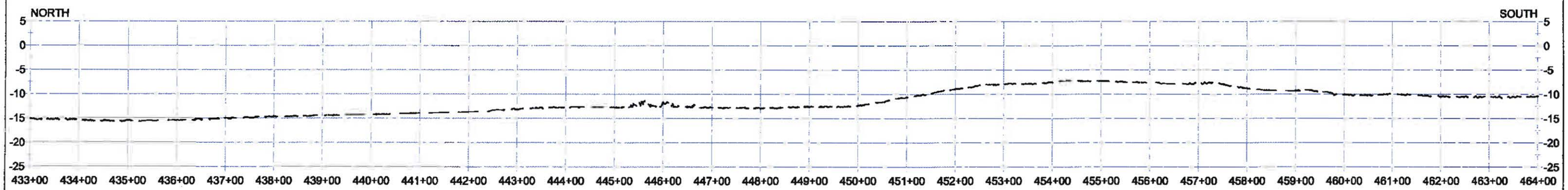
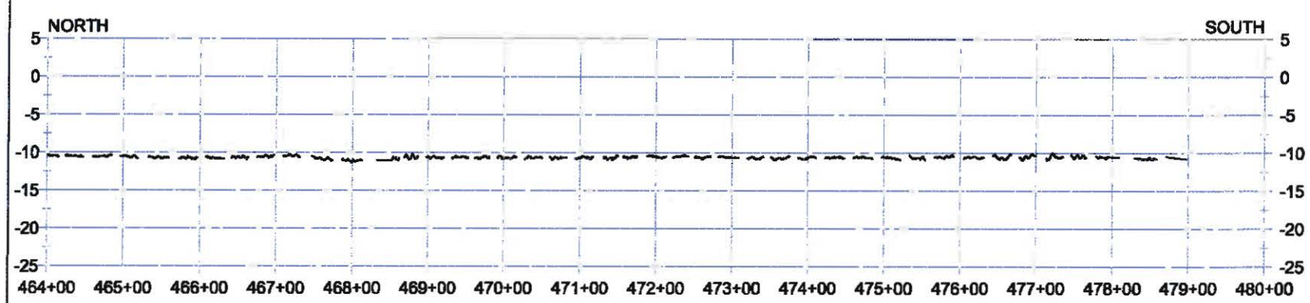


EMPIRE WATERWAY ACCESS PROFILE CONTINUED



EMPIRE WATERWAY ACCESS PROFILE CONTINUED

STATE OF LOUISIANA
TYE E. FITZGERALD
License No. 38153
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

Tye E. Fitzgerald
10/08/13

LEGEND
– – – EXISTING GROUND

HORIZONTAL GRAPHIC SCALE

200' 100' 0 200' 400'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

NOTE:
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REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: KRISTI CANTU
DESIGNED BY: TYE FITZGERALD, P.E.

GRAND LIARD MARSH AND RIDGE RESTORATION

STATE PROJECT NUMBER: BA-68

FEDERAL PROJECT NUMBER: BA-68

APPROVED BY: RUDOLPH SIMONEAUX, P.E.

EMPIRE WATERWAY ACCESS PROFILE

DATE: OCTOBER 2013

SHEET 54 OF 54

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